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Bridging the learning processes in a network and the local learning processes in the participating company

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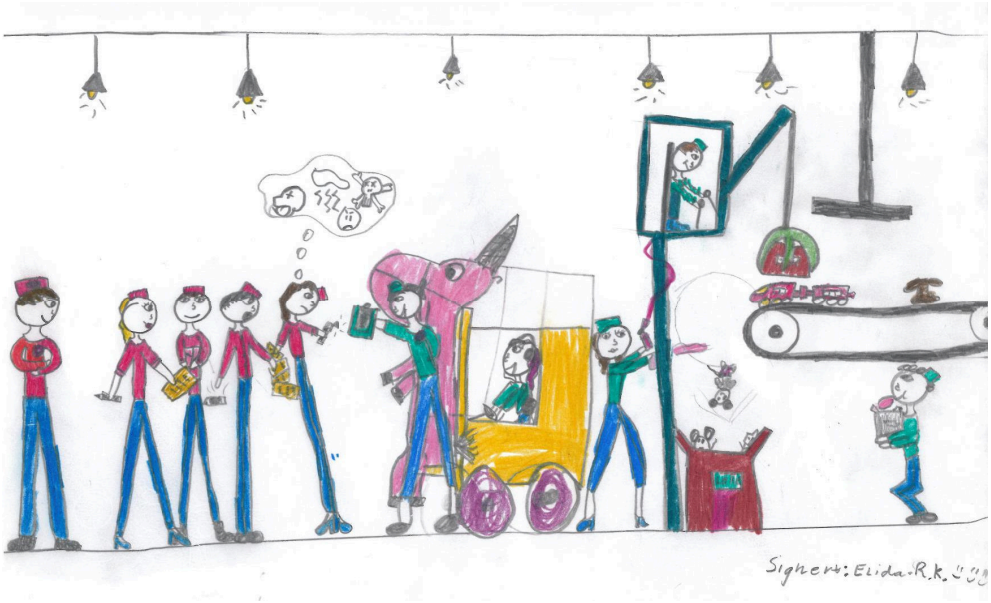

Picture made by Elida Rubach Kildal, 10 years old.

The RedShirt Company is visiting the GreenShirt Toy Factory. The intention is to learn, exchange knowledge, and gather new ideas. One of the RedShirt ladies is mad because she broke her pencil, and there is so much she wants to take notes about.

The reality is much more interesting than any fairytale
Grey's Anatomy, NRK, 01.09.09

Preface and acknowledgements

In memory of my mother Ellerine, who supported me through school, listened without judging, and always was there for me. Her good values will always be a goal to reach for.

In memory of my father Terje (Serge), whose spirit of generosity, security, playfulness, and the ability to never stop learning will continue to inspire me.

In 2006 this thesis was "born" through an application into the unknown. At the time, I had been working for 12 years as an industrial researcher in sustainable innovation related to environmental technology and life cycle assessments. When my application was accepted by the project managing committee and the EDWOR II staff, it was not easy to decide whether becoming a PhD student was the right thing to do or not. However, based on my desire to learn something new, (as you might have already guessed) I decided to say yes, and started reading the required articles and books with my three-month-old daughter on my lap. Just as development and change is a natural part of business life; it is also present in private life.

> "*If we don't change, we don't grow. If we don't grow, we are not really living. Growth demands a temporary surrender of security. It may mean a giving up of familiar but limiting patterns, safe but unrewarding work, values no longer believed in, relationships that have lost their meaning.*" (Sheehy, 1981, p. 513)

I have given up—and unwillingly lost—a lot over these last years. However, I have also gained a tremendous amount. I have eventually learned to stop being frustrated about *real life* which constantly seems to get in the way and mess up my neatly scheduled plans! I have also learned that "*…the courage to take new steps is what allows us to let go of each stage with its satisfactions and to find the fresh responses that will release the richness of the next"* (Sheehy, 1981, p. 514). This thesis symbolizes the richness these last four years of new knowledge, both on a personal and professional level, has given me.

The process of working with and writing this thesis has been quite like a roller coaster ride. It has had many ups and downs; a lot of joy and a lot of fear. There have been times when my stomach was filled with butterflies, and I also felt true happiness when discovering new insights. There have also been times when I felt sick just thinking about it; in several cases,

even considered seriously jumping off and leaving. Then I have felt safe again and been sure of that I was heading towards the entrance—only to realize that another ride had started! Luckily, I have had a lot of knowledgeable and helpful people together with me on this amazing journey. First and foremost I would like to hand out a symbolic bottle of champagne showing my gratefulness to my main advisor, *Professor Morten Levin,* for his expertise and extensive help. I really admire your never-ending devotion to support and inspire PhD students. Thank you for guiding me safely through this PhD scholarship, and not to mention into a position where I have actually gained strong belief in that there is more to life than numbers. I would also like to thank you for sharing Levin's laws with me: 1. *Everything takes time.* 2. *Everything is difficult*. 3. *Everything is obvious*. These laws are very helpful for a PhD student and actually quite true! I would also like to thank my second advisor *Roger Klev* for valuable contributions through discussions and advising session. I am grateful to *Ann Martin* for her inspiring writing classes and always positive, supportive advising. I would also like to thank all the other members of the EDWOR II staff for valuable and thought-provoking lectures and input to my thesis. Also, my gratefulness and the second symbolic bottle of champagne goes to my local advisor at Østfold Research, PhD *Knut Aarvak* for many, many hours of discussions and reflections. I really appreciate your patience and your ability to think "outside of the box." Thank you for all the times when you helped me untangle the clutter in my mind and led me to new and innovative tracks. Without my advisors' input, this thesis would not have materialized the way it has. A special thank to Carolyn Gale for being my "dissertation doula," assisting me with language corrections and valuable comments in the last phase of producing this dissertation.

I would like to thank the Faculty for Social Sciences and Technology Management, Department of Industrial Economics and Technology Management at the Norwegian University of Science and Technology, and the EDWOR II program for hosting me as a PhD fellow.

My gratitude goes to *Østfold Research* for giving me the possibility to use time for this education, which included both financial support and a reduced invoicing level assigned to me during these years. I am also grateful to the *Norwegian Research Council* and the other actors which have financed the research project and thus financed some of my work as a researcher in the network project.

Also, I would like to thank *all candidates and staff members at EDWOR II* for making the PhD program a very positive, interesting, challenging, and fun experience—and for making me feel included in a community of learning. I am so thankful to *Ingunn Hybertsen Lysø* for her brilliant planning and arranging of all the seminar weeks during these past four years. But most of all: Thank you, Ingunn, for being a friend. It has been some marvelous years which have given me a lot of good memories. I will miss you all.

My colleagues at Østfold Research - thanks for continuous support and understanding, and inspiring and critical reflection sessions during these years. *Frode*, *Knut*, *Steinar*, *Sven Erik*, *Trond Åge,* and *Trond* deserve a special thanks for the professional and emotional support and inspiration you have given me in our daily work at the Business and Regional Development Research department. In addition, my gratitude goes to *Andreas*, *Steinar, Trond* and *Cecilia* for reading and giving comments to one of the last versions of this dissertation.

I would also like to thank all the participants from *the companies in the network* where I have worked as a researcher. Without your good reception and cooperation, no empirical data would have existed. I also appreciate Østfold Research's *partners* and *the people who have been involved in the research project*. I have learned a lot from taking part in this project together with you, and from the team meetings where we have discussed and evaluated the different projects in the research project portfolio.

My family—what would I have been without them? Above all, they represent the balance in my life and the true meaning of it. *Hans Petter*, I really admire you for still being here as my husband after these last years. Thank you for your love and your rock-steady belief in me, and for your ability to engage yourself in all the new knowledge I brought home to dinner table discussions during these years. Not to forget all the afternoons, weekends, and vacations when you have taken care of the children and engaged them with activities so that I could work. I will never be able to pay back your support and effort, and no ways of thanking you will be sufficient to show my gratitude.

I am also so fortunate to have four sisters, all wonderful, good-hearted women. They have been talking partners and life-supporting straws to cling to when there has been stormy weather. They have also cheered for me when things have been going my way. Thank you, *Hjørdis*, *Marith*, *Torbjørg,* and *Turid* for being my always-supportive sisters. I would like to

hand out a special thanks to *Marith* and her husband *Ivan* for regularly having my children for "vacation-camp" during these years. Thank you for spoiling them and ensuring that they got a lot of fresh air and outdoors experience in the beautiful nature of Northern Norway.

This brings me to the most important part of my life which is, and will always be, my children: *Arild*, *Elida,* and *Wilma Aurora*, the jewels of my life. I have missed you so much while away at the seminars, and nothing could make me happier than your reception when I returned home. Your regular questions about how many pages I have written and when will I finish my work placed a welcome pressure to complete this dissertation. Thank you for keeping up with a mother who has not been very present in mind nor appearance during these last few years.

My friends: I hardly dare to think about how little attention and care I have shown you during these years. Hopefully some of you will be here and join a bigger part of my future life. Thank you for your understanding and patience.

Finally, I can testify that *No man is an island* (John Donne (1572-1631)). Because without each and every one of you, I wouldn't have made it!

There is no final destination but only a new journey to be started

Fredrikstad, December 2010

Summary

My goal with this thesis is to contribute to the understanding of how network participation can influence internal company development processes. To establish, join, and work in a network is said to be a normal way for companies to increase their innovative capacity, increase efficiency and competitive power, look for new ideas, or discover new ways of working. How are then the results from participating in a network captured and utilized in companies? The formation of networks is considered an important building block for an innovative and productive economy, and theories of the benefits of network participation are broad and multidisciplinary. However, these theories do not address how network participation can be beneficial for individual companies' development processes.

In this study, I seek to understand the processes involved in a network, in the participating companies, and the link between these two—which together enable the companies to utilize participation in a network for their own internal development purposes. A major argument in this thesis is that to thrive on network participation rests on the ability to build and maintain *the bridge*, i.e. the link between both the learning processes in the network and within one's own company.

A heterogeneous group of industrial companies established a network in 2007 with the intent of exploring areas of mutual benefit (a "bottom-up" initiated network)[1]. This thesis is based on a longitudinal action-research study of this network, where the researchers, including myself, actively contributed in the construction and development of the network. My study focuses on how four companies used the network, and how this participation contributed (or not) to local developmental processes in their own organizations. For this study, I conceptualized network participation as a dual organization-development (OD) process[2], i.e. a bridged, facilitated, intraorganization and interorganization development process. The conceptual framework is built on participatory organization development and the cogenerative learning model. Conditions in the organization, in the network, and the bridge between the two are addressed.

[1] Such exchanges are characterized by a high degree of cooperation and problem solving (Cummings, 1980), where the linkages are symmetrical (Schmidt & Kochan, in Cummings, 1980, p. 325).
[2] The term *dual OD process* will be used throughout the thesis.

Through my search in innovation and network theories looking for how network participation influences local company development processes, *learning* soon became a central theoretical aspect to explain the activities and processes involved. The theories point to a company's absorptive capacity, an ability to change, and to be or transform into a learning organization as vital elements for taking advantage of network participation. Learning, which requires the ability to engage in discussions and activities and to share one's own knowledge and viewpoints, is a prerequisite for all of these capabilities. The combination of grounded theorizing and an action-research approach led me to understand these learning (change) processes as organization development (OD). OD theories added a method to handle network development and apply what was learned in the network to individual organizations. Additionally, these theories supply a way to develop and manage the different lifecycles of a network. Therefore, a key aspect became creating arenas[3] or forums for learning (dialogue and practical training) where cogeneration of knowledge can occur, both internally in the individual organization and throughout the larger network.

Based on four cases, I first address how network participation has been handled, guided by the important elements of an OD process (initiation, start-up, and continuous learning spiral). Focus areas include the companies' reasons for joining the network, strategies for organizing participation, actions, experiences, and individual company outcomes. A cross-case analysis is then performed where differences between the companies are compared and discussed. Finally, I analyze and discuss the findings and evaluate network participation as a dual OD process, where conditions relating to the network and network facilitation are also focused upon.

The network under study was initiated by the companies themselves ("bottom-up") and grounded with their own needs and challenges. These characteristics alone were not sufficient prerequisites to ensure a viable, self-sustainable network where participants experience a high degree of company outcomes. This seems to have been dependent on how the learning processes were managed and played out both in the organizations and in the network. It also seems to have been dependent on bridging the learning processes in the participating

[3] I use the term *arena* in this dissertation to emphasize that these meeting places include both possibilities for dialogue (which occur in forums) and practical training (which occur at training arenas). An arena is also the term for these kinds of meeting places in many of the references in the literature review.

organization and the learning processes in the network, which involves both actors and actions. Factors that hinder company utilization of network outcomes include a company's "daily worklife," lack of acknowledgement and engagement from (top) management, and the absence of both internal followup activities and internal meeting places. However, one company reported greater internal results. Conditions that enabled this company to achieve more include anchoring the project with and involving management, using representatives in the network to discover opportunities to "pull" back into the company, and using internal arenas for reporting, disseminating, and implementing learning from the network. The analysis also points to enabling conditions related to the role of the company representatives and the facilitation of the network.

This research has contributed to the discourse about use of networks as means for innovation and development by understanding the partaking in such an initiative as involving the company in an OD process. My main contribution to the field is a model where participation in a network is conceptualized as a dual OD process and the use of a *bridge* as a metaphor to summarize the findings. The foundations of the bridge consist of the planned learning processes handled according to the content of an OD process (associated with the cogenerative learning model), one process in the network, and one process in the participating organization. The surface of the bridge consists of both converging problem definitions and converging problem solutions between the participating organization and the network. In addition, the bridge surface consists of a common arena where all the participating organizations can meet and discuss issues of interest, or to attend common events (i.e. lectures and courses). The railing consists of both engaged managers who anchor and legitimize the network participation in their own organization, and the overall network facilitator, who helps match specific organizational needs with network activities. Of course, the bridge needs to be used by some actors, whom I have called the bridge walkers. These are the engaged actors (company representatives, company managers, and the network facilitator). Together, these activities and actors make up participation in network as a bridged, facilitated dual OD process.

Managing the learning processes both in the network and internally with each company can spell the difference between success and failure of the overall effort. The (lack of) maintenance and management of both learning processes may help explain why there are many aborted network efforts and few long-range, successful ones. In addition, organizing

and operating the bridge between these processes stands out as either the grease or a wrench in the works for both.

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Part I Introducing the research

This dissertation addresses companies that connected to a network to strengthen their own businesses through interorganizational cooperation. Based on an action research study, I argue that participation in a network can be used in an integrated way in the individual company's innovation and developmental processes, where interaction with the network forms a continuous learning spiral. For this study, I conceptualize network participation as a planned, dual OD process where the outcomes depend on how both the network arena and the internal arenas in the participating company are arranged and used, and how the bridge between the network and the company is being built and maintained.

Part I contains the introductory chapter, where the background for the study and the problem and thesis statement are introduced. A first glimpse of theory and methodological approach are also given. A detailed overview of the structure and content of the thesis is accounted for in Section 1.6. Then, in Chapter 2, the research context is presented. The context is also extensively addressed and described in part III through case descriptions and the analysis.

Sometimes, even when you think you know where you are going, fate and the winds of change have a way of steering your ship on a very different course, usually at the very last minute.

(Grulke & Silber, 2003, p. 175)

1 Introduction

Up until January 2007, when I joined the EDWOR II PhD programme[4], I had been working for twelve years as a researcher within the field of sustainable innovation related to environmental technology and prevention. This included the use of methods like life cycle assessment (LCA) and evaluations of value chain efficiency. One of my concerns was to help companies find optimum packaging-product systems with minimum environmental impact. The majority of the projects I participated in were network projects, where different companies and organizations in the same value chain joined forces to find new solutions. My curiosity increased over the years observing the pronounced different behavior the companies' representatives had in these projects. Some of them were very active and positive in the network arenas, while others had a wait and see attitude. What did the different companies *really* get out of these network projects? A wait and see attitude could cause the company to be too late to enter attractive markets, to launch new products or to apply new technological or organizational innovations. The paradox of having a reluctant attitude and at the same time joining a network project puzzled me. Could the companies get benefits from attending these networks that I couldn't see or understand? However, at that time I was not in the position to pursue my curiosity. The winds of change then led me into the EDWOR II PhD-study and the VC2010/VRI project which encouraged me to ask the questions: How can participation in a network support or create local development processes in a company? Why is the outcome so different from company to company? How do a company which gets the wanted outcome from participating in a network act? From 2007-2010, I have been seeking answers to these questions, and the results of my theoretical and empirical research are presented in this dissertation.

[4] EDWOR – Enterprise Development and WOrk Life Research, PhD program conducted by The Norwegian University of Science and Technology.

1.1 Problem Statement

The formation of networks is considered to be important building blocks in an innovative and productive economy, and the theories of the benefits of network participation are broad and multidisciplinary. As an exemplification of the position networks are giving, I will use OECD's presentation of their work on developing policies for innovation for the 21st century held 8th of March 2010 at Milan Innovation Strategy Roundtable. The presentation can be found on the Internet[5]. Here OECD states that innovation is a driver of growth, and that the who, what, where, and how of innovation have changed. What innovation encompasses has broadened, including more than science and technology—topics include areas such as design, business models, and organizational change. Their statistics support that the way innovation is conducted has become more collaborative and "open," both between scientists, between firms and between firms and universities, and all aided by ICT. *To erect bridges* between the different parts and *forming or joining a network* are among the policy implications OECD lists for a more collaborative mode of innovation. Other implications include *building soft skills* that can traverse disciplines, cultures, and organizations and *developing absorptive capacity*. This sounds reasonable and looks fairly easy on paper. How do you then *erect* and *maintain* these bridges, keeping them "alive" as pathways between the parts? How do you build soft skills and absorptive capacity so collaborative activities can support innovation and development for the different actors? And why?

The network and cluster theories argue that it is beneficial for companies commercial success to work across company and institutional borders (e.g. Asheim & Gertler, 2005; Etzkowitz & Leydesdorff, 2000; Florida, 1995; Foss, 1999; Piore & Sabel, c1984; Porter, c1985, 1990, 1998; Reve & Jakobsen, 2001). In this way the social, interactive processes of innovation can be played out (Fagerberg, 2005). Cross-organizational activities are often initiated by the companies themselves; for instance, arising from transactions or cooperation with other companies in their value chain or business sector (e.g. Johanson, 1989; Lorange & Roos, c1992; Piore & Sabel, c1984; Williamson, 1985). As shown from the introduction referring to OECD, interorganizational initiatives have also become an increasingly important part of innovation policy both in Norway[6] and internationally. This represents a major push from the

[5] http://www.aginnovazione.gov.it/export/sites/default/it/doc/news/evento_08_03_2010/Wyckoff.pdf
[6] An example is the Norwegian Centre of Expertise programme, focusing on developing World Class Clusters: http://ekstranett.innovasjonnorge.no/templates/Page____56549.aspx

outside on the companies to take part in network and cluster initiatives. Whether "pushed" or not, arena attendance (whether participating in or using outcomes from) is often in the crossfire of daily company challenges that must be instantly dealt with (Gustavsen, 2004, p. 76). However, when a company has decided to join and invest resources in a network, a certain outcome is assumed to be wanted and expected. Thus, to make it easier for a company to obtain their desired outcome from network participation, Levin and Knutstad (2003) argues that it is crucial that network activities are closely connected to everyday business activities. Viewed from another angle, Holmqvist (2003, 2004), sees everyday business activities as a prerequisite for interorganizational innovation activities. This could also be described as transforming networks and cluster initiatives from "push" to "pull" activities, meaning that the initiatives focus on areas like unresolved challenges or urgent requirements within the companies (Klein, c2004).

However, the activation of the outcome of network participation as input to local innovation and development processes are only briefly addressed in the network theories. The outcome is suggested to rest on the organization's ability to *learn* (e.g. Cooke & Morgan, 1998; Lorange & Roos, c1992). This again seems to depend on the company's ability to recognize, assimilate and use internal and external knowledge, which by Cohen and Levinthal (1990) is called *absorptive capacity*. Just as OECD, this is about how far network theory offer clues to how to work with the transfer process. What could a company then do to enhance the chances for transfer and local implementation of ideas from the network arena so that these support or create local company development? I found that in order to be able to answer this, theories of learning, knowledge and organization development needed to be addressed. The activation of the outcome of network participation as input to *local innovation and development processes* will in this dissertation be understood as matter of *learning processes*.

1.2 Thesis statement

The purpose of this thesis is to provide a theoretical and empirical basis for how participation in a network can be used in an integrated way in the participating companies' own innovation and developmental processes. The company's interaction with the network will then form a continuous learning spiral, subsequently developing both the participating company and the network. Thus, through an action research study I have sought to develop knowledge on how

partaking in a network can be used to influence local developmental processes in the participating companies, as well as what contribute to or restrain the outcome. My intention has been to provide a conceptual framework and understanding of how network participation can be used in an integrated way in the companies' own developmental processes by asking:

Why is it that for an individual company to benefit from network participation, there must be a link between both internal and interorganizational learning processes?

Managing both the network process and the internal company process can spell the difference between success and failure of network participation as an innovation effort for the company. The maintenance and management of these processes may help to explain why there are many aborted network efforts and few long-term, successful ones. However, organization development theory offers ways to consciously arrange and coordinate these processes, and one way to do this is as modelled in this thesis, namely:

Network participation is to be handled as a dual organization-development (OD) process, i.e. as a bridged, facilitated, intraorganization and interorganization development process.

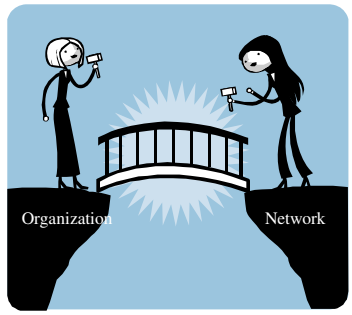

Figure 1 **Bridging the organization and the network**
(Clipart from Microsoft Word modified by S. Rubach)

Thus, in this thesis I will argue that to join and participate in a network can be conceptualized as a planned organization development (OD) process (meaning a planned process, since results rarely can be planned) (e.g. Cummings, Worley, & Huse, c2001; Daft, 2004; French & Bell, c1984; Klev & Levin, c2009). This organization development process stretches outside the organization, bridging the network and the participating organization. In this way, new ideas and ways of working are supplied to the company through the network. As a result, new knowledge and learning created in the company are then again played back to the network, forming a continuous learning spiral.

In my model, resulting from my research, the outcome for the participating company is understood as a result of three processes:

- *Building and sustaining a bridge between the company and the network (includes engaged representatives and managers, and converging the problem definition and solutions with the other network members);*
- *Constructing a solid foundation for the bridge in one's own organization. Includes construction and use of internal arenas (such as meeting places and practical testing of new ideas) for developing learning and knowledge from the network and making these outcomes relevant for or internalized into the company;*
- *Contributing to both building and using the network arena in a manner that best supports the local innovation and development processes in one's own organization.*

In addition, network facilitation is found important when related to bridge maintenance and network development. This will also be addressed in Part IV of this dissertation.

1.3 Why participate in a network? A first glimpse of theory

Part II of this thesis accounts for the theoretical framework of this thesis, and I refer to this part for a more extensive review of the literature used in this dissertation. Here I will give a short overview of the chain of arguments that led me to understand participation in a network as organization development.

In the evolutionary theory of economic change (Nelson & Winter, 1982) knowledge, learning, and innovation is recognized as a key source to develop competitiveness in the business world. This is said to be accessed through cooperation (e.g. Piore & Sabel, c1984; Porter, 1990, 1998). To be member of one or several networks is considered to be of vital importance for companies. In many ways this is a concept which can illustrate how the economic life functions today and how competitive organizations are characterized (e.g. Dale, Karlsdóttir, & Strandhagen, 2004; Nohria & Eccles, c1992). Innovation is related to this understood as a multifaceted phenomenon, where experimentation is the key activity (Schumpeter, in Fagerberg, 2005, p. 6). It can embrace many aspects of a company's purpose and activities and it can be viewed as a complex and interactive process (Kline & Rosenberg, 1986; Oddane, 2008). Incremental, or continuous improvements or change, are just as important as

radical innovation as they are steppingstone in a continuous cyclic process of innovation and standardization (Lewin, c1951; Liker, c2004). Innovation can also be viewed as a collective process, where crossing borderlines between different mindsets, knowledge and skill bases stimulates new combinations - and hence innovation (e.g. Fagerberg, 2005; Leonard-Barton, c1995; Stamm, c2008). To join a network is one (out of many possible) way to cross borderlines and allow flow of new ideas and knowledge from the outside into one's own boundary (Lam, 2005).

A network can vary from a meeting place for information gathering to formalized business cooperation between companies in the production- and supplychain. Herbst (1976) stated that the primary function of a network is the development and maintenance of *a joint learning process*, and its productivity depends on the actual or evolving complementary skills of its members. A network is in principle a nonhierarchical system based on voluntary participation where the members are willing to collaborate, i.e. working together to achieve mutually beneficial outcomes (Miles, Miles, & Snow, 2005).

The outcome of participating in a network will to some extent relate to the purpose of the network. Within the business development or economics tradition (e.g. Johanson & Mattsson, 1987; Miles et al., 2005; Williamson, 1975) the primary goal of using network is to increase efficiency and do business in a smarter way. This can count for the more measurable side of network participation. A network also offers numerous combinations of relations among people, and through them possibilities for for instance knowledge exchange. The network represents opportunities, where the actors build up a portfolio of relations with current and potential future collaborative partners (Granovetter, 1973; Miles et al., 2005). This can count for the more "soft" and "not-so-easily measurable" side of network participation. However, the actual outcome of participating in a network rests on the peoples' and companies' ability to recognize, assimilate and exploit knowledge, i.e. the ability to *learn* (Cohen & Levinthal, 1990).

Learning is related to different kinds of knowledge. It relates both to explicit or codified knowledge (which includes know-what and know-why) and to implicit or tacit knowledge (which includes know-how and know-who) (e.g. Klev & Levin, c2009; Lundvall & Johnson, 1994; Polanyi, 1967; Ryle, 1949). However, our knowledge is expressed through actions, by the use of practical knowledge (Klev & Levin, c2009). A network that develops a common

language and shared mental models between the partners (Senge, c2006), where both weak and strong ties are nurtured (Granovetter, 1973), can act as a supplementary learning organization for the participating companies. The shared access to information in a network (across company units and borders) rather than hierarchical controls and artificial barriers (currently found in most companies) is the basis for continual learning at the individual and organizational level. This has been found to stimulate innovative and flexible responses to problems. In the interplay between a network and a participating company, some of the learning and knowledge can be stored, and others shared through communication and practice (i.e. shared work experiences). When a person learns something in the network arena, it is available for his or her immediate use. In contrast, organizations need to capture, mobilize, and recreate this knowledge before it can be used. The companies then need a strategy in place to make use of the knowledge from the network, with the intent to produce value. This includes creating arenas for practical testing and training of new procedures and courses of action.

1.4 Participation in a network conceptualized as a dual OD process

If to take advantage of a network is a matter of learning (i.e. an organization is able to learn, and if the goal of participating is to obtain input for internal development processes), then network participation could be conceptualized as an organization development process. Today, organization development (OD) is used as a process (not a step-by-step procedure) of fundamental change in the human and social systems of the organization (Daft, 2004, p. 422). In the 1970s, OD had the goal of increasing organizational effectiveness by applying behavioral science techniques in a process of planned organization-wide change (Daft, 2004). OD continues to use this knowledge and techniques to create *a learning environment*. This perspective is supported by Klev and Levin (c2009), who view change in organizations (OD processes) as a learning process. They introduce the cogenerative learning model, which is equal to the cogenerative action research model, as a model for OD where communicative processes in different arenas are integrated in the same learning process (Greenwood & Levin, c2007, p. 73; Klev & Levin, c2009, p. 94). In this thesis, the cogenerative learning model is extended and used to model my understanding of processes involved to transfer learning from the network to the participating company (and vice versa). However, the learning has to be made relevant or internalized into the companies before it will be put in active use (Klev &

Levin, c2009, p. 187). It is therefore the actual *arranging* of these processes that are important. This is because while results can't be planned, planning the process of making this transfer can be (increasing the likelihood that it will happen). Just bringing something new back to one's own organization doesn't mean it will be used, since this often remain decoupled from the value-creating, daily activities in the company (Klev & Levin, c2009, p. 187; Lysø, 2010, p. 267; Skule, 1994; p. 175). Without internal arenas, learning will remain as individual learning for the company's representative, and will not be utilized as a potential for change and development for the company (Lipshitz, Popper, & Friedman, 2002). One solution to this is to conceptualize network participation as a dual OD process, i.e. **as a bridged, facilitated intraorganization development process and interorganization development process**. This combination where the network and organization part of the OD process (based on the cogenerative learning model) are integrated, subsequently turning it into a holistic model for participation in a network, is shown in Figure 2.

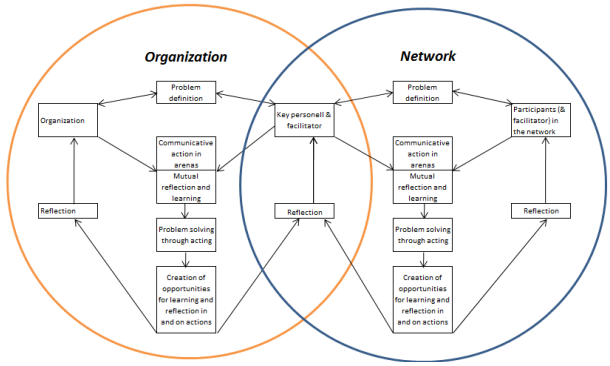

Figure 2 **Participation in a network understood as a dual OD process**

After exploring how learning and knowledge is conceptualized and transferred, the flow of learning/knowledge between a network and local developmental processes seems to rest on a diffuse understanding of how this actually works. The transfer of codified and tacit knowledge lacks an understanding of both the individual actors and the activities associated with the bridge between the network and the organization. How can a company representative act to be a development agent for the company? On the other hand, how can the home company arrange for knowledge transfer to occur? What is the network facilitator's role in this? In the reviewed literature, I could only find limited description of the activities (e.g. Holmqvist, 2003, 2004) and the actors' roles associated with bridging between the network and the company (e.g. Coughlan, Coghlan, Dromgoole, Duff, Caffrey, Lynch, Rose, Stack, McGill & Sheridan (2002)) , and how learning from the network could be turned into an asset

for a company's local development processes. Filling this gap is what I want to offer the reader of this thesis. The bridge is used as a metaphor for describing the processes and actors involved in turning network participation into a valuable activity that supports or creates internal company development processes. This dual OD process, where partaking in a network forms a continuous learning spiral, is shown in Figure 3.

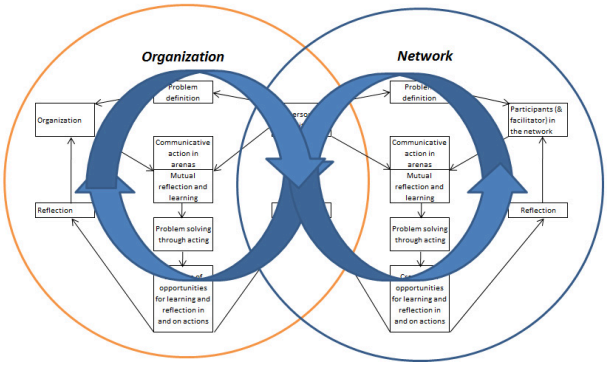

Figure 3 **The "binocular" model**
Network participation that forms a continuous learning spiral

The models shown in Figure 2 and Figure 3 have acted as the framework for developing detailed research questions. These questions were investigated to obtain extended knowledge of the factors involved in the network, the participating companies, and the bridge between them. The detailed research questions are found in Section 7.5.

1.5 Methodological approach

In a network, the company's outcome will depend on the intersection of environmental conditions, the group of people, and a variety of historical events—including the actions of the participants (Greenwood & Levin, c2007, p. 69). Working as an action researcher in the network that represents my case, I had the possibility to look for and try to understand the contextual factors involved and their effect on the outcome each company received from network attendance. As I have been part of the researchers' team connected to this project, I have contributed to both the planning and implementation of activities. Another argument for having an action research approach related to this thesis is the focus on learning processes. One major theme in action research is to seek to understand things by changing them. Experimenting with something new, studying the consequences of the action, and reflecting

before taking new action is an ongoing process in the projects (Greenwood & Levin, c2007). This can be illustrated as a cyclic process of learning. In practice, this means that my study has been a cyclic process between acting in the field and reading and building theory.

Whereas action research has been used as a research strategy in the project, I have used both grounded theory and a qualitative case study approach to generate data. My insight into the research area developed gradually throughout the study. Based on (more or less) continuous literature reviews, the activities in the project, and thorough discussions with my advisors and researcher colleagues, the model presented in this dissertation gradually emerged. The pragmatic, cooperative, Scandinavian action research approach applied in this study also coincides with my conceptualization of network participation as a dual OD process. This model builds on the action research cogenerative learning model, making a consistent link between the methodological approach and the theoretical perspectives in this thesis. However, the conceptual framework used in the analysis is my retrospective understanding of the field experience. This means that it was not the map I used to navigate as the project evolved (I did not at that time have the understanding of participation in network as organization development), and as such the model represents my hindsight. However, the model will hopefully be of help both in the continuation of this network project and with my own theory building in this focus area. As such, I will be able to further test my model related to one of the quality criteria of action research: workability (Greenwood & Levin, c2007, p. 100).

1.6 The structure and content of the thesis

This dissertation consists of four main parts, the content of each are introduced here.

Part I: Introducing the research

This introduction is the first chapter of the dissertation, presenting the problem and thesis statement, a sketch of literature, and the research question.

In Chapter 2, I describe the context of the research, starting with the network where the empirical data was generated. The history of this network is provided along with the information, which I believe is most relevant for the issues raised in this thesis. More extensive contextual information is given in the analysis chapters (Chapters 9-11), where case

stories related to four companies and activities related to the network are described and discussed.

Part II: Literature review and statement of methodology

Chapters 3-6 provide the theoretical framework on which this dissertation rests. Innovation theory, network theory, and theories about knowledge and learning are all reviewed and discussed in light of the issues raised in this thesis. Then, in Chapter 7, organization development (OD) theory is used to develop a conceptual framework for network participation. Several research questions are posted at the end of this chapter that I further investigate to obtain extended knowledge about processes related to determining an outcome of network participation, and how this can contribute to local development processes in the participating organizations. This chapter also includes a theoretical model for participation in and use of a network for organization development.

Chapter 8 presents the methodology used to generate, treat, and present the empirical material. The type of data that has been available and used is also accounted for along with my position as a researcher. The quality of my study is also accounted for.

Part III: Analysis and discussion

In Chapters 9-11, I present data from the network case. These chapters include the analyses and discussion of the empirical material which has been used in the search for answers to the posted research questions in Section 7.5.

Part IV: Conclusion

Chapter 12 concludes the thesis. The main research question is addressed and discussed. Overviews of the main findings are accounted for and how these findings relate to current knowledge in the field is discussed. This chapter also provides suggestions for further research and based on my findings I have included my recommendations for companies that participate in a network and for network developers.

This dissertation ends with a short epilogue, where I provide closing comments and reflections.

I think a major act of leadership right now, call it a radical act, is to create the places and processes so people can actually learn together, using our experiences.
Margaret J. Wheatley

2 The research context

My goal in this study has been to understand how network participation can influence internal company development processes. Towards this goal, I have worked as a researcher in a network research project that represents my case. I have searched to understand and develop knowledge about how and in what way the participating companies actually used the network to influence local developmental processes. Second, I have searched for strategies that enabled them to do so. In this chapter this network will be introduced and described with respect to its history and status. What follows here is thus a presentation of the company-based network in Ewa[7]. More extensive information related to the case will be given in the analysis chapters in Part III of this dissertation.

2.1 The research program VRI

The network project which forms the empirical base for this dissertation has been part of one of the regional VRI projects in Norway. VRI is the Norwegian Research Council's primary support mechanism for regional research and innovation. The primary goal of VRI is to encourage innovation, knowledge development, and added value through regional cooperation and a strengthened research and development effort within and for the regions. Fundamental components of the VRI programme include research activity, exchange of experience, learning, and cooperation across scientific, professional, and administrative boundaries.

My activities have been partly financed by the regional VRI project; however, the main part of the data processing has been funded by Østfold Research. In the following, how the network project came to be and how it has progressed will be outlined.

[7] This is a fictitious name of the town where the companies are situated. The name is based on my children's initials.

2.2 The Ewa company network

The Ewa company network started as an initiative from some of the participating companies. The network consisted of five loosely coupled companies at most (which I named Alpha through Epsilon) that do not have a close business relationship with each other, as they are not in the same value chain or do business with one another. As such, they are a horizontal network. The network has been tailored to fit the participants' needs, with a focus on organizational innovation issues. The members of the network have supplemented the network with sub-networks, or workgroups, which gather around a specific challenge or interest. This adds up to seven larger or smaller networks with different representatives from the companies, which together represent the empirical data of this dissertation.

2.2.1 Establishing the network

John[8], a researcher at a regional University College, was called to a meeting with a manager at Alpha in May 2007. At this meeting John was informed that this manager and two more managers at Beta and at Epsilon had attempted to start a network in 2006. Their idea was to cooperate where it could be beneficial in order to improve profitability and increase innovation. They had been especially interested to start exploring possibilities for cooperation related to maintenance. However, this initiative was stranded because Epsilon had withdrawn from it. Now Alpha and Beta wished to blow new life into the idea of starting a network, but they needed others to join. Few people outside of the initial three managers knew at that time about this initiative, and there were challenges:

- Who should be the central participants in the network?
- What should be the initial areas of cooperation?
- How should one inform the trade union and other relevant actors?

Alpha and Beta are competitors, but because of many equal challenges they thought it would be beneficial for them to cooperate. They wanted to adopt one of the so-called recipes for success: To cooperate where one can, and to compete where one must. The theme of the network was set to be:

[8] A ficticious name

Cooperation between industrial companies in the Ewa region with the intention to increase efficiency on activities in noncompetitive areas.

The Alpha manager expressed that they were uncertain about how to establish the cooperation, therefore asking John to coordinate the establishing of the network and to use his network to realize these thoughts. John then took on the job as the network facilitator.

Several meetings were held in the following months with companies for recruitment to the network and to discuss possible areas for cooperation. These meetings included only managers from the companies and were treated with great secrecy (i.e. were mainly held outside the companies at hotels). Some of these managers and the researcher also visited an industrial network in another part of Norway to gather ideas and learn from others who had long-term experience in a similar situation (network across branch and company borders). During 2007, the researcher solely handled this initiative, but gradually he involved the overall project manager of the regional VRI project. This started the process of including it in the regional VRI project. The researcher termed the process as very exciting, and recommended that I joined in and used it in my PhD-study. However, before the network was taken in as a project in VRI, the overall project manager of the regional VRI project demanded that union representatives and relevant company employees become involved in the initiative, as the regional VRI project has focused on inclusion of union representatives and broad participation in the companies. Because of this, the researcher held meetings to inform the Norwegian Confederation of Trade Unions, LO, and the Confederation of Norwegian Enterprise, NHO, about the initiative.

The first official network meeting was held 11th December 2007. In the invitation to this meeting, sent out by the facilitator, the companies were requested to participate with the manager who had been engaged in the exploration phase and their union representative. In addition they were requested to invite the responsible persons for some predefined areas (based on an agreed upon list from one of the exploration meetings held in June 2007: apprentice training, logistics, building maintenance, boilerhouse services, and risk assessment) in their organization to the meeting. At this meeting these predefined areas where collaboration across company borders could be of interest were presented, discussed and shortlisted in plenary after being worked up in smaller groups (following the methodology of a search conference (Klev & Levin, c2009, p. 171) but in a mini-version). None of the

suggestions at this session were evaluated with respect to potential contribution to added value, but merely evaluated based on current needs and the participants' thoughts of potential benefits. However, there was not put up or agreed upon any concrete goals in the beginning of this cooperation. In this meeting it was agreed to start up workgroups in the network within the following themes: apprentice circulation, building maintenance and purchasing of goods and services, risk assessment, energy supply, and energy economizing. In the next network meeting held in January 2008, participants flagged their interest for the different workgroups, and one of those who had showed interest was given the responsibility to call for the first meeting in the group.

The third manager who was part of the original 2006 initiative came from Epsilon. This company also participated in the meetings relating to the new network attempt up until 14th January 2009. However, they had not participated fully in the network in 2008, and the manager who was part of the original initiative was no longer involved. After the January 2009 meeting, Epsilon's technical manager informed by e-mail that they withdrew from further cooperation because participation would demand a disproportionate amount of time and use of personnel.

A sixth company was recruited to the new initiative and subsequently participated in one exploratory meeting in September 2007, but later informed that they didn't wish to participate in the cooperation initiative at the present moment. However, they wished to receive minutes from subsequent meetings. The company did not request to participate in the network since then, nor has there been a further attempt to trigger their interest.

2.2.2 Activities

Some of the activities in the network are shown in the timeline of events given in Figure 4. In the following section, I will also account for the main network related events from 2008 until the summer of 2010.

First initiative to start a network	**2006**	Three managers from three different companies
First meeting, new initiative	**May 2007**	First meeting between one of the initiators (manager) and the researcher/facilitator
Initial, exploratory meetings	**Summer/ autumn 2007**	Discussions with possible members. Visit to another industrial network in Norway.
1. Network meeting	**11.12.2007**	Managers, union representatives and relevant employees from the companies and NHO and LO present. Workshops.
2. Network meeting	**29.01.2008**	Establishing workgroups
3. Network meeting	**01.04.2008**	Reporting from the established workgroups. Presentation of VRI
4. Network meeting	**17.06.2008**	Reporting from the workgroups.
First round of interviews, managers	**Nov-Dec 2008**	Interviews with the managers in the companies to get updates from the companies and explore areas for further work.
5. Network meeting	**13.01.2009**	Results from interviews presented to the network. Discussion.
6. Network meeting	**12.02.2009**	Reporting from the workgroups
7. Network meeting	**26.03.2009**	Reporting from the workgroups. Discussion about the network's name.
8. Network meeting	**16.06.2009**	Reporting from the workgroups. Discussions related to current status of the network and way ahead. Agreed to bring an external person to hold a lecture to give ideas for further activities
9. Network meeting	**06.10.2009**	Reporting from the workgroups. Lecture and discussion led by an external person. Discussion about started up a workgroup focusing on Lean production[9]
Second round of interviews, managers	**Nov-Dec 2009**	Interviews with managers in the companies. Updates and thoughts about the future of the network.
Group interviews, representatives	**Jan 2010**	Group interviews with representatives in each company
10. Network meeting	**09.02.2010**	Results from interviews presented. Mini search conference held related to evaluation of current and possible new focus areas.
11. Network meeting - new orientation	**11.05.2010**	Focus on getting new members and plans for building up a regional Lean forum

Figure 4 Timeline of events

2008

By April 2008 the three groups working with building maintenance, apprentice training and risk assessment had been established and started exploring how they could benefit from each other's competence. In May also the energy efficiency and economizing group was up and running. During 2008 three network meetings were held in January, April and June. The network meetings were mainly concentrated on reports from the different workgroups and

[9] Lean is is a production practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target for elimination (Wikipedia).

planning of the work ahead. In addition a seminar related to alternatives to oil as an energy carrier was held in May. Alpha and Gamma were the most active companies during this year.

From June until November 2008 the researchers were not actively engaging in the network or in the workgroups. This was partly due to the project manager's high activity on other tasks, but also because the participants initially stated that they did not want the researchers to "interfere" in the workgroups. At an internal meeting in November in the VRI project (were only researchers were present), it became obvious that it would be necessary to become more involved with the workgroups and forcing the network meetings to happen regularly. This was both due to slow progression in the workgroups and because we (the researchers) did not get data which were useful for the research project. It was decided to arrange for a meeting with each of the companies to get information both about how they evaluated the work so far in the network as a whole and a status update of the individual workgroups (where the researcher had not participated). Also on the agenda were needs and challenges in each company, and what they wanted to focus on in the following year. These meetings were performed in November and December by myself and John.

A discussion of linking up with other networks in the region occurred during the second half of 2008. This was mainly pushed by the county council, who has a central role in the management committee for the regional VRI project. However, the companies did not want any intervention, based on the arguments that the network was too young and there were needs to establish both a more solid foundation and to build stronger relations among the existing companies. The companies were actually quite clear in their message: This is our network and we want to decide *if* new companies should be taken in as participants and if so, *when*.

2009

In 2009 five network meetings were held, in January, February, March, June and October. The first network meeting in 2009 was held the 13th of January with representatives from Alpha, Beta, and Gamma present. John facilitated the meeting and presented a summary of the impressions we (he and I) took from the company interviews. Even though there had been low activity in the workgroup over the past six months, the companies "took control" halfway through the meeting. The participants in the meeting were very clear about really wanting to cooperate on issues the companies prioritized in earlier meetings. They committed to

increasing activities in the workgroups, and set a date for a new network meeting. It was agreed that all the workgroups should report on their activity and present further plans for the group at that meeting. It turned out that it had been difficult to find out whom to call from each company to arrange the workgroup meeting. I took on the job of asking each company for contact details for their representatives connected to the different workgroups and sent a combined list to all of the participants. This small amount of structure helped with further network activities. At this meeting the research group asked for permission to join the work groups' meetings, arguing both for the need to generate research data and to possibly be of help in the workgroups due to our competence—or at least as a "secretary," writing the meeting minutes. The result was that from that time onwards a researcher participated in all group meetings. Two researchers from the University College (including the facilitator) and three researchers (including myself) from Østfold Research now formed the team of researchers connected to the project.

Epsilon withdrew from the network before the next network meeting in March. However, Delta increased their activities in the network, resulting in a stable number of participants in the workgroups. During 2009 the members of the network were: Alpha, Beta, Delta, and Gamma. A new group was established in January 2009 to look at computerbased maintenance systems, DASH. During 2009 the network concentrated on six workgroups: building maintenance and purchasing, risk assessment, apprentice training, DASH (computer-based maintenance system), energy and steam supply/boilerhouse and industrial safety. For the October 2009 network meeting, we had invited an external resource to talk about experiences about value creation in a network. This meeting led to discussions about adding a new workgroup to the network—a forum for Lean production and management.

In November/December 2009 we (John and I, however another researcher was a stand-in for me at one) performed a second round of meetings with each of the companies in the network to obtain both updates related to their evaluation regarding the current activities in the network and ideas for new focus areas. In these meetings, we only talked to the managers.

2010

Group interviews with the representatives were held in January 2010. Here John and I talked with representatives at Beta and Gamma, whereas only I talked with Alpha representatives.

We did not manage to set up a meeting with the Delta representative[10] due to his heavy workload. Afterwards I processed feedback received from both these interviews and interviews with the managers and presented it in the February 2010 network meeting. This meeting was the first in 2010. The goal was to broadly evaluate all work to date, both in the overall network and the specific workgroups. The participants were divided into several groups and discussed what to do with the existing workgroups, wishes for new workgroups and possibilities for getting new members to the network. The researchers did not participate in the group work session. Afterwards the groups returned to plenary, and each of them presented their evaluation. This led to a new list of focus areas where some of the "old" workgroups were combined and a new one added (a forum for quality).

The next network meeting was held in May with focus on status, the establishing of the new workgroups, recruitment of new member companies and a discussion related to the content of a possible Lean forum. Before this meeting, little had been done related to the issues that were placed on the "to-do" list in the previous network meeting. It was decided that the facilitator should use the summer to invite other companies to an information/recruitment meeting about the network, which was scheduled to be arranged in August 2010.These events occurred after the deadline for my data collection period, which was the summer of 2010, in order to finish this study. Thus, data generated after June 2010 are not included.

2.2.3 The researchers' roles

The researcher from the University College who was asked to help establish and facilitate the network has also been the project manager for this network project (which has been one of the projects in the regional VRI project portfolio). I have worked as a researcher in the network project together with the project manager since December 2007. My role was initially to participate and contribute in the meetings both externally and in the researchers' team, and to follow up with the companies. This means that I conducted separate meetings with the companies, and also contributed to the theoretical and practical development of the research project. In this phase I acted like an action research trainee (Thorsrud, 1976, p. 86). However,

[10] Only two people from Delta were engaged in the network activities at this time; the technical manager and the responsible HSE representative. Because of this, we based our findings and impressions on one interview with the technical manager performed at the end of 2009.

from the beginning of 2009, I gradually took over more and more of the project manager's work in the project (but not the formal position). This was because the project manager did not follow up on the activities related to the facilitation of the network and the related activities needed in the research project. Thus, as time went by, I took on the tasks of a senior action research team member (Thorsrud, 1976), meaning that I initiated, planned, and followed up activities both internally in the researchers' group and externally in the network. However, the project manager has acted as the main facilitator of the network meetings. In that way, my contribution has not been that externally visible in the main network arena. These matters will be commented on further in Chapters 8 and 11.

The data collected from the other researchers in the project has been available for my use. The interviews with the participants have had the purpose of trying to go beyond the impression received in the meetings and to get closer to how they have evaluated the work in the network and which outcome they have got from their network participation. The researchers did not participate in the workgroups before the beginning of 2009. Then each group had a researcher "attached" to it. The purpose was for the researchers to be, if needed, a coach in the workgroups. We also have written the minutes, if the group wished so. The researchers have been responsible for following up with at least one workgroup each. The group(s) the single researcher has followed has been selected based on his or her professional experience, enabling the researcher to also contribute with domain knowledge.

"Watch this," Mr. Delhi said in Norwegian class one day, placing a glass beaker of water over a Bunsen burner. "Today we're going to produce an ester." He poured equal amounts of ethanol and acetic acid into a test tube and let it sit for a while in the boiling water. "See? Nothing happens," he announced, absent-mindedly waving a grammar book in the air. "In order to investigate a reaction we need something else. Watch carefully now." Mr. Delhi added a few drops of concentrated sulphuric acid to the test tube and put it back into the boiling water. A lovely smell, like fruit or perfume, filled the classroom. What was going on? Jonas wondered. Chemistry in Norwegian class? "Imagine that those two liquids are two different thoughts," Mr. Delhi said. "Put them together and nothing happens. But then imagine that a third thought suddenly comes to me and I think along with the other two. Abracadabra! A reaction is triggered!" Mr. Delhi pointed triumphantly to the test tube containing the sweet-smelling liquid. "These are the thoughts you have to pursue," he concluded, thereby making the final link between chemistry and Norwegian. "Those which act as ***catalysts****."*

From Jan Kjærstad's "The discoverer," p. 216

Part II Literature review and statement of methodology

In this part of the thesis, the theoretical framework that forms the basis for empirical data analyses will be presented and discussed. The methodological approach used to generate and analyze the empirical material will then be presented.

The theoretical framework consists of four chapters that together build a foundation for the fifth chapter, where I create a model of network participation as a *dual OD process*, i.e. as a *bridged, facilitated, intraorganization development process* and *interorganization development process*. The model is a synthesis of my theoretical understanding of company development through network participation and it will be thoroughly described in Chapter 7.

This theoretical model emerged after I had reviewed a quite diverse array of literature (network, innovation, knowledge, and learning and organization development theory— which will be accounted for in the following chapters). Actually, the idea for the conceptual framework and the model dawned on me when I was working with the theoretical framework of a totally different project (an internal reorganization project at my workplace). Suddenly the theoretical and empirical "clues" in my research fitted together and made, for me, a new combination of thoughts that made sense. The threads in the literature will be presented in the following chapters, which will be knitted together in my conceptualization of network participation -.

Research has shown that in order for industry to survive and prosper, constant innovation is necessary. Models for innovation are an important basis for understanding the need for

working across organizational borders. Therefore, theories of innovation are reviewed in Chapter 3. The interactive innovation model (Kline & Rosenberg, 1986), will be accounted for. In this model, innovation is seen as a continuous, interactive process where the innovations happen in and between organizations and in a cyclic process. It will be used as an argument for the necessity for organizations to increase their interfaces and thereby the possibility for innovative actions. *Joining a network* can be a way to do this, and a network can potentially offer a place for getting new ideas, learn from others expertise and experience and reconfigure one's own existing knowledge. Thus, in Chapter 4 networks, and their mission as means for company development and innovation, are reviewed from different theoretical perspectives. For companies to use the results of network participation, *learning* is a central prerequisite, as this is a cornerstone in both innovation and change processes. Theories of knowledge and learning are therefore reviewed in Chapter 5. The *organization of*, *use,* and *followup* of network participation are considered important for the single company's outcome. In this, organization development (OD) theory offers a concrete way to make the outcome of the network participation useful for internal development in the companies, as OD theory includes both activities and actors required for making change in an organization. OD is reviewed in Chapter 6, with the components of an OD process used to shed light on network participation. At the end of this journey through the theoretical positions, in Chapter 7 I present the model for network participation as a dual OD process, i.e. as a combination of both intraorganization and interorganization development processes.

Chapter 8 presents my methodological approach and the quality assessment of my study. This research project rests on a longitudinal action research study, where the researcher (me) collaborated with both the network and the participating organizations over a period of almost three years. The experiences and data from the processes that occurred during these years represent my empirical data. In-depth interviews with the actors in the network also represent some of the data, together with joint reflections in the network groups and within the researchers' team. The study developed in an ongoing cycle between reading theory and acting in the field (generating data). The empirical material has been analyzed using a grounded theory approach, where the first analysis led to an initial understanding of the field, and where further reading and data generation eventually expanded and grew into an understanding of network participation as a bridged, facilitated, intraorganization and interorganization development process.

3 Innovation – and the link to networks

3.1 Introduction

This chapter includes a review of some aspects of innovation that I have found important in connection to participation in networks. Innovation has a central place in everyday business life; it is said that in our global world things- change so rapidly that innovation isn't something one do once and then pick up on next time the sales curves show a decline. Today companies have to innovate—all the time (Liker, c2004). This indicates that a company has to be alert, engage in continuous innovation, and be willing to do radical changes in order to stay in the market. This is in line with Cooke and Morgan's (1998) observation that a characteristic of the more innovative firms seems to be that for these firms *experimentation* is a normal condition (Cooke & Morgan, 1998, p. 35). Connecting this to network participation, companies that join a network presumably wants the effort to be profitable for the company. Most likely they are seeking new ideas and want to exchange knowledge with other participants, and search for something they can bring back and utilize in their own company. Brown and Duguid (1991) argue that the source of innovation lies on the interface between an organization and its environment, and can be used to support the need for working across company borders. How can then innovation be understood? According to OECD (2009), the concept of innovation is broad and it encompasses "*… a wide range of activities and processes: markets, entrepreneurship, networks and competition, but also skills and organisations, creativity and knowledge transfer*" (OECD, 2009, p. 11).

My main concern in this research project is organizational innovation. However, technological innovations can lead to organizational innovation (and vice versa), and thus organizational and technological innovations are intertwined (Brown & Duguid, 1991, p. 51; Lam, 2005, p. 115). In the following section, I argue that innovation is a complex, interactive, collective, and social process where the outcome can't be planned. However, the innovation process itself can be planned, an argument I will continue to build in this thesis.

3.2 Different kinds and models of innovation

Innovation has for a long time been considered as a driver of economic and social change. Schumpeter (in Fagerberg, 2005, p. 6) defined innovation broadly as new combinations of existing resources. In his view innovation was the fuel in the process of creative destruction, a process which capitalism was essentially all about. Schumpeter meant that it was this quality competition (innovation) that was the driving force of economic development—and not price competition, which neoclassical economical models rest upon. This indicates that price competition does not require any innovation. Related to the product as such, this could be true (given that the product is the same in two competing companies). I will argue that substantial innovation related to resource efficiency initiatives could be necessary to undertake to lower the price on a product, for instance innovation in a production process. To increase the resource efficiency (reduce the use of natural resources) is also closely linked with more sustainable development. As such, I will argue that it is a necessary part of innovating for the future. However, what the innovation contributes to is defined quite broadly and does not include such kinds of discussions, as according to OECD & Eurostat (2005) an innovation is:

> *… the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organisation or external relations.*
> *The minimum requirement for an innovation is that the product, process, marketing method or organisational method must be new (or significantly improved) to the firm. This includes products, processes, and methods that firms are the first to develop and those that have been adopted from other firms or organisations.*

From this, I understand an innovation to encompass both the creation/invention in itself and the implementation of it. This is in line with Oddane (2008), who regards that "creation" and "implementation" denote the main activities in innovation processes. Following Schumpeter's own definition, innovations can be defined to encompass a wide range of topics, such as new products or process technologies, new markets, and new organizational arrangements or administrative systems (Fagerberg, 2005, p. 6). A more simple division is between "product innovation" and "process innovation" (Lam, 2005, p. 116). I argue that there is also an interconnectedness between product and process innovation, as an organizational innovation

might also influence technical systems in companies and lead to other forms of innovation. This is focused in the sociotechnical theory that explains the interconnectedness between the social and technical systems (Trist, 1981), and where the goal is to find the best common solution. This interconnectedness was shown in the famous study of Trist and Bamforth (1951) where the introduction of the Longwall method in a coal mine showed how production technology and work organization were interlinked[11]. This was probably not classified as an innovation in itself, but at least it showed how a technical innovation led to unexpected changes related to the overall efficiency. Sociotechnical reorganization was also focused in the Industrial Democracy Project in Norway when together with Eric Trist and Fred Emery from the Tavistock Institute; Thorsrud used semiautonomous groups to increase worker motivation and to improve decision-making and democratic processes on the shop floor (Emery & Thorsrud, 1976). I will return to a discussion of the sociotechnical perspective when introducing organization development (OD) in Chapter 6. However, my point is that when it comes to innovation, the question about process or product, quality or price is like the chicken and the egg dilemma: they are heavily related to each other, and it is not easy to decide which comes first.

The reductionist perspective, which ignores interconnectedness, is also visible in models of innovation processes. The linear model rests on the assumption of a linear, one-directional causality from research (or science) to technology and from technology to economic development (Rothwell, c1994, p. 41). This means that research, development, production, and marketing follow each other in time and sequence. The description can be compared to the Mode 1 label that Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow (1994) use to describe disciplinary science and academic- and investigator-initiated knowledge production. In the linear model, human activities are not paid much attention to, and it neglects, as Oddane (2008, p. 29) points to, innovation as a social, collaborative achievement. An alternative to the linear model is the interactive innovation model, which has been developed from the chainlinked model of Kline and Rosenberg (1986, p. 289). In this model, innovation is seen as a continuous, interactive process where the innovations happen in and between companies (for instance between departments or institutions) and in a cyclical process. This is in line with Mode 2 knowledge production which has five characteristics: it is generated in a context of application, it is intrinsically transdisciplinary, it is diverse both with

[11] Introduction of new mechanized equipment and a Tayoristic approach broke up the previous autonomous workgroups into specialized taskgroups on each shift, which lessened the overall productivity.

respect to where and what kind of knowledge is produced, it is highly reflexive, and includes new forms of quality control (Gibbons et al., 1994)[12]. The interactive model and Mode 2 knowledge production at least acknowledge the interconnectedness. Since innovation is characterized as the heart of the global economy (Kraak, c2000, p. 3), these models acknowledge that the abilities to continuously reinvent products and reconfigure new knowledge about product and process demands a faster, close-to-the-market knowledge production. In the interactive innovation model, shortcomings and failures that occur at various "stages" may lead to a reconsideration of earlier steps (Fagerberg, 2005, p. 9), which opens up the possibility for a cyclic learning process of those involved. However, this model is silent about the collaborative processes involved in innovation. Compared to the linear model, I believe the interactive innovation model is a more fruitful understanding of the innovation process, or any process involving human interaction. This model is closer to the real-world experience where processes are rarely linear and instead rather chaotic when trying to explain or study them. Of course, as all models, interactive models are based on simplifications of real-world experiences[13]. Thus, I understand innovation to be a complex, interactive process. To return to my discussion related to innovation as a contribution to the quality or price competition: are there some innovations that more valuable or noble than others?

3.3 Radical versus incremental innovation

One aspect of innovation is the classification between "radical" and "incremental" or "marginal" innovations. Continuous improvements[14] will typically be classified as incremental, whereas the introduction of a completely new type of technology or process would be classified as radical. Picking up on my earlier argument related to increased resource efficiency, I find continuous improvement and increased resource efficiency heavily related. Then there is the question about who is going to decide whether an innovation is new, radical, or just a "new wrapping?" Because of the massive focus on the more radical classified innovation (Gustavsen, 2004, p. 76), it is easy to downgrade the possibility that the

[12] It is the interactive innovation model and the characteristics of Mode 2 knowledge production that the VRI research program rests upon.
[13] Lecture with Davydd Greenwood, EDWOR II, Week 9 seminar, (2009): "*The best we can do is to build simplified models that help us to grasp some things while perhaps obscuring others.*"
[14] Called kaizen in Japan, which is a comprehensive philosophy that strives for perfection and is focused in Lean production and management (Liker, c2004)

cumulative impact of incremental innovations and improvements can be just as or even more economically beneficial for companies (and in my mind, beneficial related to a sustainable development). Organizational changes may significantly increase productivity and competitiveness (Fagerberg, 2005, p. 8). That is why I consider the focus on practical, new solutions and ways of working (process/organizational innovation), which are often in focus in company networks (Gustavsen, 2004, p. 76), to be just as important as the more "valued" or "noble" status of product innovation. The car manufacturer Toyota sees standardization and innovation as two sides of the same coin, which makes Liker (2004), believe that they are the best learning organization in the world. An important part of the act of innovating is actually to standardize areas of a company's activities that should not be part of the innovation processes. However, the standardized parts will also be an important platform for improvement—but more important, having standards of how to perform can release time for innovative activities. When people know what to do and how to do it via the standardizations, then one don't need to spend time on these matters. Standardization and innovation have a delicate relationship: too much standardization makes innovation impossible, but without standardization innovations do not survive in the long run (Liker, 2004). Innovation and standardization thus follow each other, and can be seen as a learning cycle where a technical innovation is transferred to a technical standard, and a social innovation is transferred to a social standard. The standard is then followed until an innovation punctuates it, which again has to be translated into a new standard. To standardize is thus an important part of innovating, and can be a stepping stone to new innovations. If the standard part fails to appear, the innovation has not been spread or taken into use. Standardization and stability can thus be used to transfer individual or team innovation into organization-wide learning (Liker, c2004). This view on how to implement innovation and change are in line with how Kurt Lewin conceptualized social change (Lewin, in Hatch & Cunliffe, 2006). Lewin's model of change involves three separate activities: unfreezing (dismantling former structures), movement (changing the structures), and refreezing (locking back into a permanent structure). This view could be used to argue for change as short-term interventions. However, change processes could also be seen as having an open starting point, often without an absolute ending point, and to be of a more continuous, cyclic phenomenon (Greenwood & Levin, c2007, p. 17). In my view, development in companies should be looked at as a continuous, cyclic phenomenon rather than a static one, where continuous improvement and working towards increased resource efficiency are natural parts of this process. Relating this to networks, Oddane (2008, p. 1/436) recognizes innovation as a complex, open-ended activity

requiring continuous cocreation of knowledge in interdisciplinary, interorganizational networks. To participate in a network could then be understood as a place where short-term goals (quick fixes) can not only be pursued (for instance, to "stabilize" an area where new solutions to a problem are necessary), but could also be seen as an opportunity to participate in continuous learning processes.

Could a network that focuses on solutions to companies' practical problems be interpreted as dealing with innovation? As stated by Gustavsen (2004), experience from the VC2010 research program showed that cooperation in networks is initiated to pursue "ordinary company goals," where the goals are originated in how to survive and grow. When more specific goals are promoted, like innovation, then the network's goals are more centrally than locally defined (Gustavsen, 2004, p. 76). Could this imply that centrally initiated projects with a focus on company innovation will locally be translated to projects pursuing "ordinary company goals"? It is not within the scope of my thesis to answer this question. However, this brief review shows that an important part of making an organization more innovative is to solve problems related to the daily work situation. This frees up time to find more innovative ways to work and further the process of social innovation or technical innovations.

3.4 How innovations occur

How, then, do innovations occur? A central finding in innovation theory is that firms do not innovate in isolation, instead depending on extensive interaction with its environment (Fagerberg, 2005, p. 20). Stamm (2008) claims that the most exciting innovations happen when connections are made between previously unconnected bodies of knowledge (Stamm, c2008, p. 335). Also, Leonard-Barton states that innovation occurs at the boundaries between mindsets, not within the provincial territory of one knowledge and skill base (Leonard-Barton, c1995, p. 64). In Schumpeter's early work, which is sometimes called Schumpeter Mark I, he focused on the individual entrepreneur as the source of innovation. However, later he emphasized the importance of innovation in large firms (Fagerberg, 2005, p. 6). As Oddane (2008, p. 30-31) points out, it is important to keep in mind that even though individual creativity, and thus individual entrepreneurs, play an important role related to innovation, collective creativity and endeavor is also necessary to implement both the innovation process and the innovation itself. All of these explanations can lead us back to Schumpeter's simple

definition of innovation as the carrying out of new combinations. The more people involved, the more combinations can be made. Through the cross-functionality that exists in a network (people from different organizations, and/or people from different business units or departments in each organization), participants can develop perspectives that transcend the fragmentation of for instance product lines or business areas (Wenger, 1998a). This requires openness, since innovation consists of a new combination of existing ideas, capabilities, skills, and resources. However, Lewin (c1951) states that behavior is influenced by its environment. For example, the technical focus area of the network or workgroup can constrain who is invited into the network arena. The sociotechnical theory also points to the possibility that some ideas and solutions that could be more preferable socially cannot be implemented because it is technologically difficult, or vice versa. This means that different participants in a network will have different constraints in their local technical and social environment, which will influence their participation.

However, in a network people can be stimulated through new views and thoughts that are presented to them. It could even be that by simply meeting somebody from a different department in one's own organization could stimulate something new. Maybe these people haven't met before, or are so occupied by their daily tasks that they do not pay much attention to what other departments are doing or which needs they have. They can develop a new understanding in the network arenas of their interconnectedness, and subsequently find new solutions or develop new products as a result.

Also, a company will have a need to maintain an external boundary and identity in order to distinguish it from others. However, it is necessary to keep this boundary sufficiently open to allow for the flow of knowledge and resources (Lam, 2005). Meeting people from other companies who struggle with similar challenges, and listening to how they work with or have solved similar problems, can be a stepping stone in a process of finding new solutions or implementing improvements back in one's own organization. Thus, being part of a network can serve as a way to open to external ideas and reduce the chance of being "locked out" from promising new paths of development that emerge from outside their own company.

3.5 Summary discussion

From this short review, innovation can be understood as a multi-faceted phenomenon, where experimentation is the key activity. It can embrace many aspects of a company's purpose and activities, and I view it as a complex, interactive, social process. Incremental, or continuous improvements or change, are just as important as radical innovation as they are stepping stones in a continuous cyclical process of innovation and standardization. Innovation can also be viewed as a collective process, where meetings between different mindsets, and knowledge and skill bases stimulate new combinations—and hence, innovation. To join a network is a way to allow a flow of new ideas and knowledge from the outside into one's own boundary, forming bridges to worlds (and ideas) one does not daily walk within. However, the participants' local technical and social environment (in their own companies) both represents possibilities and constraints related to areas of innovation. In order to more fully understand the concept of a network and its format, the next chapter is dedicated to a review of different understandings of networks.

"**It takes two** to know **one**."
G. Bateson

4 Conceptualizing networks

4.1 Introduction

When a company participates in the initiation of or joins a network, a vital belief is probably that "*individuals have good ideas, but groups have great ideas"* (Miles et al., 2005, p. 19). Said another way, it is most likely that jointly developed ideas are more powerful than individual ones. The fact that collective actions can lead to improved results has been presented through the work of Ostrom (1990). This should speak in favor of joining forces with others when facing problems or working with development tasks. However, for companies the reasons for joining a network are probably multiple and also dependent on the type of network. Thus, the connection or bond the company has to a network could vary a lot.

In the business world, networks can be based on formal contractual relations, such as strategic alliances, or informal ties, based on common membership in a professional or trade association—or an even looser affiliation. In most cases, the entire intention of joining a network is not to network but to achieve better results in one way or another. From a company's perspective, participation in networks is not a result of the need to solve one single problem or to pursue a single goal; rather, it is to pursue ordinary company goals connected to how to survive and grow (Gustavsen, 2004, p. 76). The need to cooperate is thus both broadly defined and complex (survive and grow).

How, then, are networks conceptualized theoretically? Later in this chapter I will review different views on networks and eventually argue that a network is a social construction, where *learning and knowledge-building activities* can take place. Because innovation is in this dissertation understood as a process of learning and knowledge creation, I understand a network as an arena where innovations can take place.

4.2 General understandings of networks

Generally, the theoretical discussion about and characteristics of what a network is seems to depend on the academic tradition in focus. One critique of defining and using a network is due to the concept becoming trendy and being "*applied so loosely that it ceases to mean anything"* (Nohria & Eccles, c1992, p. 3). Despite this criticism, looking at the similarities and differences between the academic traditions is an interesting starting point. In this section, some general understandings of a network are given. Then an overview of the main camps in network theory will be given. How these theories address the question of how network participation contributes to local developmental processes in the companies is also explored.

A network can generally be viewed as a system of connected components with different goals and characteristics. Network is one of many terms explaining interaction at an individual, organizational, interorganizational, and international level. Examples of other terms of such interactions—especially in business—are cooperation, strategic alliance, partnership, supplier relation, joint venture, franchising, and licensing (Haugland, c2004). Networks can lubricate social relations and help coordinate political and economic life (Frances, Levacic, Mitchell, & Thompson, 1991, p. 14). According to Haugland (c2004), a network is used both for internal relationships in a company and relationships between companies.

Today, one of the main reasons for joining a network is strategic: to increasing one's own innovation capacity. In this interpretation, a network can be defined as "*a set of autonomous organizations that come together to reach goals that none of them can reach separately*" (Chisholm, c1998, p. xxi). Herbst stated in 1976 that "*The basic characteristic of a network is the maintenance of long-term directive correlations, mutually facilitating the achievements of a jointly recognized aim*" and a network is "*…appropriate when a number of different organizations become involved in a relatively continuous and long-term change process."* (Herbst, 1976, p. 250, 255). He further stated that the primary function of a network is the development and maintenance of a joint *learning process*, and that the network's productivity depends on the actual or evolving complementary skills of its members (p. 251).

In a network, one collaborates without a pre-scripted plan and without certainty of outcomes (Oddane, 2008, p. 132). The idea that "if you help me out now, I will help someone else in the

future" adds the elements of accountability and reciprocity, and thus is important for the network. Sharing thoughts and ideas can lead to innovative solutions for the participants. This is explained as a cumulative process (illustrated in Figure 5) within the network, leading to a new approach that is a joint product of the group (Herbst, 1976). Miles, Miles and Snow (1995, p. 5) say in a similar way *that ideas are 'generative' rather than competitive (many an innovation seems to breed two more).* In this way, the contribution one give to other network members can be paid back in ways that it is difficult to see up front.

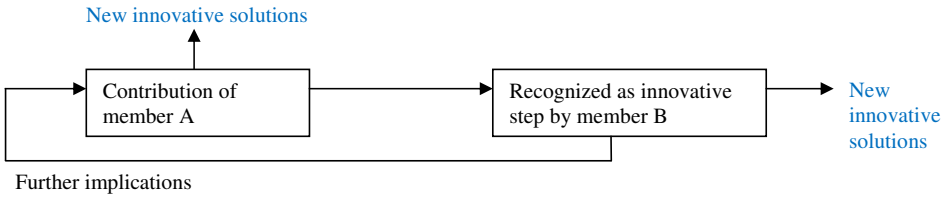

Figure 5 Sharing thoughts and ideas

From a structural point of view, networks are normally defined as non-hierarchical organizations based on voluntary participation. One common characteristic of non-hierarchical organizations is the capacity for multi-structured functioning. This form also provides the possibility of developing organizational relationships, which permits and supports members' individual autonomous development, avoiding the sacrifice of the individual to the overriding needs and demands of the system as a whole (Herbst, 1976, p. 249). Another way to phrase this is that network relationships are informal, between equal social agents or agencies, and often conducted cooperatively (Frances et al., 1991, p. 14). However, in some networks there could be external facilitators who manage the construction and daily operations. Haga (2007) also argues for the use of an external facilitator, such as an action researcher, to orchestrate the operation of interorganizational networks to make them sustainable. It could be questioned what professional management actually implies for the intentionally non-hierarchical structure of networks. Is a hierarchical structure placed on top of a non-hierarchical network structure? Or does the general conceptualization of a structure depend on what *kind* of managing the network chooses? I will return to this question in Chapter 6.

In principle, networks are temporary systems. When the task of a network group is complete, it might be converted into a new, more formalized establishment—or the members will go on

to other areas (Herbst, 1976, p. 251). This particular point runs counter to today's understanding where networks are also seen as more contractual-based relationships, such as supplier relations or joint ventures. In more recent literature, network is even used as a term for organizational design, such as collaborative multi-firm network (Miles et al., 2005). Thus, Herbst's characterization of networks does not seem to fit with today's actual use of the concept, and indicates that a more broadly definition of networks is required.

However, as Herbst pointed out, if the network is going to be interesting for companies, it must offer some kind of vision to pursue—or at least a handful of goals that can be jointly recognized (Herbst, 1976). The companies themselves should develop these visions or goals, in cooperation with the other participants (Levin & Knutstad, 2003). Another argument that speaks in favor of this codetermination is that a network is more likely to be sustainable when companies either initiate or are active in the initiation phase (Haga, 2007).

When it comes to the interaction between the network and a single actor, the cumulative process addressed by Herbst gives an explanation to the exchange process, which can be played out in the network and can again lead to local developmental processes in the individual company. Then the actors must be willing to be open and share thoughts and ideas with each other, and they must have the *ability* to use this information in their own developmental processes.

4.3 Different views of networks

From the more general backdrop it is interesting to view the network concept from the different traditions or "camps" in network theory dealing with different parts of our social life. One way to categorize these traditions is to divide between:

- Business development/economics
- Geography
- Organizational theory and sociological organizational theory
- Political system (the relationship between private and public sector)

Thus, a brief overview of how the different traditions define a network will be explored in the following subsections. How these different schools of thought address the link between a network and local development processes for members will also be explored. Political

network systems are defined by networks in the political world (Frances et al., 1991; Kickert, Klijn, & Koppenjan, 1997). These are constituted when elite and professional groups form a network. Political networks also embrace relations between (different) governmental and (semi-) private organizations. I do not find these kinds of networks relevant for my research focus, since the network dealt with in this dissertation consists of companies as members and where the focus is on company development and innovation. The political system perspective will therefore be left out in the following review.

Views on networks in business development and economics

In transaction cost theory, the need for companies to cooperate is transformed to different institutional governance structures (Williamson, 1975). It focuses on why and when activities are coordinated within—rather than among—firms. This theory is based on two key behavioral assumptions: bounded rationality (there are limits to what agents can know), opportunism (where agents engage in self-interest-seeking with guile), and how this influences the governance structures of firms. With basis in transaction cost theory, Williamson developed three basic forms of economic organization: market, hybrid/cooperation, and hierarchy. Networks and network relations are categorized as the hybrid/cooperation form. In transaction cost theory, the firm is nothing more than a vehicle for reducing transaction cost. The key is to find the optimal governance structure, where the inputs, outputs, and technology are seen as given. This model seeks static optimization to maintain a stable equilibrium of the system which the firm is part of. How knowledge from the network arena is used to develop a single company, and thus create a dynamic interaction between the external and internal arena of the company, is not in focus (Cooke & Morgan, 1998, p. 14).

The Swedish model, or the Uppsala School, has a model called network-as-market which is an alternative to the transaction cost theory. Here industrial markets are characterized by "*lasting relationship among firms because such relationships can reduce costs of exchange and production and can promote knowledge development and change"* (Johanson & Mattsson, 1987). The network is an effect arising from interactions, i.e. from history and exchanging services related to production, distribution, and the use of goods and services. The basic feature of the industrial network model is that it assumes circularity in the sense that the network also affects the way industrial activities are performed—and consequently, the activity interdependencies (Johanson, 1989, p. 72). The exchange relationship implies some

kind of mutuality, where the parties give to and receive from each other. The network-as-market describes and analyzes dynamic aspects of industrial systems, functional activities in the individual company (especially those related to exchange and adaption processes), and strategies pursued by companies in such systems (Johanson & Mattsson, 1987). The parties have to invest time and resources in the relationship, through which the parties gradually build up trust with each other. Trust is an important factor in the network because there will be strong incentives both to cooperate with and to counteract other actors (Johanson, 1989, p. 76). This model views the network and the company more dynamically than transaction cost theory. The focus is on how a single company is affected as such in a large network and of the changes that occur "*due to learning, changes in resources or in intentions of the actors."* When it comes to what gives the competitive advantage, *collective learning* is pointed to as one possible source (Håkansson, in Foss, 1999). The focus is thus on the collective process, and less on how the single company uses these changes in their own local developmental processes. In addition, this model states that networks cannot be constructed; this runs counter to how the actual network in this thesis came to existence.

Lorange and Roos (1992) explain that companies often start out cooperating in a less committed mode and then upgrade the type of cooperative relationship over time. Strategic alliances represent these contractual, often long-term relationships between companies. The focus within this field of literature is how these alliances are formed and operate, which type of alliance is appropriate under what conditions, and what the company can get out of the alliance. However, in the list of common obstacles, the willingness to learn from the partner is addressed. "*When the intent to learn is relatively clear, the organization's openness and aptitude regarding such learning will probably be greater"* (Lorange & Roos, c1992, p. 213). Another aspect of learning that is addressed is the ability to keep up with the partner(s). To be open for a mutual learning process, to be able to look at the alliance as a laboratory, and active involvement from several people in the organization are listed as crucial for success. In this way, the alliance should be used to build new and important learning insights. Perhaps the most critical feature to a strategic alliance is coined as *to mobilize the willingness to learn* (Lorange & Roos, c1992, p. 214).

The ability and willingness to learn is a cornerstone in Miles, Miles, and Snow's (2005) model for communities of networked companies, as described in their book *Collaborative entrepreneurship*. In this model, who collaborates with whom differs from activity to activity

and from project to project, not limiting to topics or activities from the value or supply chain. The network is designed for continuous innovation and is described as a learning network based on strong commitment. This network model gives participating companies the ability to develop subnetworks according to their own needs and ideas. The participants must be motivated by the opportunity to work together and explore opportunities with others in order to build a constant stream of creativity. They define the ability to collaborate as the meta-capability in an interorganizational network. Collaboration is defined as a process of working together to achieve mutually beneficial outcomes. It is present when "*each party is as committed to the other's interests as it is to its own and this commitment reduces the need for a continual assessment of trust and its implications for how rewards will be divided*" (Miles et al., 2005, p. 40). In addition to collaboration, companies that join this type of network must be willing to invest or develop time, training, and trust. In return, the companies will have access to a web of knowledge of new ideas, learn a new structural way to work based on collaboration, and learn continuous entrepreneurship (Miles et al., 2005). In this model, the description of and the processes within the dynamic, mutual organization are in focus. However, they argue that the network has to consist of *learning organizations*. Unless an organization learns, it cannot teach, and teaching will be a major means of holding an organization together (Miles et al., 2005). In addition, it seems important that the companies be willing to invest time in the networking process; otherwise, there will be not enough time and resources available to establish and develop the network. They also stress that the company should then have both a strategy in place for network attendance, and also an organizational structure suited for working in networks. The theory can be adapted to a network where several companies cooperate to solve challenges and find new solutions. However, how to build the dynamic, mutual organization and nurture the learning organizations within is not touched upon.

The primary goal of using a network as seen through the lens of the business development/economics tradition is to increase efficiency and do business in a smarter way. This can account for the more measurable side of network participation. The main focus is on what happens in the network as such, or in the "new" organization that arises outside the companies due to collaboration. Learning, or collective learning, is used to describe one of the key elements of what makes the changes on the interface between the company and the network happen and the collaboration successful. Broad participation from people in the organization is in strategic alliances mentioned as crucial.

Views on networks from geography

In the geographical network theory tradition, the competitive advantage of industrial districts and nation are in focus. Michael Porter's *The competitive advantage of nations* (1990) and Michael Piore and Charles Sable's *The second Industrial Divide* (1984) are classic examples from this tradition. Piore and Sable (1984) studied the transition from hierarchical methods to produce a product within one company to more modern flexible production, where several companies work together to produce the same product. This means that mutual dependencies arise between the companies, and they use collaboration as a main element in their strategies.

Industrial agglomerates, production and innovation systems, and clusters are focused on in this literature, where space/geography and relationships on a structural level are of main interest in order to understand competitiveness. The term cluster was introduced by Michael Porter (also known as business industry cluster, industry cluster, competitive cluster, or Porterian cluster) who defined it as "*consisting of industries related by links of various kinds*" (Porter, 1990, p. 131). The interaction between customers, competing companies, sub-suppliers, knowledge environments, and service institutions in a cluster is said to create reduced cost, increase productivity, enhance *the ability to innovate,* and give a better market adoption. This is said to stimulate each company and the cluster as a total. The argument for enhancing the ability to innovate when participating in a cluster can be derived from the interactive innovation model[15]. It points to the importance of continuous interaction, cooperation, and the need for feedback between the companies and institutions in the *innovation system* (Cooke & Morgan, 1998). The innovation system, or system of innovation, are all important economic, social, political, organizational, institutional, and other factors that influence the development, diffusion, and use of innovations (Edquist, 2005, p. 182). Innovation systems are thus a network of organizations, people, and rules which is directly connected to how efficiently new knowledge is created and used. The innovation system can interact with a cluster to ensure sustainable competitiveness. Gustavsen (2004) states that whereas traditional clusters and networks have focused on what is equal, now something new can be seen. That is a focus on what's not equal, i.e. diversity. This has strengthened Gustavsen's assumption that learning is the main activity of these networks. Also Cooke and Morgan (1998) use the key word learning when explaining the innovation processes and

[15] This model is seen as a continuous, interactive process where innovations happen in and between companies and in a cyclic process (see chapter 3.2.)

systems. "*Learning is what helps the firm to strike a balance between routines and creativity…"* (Cooke & Morgan, 1998, p. 16). This again seems to depend on the company's ability to recognize, assimilate, and use internal and external knowledge, which is called absorptive capacity by Cohen and Levinthal (1990). To have an absorptive capacity is addressed as a critically important aspect and must not be limited to technical skills. A shared cognitive framework within the company and the ability to transfer knowledge across functions throughout the company is also needed. This is often called organizational learning, where "first-order" learning is doing things better, and "second-order" learning is doing better things (more about this is found in Section 5.1). In order to activate organizational learning, both tradeable knowledge and tacit or "silent" knowledge must be activated. This is done by personal interaction in a context of shared experiences. The "activation" of the capacity to share knowledge rests again on a high degree of trust and commitment among the members of the organization (Cooke & Morgan, 1998). These explanations derive from other sources of literature to add understanding of the processes involved in knowledge sharing and building in clusters. In addition, this reasoning collides with the description that in a cluster there can be actors who do not interact nor have cooperation with each other, but still stimulate innovation and development together (Cooke & Morgan, 1998). This means that a company can be part of a cluster and never have any interaction with the other participants. However, company-to-company interactions is what I am searching for, thus redirecting me to other sources of literature.

Views on networks from organizational theory

From the perspectives of social network theory, actors and the relations between them dominate networks. Activities in which they are engaged and resources they use are basically seen as secondary attributes of the actors (Olsen, Brunsson & March, c1998, p. 48). Here, networks serve as a concept in order to describe and analyze social structures.

Many attribute the first use of the terminology network to John Barnes (Scott, 1991, p. 11), a social anthropologist who came to Norway in 1952 to study the local community of Bremnes on Bømlo in Hordaland county (Klausen, 2008). It is said that he got the idea of calling the phenomenon "network" from the fishnets used by the fishermen in the community. Barnes found that in this local community, people were connected by three types of organizational structures: first the formal, local political structure such as the municipality, county, and so on; then, the work-related structure connected to fish boats, factories, and other occupations.

The third structure was characterized by instability and a lack of rigid organization. Partly based on kinship, but also friendship that could cross borders between the other structures, these persons were part of what he chose to call a network (Klausen, 2008). Social network analysis derived from this work, and is an interdisciplinary endeavor where social theory and application, mathematical, statistical, and computer methodology have joined forces (Wasserman & Faust, c1994, p. 10). Social network theory describes the structure of the relationship between actors (individuals, groups, organizations). The network nodes (network members) are identified and the relationship, or the ties between them, is in focus. It can be used as a model for explaining how information floats in an interorganizational network.

Granovetter used interorganizational network analysis when developing his theory of the strength of weak ties (Hatch & Cunliffe, 2006). This theory says that some of the most critical information is acquired from actors who operate on the fringe of two or more networks. These actors are typically not strongly linked into any network. "*Weak ties are more likely to link members of different small groups than are strong ones, which tend to be concentrated within particular groups"* (Granovetter, 1973, p. 1376). The weak ties are seen as indispensable to individuals' opportunities and to their integration into communities. The strong ties however, Granovetter states, lead to overall fragmentation because it breeds local cohesion. Cultivating "weak ties" is argued to be important in order for a company to maintain a capacity for changing its orientation (Fagerberg, 2005, p. 12). However, change includes learning as well.

In learning networks, the main idea is that people can learn from and be stimulated by cooperation in networks. The core goal is to formalize network cooperation, which rests on the assumption that there is a mutual gain in collaborating. Levin and Knutstad (2003) raised a critique to the understanding of how learning networks are established. They argue that the learning and knowledge creation in networks are not uninfluenced by economic processes. They point to the necessity of connecting the learning into everyday business activity, a view which Kristiansen (2009, p. 233) share. Levin and Knutstad further argue that local and entrepreneurial activities are the driving forces in the construction process of such networks. The network construction process is looked at as three-dimensional. The primary construction process, or the concrete action level, "*consists of strategic actors in a conscious effort to network with each other in order to achieve the desired goals."* The secondary function, or the developmental and learning level, "*is to enhance learning and development that will take place as actors start networking*." The tertiary effect is to regard the network as a potential

that can be realized in the future (Levin & Knutstad, 2003, p. 9). In their view, it is the primary activity that glues the network together. This glue is developed through primary, economically motivated activities. This implies that learning resulting from partaking in a network is activated only if the activities are connected to the economic interests of a company. I find this an important condition for making the participants and their companies prioritize network activities.

These theories, which have been grouped under the social network theory umbrella, are occupied by other "bonds" than the contractual- or activity-based relations between the network and company. Using Granovetter's theory of the strength of weak ties, the network's asset could be the vast web of knowledge available to the participants which can be used when needed. It could be looked at as a pool of "*…resources that are available from partners and accessible through ties that a firms enter with them…that remain otherwise unavailable to the focal firm*" (Gulati, in Katila, 2008, p. 552), and which reaches outside the network as such through the weak ties. In addition to the activities that occur in the network, the network represents unused opportinitues where actors build up a portfolio of relations, or bridges, to potential future collaborative partners. Increasing the number of relations and possible relations subsequently increases the possibility for innovations. However, this asset must be mobilized and organized when needed. Mutual learning arenas, where company activities and learning are connected, are a way to make the potential assets of the network more visible and put into active use.

4.4 Summary of networks as means for innovation

Networks are an assemblage of entities in a relationship, which come together to reach goals none can reach separately. The core activity is to develop and maintain a joint learning process that circles around jointly developed visions and goals. In principle, networks are non-hierarchical, temporary organizations where accountability is crucial. However, both the non-hierarchical and the temporary element could be questioned in today's use of the concept, which includes more contractual-based relationships such as supplier relations, joint ventures, and collaborative multi-firm networks. In most cases the collaboration in networks takes place without a prescripted plan—and without certainty of outcomes.

A network is a social system, inhabited with people who act, and restricted to and challenged by the technological systems of which they are a part. The strong and weak ties in a network represent a vast web of knowledge available to the participants that can be used when needed. New relations and new combinations of existing relations subsequently increase the possibility for innovation.

The "transmission agent" from the network to the local arena in the company seems to be *learning*, i.e. the company's ability to recognize, assimilate, and exploit knowledge. How the company uses the lessons learned in the network area, rest on robust communication channels within the company, a shared cognitive framework and the ability to transfer knowledge across functions throughout the company. This is often characterized as a learning organization. In the network arena, the ability to share thoughts and ideas, to show trust and to be trustworthy, and to cooperate are important qualities in order to be "exposed" to the knowledge and possibilities that a network can offer. The collective learning environment created in these networks is available to all the participants, but it is up to each participating company to take advantage of it (Gustavsen, 2004, p. 79). Since learning and knowledge transfer are pointed to as essential elements of network participation and its possible outcome, reviewing different understandings of learning and knowledge seem reasonable as these can offer additional insights to what possibly could be learned and transferred between the network and a single participating company. Therefore, the next chapter concentrates on knowledge and learning.

5 Benefits from networking: knowledge and learning

All people have knowledge that they choose to use daily; but we also need to take, or be given, the opportunity to demonstrate our capabilities (Knight, 2002, p. 433). In the case of companies, it is important to know who has relevant knowledge applicable for different company tasks. Using employee knowledge with both effective results and without wasting time nor money is presumably important. What happens when a company joins a network to enhance its own capabilities? Can knowledge from the network be captured, stored as information, and further developed in companies?

A learning cycle presumably exists at the interface between a network and the single company. Figure 6 illustrates my interpretation of such a cycle, developed through discussions at Østfold Research.

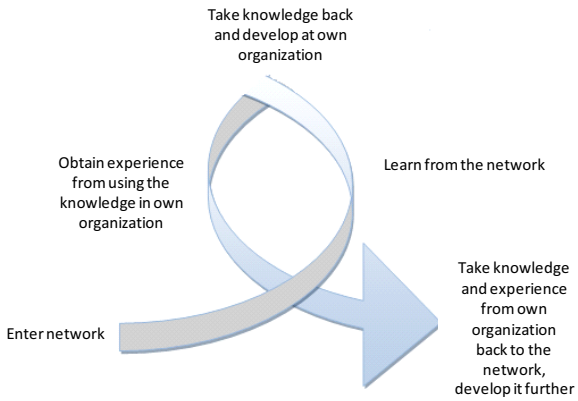

Figure 6 The learning cycle of working in a network

The companies will bring in knowledge from their own organization to the network arena. In the network people can develop and share the capacity to use this knowledge and create new knowledge. Then the people will take back knowledge from the network arena to their own company. The learning cycle model in Figure 6 contains similarities with Kolb's experiential learning cycle (Kolb, c1984) consisting of four elements: concrete experience, observation and reflection, formation of abstract concepts, and testing in new situations. The model in Figure 2 shows that one enters a network with some expectations and experiences (concrete experience) and then one learn and share with the network (observation and reflection). After

this, one takes ones experiences back and develop it in one's own organization (formation of abstract concepts). Depending on how this turns out, these experiences can lead to implementing changes in one's own organization (by testing in new situations). However, for this to happen, company reorganization or change is required. The resulting experiences in the company could be brought back to the network, shared with the other participants, and subsequently lead to even new learning. The crux of the matter then becomes how individual knowledge and the learning brought from the network can be recognized, assimilated, and exploited by the companies to use in local development processes and vice versa. In addition, *what* can be transferred to and from the company? Presumably this will vary, from information, ideas, and shared projects all the way up to business cooperation, where perhaps even new companies are established. Not all companies will use the network in the same manner (Gustavsen, 2004, p. 80), but what becomes important is the ability to learn from differences and train the ability to use these differences to create something new.

Creating arenas for collective learning is important to facilitate these processes (Gustavsen, 2004). Such arenas are important if one wishes to establish "a community of sharing" (Kristansen, 2009, p. 85). Before turning to how such arenas can be created, the literature about knowledge is divided into many different categories, or ways of holding or sharing knowledge. In this section different ways of getting and having knowledge will be explored, as it can shed light on the processes which happens both in the network and in the knowledge transfer process in the participating companies.

5.1 Different forms of knowledge

Different people in the network will have different expectations and employ different experiences from the work in the network. As in an innovation process, the knowledge transfer is not a linear one-way transfer. Skjervheim (1957/2003) stated that to be able to learn, one must avoid objectivizing, or stating as fact what other people say or do. This does not lead to engagement nor to discussion. The alternative is to engage in the subject matter, i.e. share your own knowledge and viewpoints in a discussion. Gustavsen (2004, p. 79) provides a supplementary view that all learning is the same as differentiation. In the moment that one sees what was understood as one phenomenon is actually two or more, then learning has occurred. The ability to share knowledge and receive and use others' knowledge seems of

utmost importance in a network setting and also when returning to one's own company. Different tasks and challenges can call for different forms of knowledge and ways of learning. Therefore, different forms and use of knowledge and learning will be reviewed in the following.

Explicit and implicit knowledge

Learning is often related to two sides of knowledge: explicit (codified), and implicit (tacit) (Klev & Levin, c2009). Codified knowledge is easily transferable in information. It can be transmitted through information technologies and infrastructures over long distances and across organizational boundaries. Tacit knowledge cannot be easily transferred because it has not been stated in an explicit form; it also rests on Polyani's (1956) argument that we frequently know a good deal more than we can express verbally. Tacit knowledge tends to be location specific, with the generation and diffusion of knowledge appearing to be spatially bounded (Cooke & Morgan, 1998). However, writing down tacit knowledge allows it to be passed on and absorbed by those who can read and understand the specific language. Even if the knowledge is codified one need some prior knowledge (skills and competences) of the world to both understand and use it (Jensen, Johnson, Lorenz, & Lundvall, 2007). In the network, participants can transfer knowledge from tacit to codified through various channels, which includes collaborating on common projects and using relevant computer programs. However, there are other ways to categorize learning and knowledge.

Jensen, Johnson, Lorenz and Lundvall (2007) argue that there are two ideal modes of learning and innovation. The Science, Technology, and Innovation (STI) mode is based on production and use of codified scientific and technical knowledge, and the Doing, Using, and Interaction (DUI) mode is based on experience. They claim that what really improves innovation is to develop mixed strategies that combine strong versions of the two modes (Jensen et al., 2007). In a network arena, it is possible to establish strong versions of both modes; the structure and intention of a network is to share codified knowledge and to build relationships, which promotes transfer of tacit knowledge. However, compared to the explanations of codified and tacit knowledge, the STI and DUI modes add no additional understanding related to my study.

Practical knowledge

Gilbert Ryle (1949) divided *to know* into two categories—knowing that (overlaps with explicit or codified knowledge) and knowing how (overlaps to a great extent with implicit or

tacit knowledge). A person is capable of making knowledge available or visible to others through the actions he is performing. The knowledge behind these actions is what could be called practical knowledge (Klev & Levin, c2009). If the goal of a network is to change the praxis in a field, then practitioner involvement in this process becomes vital (Klev & Levin, c2009). Therefore, who the company chooses to send as their representative is related to the company outcome. In the network setting, worker mobility is an important part of making knowledge more explicit. Even if this mobility is temporary, it is a significant mechanism for spreading experience-based knowledge (Jensen et al., 2007). I interpret from this that the representative has to be able to both share his or her own knowledge in the network arena and take new knowledge back to the company and implement it. The network as such can't be responsible for this to happen, but at least is an arena where the mobility aspect can be played out. The network could then be developed as a valuable learning arena where interorganizational exchange and further development of expertise takes place.

Know-what, know-why, know-how and know-who

Lundvall and Johnson (1994) have divided the channels of learning different types of knowledge into know-what, know-why, know-how and know-who. The first two, know-what and know-why, can be attained by reading books, attending lectures, and accessing databases. The network can tap into this knowledge category by for instance giving courses or making knowledge available on a web page. Know-how and know-who are more rooted in practical experience, tacit and often highly localized. Know-how can be learned through activities such as an apprenticeship by following a master or by job shadowing (walking through the workday as a shadow to a worker with relevant competences). In the network this can be supplied in a variety of ways: by visiting each other's companies or engage in joint projects. Know-who is learned in social practice, through reunions, conferences, virtual professional networks (like LinkedIn), and by daily interactions with competent people (Jensen et al., 2007). In addition to the above-mentioned categories of knowledge, a network that gathers people across companies facing similar challenges will also supply participants with a spectrum of people that they can contact and use when needed. In total, these four channels of learning and different types of knowledge cover the potential of ways of learning which is latent in the network structure.

I find all of the reviewed types of knowledge (codified, tacit, and practical) relevant for evaluating the learning processes that occur in a network. This shows the scope of what a company can use a network for. Then there is the question of who learns and how radically?

5.2 The agent and quality of learning

Simon (1991, p. 125) claims that learning takes place inside individual human heads. Further he states that an organization learns only in two ways: "a*) by learning of its members, or 2) by ingesting new members who have knowledge the organization didn't previously have"*. He points to the importance of specifying where in the organization particular knowledge is stored, and who has learned it. This is to avoid reifying[16] the organization. The learning which remains in the organization despite personnel turnover could thus be classified as learning on an organizational level (Knight, 2002, p. 432).

The agent of learning

Knight (2002) has explored the agent of learning related to conceptualizing what she has called network learning. According to her, three levels of learner are well established in the literature; individual, group and organization. She argues that these learning entities learn in different ways, and do not share the detailed conceptualization of learning and associated construct, such as memory. She further argues that learning as a notion can be applied at different levels, where the next level of learning is the interorganizational network level. She defines network learning as *"…learning by a group of organizations, in any context*" (Knight, 2002, p. 439). This means that when talking about network learning, it is the performance of the network that is in focus. The picture becomes a matrix when the level of learner and the context of learning are combined. Both the level and the context are categorized into individual, group, organization, dyad and network (Knight, 2002, p. 438). For instance, an individual can learn within a network, or a network can learn from an individual and so on. However, how you go from one level and/or context to another, utilizing the learning when crossing them, is not in focus in Knight's work. This complex picture illustrates the importance of up-front discussion and evaluation of what the company wants to gain from network participation, related to the different levels and contexts. However, even though one

[16] Reifying means to consider or make an abstract idea or concept real or concrete (http://www.thefreedictionary.com/reifying).

can plan for what the outcome should be, what actually happens is often quite another story. Thus, I focus on the quality of learning addressed in organizational learning theory.

The meaning and consequences of learning within an organization

The meaning and consequences of learning are addressed by Argyris and Schön. In 1978, they created a distinction between single-loop and double-loop learning, related to the concepts of first- and second-order learning. Single-loop learning is doing things better, and double-loop learning is doing better things (Argyris & Schön, c1996, p. 29). Double-loop learning is the learning about single-loop learning. More precisely, single-loop learning involves processes in which errors are tracked down and corrected within the existing set of rules and norms. To reach double-loop learning, changes have to be added to the fundamental rules and norms underlying action and behavior. This means that one has to reflect upon and evaluate why things are not the way one wants them to be. For instance, what often happens when there are problems in production is to blame them on incompetent workers. Maybe they are competent workers constrained by useless work processes, which are not questioned, or taken into consideration.

However, both single-loop and double-loop learning can be present in a network. The type of learning that is favored will depend on the network's purpose and how it develops over time. For instance, double-loop learning can be achieved the first time a company learns a totally new way of handling a specific problem from another company. When performing the actual method, the single-loop learning mode is primarily active. Double-loop learning can also be looked at as equal to radical innovation, and single-loop learning to incremental innovation (Oddane, 2008, p. 32). However, I would argue that incremental innovation can include both single-loop and double-loop learning. In my mind, doing better things doesn't necessarily include a radical change nor discovery.

Argyris and Schön's theories of action can be used to understand how the "climate" in a network nurtures single-loop or double-loop learning. If the underlying model is based on having unilateral control over others (called Model I) then the network is according to Argyris and Schön a limited learning system that corrects errors that cannot be hidden and so not threaten the group's underlying norms (Model O-I). Characteristics include broad participation, win-win situations, and expressing feelings while suppressing intellectual analysis. If the underlying model of the network is built on minimally defensive interpersonal

and group relations, freedom of choice, and high-risk actions (Model II), then a community of inquiry (Model O-II) is nurtured. Here, both single-loop and double-loop learning can occur. Argyris and Schön's theory offers an explanation to why learning is not happening and how resistance to change occurs because of human defense mechanisms, such as fear of losing face, getting hurt, or being punished. Their theory addresses how to overcome human reasoning and behavioral patterns that limit learning (Lipshitz, Popper, & Friedman, 2002, p. 79). How does one then organize for achieving knowledge transfer and organizational learning?

5.3 Knowledge transfer

An organization cannot create knowledge by itself (Nonaka & Takeuchi, 1995, p. 85). This means that the basis for organizational knowledge creation stems from tacit knowledge held by individuals. To share this knowledge, Nonaka and Takeuchi claim that it is necessary to have arenas where individuals can interact with each other through "face-to-face" dialogue. Thus, having or establishing such arenas seems important to activate individual learning making it available for use both in the network and individual companies.

Communities of practice

Wenger (c2003) argues that organizations are both constituted by and participate in social learning systems. He further states that an organization's success depends on its ability to design themselves as social learning systems and also to participate in broader learning systems. These systems can be an industry, a region, or a network (Wenger, c2003). Learning is understood here as a social process. What are the processes by which our learning constitutes social systems and social identities? Wenger argues that knowing always involves two components:

- The competence that communities have established over time, which is defined by what it takes to act and be recognized as a competent member, i.e. socially defined competence.
- The ongoing experience of the world as a member, defined by the context of a given community and beyond.

This socially-defined competence interplays with one's life experience, and these two components can vary from being very congruent to very divergent. Wenger states that

learning takes places in this interplay between social competence and personal experience. It is a two-way relationship between people and the social learning system in which they participate. The evolution of social structures is combined with personal transformation. A network can thus be understood as a place where competent people can expand their horizons, by having an experience that opens their eyes to a new way of looking at the world (in particular, related to their own work situation). By communicating this experience back in the individual organization, one can try to change how the organization defines competence. Or it could be that if a person attending a network feels like a newcomer in the field, and he or she can use the competence of others to lift up their own experience. I will argue that a network should be alert and ensure that members get the *experience* of both expanding their own horizons and developing their own competence. If the personal usefulness disappears, then the motivation for showing up will presumably decrease. However, it takes time to develop a common language and shared mental models between partners (Senge, c2006), or to turn weak ties into strong ties (Granovetter, 1973). Complex tacit knowledge can become more explicit as the members develop a wider bandwidth of communication, subsequently giving payoff to those participants that have patience and perseverance to this process.

Further, a community of practice is different from a community of interest or a geographical community, neither of which implies a shared practice (Wenger, 1998a). A community of practice is defined by joint enterprise, mutual engagement, and a shared repertoire of communal resources developed over time. Even when the community's actions conform to an external mandate, it is the community, not the mandate, which produces the practice. In this sense, they are seen fundamentally as self-organizing systems. The question is then, how does one establish a shared practice or understanding in a network?

Boundary objects

To have a shared understanding comes about when two people's spheres of experience overlap to some degree. The nature of the shared understanding can be described by the concept of boundary object, coined by Star in 1989 (Wenger, 1998b, p. 106). Boundary object is used to describe objects that serve to coordinate the perspectives of various constituencies for some purpose (Wenger, 1998b). In a network setting, one needs boundary objects that can translate from the company to the network setting. Similarly, participants also need boundary objects to translate network learning back to their own organization. However, even though boundary objects are shared, users can view or utilize them in different ways. This could be

used to explain why a network can be purposeful for many different actors, even though their specific use of it can vary a lot. Boundary objects are plastic, interpreted differently across communities but with enough immutable content to maintain integrity. They are not necessarily physical artifacts such as a map; they can be a set of information, conversations, interests, rules, plans, contracts, or even persons (Carlile, 2002). To look at boundary objects in the network can add structure and frame knowledge transfer between the network and the companies. I also interpret that the boundary object has to be found so interesting for a group of people (community of practice) that they are willing to use time and resources on it (Wenger, 1998b).

Strategy for knowledge transfer

Knowledge transfer always implies bringing knowledge for use in a new context. To intellectually grasp it is not enough to fully exploit new knowledge. Ravn (2004) claims that this also presupposes acquisition of skills at both the individual and organizational levels. As such, knowledge transfer is a matter of both learning and organizational change, where active involvement is necessary (Ravn, 2004).

A network can be seen as a social learning system with organizational requirements that often run counter to traditional management practices (Wenger & Snyder, 2000). In order to really get something out of network attendance, companies must also learn to manage themselves as social learning systems—which includes developing such systems internally. This means creating arenas for practical testing and training of new procedures and courses of action (Jensen et al., 2007). Wenger (c2003) argued that in a traditional industrial setting, the formal design of a production system is the primary source of value creation. Informal processes do exist, but they conform to and serve the formal design by adding value to it. This inverted relationship is found in the knowledge economy. Here value creation of primary sources is connected to informal processes, like conversations, brainstorming, and pursuing ideas. According to this, it can be challenging for industrial companies to adapt working in a network where informal processes are in focus to the formal design of their production system.

Learning transforms our identities and our ability to participate in the world by changing all at once who we are, our practices, and our communities (Wenger, 1998b). Is a company representative in the network then aware of this transformation—and perhaps the obligation

that he has to use the learning to develop his company? This implies that a company should urge to have a strategy in place for how to locally transfer the knowledge the person "brings back home" from the network arena. Related to this, the deliberate creation of arenas for learning is seen as an important course of action in change management (Eikeland & Berg, c1997; Klev & Levin, c2009), thus designing social infrastructure that foster learning (Wenger, 1998b) seems vital. This could for instance be in form of information spaces, where people gather to exchange information, like information or reflection meetings. It can also include information made available on an intranet. These information spaces should penetrate different levels in the companies, since the lowest levels often do not have access to the information which the managers have and vice versa.

It is one thing for individual employees to come up with innovative ways of performing work procedures, but another to transfer this new way of working into organizational learning. Then the new way must be standardized and practiced across the organization until a new, better way is discovered (Liker, c2004). However, as stated by Wenger (1998b, p. 229): "*Learning cannot be designed: It can only be designed for – that is, facilitated or frustrated*." As a good start, network participation and the subsequent diffusion of the knowledge should not be seen as a cost (Miles et al., 2005). It could rather be evaluated as an asset for the organization to create two-way connections between communities of practice and organizational strategies (Wenger, 1998b). Transitioning from theory to practice is the most important—and the most challenging—aspect of a learning process (Klev & Levin, c2009, p. 99). How can then the transfer of learning between the different levels within an organization and between organizations be understood?

Organizational learning within and between organizations

Holmqvist (2003, 2004) has addressed and proposed a model focused on the dynamics of organizational learning within and between organizations. He has sought to cross-fertilize the themes of intraorganizational learning with interorganizational learning, arguing that they are closely interlinked, but rarely done so in the organizational learning literature. In order to link them, he addresses exploration (create variety in experience by search, discovery, novelty, and experimentation) and exploitation (create reliability in experience through refinement, routinization, production, and implementation of knowledge) (Holmqvist, 2004, p. 71)[17].

[17] The notions of exploitation and exploration were introduced by March (1991).

Further, two intermediate learning processes are proposed to tie together exploitation and exploration. *Opening-up* describes how exploitation generates exploration, and *focusing* how exploration generates exploitation. These two processes have similarities with Lewin's (c1951) conceptualization of change (Section 3.3). Further, Holmqvist's intermediate processes represent the dynamics *within* the intraorganizational level and the interorganizational level. The interaction *between* the intraorganizational learning processes and the interorganizational learning processes is proposed to happen through exploitative extension, exploitative internalization, explorative extension and explorative internalization. However, diagonal interlevel learning dynamics are also included in the model, involving four different learning patterns. These are shown in the middle of Holmqvist's model cited in Figure 7.

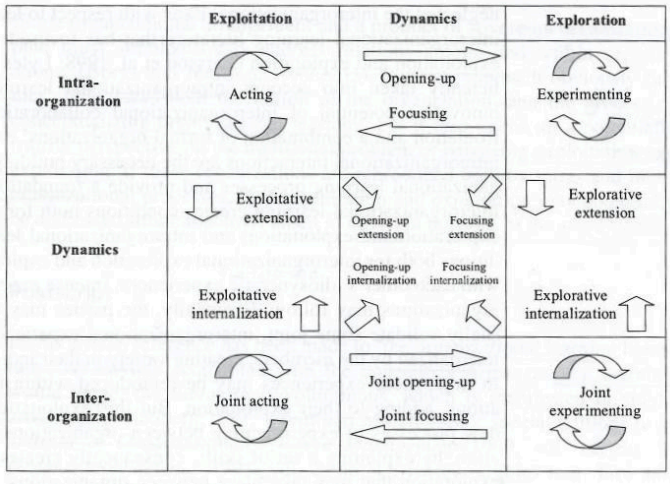

Figure 7 **A dynamic model of intra- and interorganizational learning (Holmqvist, 2003, p. 114)**

This model is useful to explain the learning processes which are involved when a company is joining a network for learning purposes. By experiencing a need for change, a company moves from their daily acting, i.e. exploitation, by opening-up over to a process of experimenting (i.e. exploration). This may cause interactions externally with other organizations, creating interorganizational learning processes. However, this model does not include organizing, actors or concrete activities to make the exploitation (acting) and exploration (experimenting) actually happen. Therefore, in the following, I will explore a different framework for network participation, defined as alternating between interacting in an

intraorganizational and an interorganizational setting. Holmqvist's model will also be used to deepen and contrast with my own conceptualization model.

The cogenerative action research model

The cogenerative action research model can be used to understand what happens both in the network arena and back in the participating organization. This model was initially developed by Max Elden and Morten Levin (1991). The model captures that insiders and outsiders use different frameworks, i.e. ways of understanding, language, or cognitive maps. These need to be combined to develop "local theory," which is a newly shared framework.

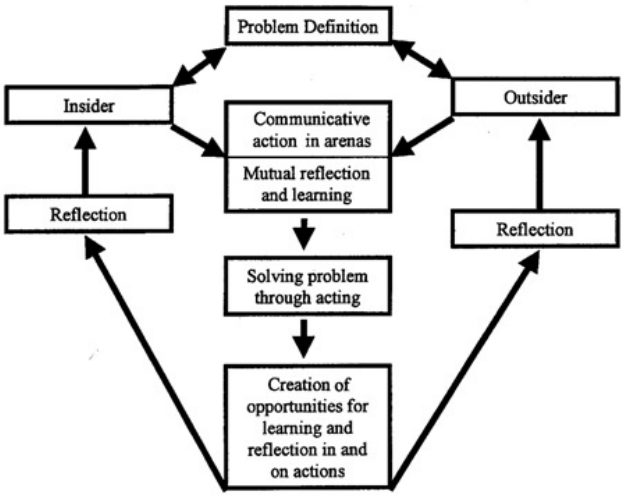

Figure 8 **The Cogenerative Action Research model**
(Greenwood & Levin, c2007, p. 94)

The cogenerative model frames a process consisting of at least two analytically distinct phases: the clarification of an initial (research) question, and the initiation and continuation of a social change and meaning construction process. In this model, a good sign of learning is when the initial question gets reshaped to include newly discovered dimensions (Greenwood & Levin, c2007). This model contains two main groups of actors:

- The insiders (the owners of problem and focal point of the model, who have the central influence on what the focus of the research activity should be).
- The outsiders (normally professional researchers, who facilitate a colearning process aimed at solving local problems and contribute to the scientific discourse).

Even though this model was not developed as a transfer model between learning in a network and participating companies, I argue that it can be used to add understanding to this setting. I will continue to build this argument in Chapter 7. First I will comment on the network arena. Like action research, the type of network under focus in this dissertation deals with solving pertinent problems for the participants. The problem definition process is the first step in a mutual learning process between insiders (interpreted here as all the actors in the network) and outsiders (interpreted as the company representative to the network). Communication procedures in the network must permit the development of a mutually agreed-upon problem focus, and include rules of democratic dialogue that involve openness, mutual support, and shared "airtime." Knowledge held by insiders and outsiders cogenerates a new, mutual understanding (Greenwood & Levin, c2007).

Discussions and reflections between insiders and outsiders are the engine for ongoing learning cycles (note that everybody holds the role of being both insiders and outsiders). Asymmetry in skills and local knowledge is an important force in cogenerating new understandings (Greenwood & Levin, c2007). When representatives return to their own organizations, they act as an outsider in the model, by using skills and perspectives learned from the network that is not present in a local context. They also have the insider's advantage of a grounded understanding of local conditions. If there is a local demand for knowledge obtained in the network, the representative can help produce meaning through reflection processes, while all insiders can improve action-knowledge capabilities.

If this model is used, the feedback loops, which are similar for both insiders and outsiders, can help to elevate the outcome of the network next time the representative is joining network activities. A skilled representative should develop the ability to help articulate and make sense of local models (in the network and in his or her company) and be sure they are well articulated in the communicative process (in the network and in his or her company). (Greenwood & Levin, c2007)

The cogenerative action research model points to a way to handle what occurs both in a network and its participating companies. As this theoretical conceptualization progresses in further chapters, I will use the cogenerative action research model as a framework for modelling network participation as organization development.

5.4 Summary of perspectives on learning, knowledge, and knowledge transfer

Learning is related to different kinds of knowledge: codified knowledge (know-what and know-why) and tacit knowledge (know-how and know-who). However, our knowledge is expressed through actions by the use of practical knowledge. A network that develops a common language and shared mental models between the partners, where both weak and strong ties are nurtured, can act as a supplementary learning organization for the participating companies. In a network, one can have shared access to information (across company units which can be beneficial for the workers) rather than limited access because of hierarchical controls and artificial barriers (which is found in most companies). This is the basis for continual learning at the individual and organizational level, and for innovative and flexible responses to problems. In the interplay between a network and a participating company some of the learning and knowledge can be stored, other things shared through communication and practice (through sharing work experiences). The relations that are established in the network are an important prerequisite for knowledge transfer. The companies also need a strategy in place to utilize the knowledge from the network, where the knowledge can be used to produce value for the company. This includes creating arenas for practical testing and training of new procedures and courses of action. The cogenerative action research model offers a conceptual framework for developing and managing such arenas.

5.5 Theoretical framework – so far

The theoretical framework has been built up by using innovation theory, network theory, and views on knowledge and learning. The theories of innovation deliver arguments for why companies find it necessary to cooperate with others to both develop and survive. Most innovations happen on the borderlines between different mindsets, and knowledge and skill bases. One way to increase the number of borderlines for a company is by joining a network. A network is a social system, inhabited with people who act, and restricted and challenged by the technological systems of which they are a part. Networks represent many different opportunities for development for a company, economically as well as socially. What companies actually get out of these networks depends on their ability to learn—including their ability to foster a sociotechnical environment that is able to capture and nurture learning

gained from the network. One way to conduct such an environment is to look at network participation and its outcomes as inputs to an organization development (OD) process. What is then the content of an OD process and how can OD be used to model network participation? I further explore these ideas in the next chapter.

6 Review of Organization Development (OD)

6.1 Introduction

If taking advantage of a network is a matter of an organization being able to learn, and if the goal of network participation is to obtain input for the internal development processes, then network participation could be conceptualized as an organization development (OD) process. This perspective is based on Klev and Levin's (c2009) view that treats change in organizations (OD processes) as a learning process. They reason this by explaining that all established practices are learned, so any new practice will have to be based on learning processes. Knight and Pye (2004, p. 485) also find the notion of learning more useful than a change perspective when studying interorganizational networks and their concept of network learning. This is because they regard learning as a complex relational process, and learning as not undervaluing the meaning, relevance and mutually shaping character of developments or changes. How could the network arena be arranged so that the participating companies can obtain relevant outcomes for their own developmental processes? How could the company prepare for and what could actually be done to actively use and prosper on the participation?

The previous chapters form the basis for further reasoning in this chapter, where I will argue for a conceptualization of participation in a network as a combination of both an intraorganization and an interorganization development process. The overall goal is to build a learning organization culture both in the participating company and in the network. This means finding out and removing what prevents learning and revising one's practice to enhance learning (Watkins and Marsick, in Coughlan et al. 2002). This can be done by applying the principals of OD. To support this argument, it is necessary to provide a brief overview of OD. This includes my understanding of the concept and content, and how an OD perspective can be used to shed light on the research question.

6.2 Definitions of organization development

Today, OD is used as a process (not a step-by-step procedure) of fundamental change in an organization's human and social systems (Daft, 2004, p. 422). In the 1970s OD had the goal of increasing organizational effectiveness by applying behavioral science techniques in a process of planned organization-wide change (Daft, 2004). Still OD uses this knowledge and techniques to create *a learning environment*.

There are different definitions of what organization development (OD) is, what activities, methods and actors it includes, and which effects it can have (Cummings et al., c2001, p. 1). According to Cummings, Worley and Huse (2001), they incorporated most of these views into the following definition:

> *"Organization development is a systemwide application of behavioral science knowledge to the planned development, improvement, and reinforcement of the strategies, structures, and processes that lead to organization effectiveness." (p. 1)*

French and Bell (1984, p. 1, 17) have a more specific definition. They define OD as a planned, systematic problem solving and renewal process introduced into an ongoing organization. The goals are connected to increased organizational competence and effectiveness. It is a top management-supported, long-range effort including a collaborative made diagnosis, use of teams, and focus on intergroup culture. To reach these goals, a consultant-facilitator assists the organization by using the theory and technology of applied behavioral science, which includes action research (French & Bell, c1984, p. 17). Klev & Levin (c2009, p. 51) provide an even broader definition than Cummings, Worley and Huse. They state that in general, OD deals with planned change processes in an organization where the accomplished tasks are based on certain professional analyses. It is not about the critical, enforced actions. The generic features of OD initiatives are based on obtaining available data about the conditions in an organization, conduct some sort of analyses, and implement initiatives. While quite a vague description, Klev and Levin developed many questions from this that is relevant for all of the different definitions: What is an organization? How does one obtain available data? Who does the analyses? Who implements initiatives? What does the planned change imply? I find these all highly relevant, with the answers being important for

understanding participation in a network as OD. Possible answers will be highlighted in this chapter.

First of all I want to clarify my understanding of the words *organization* and *development*. In my view, an *organization*[18] could be a company, a network, a workgroup, or a team; quite simply, a group of people that performs essential functions over some period of time to attain goals. When it comes to *development*, it is necessary to explore what happens if development is substituted with *change* in *organization development*. According to Cummings, Worley and Huse (2001, p. 3), both OD and change management includes much of the same principles that focus on organizational improvements. However, their underlying value orientation differs. The behavioral science foundation of organization development supports values of human potential, participation, and development. On the other hand, change management is more focused on values like economic potential and competitive advantage. OD's distinguishing feature is its concern with the transfer of knowledge and skills so that the system is more able to manage change in the future. Cummings, Worley and Huse pinpoint that all OD involves change management, but change management may not involve OD. Organizational change is also a broader concept when contrasted with OD. OD is intended to change the organization in a particular direction, towards improved problem solving, responsiveness, quality of work life, and effectiveness. Organizational change can apply to any kind of change including those not directed at making the organization more developed (for instance downsizing) in the sense implied by OD (Cummings et al., c2001, p. 3-4). These differences between change and OD are supported by Boonstra (c2004) in his review of planned change and OD. Both organization development and organizational change are relevant when looking at participation in and use of a network. Economic potential and creation of competitive advantage are definitely important elements for organizations that use networks as an arena for development or change. This speaks in favor of using organizational change as a theoretical framework. However, OD will be used since my focus is on how a network is used for *internal development* by the participating companies and also because my values and research methodology more closely coincide with those of OD. This will be further touched upon when accounting for my conceptual model (Section 7.4) and my methodological approach (Chapter 8). For now, I will mention that the values of OD

[18] Daft (2004, p. 11) uses the following definition: Organizations are social entities that are goal-directed, are designed as deliberately structured and coordinated activity systems, and are linked to the external environment. Knight (2002), however, uses the term organization as the notion for a legal entity.

embraces the values of action research, which are founded on democratic ideals (Dewey, 1991/1927) and participation and involvement of those affected (Pateman, 1970).

To evaluate what the framework of organization development can add to the understanding of network participation, a short review of the foundation of organization development will be given, and then the content of the process will be examined.

6.3 Foundation and content

One line from today's OD concept lead back the T-groups (training groups, otherwise known as sensitivity training) projects at MIT developed by Kurt Lewin in the end of the 1940s. These were concentrated around developing community leaders through feedback on their own performance. These leaders asked for permission to sit in on the researchers' discussions of their behavior and group dynamics. This joint reflection between the leaders and the researchers represented a major shift in the understanding of learning processes (Cummings et al., c2001, p. 7; Klev & Levin, c2009, p. 52). The application of T-group techniques gradually became known as teambuilding (Cummings et al., c2001, p. 7).

Action research and survey feedback are the backbone of most OD applications. In action research, the systematic collection of survey data is fed back to the client organization. After devising and implementing solutions, further data is collected to assess the results, and this cycle of data generation and action often continues (Cummings et al., c2001, p. 8). Together with the locals, researchers are actively involved in the problem solving process. However, action research is more focused on an organization's internal processes compared to what's normal in survey feedback (Klev & Levin, c2009, p. 58). The action research model is based on the "Lewinan heritage" about learning and development in groups and Lewin's term "*You only understand a system through changing it.*" This research strategy is based on Lewin's work at MIT, the work of Eric Trist, Fred Emery, and Philip Herbs at the Tavistock Institute and also the work of Einar Thorsrud in Norway. Thorsrud and Emery led the Democracy Project ("Samarbeidsforsøkene") in the early 1960s, when LO and NAF[19] started cooperating on developing the organization of work.

[19] LO is the Norwegian Confederation of Trade Unions. NAF is now called NHO, which is the Confederation of Norwegian Enterprise.

Ideas from the sociotechnical school were used by Eric Trist at the Tavistock Institute to develop the concept of an autonomous workgroup. An autonomous workgroup is encouraged to manage its own tasks and work practices, and is seen as post-Taylorism forms of work organization. Such groups are also called self-managed work teams. The sociotechnical systems approach is also an important element of OD, where the involvement of those affected are enviable actors in the process.

The participative management style grew out of Lewin's legacy and research from Rensis Likert (Likert, 1967). Likert's Participative Management (System 4) style was associated with organizational effectiveness, and is designed around group methods of decision making and supervision. The workgroups are highly involved from setting goals to appraising results. Overlaps between groups in the organization and focus on communication both laterally and vertically are believed to give high levels of productivity, quality, and member satisfaction. Then, the idea was to make action plans to move towards System 4. Nowadays, this idea of organizing is practice in most companies, and the question is more about how than if (Klev & Levin, c2009, p. 121).

Productivity and Quality of Work Life (QWL) build on the sociotechnical school of thought, with the intent to develop better work design by integrating technology and people. QWL originally involved joint participation by unions and management (i.e. Norway's Democracy Project), and the use of self-managing work teams. In these work teams, multiskilled workers were given the necessary autonomy and information to design and manage their own task performance. In the USA, this was first primarily focused on individuals' personal consequences and needs (1960s). When the concept returned to the USA from Japan (1979), other features of the workplace that could affect employee productivity and satisfaction were included (like organizational efficiency). The focus was now on workgroups and the larger work context. One of the methods that rose from this period was the method of quality circles. Today, the term employee involvement is used rather than QWL (Cummings et al., c2001, p. 143; Klev & Levin, c2009, p. 10).

All of these lines have had strong influence on today's OD practice (Cummings et al., c2001, p. 12). Of course, many other people and management trends have influenced this practice– including trends rooted in areas like globalization and information technology. However, for

practical purposes, I emphasize the elements of collaboration, workplace democracy, and broad participation.

6.4 What are the components of an OD process?

There are three basic components that any OD process will contain: diagnosis, action, and process maintenance (French & Bell, c1984). These form an ongoing interactive process. Diagnosis includes collecting and analyzing valid information about the status quo, current problems, and opportunities. Action includes making inadequate processes more effective by implementing corrective actions called interventions. Process maintenance includes self-analysis and reflection as means of self improvement, but only meant for the facilitators involved (French & Bell, c1984). This way of looking at the process clearly makes it a process that is controlled and steered by an external facilitator who has been engaged by the organization to "fix" something. This is an important point in OD thinking, based on the belief that external expertise can help an organization—for example, one that is stuck in its way of acting.

A slightly different view is given by Klev and Levin (c2009) who, based on their view of OD as a learning process, divide the OD process into three phases: Initiation, start-up and the continuous learning spiral. Some key elements of each of these phases are listed in Table 1. The main difference from French and Bell's approach is the role of those who are the actual problem owners and the emphasis on a continuous change process (long-term process) rather than a limited-time one. If the problem owners are invited into and are allowed to participate in the process that French and Bell call diagnosis, then a coreflective learning process is initiated from the very beginning. This invites to a dialogue where different viewpoints are brought to the table. A vital point that is made is that one can plan the processes but not the results (French & Bell, c1984, p. 77). If a manager then introduces an OD process to his or her organization, this means that the result of it is not known upfront, nor should it be so. If one tries to steer the result towards a predefined outcome, then the process itself would be a waste of time. Not to mention a way of fooling the employees who might have experienced it as an empowering process, where they thought they were given the opportunity to take more control over their own work situation. The overall goal of this process is some kind of change, but there will by many different motives for this change. This is because goals and interests

will vary among the people who are taking part in the process. It is a prerequisite that all of these goals are acceptable and legitimate (French & Bell, c1984).

	Important process elements	Comments
Phase I: Initiation	Define goals for the work—problem definition. Bring forward and integrate different points of view (initiate dialogue).	Facilitated by managers or an external organizational developer. Invite employees into this process (participation), thereby initiating a coreflective learning process.
Phase II: Start-up	Make fundamental plan for a long-term learning process. Find problem areas/tasks that can be solved quickly ("quick fixes"). Collaborative experimentation to find new solutions.	Actively engage employees in experimenting to find new solutions and changing their own work situation. Empower people by making them experience that their engagement and activities contribute to development.
Phase III: Continuous learning spiral	Create concrete solutions to the problems the actors experience in the organization. Initiate collective reflection processes which create new insight, forming basis for new, concrete organizational initiatives.	Can contribute to new practice and other ways of understanding the problem. Can also contribute to inclusion of other participants and other forms of cooperation.

Table 1 **Phases of an OD process**

((Klev & Levin, c2009, p. 71-72), table format created by Rubach, S.)

Klev and Levin (c2009) introduces the cogenerative learning model, which is equal to the cogenerative action research model found at page 58, as a model for OD. Here communicative processes at different arenas are integrated in the same learning process (Klev & Levin, c2009, p. 73). The actors can take part in different arenas, but they are connected as parts of the same learning process. This is a collective, but also an individual reflection process for all participants. The leader or the external organizational developer is looked upon as an independent but integrated actor in the process. Knowledge development through concrete problem solving (actions) is what actually moves the OD process forward. The sociotechnical systems perspective here becomes evident because it is through changing praxis development and readjustments in organizations are created. The results of an OD process should be both an increased ability to accomplish the right tasks and to handle future challenges in a smarter and more effective way. The proof of this is simply improved abilities in action (Klev & Levin, c2009).

Here the elements of power should be highlighted. A democratic, team-based OD process includes the element of power, since all social organizing is per definition a manifestation of power (Klev & Levin, c2009, p. 113). Power could be played out through persons, "this is how we do it" - mechanisms which are the social control of certain types of behavior (Berger

& Luckmann, 1967), and the ongoing sensemaking processes which influence our understanding of right and wrong, normal and wanted. In my view, making use of a network means that an organization needs to move from an individually-powered hierarchy to a more distributed, nonhierarchical- organized structure and a participative way of organizing work and decision making. Levin (1997) states, by giving reference to Gustavsen and Weisboard, that modern approaches to OD also focus attention on this participative dimension. Of course, this dimension is already in place in many current organizations. It could be questionable if those who are not used to, or interested in changing towards this, will be able to benefit from participating in a network. This is based on the previous important point made about managing such a process (Likert, 1967).

6.5 Summary

Organization development (OD) is used as a process—but not a step-by-step procedure—to create a learning environment. The early models of OD launched by Lewin in the early 1950s (Lewin, c1951) relied heavily on expert domination (Levin, 1997). However, modern approaches to OD focus attention on the participative dimension. I argue that the process must be influenced and controlled by the people involved, and base my approach to OD on the cogenerative learning model. This model can be used for both enhancing learning and creating the ability to shape the learning organization.

The cogenerative learning model could be used to understand the processes both in the network (which is one organization) and the company (which is another organization) as already argued in Section 5.3. Earlier in this chapter the following questions were posted: How does one obtain available data? Who does the analyses? Who implements initiatives? What does the planned change imply? I will in the next chapter provide possible answers to these questions. Then, by combining these answers with use of the cogenerative learning model I will justify my conceptualization of network participation as OD.

7 Participation in network conceptualized as Organization Development (OD)

7.1 Introduction

The question of how learning can be achieved by participating in a network is divided in two parts. There will be learning processes which are going on in the network arena, which hopefully will "spillover" to internal learning processes in the participating company and vice versa. The "spillover" process could be interpreted as a third, separate process. In the following I will build up a framework where network participation is understood as an OD process divided in three parts: In the network (interorganization), locally in the participating company (intraorganization), and the bridge between the company and the network (interlevel (Holmqvist, 2003)). In addition, the learning process can take place at different levels within these three parts, or contexts (Knight, 2002).

The following is my normative understanding of partaking in a network, which will be used as a model for testing against my empirical data in the analysis (part III of this dissertation). As such, the model presented here will be modified when concluding this thesis, which will show my final understanding of partaking in a network as means for supporting or creating company internal development processes. What is presented here is therefore a preliminary hypothetical model.

First, I will justify the activity that occurs in a network as an interorganization development process.

7.2 The network as an interorganization development process

The cogenerative learning model (Greenwood & Levin, c2007; Klev & Levin, c2009) will be used as a framework for explaining the activities in the network and the roles of the actors in

the learning process. My interpretation of the network setting based on this model is shown in Figure 9.

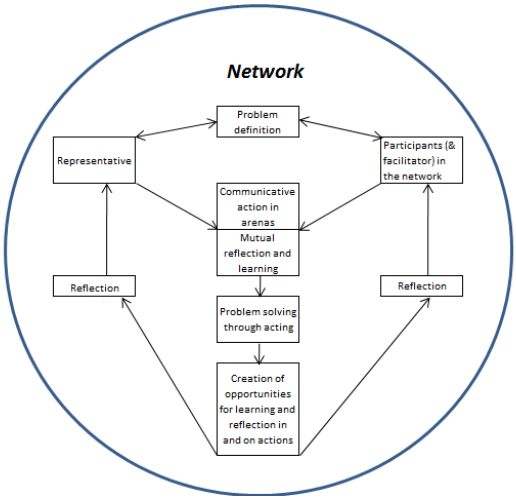

Figure 9 **The cogenerative learning process in the network**

In a network, which by definition is a nonhierarchical organization, the collaboration often takes place without a prescripted plan and without certainty of outcome (Section 4.4). It is up to each participant to get something out of the collaboration, by opening-up and being willing to share and experiment (Holmqvist, 2003). In Figure 9, the insider (in the cogenerative learning model, see Figure 8) has been replaced by the company representative acting in the network arena. The outsider (in the cogenerative learning model) has been replaced by the other participants, including the facilitator (if somebody in the network has such a position or the network has hired a professional facilitator). Because of the network's defined nonhierarchical, democratic form, participants share the responsibility to develop the network. What happens if the network has a facilitator? The responsibility is still jointly placed in the group, and the facilitator should share his knowledge, eventually making the "inhabitants" capable of running network processes themselves—and himself redundant (Klev & Levin, c2009, p. 62; Levin, c2004, p. 75). Coughlan et al. (2002) also stress the importance of the participants having control over the content and pace of the agenda. However, planning and implementing the necessary processes in the network could be difficult for the participants to fulfill, exactly because everybody is responsible. This could end in a situation where nobody takes responsibility for the processes. Therefore, the facilitator position deserves a more extensive review.

The question then becomes: Is it necessary to appoint responsibility? Does one need somebody "to pull the strings?" When I started reviewing the network literature, I was fascinated by the thought that networks normally were cooperatively run. I disagreed with Haga (2007), who states that the construction and operation of a network of companies calls for contributions by a field of outsiders, such as researchers. Why do the members need outsiders to do this? According to network theory, they should be able to do this cooperatively. However, my view has changed as a result of this study. I still think that the people who construct the network (who often are the initiators) are not necessarily the ones best suited for the operational or maintenance phase (when one needs doers, and people who complete tasks). The interpretation of networks and participation in networks as organization development implies that managing of the process is vital for the result. Can this at all be achieved without some kind of appointment of responsibility? Arguments for this are firstly the bystander effect (Weiten, c2000, p. 695). In a group of people, the responsibility is divided among them, and they may all say to themselves: "Someone else will do it." While this diffusion of responsibility is what networks are built upon, it could also prevent the group from moving forward—especially if nobody actually takes the first step. Second, there are two factors that appear to contribute to lower individual productivity in larger groups. The first factor is reduced efficiency resulting from the loss of coordination among the group member's efforts. The second factor is known as social loafing, which has been proved in numerous studies, and is a reduction of individual effort when working in groups as compared to working alone. It occurs when individuals "can hide in the crowd" (Weiten, c2000). However, these effects are not inevitable. They can be nullified or are not evident in a cohesive group (West, 2001, p. 272). How do cohesive groups come to be, then? Determinants for cohesiveness are interaction, the more the better, and shared goals and personal attraction to the group (Daft & Marcic, c2004, p. 535). Such groups do not emerge by themselves. I believe, in line with the legacy of the Industrial Democracy project (see Section 6.3), that we have a great capacity to self organize. However, there are so many tasks that fight for our attention every day. If somebody doesn't remind us to focus on a specific one (like the network and related activities), then it is likely that it will just drown in the information and task flow. In my opinion, someone has to take some sort of responsibility to get the network started and to keep it going. This doesn't have to be an external (professional) person, but at least somebody should take this role, preferably someone with a strong interest in either the focus area or in running such processes.

Returning to cohesiveness, Philips (1988) studied how a limited number of deeply involved individuals seemed to have had an important impact on the development and the viability of new organizational solutions. A network could in this respect be seen as new organizational solutions to those involved. He referred to these deeply involved individuals as "souls of fire," who were key actors in development processes. Philips found that these are individuals who involve themselves, or accommodate their own need for participation, by trying to increase other people's opportunities of participation in an organizational context. The goal for them is participation, or workplace democracy, which is the power for people to shape their own organization and their own actions. It is a self-reinforcing process, in which an increasing proportion of the persons affected involve themselves as actors, and strives to help others to become involved in the same way. To me, this is in line with the values found both in OD and in network theory, where democracy and participation is central. This could indicate that it is favorable to have a "souls of fire" facilitator who initially helps with the process of creating arenas for collective learning, even though the long-term goal should be to hand this responsibility over to the participants in the network. The facilitator must then work in close cooperation with the "owners" of the network, because, as Gustavsen (2004, p. 81) states, one can't go in and take over. Then the property rights will disappear, and network functions falling to pieces.

Returning to the processes in the network and the OD process elements: How does one get data available? Who does the analyses? Who implements initiatives? What does the planned change imply? According to the participatory approach to OD, it has to be the participants in the network who decide and state the goals (Section 4.2). The company representative is then responsible for speaking on behalf of his company in the problem definition process. He must then act as an organizational practitioner (Brown & Duguid, in Holmqvist, 2003), which by Holmqvist (2003, p. 98) is defined as a single individual who learns on behalf of his organization. It also includes actively engaging in the network arena's communication tasks, which include mutual reflection and learning, and using action to solve the chosen problems. He then takes part in a collective, interorganizational learning process (the center part of Figure 9) together with the other participants and the facilitator. In this collective learning process, the network itself can also develop (Knight, 2002). This means that the group of companies has learned as a network, i.e. changed the network's behavior or cognitive structures (Knight, 2002, p. 428-432). In line with what actually moves the OD process forward, action is also a prerequisite in the network, in order to increase the network's ability

to accomplish the right tasks and to handle future challenges in a smarter and more effective way. In addition, the company representative also has his own individual learning process (the left side of Figure 9). This learning process takes place inside the individual's head (Simon, 1991). I will come back to this individual learning process and the link with the intraorganizational learning process and the interorganizational learning process when dealing with *the bridge* between the company and the network. The collective, interorganizational learning process in the network (Knight, 2002; Knight & Pye, 2004) includes the activities given in the cogenerative learning model. These are common problem definition, communicative actions, mutual reflection and learning in arenas (and cogeneration of these arenas), solving problems, and learn through acting and reflect in and on actions. When these activities are connected to the phases of an OD process (Table 1), the following research questions related to learning processes in the network emerge:

- What is the network participants' overall motivation (problem definition) for establishing the network, and how is the problem definition process organized?
- How is the network arena organized? Which arenas are developed in the network?
- How are problems solved?
- Is the network producing the intended effects? How are gaps handled (how are experiences and/or new problems handled)?
- What is done to get the initiative to become self-sustainable? (both the overall network and the workgroups within)

Here I have argued that the network needs a facilitator. This gives rise to the following research questions:

- How is the network facilitation conducted?
- How does the network facilitator organize and work with the bridge between the organization and the network?

For the collective learning process to take place, the network arena has to be dominated by dialogue and willingness to share and learn from each other. One can listen and see what several others do, and make one's own unique interpretation out of it (Gustavsen, 2004). As stated by Gustavsen (2004), most people get clearer thoughts about what they do when they can mirror it against what others do. Then the participating company must be willing to go from the exploitation mode to the exploration mode in Holmqvist's (2003) model shown earlier (Figure 7), both internally and externally. Having this in place, it is up to each

company to capitalize on the common learning environment in the network (Gustavsen, 2004). How could the company representative's learning (new ideas, new ways of working) subsequently be used in his company? A model for this intraorganizational process will now be presented.

7.3 Internal development processes based on network outcome conceptualized as an intraorganization development process

The cogenerative learning model is the backbone also here. This time it is used as a framework for explaining the activities back home in the participating company and the roles of the actors in the company internal (intraorganizational) learning process (Greenwood & Levin, c2007; Klev & Levin, c2009). My interpretation of the organization setting based on the cogenerative learning model is showed in Figure 10.

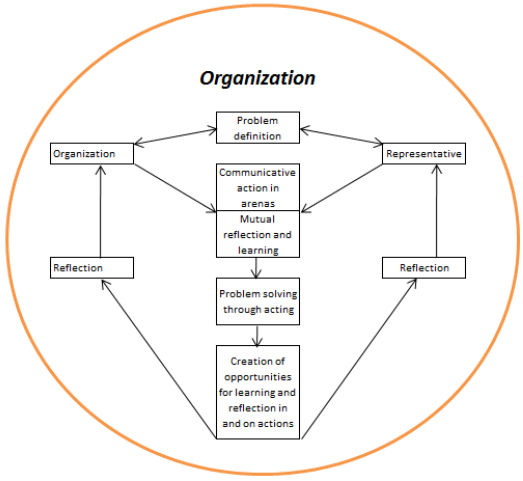

Figure 10 The cogenerative learning process in the company

The company representative takes the position of the outsider (in the cogenerative learning model) in Figure 10 when he is returning to his company and before going there for the first time. The representative's company (organization) takes the position of the insider (in the cogenerative learning model) in Figure 10. Changes do not happen on their own, and changes involve changes in people as well (Daft, 2004). The other employees must learn how to use new knowledge—both technical and organizational—that is supplied to the organization through the company representative. Otherwise the learning will remain as individual learning

for the company representative. This could of course be beneficial enough on a personal level (enhancing one's own skills, building a larger personal network)—but it would then not be utilized as a potential for change and development for the company. As argued earlier, just bringing something new back to one's own organization doesn't mean it will actually be used, since this often remain decoupled from the value-creating, daily activities in the company (Klev & Levin, c2009, p. 187; Lysø, 2010, p. 267; Skule, 1994, p. 175). However, it is in the organization where learning and knowledge can be used to implement value-creating activities. This is why an internal organization development process is necessary, which brings in elements of a planned, conscious process (Lipshitz, Popper, & Friedman, 2002). The organization then needs a culture where those who have been "outdoors" getting new ideas for the organization are actually listened to. Many organizations experience difficulties with unlearning past practice and explore alternative ways of doing things, because then the stability and control mechanisms need to be loosened up (Lewin's unfreeze) and flexibility needed in the organization for this to succeed (Lam, 2005). This is equal to Holmqvist's (2003) proposed processes of opening-up and focusing when going from exploitation (the stable, "daily work" situation) to exploration (explore alternative ways of doing things).

Could the company representative in the network then hold the role as the process facilitator, which originally is an outsider position (Greenwood & Levin, c2007)? This will be necessary for transfer to actually happen, and in my model the company representative has a role as the change agent or facilitator in his organization. However, I would like to comment first on the situation when an organization is considering joining a network. Presumably there will be some ideas about what the current network can offer and in which area(s). In this phase, where no company representative is yet selected, the leader(s) could take the company representative's role in Figure 10. In the problem definition phase, the relevant people from the organization can be called in for a meeting where the network is presented, discussed, and possibilities explored. This is the initial intraorganizational exploration process where the company is opening-up and questioning the daily routines of exploitation (Holmqvist, 2003, p. 107). This process should be based on dialogue where different viewpoints are brought to the table and the cost-benefit is evaluated (Klev & Levin, c2009, p. 71). If the network is found sufficiently relevant and beneficial, then a company representative has to be selected. This could either be done by position or expertise, dependent on what is most appropriate. The mandate for the company representative should be in line with the result of the discussion in his company. When the company representative returns from the network arena, the same

procedure could be followed internally, i.e. a meeting is held with the relevant people in his organization. The company representative communicates and reflects upon his learning and the other people are invited to discuss and reflect upon the relevance of this for the company's development processes. This common engagement in concrete problem solving will help in the process of revealing tacit and explicit knowledge and knowing how (e.g. Lundvall & Johnson, 1994; Polanyi, 1967; Ryle, 1949). If it is found useful, then an internal planned process could be initiated to implement, translate, and/or "internalize" relevant learning/knowledge into the company's own systems. In this phase, the company will need to move from a process of exploration to a process of exploitation through focusing (Holmqvist, 2003, p .107). The total process is also a way to develop the company towards a more democratic, team based way of working. The involvement and full participation of leaders in these processes are emphasized as very important by Berg (c2008), and Klev and Levin (c2009). This is also supported by French and Bell (1984), who states that effective OD requires much more than tacit approval from the power structure. Otherwise the organization could undergo a change whereas the leaders still are stuck in the old way of doing things, subsequently showing little understanding for the actual changes (Klev & Levin, p. 81).

Based on the above accounted for understanding, the cogenerative learning model and the phases of an OD process (Table 1), the following research questions related to the learning processes in the participating company emerge:

- What is the company's motivation (problem definition) for joining/establishing the network, and how is the problem definition process organized (strategically and practically)?
- Which arenas for learning, use, and reflection are developed internally as a result of the network participation?
- Is the network participation producing the intended and wanted internal effects? Are problems solved locally based on the network participation effort? How are gaps handled?
- How is the transfer of internal experience and practice and/or new problems fed back to the network?
- In terms of network participation and internal arena use, what is done in order to get the initiative to become self-sustainable?

In addition, the company controls and is responsible for being the bridge between the company and the network. This gives rise to the following research question:

- How does the organization handle bridging between itself and the network?

What about the company representative then? What kind of abilities should such a person have? Both the absorptive capacity and the disseminative capability (Mu, Tang, & MacLachlan, 2010), i.e. the ability to receive and transfer knowledge, are relevant to consider. Here I would like to introduce the idea of I-shaped people (derived from T-shaped managers (Hansen, 2009; Hansen & von Oetinger, 2001)). This is people who are able to simultaneously deliver results in their own job (the vertical part of the "I"), deliver results by collaborating across their own company (the lower horizontal part of the "I"/representative's position in Figure 10), and outside the company (the upper horizontal part of the "I"/ representative's position in Figure 9). Such people can be compared with Klein's (c2004) outsider-insiders. These are insiders who are able to see problems from an outsider's perspective, who are able to discover opportunities to "pull" into their organization, and to turn new ideas and concepts into institutionalized practices. They can also be compared with Wenger's brokers between communities, who can introduce elements of one practice into another, make connections and engage in "import-export" (Wenger, c2003, p. 247). This role with be further dealt with as part of the bridge between the company and the network.

7.3.1 Summary

To summarize, the model in Figure 10 illustrates my understanding of the transfer of learning from the network to the participating company and vice versa. The outcome for the company is a result of the ability to construct and use internal arenas for developing the learning from the network. The learning/knowledge has to be made relevant (opening-up internalization), and internalized into the companies before it will be put in active use (focusing internalization, Klev & Levin, c2009, p. 187, Holmqvist, 2003). The companies subsequently need to arrange for this to happen. One way to do this is to handle network participation as a dual organization development project, i.e. **as a combination of an interorganization development process** (Figure 9) **and an intraorganization development process** (Figure 10). This combination, where the network and organization part of the OD process are

integrated, subsequently turning it into a holistic model for participation in a network, is outlined in the next chapter.

7.4 Model for participation in a network

Combining the model in Figure 9 and the one in Figure 10 gives the model showed in Figure 11. This model shows two arenas for learning for the participating company: The network arena (interorganizational) and the internal arena in their own company (intraorganizational), which are two separate learning cycles connected through the overlap which is represented by the company representative and his reflection process. He gets a key role as the bridge builder interlinking the two arenas (in his organization and in the network). The company representative could also be interpreted as a boundary object (Section 5.3), and the specific focus area could be interpreted as another boundary object. These boundary objects become translators between the company and the network. However, in the following I will concentrate my interpretation of the company representative as the bridge builder.

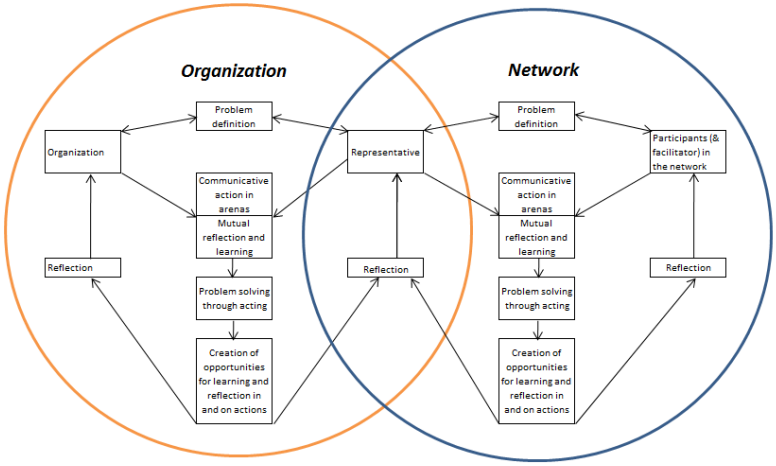

Figure 11 **Participation in a network understood a dual cogenerative learning process 1**

My understanding of network participation creates a dual learning cycle, which is illustrated in Figure 12. The illustration of the dual learning cycle could be associated with a binocular, where the participating company has one "eye" in each system. The total view is only given when both "eyes" are in use. This total view (or active use of both "eyes") is needed to exploit the full potential network participation can represent for a company. The binocular metaphor

can be used to illustrate how easy it is for network participation to be blurred (Why do we participate in this forum? Why haven't we got anything back from attending in this forum?). If one doesn't adjust the focus on both lenses depending on what one wants to "see"[20], then to use the binoculars (i.e. the network) is pointless.

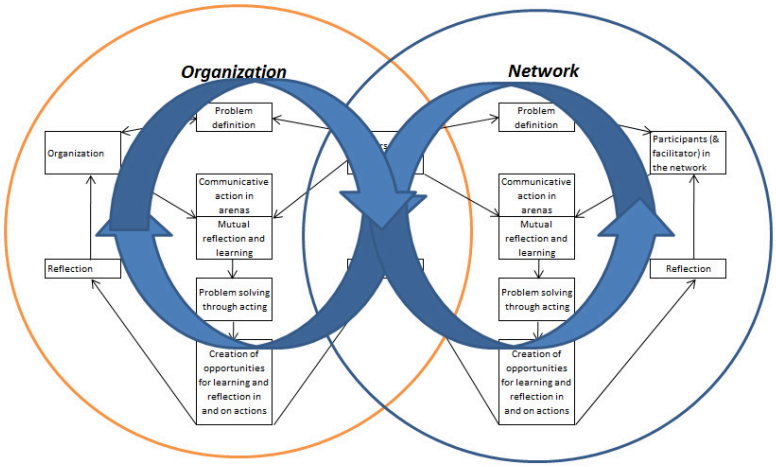

Figure 12 Continuous learning spiral

A process line model showing the two learning processes and their linkage is illustrated in Figure 13. The feedback loops to and from the network and the company subsequently moves these learning processes forward. Just to *say* that one use these arenas does not create change. It has to be put in active operation, meaning active use (for instance through training and reflection sessions). This requires conscious creation and use of the arenas where the learning and knowledge exchange can take place.

[20] This means that the company should have a clear understanding of the problem or actual subject matter in focus. This can be derived from the opening-up and focusing extension process addressed by Holmqvist (2003).

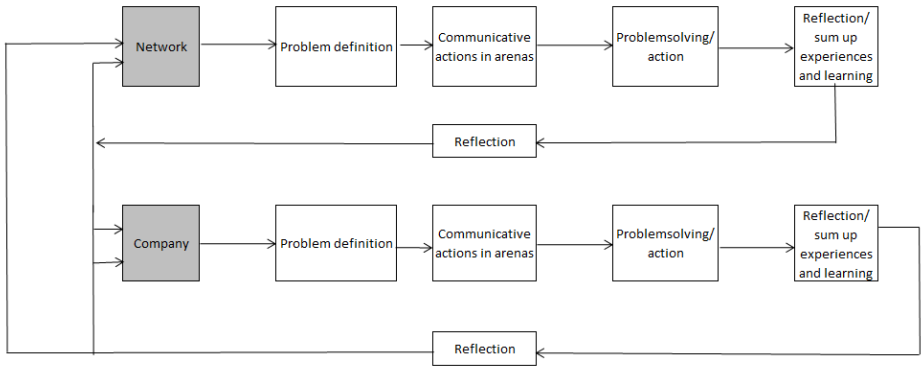

Figure 13 Participation in a network understood a dual cogenerative learning process 2

With the help of the previous figures and Holmqvist's (2003) model given in Figure 7, the phases of network participation can be divided into the following processes:

- Problem definition, both internally (opening-up, entering an explorative process) and in the network (joint opening-up). These problem definitions must partially overlap in the focus area, otherwise the actors can't cooperate. However, all companies/ individual actors will not have the same view on the focus area nor the results due to differences in their daily internal situation and models of explanation (Klev & Levin, c2009, p. 87).
- Plan, act, and learn in the network (joint experimentation and/or joint acting).
- Reflect and bring back learning and knowledge to one's own company (explorative internalization and/or exploitative internalization).
- Plan, act, and learn in the company (opening-up and focusing internalization).
- Reflect and bring learning and knowledge from one's own company back to the network (exploitation, opening up, exploration and new opening-up extension).

The different activities will alternate between collective and individual processes, as shown in Figure 14. This alternation is presumably a demanding process, for the company, the network, and the company representative. This reinforces the importance of the company representative and his capability to act as a bridge builder. Again, he must be able to alternate and act as a sender (disseminative capability) and receiver (absorptive capability) in this two-way knowledge transfer process (between his company and the network) (Mu, Tang, & MacLachlan, 2010, p 33).

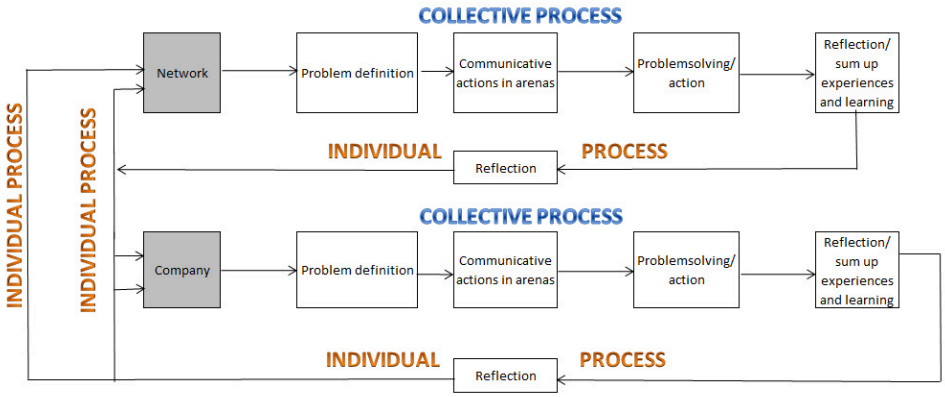

Figure 14 **Participation in a network, alternating between collective and individual processes**

When the process is repeated, it can form a continuous learning spiral (illustrated by the binocular model in Figure 12). The participants themselves, both in the network and in the organization, have to evaluate if they get the outcome they want. This means to reflect upon and evaluate the problem defined compared with the achieved result. If this is not found satisfactory, they have to try to make some changes in the network or internally in order to get what they want. This could mean to bring their concern to the relevant arena as part of the mutual reflection and learning, or as part in a new round of problem definition. It could also include evaluating the chosen company representative's ability to act as a bridge builder.

7.4.1 Summary

The outcome for the companies is understood as a result of the ability to construct and use internal arenas for developing the learning from the network. This is a way to make intraorganization experimenting possible (Holmqvist, 2003). It is the *arrangement* of these processes that are important. This is because the results can't be planned, whereas the process of making these learning processes and transfer between them happen can be. This includes constructing supporting infrastructure to increase the likelihood that transfer will happen. Without the internal arenas the learning will remain as an individual learning for the company representative, and it will not be utilized as a potential for change and development for the company. Just bringing something new back to one's own organization doesn't mean it will be used, since this often remains decoupled from the value creating, daily activities in the company (Klev & Levin, c2009; Lysø, 2010; Skule, 1994). The learning/knowledge has to be

made relevant or internalized into the companies before it can be put into active use (Holmqvist, 2003, p. 99; Klev & Levin, c2009, p. 187). The companies subsequently need to arrange for this to happen; one way to do this is to handle network participation as a dual OD process, i.e. **as a bridged, facilitated, interorganization development process and intraorganization development process** (Figure 11)**.**

The term *bridged* means that both the intraorganization development process (in the company) and the interorganization development process (in the network) have to be interlinked (see Figure 15). The *bridged* idea could also be used as a metaphor; where network participation should have a solid foundation in the organization and that the network itself should also have a strong base. However, none of these foundations are stable; they will need to be "inspected" and regularly undergo maintenance since their grounding will constantly change (due to different interests, participants, time, and phases of the network). Bridged processes also point to the fact that there is no point in building a bridge if nobody uses it. This means that there is a need for someone who actually walks the bridge to utilize the learning taken place on each side. In my theoretical model the key person to use the bridge is the company representative.

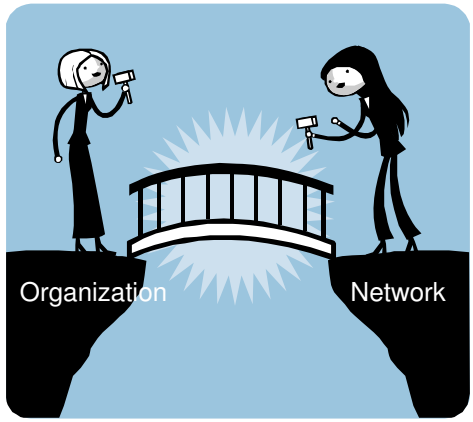

Figure 15 **Bridging the organization and the network**
(Clipart from Microsoft Word modified by S. Rubach)

- *Facilitated* means that there should be a support mechanism both in the organization (company) and in the network.
- *Interorganization development process* means the development process occurring in the network (external, seen from the organization) between the different participating organizations (interorganizational).

- *Intraorganization development process* means the development process that is going on in the participating company (internal, seen from the company) and between the different internal, interacting parts of the company (intraorganizational).

7.5 Research questions evolving from the model

In my search through the theories for understanding how network participation can support or create local company development, I have developed the conceptualization models (Figure 9-Figure 13) as a framework for developing research questions. My overall research question is:

Why is it that for an individual company to benefit from network participation, there must be a link between both internal and interorganizational learning processes?

Even though the processes in the network and in the single organization can be seen as two separate parts, they are interlinked through the company representative (the bridge) and are as such part of the same learning process. The overall research question and the conceptualization models have formed the basis for developing more detailed research questions. These detailed research questions serve the purpose of structuring the analysis and discussion to investigate if a continuous learning spiral is formed by the total learning process. In addition, the phases of an OD process (initiation, start-up and continuous learning spiral) and the important elements of such a process (see Section 6.4) have been used as the basis for the detailed research questions. Based on the conceptualization model in Figure 11 and the main research question presented, the detailed research questions can be grouped in three parts. These parts relate to: 1) the organization (company), 2) the network, and 3) the bridge between the two. This structure gives rise to the following detailed research questions:

1) Research questions related to the learning processes in the organization (company):
    - What is the company's motivation (problem definition) for joining/establishing the network, and how is the problem definition process organized (strategically and practically)?
    - Which arenas for learning, use, and reflection are developed internally as a result of the network participation?

- Is the network participation producing the intended and wanted internal effects? Are problems solved locally based on the network participation effort? How are gaps handled?
- How is the transfer of internal experience and practice and/or new problems fed back to the network?
- In terms of network participation and internal arena use, what is done in order to get the initiative to become self-sustainable?

2) Research questions related to the learning processes in the network:
   - What is the network participants' overall motivation (problem definition) for establishing the network, and how is the problem definition process organized?
   - How is the network arena organized? Which arenas are developed in the network?
   - How are problems solved?
   - Is the network producing the intended effects? How are gaps handled (how are experiences and/or new problems handled)?
   - What is done to get the initiative to become self-sustainable? (both the overall network and the workgroups within)
   - How is the network facilitation conducted?

3) Research questions related to the bridging processes between the organization (company) and the network:
   - How does the organization handle bridging between itself and the network?
   - How does the network facilitator organize and work with the bridge between the organization and the network?
   - What does the bridge consist of?

The developed normative, theoretical understandings and the research questions given in this chapter will be used as a spotlight through the analyses of the empirical case. The overall goal is to gain an in-depth understanding of how the companies have organized their participation in the network and how they have made use of, transferred and developed the knowledge they got at the network arena back in their own organization. Before examining the data, the next chapter will address and account for the research methodology used to generate and analyze it.

Be proactive and reflective;
be critical and committed;
be independent and work well with others;
and have aspirations and be realistic about limits.
V. Friedman, (in Coghlan & Brannick, 2005, p. 136)

8 Methodology

8.1 Introduction

Piet Hein, who was a Danish scientist, mathematician, inventor, author, and poet, wrote many short poems, called gruks or grooks, during his life. One of them says:

> Denmark seen from a foreign land
> looks but like a grain of sand.
> Denmark as we Danes conceive it
> is so big you won't believe it.

This illustrates that where one are situated greatly influences both what one see and one's ability to see what one see. From what position would it be favorable to look at the situation? Which research methods are the best to apply? How do one know whether one have a correct understanding or picture of the situation being researched? How can one ensure that others see one's understanding as "truth?" These are normal questions for a researcher to ask, and their answers depend on what one is about to investigate.

According to Eikeland (2009, p. 59) methodology is the reflective, practically based, self-consciousness of professional researchers. To me this means becoming explicit about the tacit rules, norms, and ethical standards followed and used in the research project. To argue for and evaluate the way a study has been performed also calls for the necessity of taking a third position, i.e. to view the research project and oneself from the outside (as seen from a foreign land). It also includes obtaining the help of others (critical friends and colleagues) to be challenged in one's thinking, to see "blind spots" and inconsistencies in one's own reasoning. What I have seen (or not) rests on both my own values and values embedded in my theoretical and methodological platform (Charmaz, 2006, p. 149).

In this chapter I thus account for, and reflect upon, how I studied participation in a network. This was accomplished through analyzing the longitudinal action research study described in Chapter 2. A theory about how participating in a network can contribute to organization development evolved in a parallel process with the empirical data generation[21] throughout the project period. In practice, this means that from 2007-2010 I have both worked as a researcher in the EWA company network project and generated empirical data for my PhD study.

I also discuss the reasons for basing my research process on action research, using both a grounded theory approach and qualitative case studies. Data sources and the data generation process are then accounted for, along with a description of how I analyzed and interpreted the data—my theory-building approach. The quality of the study is commented on in the end of this chapter. This research process has not been a linear, mechanical one, where theoretical framework, formulation of research question, data generation, data analysis, and conclusion followed each other in time and sequence (Charmaz, 2006, p. 10). It has been an interactive process, where the research problem at its core has been the same since I started, but where the theoretical journey and fieldwork moved me in many different directions over time. Subsequently the generated data have varied, but since the core has been steady, my data generation has circled around the same questions but was viewed from different angles and with varied emphasis on different parts. This follows the logic of an action research study (Figure 16), where the ongoing process consists of reading theory, acting in the field, observing what's happening, and reflecting contrasting theory and practice, and where reasoning continually improves over time (Greenwood & Levin, c2007). It also follows the criteria of a grounded theory study (Charmaz, 2006), which will be further accounted for in this chapter.

[21] Coghlan & Brannick (2005, p. 99) argue that it is more appropriate to speak of data generation than data gathering or collection. This is because in action research data comes through engagement with others in the action research cycles. Actions including data collections are themselves interventions. Data collection is also generating learning data, both for the researcher and the individual concerned. In short, in AR, data generation comes from active involvement.

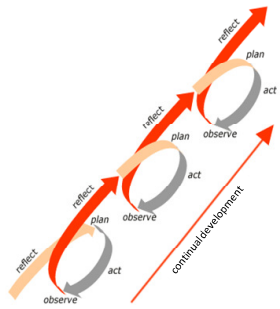

Figure 16 The action research cycle: plan-act-observe-reflect
(Retrieved from http://www.heacademy.ac.uk/assets/hlst/documents/heinfe_exchange/act_res_cycle.doc and modified by Rubach, S.)

8.2 The journey

During 2007, the first year of my PhD study, it was not clear which projects to use for my empirical study. Part of the reason was that the network that became the empirical database for this study had not started (the network project is presented in Chapter 2, including its history). Because of this, I used time in 2007 and part of 2008 to work on projects which eventually turned out not to be part of my empirical material. My frame of reference when I started was my background as a mechanical engineer, some years of experience in the field of engineering and 12 years as a research scientist within the field of sustainable (environmental) innovation research along with an education in coaching. However, my interest for social science grew over many years and was influenced by my work in many (network-based) research projects, periods working as a leader, and a personal interest in reading social science based literature on a private basis. The four years in the PhD program have been a continuous learning process of reading texts and theory related to the EDWOR II PhD program, writing reflection papers, participating in several of the projects in the regional VRI project portfolio, working with my research question and connecting specific relevant theories to it, and learning how to use a qualitative research methodology. This means that although the outcome of this thesis seems obvious today, it seemed like an unclear, insurmountable task in the beginning (the map is not the territory! (Toulmin, in Erikson, 2010, p. 58)). However, the core of my research problem has been the same all along: namely how a network is and can be used for company development. The challenge was to determine where to study this (which project) and how (theoretical fundament and level of analysis). Luckily, both of these challenges were solved over time.

8.3 My position as a researcher

With an action research based approach in this study (verified more in detail in Section 8.3.1), I have been actively engaged in the research project. Action research is a participative and democratic process that seeks to do research with, for, and by people; it draws on an extended epistemology that integrates theory and practice (Reason, 2006). Just as network participation could be understood as a learning process for the participants, the research project has been a learning process for me as a researcher. As already addressed in Chapter 5, Skjervheim (1957/2003) stated to be able to learn, it is important not to objectivize, or to state as fact what other people say or do. This does not lead to engagement nor to discussion. The alternative to objectivizing is to engage in the subject matter (i.e. a discussion) and share your own knowledge and viewpoints. Skjervheim stated that this ability is important in order to be able to learn. In "traditional" research there is normally a "hard" boundary that separates the researcher from the system under study (Zuber-Skerritt & Perry, 2002). In action research the researcher is an unavoidable part of the system, as action research recognizes and involves social systems, i.e. "soft systems." As such, in action research there are no clear boundaries between the researcher and the system (Zuber-Skerritt & Perry, 2002). Thus, having an action research approach, where there is no substitute for learning by doing (Greenwood & Levin, c2007, p. 2), made it possible for me to engage in the subject matter and learn together with and from the project participants about relevant issues of my research.

In order to be able to understand all parties in a research process the researcher must be able to see the world from the receiver point of view and be able to use their models, filters, and preferences to explain this. In this, Fals-Borda and Rahman (1991) addresses the need for the researcher to be effective in the written, auditory, and visual communication. Heron (1996) addresses the use of four different types of knowing; experiential knowing (meeting, encounter), presentational knowing (aesthetic, expressive forms), propositional knowing (word, concepts), and practical knowing (intrapsychic, interpersonal, political, transpersonal) in the inquiry. This puts major requirements on the researcher. To elaborate on this, the network arena can be defined as a sociotechnical system, where the focus is on the relationship between the social and the technological systems (Trist, 1981). From the technical side of the project, the researcher is expected to support the group with relevant expertise and knowledge. Here Wadsworth (2006, p. 333) points out that the researcher has the responsibility to "get it right" and be "objective." *"The worst possible results are "getting*

it wrong," being rejected as an academic, or vilified as "subjective" or "political"…" (Wadsworth, 2006, p. 333). In the process part of the project, Wadsworth states that the researcher should facilitate that all relevant players gain new insights, with these ideas applied as fast as possible in practice and without the need for executive direction. This requires an engaged, intersubjective process with the participants. The worst possible result is that self-understanding is still not achieved, and practices and conflicts are at status quo. The facilitator can then be vilified as not having come up with "the answer" (Wadsworth, 2006, p. 333). These roles will compete with each other in action: being the process leader, being an expert on the issue, generating empirical data and so on. The challenge of these multiple roles has been subject to discussion both in the main network arena, in the workgroups (where some expressed expectations of getting more direct "technical/consultancy" help from the researchers), and within the researcher's team. Because of my background in mechanical engineering and my long experience with research projects in industry, I had no problems understanding or contributing to the actual content knowledge (the technical side) that the different network arenas dealt with (for instance, increasing resource efficiency and use of alternative energy sources). To have contextual knowledge is emphasized as a "must have" to an action researcher, who should have substantive appreciation of the particular issues involved (Greenwood & Levin, c2007, p. 119). The ability to bridge different disciplines (i.e. from natural to social science) is also a way to broaden our perspective and increase the possibility of finding solutions (Bateson, 2004). I believe that being able to apply different perspectives can give the researcher the ability to act more democratically—to bring to the table the voices of multiple, diverse viewpoints. However, because of my similar background and work experience, I tended to internalize the content knowledge, at times being so occupied in the actual focus area that I have forgotten to focus on the *process*—and capturing relevant elements to shed light on my research question. I brought this bias up in my collegium at Østfold Research, which ended in a broader discussion about the researcher's role(s) in an action research project. As in other projects, there are several roles to be filled and tasks to be done. These are illustrated in Figure 1.

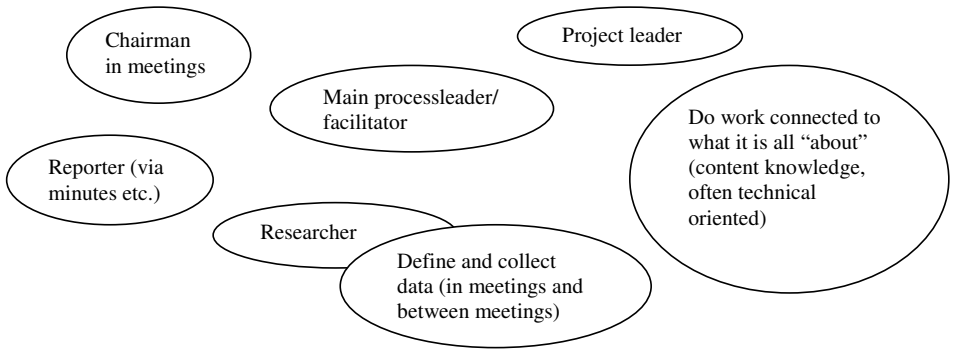

Figure 17 **Roles and tasks in a network project**
(Illustration developed from discussions between Aarvak, Rubach and Skønberg at Østfold Research in 2009)

In practice, it could be problematic for one person to fill all these roles; since all tasks are time consuming, generating research data could easily end up at the bottom of the list. This was solved in the research project by having at least two researchers working on each project. The practical implications of this have been that in the project related to this study another researcher took care of the main process leader/facilitator role in the network meetings. However, as already mentioned, the preparations before and the follow-up became a larger part of my work as time went by. I found that not having the main responsibility for facilitating the actual network meetings was beneficial for me, since this allowed me to keep some focus on generating data for my research project. Also, to have researcher colleagues who have been to the same meetings and involved with the same companies enriched the process of interpreting and reflecting on field experiences. Additionally, because an action researcher relies on and brings local knowledge to the table, it has been a new situation and good experience for me to shift from the need of "having all the answers" to participating in a much more interesting and challenging discussion related to the content knowledge side of the projects.

As outlined above, there have been two goals in my research project (Zuber-Skerritt & Perry, 2002). One goal has been to contribute to the project (the core action research), which means to solve practical problems related to the organizations, i.e. the fieldwork. The other goal has been my thesis action research project, which has been to generate new knowledge and understanding. Whereas the researcher team in the project focused on contributing to the project, I related myself to another "team" inhabited by my supervisors and fellow candidates

aiming at fulfilling the conventional requirements of a thesis (Zuber-Skerritt & Perry, 2002). As such, just as I have conceptualized participation in network as a dual OD process (or learning process), this project has been a dual learning process for me, too.

8.3.1 Action research approach

The action research approach applied in this study draws on the pragmatic Scandinavian approach to action research which has been accounted for in the section of the literature review related to organization development (Chapter 6). By using an action research approach, I believe I more directly accessed what occurred and more easily had the possibility to engage in mutual processes with participants in the network. Another argument for having an action research approach in this PhD work has been the focus on learning processes in the network, between the network and the participating companies, and within each company as a result of the network activities. As stated by Greenwood and Levin (c2007, p. 51), "*action research is a way of producing tangible and desired results for the people involved, and it is a knowledge generation process that produces insights both for researchers and the participants."* One major theme in action research is to seek to understand things by changing them, by experimenting with something new, and then by studying the consequences of the action and using them to reflect on one's values and preconceptions before then taking new action (Greenwood & Levin, c2007). This can be illustrated as a cyclical process of learning, which in action research consists of a constant movement between reflection and action, and contains the elements of plan, action, observe, and reflect. This is a cogenerative process where the researchers (and in my case, the network members) are cosubjects and coresearchers in the research process (Greenwood & Levin, c2007, p. 103). Therefore, in this study, the research has been conducted together *with* the participants and not *on* the participants.

8.4 Research design and data generation

Whereas action research has been my research strategy and also guided my acting in the field, in this section I discuss the research process followed when producing this dissertation. This includes the use of a case study and methods for qualitative data generation.

8.4.1 Case study

Greenwood and Levin (c2007, p. 2) state that "*case and case narratives occupy a central place in the learning process associated with becoming a competent AR [action research] practitioner."* The superstructure of my thesis is empirically based on a case: The Ewa company network. According to Yin (1981), cases can be used as a research strategy in exploratory, explanatory, and descriptive types of studies. Having an empirical inquiry, a case has its strength in its ability to cover both the contemporary phenomenon and its context in the examination phase. Therefore, Yin believes that cases are appropriate to answering how and why questions. An exploratory case study should then be suitable when the objective is to understand and study how participation in a network can contributed to local development processes in the companies. Stake (2000) points out that case studies are not a methodology choice, but a choice of what to be studied. Cases can be used to refine theory, suggesting complexities for further investigation, or to help establish the limits of generalizability. According to Stake (2000) there are three types of case studies:

- **Intrinsic case study,** used when the case itself is of interest and the researcher wants better understanding of this particular case.
- **Instrumental case study,** used when the case helps to advance the researcher's understanding of an external interest, i.e. to provide insight into an issue or to redraw a generalization.
- **Collective case study,** used when several cases are believed to lead to better understanding of a phenomenon, population, or general condition and which could lead to perhaps better theorizing about a larger collection of cases.

Stake highlights that when a case is used the topics should be specific, not general. However, he opens up for theory building and some generalization in instrumental and collective case studies. Yin (1981) focuses on two case designs: Single-case design, where the purpose is to test theory, and multiple-case design, where the purpose is to replicate or confirm the results. All the types of cases of Yin and Stake can have single-case or multiple-case applications (Tellis, 1997, p. 1). Leaning towards Stake's concepts, my case can be classified as an instrumental case study.

According to Stake (2000), the most unique aspect of the case study is perhaps the selection of cases to be studied. He discusses the issue of whether the researcher has the possibility to choose a specific case to work with or not. He states that intrinsic casework regularly begins with cases already identified, but that instrumental and collective casework regularly requires researchers to choose their cases. The main point in selecting a case is to find one that provides maximum opportunity to learn. By this, Stake believes that we lean towards cases that seem to offer a learning opportunity, but is critical with his observation that most academic researchers are supportive of the study of cases only if there is clear expectation of generalizability to other cases. The case-by-case uniqueness is seldom an ingredient of scientific theory, as he says. In agreement with Yin (1981), Stake speaks for selecting an extreme or an exemplary, and not a representative, case. Stake calls this an atypical case, and advocates that there is a chance to learn a lot from an atypical case than a little from a seemingly typical case. My selection of case has not followed all of these recommendations. Firstly, my case had to be chosen from within the regional VRI project portfolio, since this is the project to which the PhD program is connected. Secondly, as time passed, I had to choose among projects with the greatest promise of generating potentially relevant data. Thirdly, the project manager and the network members had to approve that I entered the project as a researcher and a PhD candidate. It was indeed difficult to foresee how the chosen network would develop, but the contrast between the companies in the network has turned out to be expedient.

I will now return to why I in the beginning of this section stated that the superstructure of my thesis is that it is empirically based on *a* single case. Although I have dealt with one network, it includes several separate groups which could be characterized as separate cases. The Ewa company network has included five to six workgroups (which varied over time) that could be classified as separate cases. However, since my unit of analysis is the bridge between the network and the single participating organization, I have chosen to look at each company in the Ewa company network as a separate case, which means that the study includes four cases. Thus, my four cases represent each of the companies in the network, and my study could therefore also be classified as an instrumental case study with a multiple case design.

8.4.2 Qualitative data generation

To use macro indicators such as turnover and number of employees involved in the network would not have led me closer to what actually happened at both the network and company arenas. However, by engaging with network participants in a "hands-on" manner and by combining this with exploration of their own subjective experience through interviews and conversations, it has been possible to say something about *what* and *how* and *why.* In this study I have therefore applied qualitative methods to understand the complexity of the phenomena. Action research opens up the possibilities of using different approaches for data gathering (Greenwood & Levin, c2007, p. 98), and the same goes for grounded theory strategies where data generation methods are treated as tools to use rather than as recipes to follow (Charmaz, 2006, p. 10). In this research project, rich data have been gathered to help me understand and making me able to supply a thick description of the field (Charmaz, 2006; Geertz, 1973).

My study has been based on abduction (Alvesson & Sköldberg, 2009, p. 3). Whereas induction has its point of departure in empirical data and deduction in theory, abduction is used in real practice in case studies (Alvesson & Sköldberg, 2009). In abduction, Alvesson (2009, p. 4) explains that during the process, the empirical area of application is successively developed, and the theory (the proposed overarching pattern) is also adjusted and refined. Abduction includes understanding as well, and corresponds with how my thinking, understanding, data generation, and acting in the field have developed during the research project period. Having an action research approach in my project supports that the data generation process has evolved and developed throughout the project period in line with what has happened in the field. To be open and flexible is important in order to "grow" together with the participants in the process towards the common aims that were cooperatively set up for the network. To be able to answer my research question, I needed to understand the processes in the network that led to change in the company and vice versa. What types of change happened? Which actions were taken? What did the actions we (the researchers) imposed lead to which promoted or hampered the companies' outcome? The processes involved are definitely dependent on and influenced by many factors.

When it comes to the practical side of data generation (Yin uses the term data collection), Yin (1981) finds data generation to be a challenging aspect of a case study. A variety of sources of

evidence are relevant, and in his view the investigators (in my interpretation: the researcher) must be trained to deal with this variety. He recommends that some type of protocol guide data generation. Stake (2000) views the case as a complex entity within a number of contexts—physical, economic, ethical, aesthetic, and so forth. The case is singular, but it has for instance subsections, groups, or occasions. He believes that a holistic case study calls for the examination of these complexities, which includes teaming as an important option. The use of a team could ease the data generation if each team member writes up his or her parts and other team members then read and critique them. Yin's approach is more technical and practical oriented in order to use a protocol to deal with the complexity of a case, while Stake calls for cooperation within the research society. This study has not been guided by some type of protocol, as the data generation has as already mentioned emerged abductively as a natural part of acting in the field and it has followed the stages of the project. Even though Stake's recommendation has not been followed when it comes to writing my research, at least the teaming part in the field has been followed since (with only a few exceptions) there have been two or more researchers acting in the field simultaneously (this has also been commented on earlier in this chapter). Consequently, we have been able to collect more data than one single researcher can manage alone. The data was generated through participatory observation, informal conversations, meeting notes, my own and other researchers' reflection notes, and interviews (digitally voice recorded).

The purpose of the interviews has been to capture through structured data generations any changes in the participants approach (the factors involved) and thinking throughout the project. During the actual network activities (in action) it has been difficult to find time and space to talk and reflect with the participants upon some of the issues related to my research question. The interviews have therefore represented a "quiet space" where we could focus specifically on these matters. The interviews reflected my theorizing about the problem at the specific time of the interview and they also reflected what I regarded could help me to understand more about their objectives and views on the situation. Of course, the interviews also were meant to be a help and guidance for our (the researchers) and the involved companies further development work related to the network. My experience from the interview situations is that the interviews got better and better. They improved from the first to the second company interviewed, and also from the first to the second round of interviews as I became more precise in my questions. This was because my understanding of the field improved and my knowledge about the different companies evolved. Also the facilitator and I

improved as a "team" over time in these situations, and we took more natural turns in the conversations (applicable to those interviews we performed together; however, I performed several alone). These rounds of interviews also learned me that it is more difficult to stick to an interview guide the more familiar we got with the different people, but also that the questions took more the form of naturally fitting into the conversation rather than being a list of subjects we were supposed to get through. I think this improved the quality of the interview, meaning that I got more rich data when the interview evolved into a conversation (dialogue).

The project has been found to satisfy the demand in relation to the Personal Data Act by Norwegian Social Science Data Services. A more extensive listing of the data sources is found both in Appendix A and in the following description of the data generation in relation to the case network.

The Ewa company network

First, I give here a short summary of the network context, and then explain the data generation performed that is related to the network.

The initiative for establishing this network, as described in Chapter 2, goes back to 2006. It is a "bottom-up" network, which raised from the companies themselves and their needs. The network is not branch specific, but employs companies from quite different valuechains. The basis for the network is sharing of knowledge and experience. The companies that participated in the network joined this initiative at different moments in time, and in some cases the people who were involved in the early phases have not been present or had a peripheral role later on.

First, data that describe the network and the workgroups' activities were based on both meeting minutes and the researchers' logs (reflections) from these different meetings. I have participated in the network activities, some of the workgroups, and in the researcher team in this project. Second, the network and the workgroups have been described and evaluated with data from each company's view based on the companies' own stories and spoken words of how they joined the network initiative, how they have used it, and what they have got out of the network cooperation. This information was retrieved in three series of interviews that took place in each participating company: One in November/December 2008 (with five managers

total), a second set of interviews in November/December 2009 (with five managers total), and a third set of group interviews with the representatives in each company in January 2010 (nine representatives in total). The interview guides are found in appendix B (these are in Norwegian). All of these interviews have been digitally voice recorded and transcribed. The first set of interviews with the managers were written up by me in the form of minutes and sent back for comments. This data were used as feedback and input to further work in the network meeting held in January 2009, where the facilitator presented it to the network members. After this meeting, the minutes from the interviews were distributed to all members in the network. The second and third set of interviews were summarized by me and used as feedback and input to further work at an extended network meeting in February 2010. In this network meeting, I was the one who presented the impressions from the interviews and engaged the network participants in a conversation about the meaning and further use of it. In addition, interview supplements include relevant viewpoints expressed by the company representatives and noted by me during my attendance at network and workgroup meetings.

When I first participated in the project (December 2007), I was occupied both in trying to understand and orient myself in the setting and contributing to the network, and less focused on "collecting data" (writing down what was said and done). However, this changed over time as I gained both more theoretical and practical insight and was able to contribute further toward facilitation of the network. Before the network meeting there has normally been held a meeting within the research group in the project, where planning of the meeting and burning issues has been discussed. In these meetings no representatives from the network were present (neither have they been invited). From January 2009 onward, I have been writing the minutes from network meetings, the researchers' team meetings, and any workgroup meeting I attended. While this responsibility for recording the minutes sharpened my attention, there have been times when I was too preoccupied with keeping up with the progress of the meeting. There have been meetings where this has made it difficult to simultaneously contribute in the meeting and reflect upon what was happening; preventing me from writing down my instant thoughts in a personal log. Subsequently, in the next meeting I have been more alert, and managed to do this, but then I sometimes found myself missing out on what happened in real time in the meeting. In addition, I gradually also participated more actively in the meetings, contributing to the subject matter and the managing of the meetings. Finally, I started to write down both observations and personal reflections in the same document, leaving the separation processes to an activity to be dealt with afterward. Still, it is a challenge

to be deeply engaged in all of these activities simultaneously. However, the collective reflections we have had in the researchers' team just after some of these meetings have really been helpful in order to fill in some of the "holes" in the reflection process. This doesn't solve the problem of keeping track of all the "here-and-now" reflections which tends to "evaporate" quickly from my mind. I will leave this here, just mentioning it as an interesting challenge for the action researcher adding it to the list discussed earlier in this chapter.

8.5 Procedures for data analysis

To sum up, this dissertation builds on a longitudinal case study where qualitative research methodologies and an action research approach have been used. Further, the data generation and the analysis have been performed following a grounded theory approach.

The focal point of the analysis in the thesis has been how participation in a network influence organization development processes. The analysis has emerged following the progress in the project. This means that the initial generated data have been analyzed due to the assumptions I had at that particular point in time. The data have supplied me with new questions, which I have sought answers to both in literature and through acting in the field. Asking questions, collecting data, doing analysis and interpret, getting new questions and so on has been an ongoing process throughout the whole project period (Charmaz, 2006; Strauss & Corbin, 1998). My methods also improved during this period, where I learned from my mistakes. For example, in the beginning I did not take extensive notes when attending meetings. However, when I experienced that the project manager produced no minutes from meetings, which meant that I had very little written material to help me remember what had occurred. The only written data I had turned out to be my own limited notes. This experience changed my strategy for taking notes, which became extensive from then on.

The data material from experiences, conversations, observations, and interviews has all been integrated in the analytical process. To keep track of, to sort and to analyze the data, I used a computer program for qualitative data analysis called QSR NVivo 8. As a starting point, the results from the 2008 data generation (including digitally voice recorded interviews and transcribes of these) were used to make initial categories (codes) of central concepts as a roadmap for what to look for in the data. I utilized a grounded theory approach, where I

started with data and allowed it to "speak" and form the basis for the results of the research project. Charmaz (2006, p. 70) states that coding is part work but also part play, where the ideas obtained from the data can be played with and where we get in an involved process and learn from the data. The result of the initial analyses has been objects to focused coding, where the most useful initial codes has been selected and used to single out areas for further exploration and data gathering (Charmaz, 2006, p. 42). This has formed a continuous cyclic process throughout the project period. Relevant theory and literature has been used to understand the data material in a broader perspective. This also made me more able to look for deviating data and new categories that either supplemented or broadened the initial categories. All along, the analysis has been intimately tied up with and informed by the action research fieldwork experience. The result of the analysis has been tested in communication with the participating companies and the researchers' team group. This approach, where the data generation, the data analysis and theorizing form a repeated cycle can be categorized as combining an action research approach with a grounded theory analysis approach. Because just as grounded theory leads us back to the world for a further look and deeper reflection—again and again (Charmaz, 2006, p. 149)—so does action research (Greenwood & Levin, c2007).

Every situation contains more possibilities than those that are acted on. In a network, the company's outcome will depend on the intersection of environmental conditions, the group of people, a variety of historical events, including the actions of the participants (Greenwood & Levin, c2007, p. 69). Working with the different companies in the network, I had the possibility to look for and try to understand the contextual factors in the different cases and how they have affected the outcome the company have got from the network attendance. Although I can't claim that the analysis has been a tidy continuous writing activity, the results from meetings and interviews have been "processed" and discussed within the researchers' team after the incidents, and used in subsequent work with the network. In addition, many of the obligatory reflection papers and the weekly seminar assignments in EDWOR II effectively functioned as memo writing, as these have been closely connected to my research and the research process. I have also used mindmaps to clarify my thinking about what was known and unknown at different stages throughout the process. However, I did not collect the mindmaps and the EDWOR-related documents in the database, nor have I created mindmaps in the structured way advised by Charmaz (2006). These activities pushed my work forward regardless.

When it comes to the actual grounded theory analysis process and the initial coding, I compared incident with incident through a comparative study of incidents (Charmaz, 2006, p. 53). I analyzed the similarities and differences between the companies, and the findings were discussed in relation to the theory. This initial coding, which was applied to the first set of interviews, led me to my first conceptual framework, where reasons for joining the network, organization of the participation, concrete results, diffusion of network learning back in own organization and obstacles became central. The theoretical sampling was complete by the second and third round of interviews and in the following network meeting. This had the purpose of elaborating and refining the categories. Just after the second and third set of interviews I decided to test out a conceptualization of network participation as a dual OD process (see Chapter 7). The model evolved in February 2010 as a result of the abductive process between reading theory and acting in the field, but the main catalyst for this change was work related to an internal reorganization process at my own workplace. Related to this internal process I wrote up the theoretical framework for the internal reorganization, and then found that the theories of organization development would be interesting to test against my engagement in the network project. I then did a focused coding based on both the initial coding and the central elements of an organization development process, streaming the data through the central elements of my conceptual model at the time. As such, I returned and made a fresh coding, which is in line with the flexible process in grounded theory (Charmaz, 2006, p. 71). The outcome of this is shown in the analysis, and this eventually led to a refined model that is based on my main findings.

Case comparison

In Yin's view (1981), analytic techniques for case studies generally have been ignored and underdeveloped. For singe explanatory case studies, constructing and testing an explanation must be seen as the primary objective. He compares this analytic approach to the craft of detective work, which overlaps with the initial coding in the grounded theory analysis method. In a crosscase analysis, the ensuing case survey can take advantage of statistical techniques because of the large number of cases relative to the factors of interest. If this can't be used, as in my study, it is possible to use a case comparison method, where the entire explanation from each case is taken and compared with the explanation from another case. To the extent that the explanations are similar, the basis for a more general explanation can be established. Stake (2000) claims that the researcher decides what the case's own story is, or at

least what will be included in the report. The researcher ultimately decides the criteria for representation. Stake emphasizes that while it is not possible to avoid using comparison with a case, it actually competes with learning about and from a particular case. "*With concentration on the bases for comparison, uniqueness and complexity will be glossed over*" (Stake, 2000, p. 444). This differs from Yin's approach, which sees comparison as a method for analyzing the case. Stake also says that conclusions about the differences between any two cases are less to be trusted than conclusion about one. Despite this, he acknowledges that comparisons can provide valuable and trustworthy knowledge when used to illustrate how a phenomenon occurs in the circumstances of several exemplars. In my study, the different companies in the network were compared against each other—thus, following Stake's arguments, I have glossed over uniqueness and complexity. Of course, there will be several reasons for a company to act differently than another company in the same context. However, in my view the uniqueness and complexity can be used to supply a thicker description (and a broader learning from the study) *in addition to* Yin's more-argued general explanation.

8.6 Quality of the study

8.6.1 Introduction

Action research has been criticized for not producing scientific results that contribute to theory building in the social sciences (e.g. Sørensen & Hackman, 1992). Some of the criticisms claim that action research studies are merely storytelling, and lack critical scientific evaluation. Since my study is based on action research, I therefore find it relevant and necessary to meet this critique with a thorough review of the quality of my study. That said, the quality of a study could be evaluated in many different ways. In their book *The Action Research Dissertation: A Guide for Students and Faculty*, Herr and Anderson (c2005) reviewed different authors' suggestions for quality criteria in action research studies. Their review reveals that there are many different voices to listen to when it comes to what should or could be applied. However, they state that most traditions of action research agree on the following goals (their suggestions for related quality/validity criteria are presented in the brackets):

1. Generation of new knowledge (dialogic and process validity),
2. Achievement of action-oriented outcomes (outcome validity),

3. Education of both researchers and participants (catalytic validity),
4. Results that are relevant to the local setting (democratic validity), and
5. A sound and appropriate research methodology (process validity).

It is not difficult to claim the fulfillment of the first four of these goals for my research study. To evaluate the study against the criteria of *a sound and appropriate research methodology* is more challenging. Herr and Anderson link this to their own suggested process validity criteria, by which they mean to ask to what extent problems are framed and solved in a manner that permits ongoing learning of the individual or system. The evidence criterion of triangulation (including multiple perspectives or a variety of methods) is suggested to be "borrowed" from naturalistic inquiry to evaluate this. Process validity is also closely linked to their proposed *outcome validity* criterion that they again link to Greenwood and Levin's (c2007) *workability* criterion. This led me to review the quality criteria, which were proposed by Lincoln and Guba (c1985) and Guba and Lincoln (c1989) for naturalistic inquiry and the workability criterion proposed by Greenwood and Levin (c2007). I found that both Guba and Lincoln's (c1989) trustworthiness and authenticity criteria and Greenwood and Levin's (c2007) workability criterion structured and challenged my own reflections in a thorough way. Herr and Anderson (c2005, p. 61) also state that Guba and Lincoln's quality criteria are often *used* also to evaluate action research studies, even though they also state that these judgment criteria *should not be used* for action research. It is not a main part of my thesis to contribute to the debate about which quality criteria an action research study should be judged by. Herr and Anderson (c2005, p. 57) have thus also cited Connelly and Clandinin (1990, p. 7):

> *"We think a variety of criteria, some appropriate to some circumstances and some to others, will eventually be the agreed-upon norm. It is currently the case that each inquirer must search for and defend the criteria that best apply to his or her work."*

Based on the above reasoning I therefore decided upon to evaluate my own study according to the trustworthiness criteria, which are parallel to the positivistic-oriented validity and reliability, the authenticity criteria that are constructivistic-oriented, and workability, a pragmatic-oriented criterion. Using these three sets of quality criteria is my way to build a rigorous and transparent reasoning for my study and to meet the critique towards quality of action research studies. In the following section, I will explain these criteria and evaluate and defend my own study according to them.

8.6.2 Quality assessment

Lincoln and Guba developed in 1985 techniques or activities to assess the quality of a study. These are parallel criteria to the positivistic-oriented criteria used by conventional paradigms. Guba and Lincoln call these trustworthiness criteria (or parallel, or quasi-foundational criteria), which are based on a constructivist ontology and epistemology. These rigor criteria contrasted against conventional criteria are listed in Table 2. Within a constructivist view realities are assumed to exist only in mentally constructed forms. Then to look for isomorphism makes no sense, which is the intent of the internal validity criterion. Likewise generalizations makes little meaning in a constructivist perspective since "realities" *"…exist in different forms in different minds, depending on different encountered circumstances and history, based on different experiences, interpreted within different value systems"* (Guba & Lincoln, c1989, p. 236). The reliability criterion assumes that the phenomena don't change, and several readings should give the same assessment. This criterion is useless if the phenomenon is changing, and especially when change is central to the growth and refinement of constructions. Instead the trustworthiness criteria of credibility, transferability, dependability, and confirmability are used.

Constructivist ontology and epistemology	Positivist ontology and epistemology
Credibility: isomorphism between constructed realities of respondents/stakeholders and the reconstructions attributed to them. The techniques are: • Prolonged engagement • Persistent observation • Peer debriefing • Negative case analyses • Progressive subjectivity (inquirer records a priori and developing construction) • Member checks (single most crucial technique)	**Internal validity**: the degree of isomorphism between a study's findings and the "real" world
Transferability: relative and depends entirely on the degree to which salient conditions overlap or match, technique: Thick descriptions "*…provide as complete a data base as humanly possible in order to facilitate transferability judgments on the part of others who may wish to apply the study to their own situation (or situations in which they have an interest)*" (p. 242)	**External validity**: embodies the very essence of generalizability
Dependability: methodological changes and shifts in constructions are expected products and hallmarks of a maturing, successful inquiry. Need to be both tracked and trackable. It is a process judgment.	**Reliability**: assessment of stability of phenomena and instruments)
Confirmability: integrity of the findings is rooted in the data themselves, so that they can be tracked to their sources and the logic in interpretations can be followed.	**Objectivity**: subject/object dualism is possible

Table 2 Quality assessment criteria
Table extracted by S. Rubach from Guba and Lincoln (c1989, p. 233-251)

However, all these are *methodological criteria*, which are viewed as the most important in the positivist paradigm. In 1989 Guba and Lincoln then added outcome, product, and negotiation criteria, which they claimed were equally important judgment criteria in order to judge if the *intent* of the inquiry effort was achieved. This is to move from whether the outcomes are credible (truth), to whether the outcomes are desirable (Heron, 1996, p. 161). Guba and Lincoln named these additional criteria authenticity criteria. These criteria are:

Fairness:	To which extent different constructions and their value structures are solicited and honored?
Ontological authenticity:	Has the individual learned something, improved, matured, expanded, elaborated, possesses more information and have become more sophisticated in its use?
Educative authenticity:	Are individuals' understanding of and appreciation for knowledge held by others enhanced?
Catalytic authenticity:	Is action stimulated or facilitated by the process?
Tactical authenticity:	To what degree are stakeholders and participants empowered to act?

These criteria are to be conducted via a hermeneutic, dialectic process. To have a qualitative, action research based case study calls for data validation based on procedures that rely on the

participants, the researcher, or the reader (Charmaz, 2006; Creswell & Plano Clark, c2007, p. 29). This could include member checking, peer auditor or external auditor, or that the participants review the findings. As such, to judge the study also by the authenticity criteria seems a reasonable way to go ahead. I will thus in the following address the trustworthiness to judge my *research process* and authenticity and workability of judge the goodness of *the outcome of the research*.

8.6.3 Trustworthiness

As already mentioned, a study's trustworthiness is judged by the criteria of credibility, transferability, dependability, and conformability.

Credibility

The technique of *prolonged engagement* means to spend sufficient time in the field to understand the culture, social setting and generate sufficient understanding of the phenomenon of interest. This includes being able to develop relationships, rapport and trust with the locals, which again will help in the cogeneration of understanding of the phenomenon. Since my projects have been based on an action research approach, I have as a natural part of the project taken part in most of the activities over a period of almost three years (the only exclusions have been a few events of personal sick leave). In addition comes several rounds of interviews, which brought me in even closer contact with different people in the network. Also, during these sessions at least some of my data distortions decreased during dialogues with various participants.

Persistent observation is used to add depth to the scope that prolonged engagement affords. The way I have engaged in both the main network and the workgroups and the focus area of these has given me the possibility to single out the most relevant characteristics and elements in the situation. Of course, the relevance of my sorting process has been checked by the participants through the feedback sessions (network meetings) and by relevant peers.

Peer debriefing has thus been one technique that has been used to check my own assumed relevancy. This process, where a disinterested peer posts questions and engages in a discussion about the findings, conclusion and tentative analyses, has been a natural part of my study due to the regular discussions with my advisors and also the research community,

both within the research project and Østfold Research. This includes reviews and discussions in regular meetings in the researchers' team, where discussions about the projects and possible problems have been the main focus. Actually, the entire PhD/EDWOR II period has consisted of cycles of drafting and revising, seeking comments from supervisors and research colleagues, reflecting, understanding how what I have written fits into the whole, and then formulating conclusions—which again introduced a new cycle (Zuber-Skerritt & Perry, 2002). My written material has been thoroughly reviewed and commented by the EDWOR II staff throughout the entire PhD cycle, which has guided me in the theory building process even though it has not been included in the final version of the thesis.

Member checks are another technique to test the relevance of one owns interpretations. This is stated to be the single most crucial technique for establishing credibility by Guba and Lincoln (c1989). During the duration of the project, the members of the network have been actively engaged in the interpretation of the processed material. The processed interview material has been returned to the companies, reviewed, discussed, and used in the further work in the network. Also the network participants have been given the opportunity to read and comment on the final version of this dissertation.

Negative case analyses means to continuously test the emerging understanding against new data. This is an important part of both action research and grounded theory methodology, and this is therefore a natural part of my study.

Progressive subjectivity includes the process of monitoring the researcher's own developing understanding of the phenomenon. It is a check on the degree of privilege, meaning that the researcher's own interpretations should not be privileged above those of the insiders. In this process a debriefer should be used, overlapping the peer debriefing discussed above. The debriefer should also check if the researcher has ended up with his a priori thoughts about the conclusions. In my study, presentation and discussion of choices made about what to present, what data material to use, and the analyses, have been performed as an ongoing activities throughout the project period in the researcher' team. This has been done with my advisors, and with the participating companies through dialogue, meetings and presentations. As such, my thinking and reasoning has constantly been challenged, making it impossible to retain those interpretations that did not have empirical support.

To summarize, to write out this dissertation has been a social process, where I have drawn upon my advisors, colleagues, and the network project participants for feedback. I have brought many drafted ideas to my research colleagues and received a lot of constructive critique, even reframing my central points at that time—all of which contributed to further learning about my research problem. In this way I presented my own interferences, attributions, opinions and viewpoints as open to testing and critique (Heron, 1996). Based on this, I claim that the credibility criterion of my study has been fulfilled.

Transferability

I cannot specify the external validity of my study, but I can provide a thick description of the time and the context of my study, making it possible for someone interested in making a transfer to judge if this is possible (Lincoln & Guba, c1985, p. 316). Action research developed knowledge (as my findings) can be valuable in other contexts, but not by abstract generalizations. Greenwood and Levin (c2007) claim that one must first understand the original inquiry, then judge the new, and perform a critical assessment in linking them. Thus, to search the literature and known cases for other approaches that create similar outcomes are an important part of building credible knowledge in a project (Greenwood & Levin, 2007, p. 100). In order to fulfill this, I claim to have provided rich descriptions of my research, especially through the presentation of the context of the research (Chapter 2), the empirical data presented in the case stories (Chapter 9), and the analysis (Chapters 10 and 11). As I have looked in the literature for ways to interpret my research problem and context, others will perhaps search this dissertation for clues related to their own problem. When writing and reading this thesis, both the reader and I (as researcher and author) bring our conceptual structures, and subsequent meanings aggregate or attenuate. Here Stake (2000) points out that a case faces hazardous passage from writing to reading. The transferability rests as such in the resonance and relevance other readers finds related to my study.

Dependability

The criterion of dependability is the judgment of the research process and is concerned with the stability of the data over time. Lincoln and Guba (c1985, p. 316) state that there can be no credibility without dependability, and a demonstration of the former is sufficient to establish the latter. Since I have demonstrated the credibility of my study, this should be sufficient to claim that my study also fulfill the dependability criterion. I will nevertheless evaluate this

criterion separately. As action research projects are *"… long-term, complex processes built by patient steps in a process of cogenerative knowledge construction and developing mutual awareness, and they also depend on many events in the local context over which stakeholders have little control"* (Greenwood & Levin, c2007, p. 113), it would be impossible to replicate the research process and keep the data "stable" over time. Shift in hypothesis comes as a natural consequence of the action research theory building process. Such shifts could be thought to expose the study to unreliability; however, methodological changes and shifts are hallmarks of a maturing, and successful, inquiry (Guba & Lincoln, c1989, p. 242). I haven't gone through an external audit, nor would it have been possible in a project like this, where the development of the network has been a trustbased activity. As such, changes and shifts in my study could be difficult to track. The project has "*developed and changed over time, the reflection processes involved have followed, to different degrees, the unique patterns of the emerging project*" (Greenwood & Levin, c2007, p. 35). However, the changes and shifts have all along been presented to and discussed with my advisors, and been visible to the participants in the project through my acting in the field. My bookkeeping system (see Appendix A for an example) can be used to confirm the activities that led to development and theory building in this study. In addition, the theoretical journey and the shift in this are laid out in the literature chapter (Chapters 3-7) and have additionally been documented through written material handed in to the staff in EDWOR II.

Conformability

Conformability relates to the process of assuring that the data, interpretations and outcomes are rooted in the generated data and "*are not simply figments of the evaluator's imagination"* (Guba & Lincoln, c1989, p. 243). Lincoln and Guba (c1985) suggest a conformability audit performed by an inquiry auditor, which includes an examination of the product (the data, findings, interpretations, and recommendations). This is an attestation of the conclusion, saying that it is supported by data and that it is internally coherent.

My study has not been audited as suggested by Lincoln and Guba (c1985). However, my study has, over a period of almost three years, been based on a cyclic process of collecting data and discussing it with participants in the network and with advisors and colleagues. Also, the consecutive results of my study have been presented in network meetings. Here the participants were engaged in interpreting what the results meant and how it could be used. The people who have been interviewed also received the final version of this dissertation for

review (which is also required by the Norwegian Social Science Data Services). In addition, excerpts of my data are shown in the analysis chapter, both as citations and summaries of what people have communicated. As such, these are examples of grounded data that was used to build my theory. The logic of using the specific chunks of data has been rooted in the evaluation of seeing participation in network as an organization development process, guided by the cogenerative learning model. However, this logic was not applied to the study before February 2010, when I had developed the theoretical and empirical insight of conceptualizing network participation as organization development. As such, this last phase of theorizing has not been specifically discussed with the participants in the network (but as already mentioned, they have received the final version of this dissertation and been given the possibility to comment on it), —only with my advisors. However, I have tried to link my research question, analysis, discussion, and conclusion in a clear and consistent way to demonstrate the theory building process and the conformability of my study. As for transferability, it rests on the reader to judge if my findings are sufficiently conformable.

Summary of the evaluation of trustworthiness

Given the evaluation of credibility, transferability, dependability, and conformability above, I will claim that my study is sufficiently trustworthy.

8.6.4 Authenticity

Guba and Lincoln's (c1989) authenticity criteria are highly applicable to my study as it is based on action research, since this is a judgment of the goodness of the outcome of the research. This relates both to the internal credibility and workability in action research proposed by Greenwood and Lewin (c2007), and also the criteria proposed by Herr and Anderson (c2005) listed in Section 8.6.

Fairness

This criterion refers to which extent different constructions and their value structures are solicited and honored. Guba and Lincoln (c1989) address two techniques for achieving fairness. The first involves stakeholder identification and the solicitation of within-group constructions (Guba & Lincoln, c1989, p. 246). The research project has been based on participation in planning, acting, observation and reflecting, and the use of the cogenerative

learning model. To search for the common problems for the groups to solve has been the basis for the project. Also the feedback processes of the results from interviews and conversations with the involved actors have contributed to taking care of these concerns. The second part of this criterion is the open negotiation of recommendations and of the agenda for subsequently action. The agenda for action has been steered by the participants in the network, and I will claim that it would not have been possible to carry out the project without the fulfillment of this criterion. The fairness of my interpretation of the project have been evaluated by those involved, since all of them have received my dissertation for comment and review, and as such been able to address whether or not my last interpretations overlap with their own.

Ontological authenticity

This criterion includes evaluating if the individual has learned something, improved, matured, expanded, elaborated, possesses more information, and has become more sophisticated in its use. This includes testimony of selected respondents and entries of individual constructions (including the evaluator) recorded at different points in the evaluation process (Guba & Lincoln, c1989, p. 248). Since the participants' outcome has been of major concern in the project and in my research, the rounds of interviews and the data from the network meetings can be used as a record of the learning process in the network. The data analysis is as such a testimony of different actors' perception of the project at different points in time. Based on the learning in the network and in the workgroups some of the companies have actually changed their practice related to the issue in focus. My own reflections and learning trajectory have been documented by the previously mentioned submitted material to my advisors and EDWOR II. In addition, I have numerous versions of the different parts of this dissertation documenting my "*progressive subjectivity*" (Guba & Lincoln, c1989, p. 248).

Educative authenticity

The educative authenticity represents to which extent individuals understanding of and appreciation for knowledge held by others are enhanced. Also this includes testimony of selected respondents and entries of individual constructions recorded at different points in the evaluation process (Guba & Lincoln, c1989). This criterion overlaps with Herr and Anderson's catalytic validity, which is evaluated by the degree of the participants and researchers reorientation, focus, and energy towards changing the social reality. As I see it, the cogeneration of new knowledge, which lies in the very center of action research, is not possible without the fulfillment of this criterion. The core of the project in this study has been

interorganizational collaboration. One of the main goals for the participants has thus been to learn to know other individuals and organizations in the project, to enhance the possibilities for interorganizational solutions to pertinent problems. The new solutions developed in situations that included handling of apprentices, risk analysis, and industrial safety are testimonies to the increased understanding and appreciation of each other's situations and knowledge. Together they have found new, better solutions. The main network arena has also been a meeting place for people from different parts (both vertical and horizontal) of the companies, where both the reporting from different groups and the reflection processes at least prepared for increased understanding of each other's work internally. The data generated by the researchers' participation in the workgroups and interviews also revealed an increased understanding, both within and between the participating companies, of the tasks one has focused on. Evidence of this is found in the analysis chapters (Chapters 9-11), for instance related to the different decision processes, and implementation and use of Dash maintenance system in the different companies.

Catalytic authenticity

The intention of this criterion is to evaluate if action has been stimulated or facilitated by the process. I find this criterion parallel to Greenwood and Levin's (c2007) workability criterion and Herr and Anderson's (c2005) outcome validity. If no action occurred, the process has been aborted after the problem definition (planning) stage. Just as interorganizational collaboration has been the basis for this project, so has action. Evidence that the network functioned shows in the activities that occurred in the workgroups. The actions taken by the researchers and the activities in the network are thoroughly described in both the context and analysis chapters. Probably the most important intervention was taken when the network initiative was incorporated into the regional VRI project (which included financing of the researchers' work in the project). Then the overall project manager in the regional VRI project demanded that broad participation was put into practice, which meant that the union representatives had to be informed and included in the further work. Since then, the project has undertaken several cycles of planning, actions, and reflections as documented in the analysis.

Tactical authenticity

This criterion refers to what degree stakeholders and participants have been empowered to act. In my view, this criterion overlaps with Herr and Anderson's (c2005) democratic validity.

This includes more than the inclusion of multiple voices for triangulation purposes, namely as an ethical and social justice issue (Herr & Anderson, c2005, p. 56). Related to this, action research involves simultaneously the cogeneration of new information and analysis together with actions aimed at transforming the situation in democratic directions (Greenwood & Levin, c2007, p. 51). As mentioned under the evaluation of the catalytic authenticity criterion, the involvement of union representatives and skilled workers in the workgroups all contributed to the development of the network and the workgroups and how these processes have been played out in a participatory way. It has been important for the development of the workgroups that those with relevant expertise and responsibility for the tasks have been involved. As discussed in the analysis, the company representatives have been given the opportunity to participate in the network activities and the workgroups, but their new gained knowledge and learning have not necessarily led to any changes back in their own organization. As such, they have been empowered in the project, but this has not necessarily led to empowerment back in their own organization. However, their own evaluation of the network and the workgroups as an important arena and the plans for increasing the network and its focus areas may be viewed as empowering the organizations and their involved actors.

Summary of authenticity

Given the above evaluation of fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity, I will claim that authenticity is sufficiently achieved for my study.

8.6.5 Workability

While I find Greenwood and Levin's workability criterion parallel to Guba and Lincoln's catalytic authenticity criterion, a more thorough assessment of the workability aspect of my study is needed. This is a central aim of any action research project, particularly from the point of view of the local stakeholders. Did we reach a successful solution to the problem at stake or not? Success could be evaluated differently in the different stages of the process. We did manage to first establish a network and then establish several useful workgroups. However, how the process was handled both by the participating companies and the researchers in subsequent phases can be questioned. This includes lack of actions taken, for instance unsystematic facilitation and followup. One company produced more workable

solutions in their own organization compared to the others. At the time of this writing, the enabling conditions found in this company have not been played back to the other participating companies. However, many of these conditions have been discussed as important factors in the network meetings, and could as such have been picked up by the members. I will claim that the workability from the point of view of the local stakeholders have been variable (from strong to weak), both related to the different stakeholders and also over time. This is more extensively discussed in the analysis, where the questions of which outcomes the companies have experienced are addressed.

Greenwood and Levin (c2007, p. 100) point to the importance of subjecting the workable outcomes to a variety of counterfactual analyses, to searching the literature and known cases for other approaches that creates similar outcomes in order to move from workability to credible knowledge. In the concluding chapter I have attempted to mirror my study and my conceptualization of it against some other studies with similar, but somehow different approaches. It could be claimed that these comparisons were transcontextuality analyses. I have already claimed the credibility of my study based on Guba and Lincoln's definition of this criterion. However, these comparisons strengthen my claim of my study as credible.

8.7 Conclusion

In this chapter I have accounted for and reflected upon the methodologies used to study participation in a network, and how I analyzed the empirical material. I performed a longitudinal action research case study, using a grounded theory approach and qualitative data generation methods. The quality of my study has been reviewed related to Guba and Lincoln's trustworthiness and authenticity criteria, and the workability criterion for an action research study. A brief summary of the quality assessment follows.

Trustworthiness

By using the techniques of prolonged engagement, persistent observation, peer debriefing, negative case analysis, progressive subjectivity, and member checks, I claim that my study fulfills the *credibility* criterion. By providing extensive rich descriptions of the context of my research, I claim that I have made it possible for readers to judge the *transferability* of my findings to their own settings. I have not gone through an external audit to validate my study's

dependability, but as argued in the review, I don't consider this as fruitful a way to handle this criterion related to an action research study. However, since dependability is a prerequisite for credibility, and I have demonstrated the latter and additionally provided records of changes and shifts in my study, I claim that my findings may be regarded as dependable. My study has not been audited as suggested by Lincoln and Guba (c1985) to prove its *conformability*. However, by following an action research approach in my data generation and analysis, using extensive member checking, discussing issues with my advisors, and displaying grounded data in this dissertation, I claim that my study most likely is confirmable. It rests on the reader to finally judge this. Based on the performed review, I conclude that my study is sufficiently trustworthy.

Authenticity

As this research project has been based on an action research approach where the cogenerative learning model has been applied, different constructions and their value structures have been solicited and honored. My main focus has been to conceptualize network participation as a learning process. I claim that this study fulfills the *fairness* and *ontological authenticity* criteria. The core of the project has been interorganizational collaboration, where new ways of organizing work tasks have been developed, which fulfills *educative authenticity*. Work actions in both the network and the workgroups have also been the backbone of the project. As such, *catalytic authenticity* has been covered in this project. Based on the involvement of union representatives and skilled workers, and their autonomous running of the workgroups, I claim that *tactical authenticity* has partly been covered. However, it could be questioned if the project has led to local empowerment within each company. Based on the performed review, I conclude that the authenticity criteria are sufficiently fulfilled in my study.

Workability

I claim that the *workability* of the research project from the point of view of the local stakeholders have been variable (from strong to weak), both related to the different stakeholders and also over time. My findings converge with other similar studies, but they are also supplementary to these (please see Chapter 12), which leads me to claim that my findings are credible.

*Whatever **BIG** that happened in the world,*
it happened first in someone's fantasy.
Astrid Lindgren

Part III Analysis and discussion

This part includes testing and evaluating the conceptualization model (presented in Chapter 7) against the empirical data. The developed theoretical model is shown as a visual reminder in Figure 18.

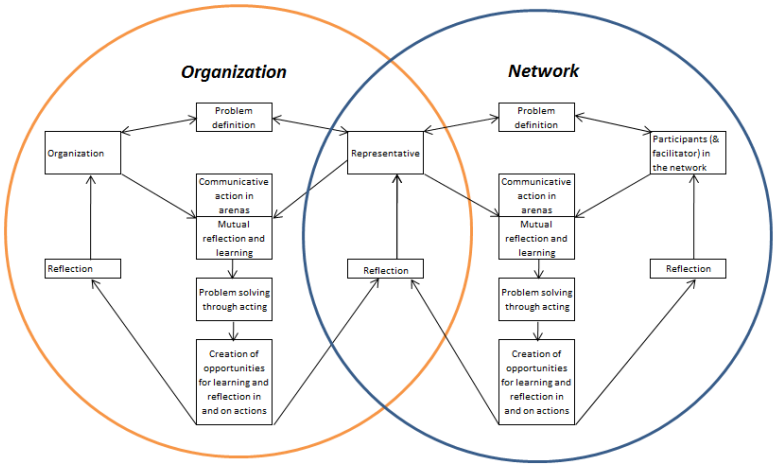

Figure 18 A dual OD process

In this model, participation in a network is understood as a process of activities internally in the participating companies (intraorganizational), externally in the network (interorganizational) and the linking between these processes of activities (the bridge). The three different parts and related research questions of this model will give input to answer the overall research question[22]. The overall research question will be answered in Chapter 12, where the main findings will be presented.

As explained in the methodology chapter (Chapter 8), I have chosen to look at each participating company in the Ewa company network as a separate case because they each represent a unique combination between an organization and the network. These four cases will be presented in Chapter 9. To ease the reading of Chapter 9, I provide an introductory

[22] *Why is it that for an individual company to benefit from network participation, there must be a link between both internal and interorganizational learning processes?*

section (Section 9.1) where the structure of the case stories are laid out and explained. The structure follows the important elements of an OD process (which are *initiation*, *start-up* and *continuous learning spiral*, see Section 6.4), with the research questions based on the conceptualization of network participation as a dual cogenerative learning process (see Section 7.5). A structure based on the elements of *initiation*, *start-up,* and *continuous learning spiral* also provides a possible way of introducing phases in the development of a network. These elements also frame the work processes in the participating organization and also reflect the longitudinal nature of my study. A cross-case empirical analysis will be provided in Chapter 10, where the findings from each company in the Ewa company network will be compared and the differences between them discussed. These cross-case analyses are structured in the same way as the case stories. Finally, I analyze and discuss the findings and evaluate network participation as a dual OD process. Chapter 11 is structured in three areas relating to the model: the organization (Section 11.1), the network itself (Section 11.2), and the bridge between the organization and the network (Section 11.3).

As accounted for in the methodology chapter (Chapter 8), I briefly repeat that I present some of the empirical material that emerged from the network project where I have been working as an action researcher from late 2007 until summer 2010. The project will run in the current format until the end of 2010. It is important to note that empirical data is more extensive from January 2009 onwards, as the researchers were only engaged in activities related to the main network arena up until this point in time. After January 2009, the researchers have also been actively engaged in the workgroups. The empirical material comes from different sources, including audiorecorded interviews, observational field notes, informal conversations, and minutes from network and workgroup meetings. Because my methodological approach is action research-based, I also present my own experiences, interventions, and reflections resulting from acting in the projects and in the research groups in VRI. I use quotations and excerpts from the interviews to illustrate selected individuals' thoughts and sensemaking. I have translated all quotations and excerpts from Norwegian to English. I used the masculine term *he* related to all the persons referenced in this dissertation to provide anonymity. This is especially important because there are very few female actors in the project; if treated otherwise, they would be easy to trace.

9 Case stories from the Ewa company network

This chapter provides the case stories of the Ewa company network and the four industrial companies that collaborated on issues related to different tasks. For a more detailed description of the context, see Chapter 2.

9.1 Introduction

In this introduction I will give a more thorough explanation of the thematic areas to which I sought answers through both my own activities in the projects and through the performed interviews. As presented in Chapter 7, in this thesis I have theoretically conceptualized participation in a network as a dual OD process, i.e. as a planned, facilitated change process (based on the cogenerative learning model (Klev &Levin, c2009). In this chapter I present the findings that will be used to test and evaluate my conceptualization. This will be done by presenting the manner in which four different companies used and handled their participation in the Ewa company network. These four different companies represent four cases presented one by one in Chapter 9. The structure of the content of these case presentations will here be accounted for. First I would like to repeat that the researchers' (including my own) interventions in the network from 2007-2010 did not include direct interventions in each participating company. Therefore, the analyses of internal arenas created in the companies due to network participation is based on what was told to me during network and workgroup meetings, at interviews, and from minutes that were written by others (however, most of the minutes were written by me). Also, researchers did not document workgroup activities until January 2009; after that point, a researcher usually participated in workgroup meetings.

The structure follows the three phases of an OD process, as presented and discussed in Section 6.4. Related to each company, I first sought an answer to **(1) the initiation phase** including the problem definition, or motivation, for establishing or joining the network (Levin, c2004, p. 76-77). The persons involved and the strategic and practical elements will be commented. I have (in retrospect, for the purpose of writing out these case descriptions) scheduled the initiation phase to be the timespan from 2007 until spring 2008. Next I call attention to **(2) the start-up phase,** which ran from spring 2008 to January 2009. The manner

in which companies organized network participation internally and externally are addressed, and how this has supported or not network participation as a long-term process to improve and learn. I will also address how they have used and what outcome they have experienced from using the network arenas (including the workgroups)—and how these processes were organized. As a third area of attention, **(3) the continuous learning spiral** phase occurred from January 2009 until summer 2010. Here I address whether or not concrete problem solution was reached and if this resulted in collective reflection processes where new insights and new problems were both revealed and played back to the network arena. This third phase is also seen in light of what occurred in the initiation and start-up phases. The long-term goal of any learning/development process is that it becomes self-sustainable, meaning becoming an integrated part of the daily life within the organization (Klev &Levin, c2009, p. 74; Levin, c2004, p. 75). I also address this issue in the third area.

9.1.1 Alpha

Introduction

The manager who is quoted in the following case description was one of the three managers from different companies who took part in the first initiative to establish a network. As mentioned in Chapter 2, this group of managers' original thought was to focus on activities which could promote productivity, and more specifically; maintenance of machinery and spare part administration. This first initiative stalled, but the Alpha manager was one of the persons who breathed new life into the idea in spring 2007 and he was the one who brought in the facilitator to help him in the realization of the idea.

Initiation

This manager at Alpha was the only person in his organization who was actively engaged in the initiation of the network and the meetings that took place during 2007. However, according to himself the top manager was informed about the initiative. At the meeting in December 2007 he had mobilized several relevant people from his organization, including the union representative, to participate in the further exploration of areas for collaboration. In a new network meeting in January 2008, which was held at their premises, three people from Alpha took on the job of being the group leader in the established workgroups. In this way they actively engaged in the workgroups kick-off, as those who were appointed group leaders

were responsible to call for the first meeting in the group. The main responsibility for the workgroups was now placed on the shoulders of the appointed representatives in the company. As such, the active engagement related to the network was now spread among several people, meaning that it was not only depending on the manager's actions.

In retrospect (November 2009), the manager explained the change in focus from establishing a collaboration based on maintenance to a broader one on various tasks: It was a result of the process relating to the changes in people involved from the first to the second attempt of establishing the network. However, for him the idea of cooperating was so tempting that he didn't want to throw away the idea, and he used the never-ending demand for increased efficiency and cost reduction in production as the main motivation for wanting to establish the network regardless. *"The only intention is to get better,"* he stated. He meant that to be able to cooperate across company borders on areas that are not subject to competition, is a good way to look for areas of improvement which perhaps is not that visible or achievable within each company. He expressed that when one cooperate with others one also get a good opportunity to benchmark your own company's performance, and he further stated:

> *"Benchmarking is a concept which has started to become worn-out, because it has existed in so many years, but it is a kind of benchmarking…companies in different business sectors can…if we try to organize ourselves, …then we can be helpful for each other. That was how we thought in the maintenance perspective we had [in the first initiative]."*

Based on the manager's work experience he explained that even though the companies in the network belong to different business sectors, the production, the challenges, the logistics, the way to organize and even the technical parts are much of the same. This is why he thought it would be fruitful to cooperate, and it has led to his vital belief that to establish a network together with "neighboring" companies (in the same geographical area) just *has* to be beneficial for the company.

> *"If you produce meat or pieces of steel, the process and the challenges are the same… That's why it is prepared for working closer together, and produce widely different things,"* he stated.

To summarize, the first part of the initiation phase was handled by the manager who had been involved in the first attempt to establish the network. At the first network meeting several people from his organization became involved, including the union representative. In the following process of establishing the workgroups, the representatives took a strong position in

the development of the initiative as they employed several of the group leader functions whereas the manager now stepped back.

Start-up

Towards the end of the first years of collaboration (2008), I interviewed the manager. The minutes from this meeting were produced by me and commented on by the manager, before the network facilitator distributed them to all network members. The minutes start like this: *Status was not systematically run through, as NN (the manager) did not have overview of the different groups. The conversation concentrated on status of the network on an overarching level.* Even though he didn't have detailed knowledge of what occurred in the workgroups, he expressed doubts about the strategy that followed when establishing the network. By spreading the area of collaboration on many tasks, not focusing on the maintenance of machinery which was the original idea, he meant that the network had lost focus and speed. Too many had gotten involved, and it became difficult to get something done because it had to fit into the calendars of too many people. He found it worrying that now the network facilitator had to push them in order to get things moving in the network. He meant that they had been too enthusiastic and he said about himself and the group of people who established the initiative:

> *"The reason behind so many workgroups is that…when we were 'young and progressive'—when our group was new, then we were very enthusiastic. Yes, but then we can cooperate about* ***this****—oh, yes, but* ***this*** *we definitely can cooperate about, and we all have trouble getting apprentices, it is not enough apprentices—yes, but then we can educate them—we just get hold of the apprentices and educate them together, and then we can fight over them afterwards. …We had* ***all*** *the best of intentions…and after we had taken down all the points [of cooperation]…then we had to start to working with this. Then one had the daily running [of the factory] to concentrate on, and this came on top of that—and then it was just too much…"*
>
> *"If you get too enthusiastic, then you actually use a shotgun…How should you, theoretically, ensure that you get all the good ideas, but when you are going to start working in practice…work with a few of them? And nevertheless manage to keep the interest to those who came up with all the other ideas, so that you don't lose those who didn't get their idea at first place priority? …My idea was certainly the best one? If you have an enthusiastic crowd, and I didn't come out on top, and I have to start working with something else?"*

What definitely had lost focus in the network was his main idea related to maintenance of machinery and spare part administration. For example, the issue of helping each other out when they had planned maintenance stops, not scheduling them at the same time and

subsequently exchange expertise between the factories—it had vanished and been replaced by other issues.

In the conversation, he raised several questions of how to organize network activities in such a way so it would be possible to cope with them at the same time of all the daily work tasks. He was worried about his employees and his possibility to engage in activities related to the network, stating:

> *"Our Achilles' heel, as things are now, is that most of us have enough with the daily work. We have enough just to make the production running. In order to make money you have to be avaricious with the manning. We have a relatively short focus, except when you put up the budgets; you have nearly from day-to-day focus… That's why you don't succeed to work with the network tasks."*

To contrast his reflection, Alpha was represented by five people in the next network meeting (out of eight company representatives in total). However, after December 2007 the manager mainly has participated in the network meetings and otherwise built his impression of the network on the contact he had internally with those who were involved in the workgroups. Contrary to the manager's impression, the workgroups where representatives from Alpha took part reported through minutes and in the network meetings during this year of interesting possible synergy effects and that they had started exploring using each other's competence. However, the organizing of the workgroup meetings and the work in these groups were now going on outside the manager's control.

In the conversation we talked about how a network functions, and he explained that it has to be based on a win-win situation established on trust. He also expressed his view on this kind of network as a fragile construction:

> *"Such networks are only built on trust. If… the first time you feel fooled then you don't bother to try again…this means that you only get that one shot. This means that such a network is fragile, very fragile. It takes a long time to build up and extremely short time to destroy. Because when you feel that you only are giving, then you immediately don't bother anymore. Because then you have more important things to do."*

The balance between give-and-receive[23] is a crucial issue mentioned by almost all companies, as will become evident in the other case stories, too. To pick up on the trust factor, one general outcome the manager told about (and which he has often referred to, both in later conversations, the network meetings, and in other meetings in the research project) is the help

[23] This is purposely not named *give-and-take*, which is the commonly used expression. Please see chapter 11.2.2 for a more thorough explanation.

they got from one of the other companies in the network. A thunderstorm caused a breakdown in the factory late on Saturday night in the summer of 2008, and a component was damaged. He called up the production manager at Beta (who was at his cabin) with whom he established contact with in the network. The production manager got hold of a person in his company who came and helped some people from Alpha to get access to their spare part storehouse to search for a replacement. Unfortunately Beta did not have this component, but, according to the manager, the story illustrated how the cooperation had started working. The manager's explanation for this was:

> *"The cooperation worked, because we knew and felt easy in our mind about each other; because we trusted each other and we wished each other well even though we are the most furious competitors."*

At the end of his storytelling he included a "relational" explanation to the motivation of establishing the network:

> *"To be able to call each other—what happened just then—that was the main intention behind the thought of cooperating."*

Earlier in the same interview he had stated that the risk assessment group had been successful, and that they intended to use the system and the group in a planned installation of a new machine in the factory. However, at the end of the conversation he expressed his worries about the lack of concrete results and evidences of that the cooperation is working, and once again addressing the establishing process which didn't turn out the way he wished for, stating:

> *"I think we were unfortunate since the three of us, who travel over to Hotel, got a small room there and sat there talking together for several hours, well…if the three of us had continued, then I think things would have become much straighter. Because we had clear, common views on what the needs were, and we established a very good relationship to each other, but since those two vanished because of different reasons they themselves didn't control, then we tried to establish the network once again in a more traditional way. …If we could have kept the initiative which the three of us had, then the restart would have been better than it turned out to be."*

However, he finished of saying:

> *"At the same time I must say that I, for the time being, believe in the network—if we manage to concentrate on fewer issues and get some results."*

It thus seemed like during this first year the manager became less involved in the network activities that Alpha took part in, and the representatives took over the role as the main carriers of this internally. At least related to the risk assessment group, Alpha had, according to the manager, achieved some progress. Also the relations to the other companies seemed to have got improved.

Continuous learning spiral

The number of workgroups were not reduced, but rather increased in the network meeting in January 2009. Alpha has since then participated in all of the six appointed workgroups, normally with one person. However, like the others companies, when the workgroup meeting has been on their premises normally more people from their own organization have attended.

In an interview I had with two of the representatives (who each was the representative in two groups, two other representatives did not attend) in January 2010, they evaluated the workgroups they had attended as useful and that they had got help in solving internal tasks. For instance, the representative in the industrial safety group states:

> *"[The group] functions well. We have had many meetings. We benefit from one another. I have got many, nice tips…we also have an intention—we can call each other if something happens, with crew and equipment and such. I feel we have started to know each other…and that we can do it. We have planned four meetings a year; one per quarter…We shall bring in different services [for instance fire brigade, medical and ambulance service and police] and talk about what they expect from us and what we expect from them. I feel that this group is going to function; if we manage to keep up with the meeting plan…then it will function very well. Everybody in that group is motivated to keep it working."*
>
> *"We have also agreed that if we have big industrial service training events, then we shall invite each other. So I am going to do more of that … probably two times more this year. Then we get input from them, …on how they see it functions [referencing to the training]. So I think this is going to function very well. So I have great faith in this group and its continuation and further existence."*

He also explained that the group thinks it will be easier for them to get the different services to attend a meeting when they are several companies acting together, increasing their striking power. He explained that this has previously been difficult, especially related to the police service.

The same person has also been their representative in the risk assessment group, and even though he explained that he is no longer the right person for this (something I will return to later in this description):

> *"I find that the group has functioned great. It is really a great crowd [of people] there. I have learned a lot. So it is definitely a useful group. I think the companies can derive something from it, eventually. It is Beta that has run the show in that group. It is he [their representative] who has the knowledge. Then he wants the rest of us to reach the same level as them...for them to be able to benefit from this, too. I think that there is something to be said for that group, definitely."*

Since he brought up the issue of learning, I asked him if he could give examples of what he had learned. He then mentioned the technical way to do such assessments, why it is important related to legislation and that he had picked up things he didn't know before (mentioning that it had been part of his education). However, it is not only solving practical tasks which representatives focused on. When walking to the car parking after a meeting in the risk assessment group, I asked this company's representative about his outcome of the risk assessment we just had performed (related to machinery at another company) and the meeting in total. He told me that the assessment in itself wasn't that interesting (at this point in time the group had performed several assessments of different equipment alternating between the factories in the group), but the real interesting part was all the other things they were discussing. Since I had participated in the meeting I knew that they had discussed several issues, for instance handling of employees who are not following the security rules, actual situations when accidents have occurred and their experience with the labor inspection authority.

The representative in the Dash group explained that this group has only had one meeting (which I attended). The intention was to evaluate the possibility for establishing a common system for spare parts, in the purpose of being able to help each other when needed. This stranded as the process was categorized as very demanding. Each company has built up their systems differently subsequently requiring a lot of work harmonizing them. However, because of this meeting Delta, that consider introducing this system in their factory, visited the company once to see how the system is built up and used by them.

In November 2009, when the next interview was performed with the manager, he had just got a new position internally and therefore he was no longer the boss of the people engaged in the network and could not, as he said, "steer" their work day. However, turning this upside down, up until that point in time in his interpretation he could have. He points to that he had not wanted to interfere too much, that the people who had got the task (i.e. appointed as the company's representatives in the workgroups) must handle it themselves and take responsibility related to the task. He told that these representatives sometimes have approach him asking whether or not they should attend the meeting they had been called for, indicating that they looked at him as internally "in charge" of network participation. Then, when it came

to spreading the results and learning from the network and workgroups, the manager at Alpha characterizes the quality of this as:

> "*Way too bad, way too bad. It is no doubt that it is we, the small number of people, who are engaged in the work who talk about it.*"

He expressed that only those who are especially interested are involved (referencing to all of the companies), and he evaluated this as too fragile. And, he stated, the network could too easily fall apart when it is like this. However, he didn't reflect upon any connection between his lack of interference and the lack of internal use of the network. Another question is why the representatives articulated the lack of his/her own motivation to their manager. My experience from the network and workgroups' arenas related to his colleagues is that they are very engaged and eager to contribute to the benefit of the task. One explanation could be what the manager called the network's scourge, and as illustration he used a saying which he thinks is a cliché: *You are not supposed to run faster, just work smarter*. As in the interview one year earlier he explicitly stated that to collaborate in a network is smart and told that many of his employees thinks the same, the problem is that people have more than enough to do, and the network gets the lowest priority.

> *"I have people here with me who think this is smart, but who say that they don't have time for it …not the opportunity. My day is packed."*

This is what he explained as the disadvantage of the industry; they are much too occupied with the imminent activities. Even though a manager should be occupied with long-term planning, the short-term activities get priority. As he saw it, a network like this is based on long-term activities and visions. As of that current point in time, in his view this did not coincide with how the companies actually were handling the network participation. He stated:

> *"I do a lot of operational work. On one side I do things related to the long lines—reporting and so on which is expected from a person with the title director. On the other side I do operational work most of the day. It is the operational work that gets priority. The telephone call I get … the machine which has stopped… the decisions that have to be taken there and then. It has nothing to do with the long lines… In network cooperation, this is exactly the method! It is a matter of being long-term—to get everybody to see the same goal."*

He told that he still carries the dream of establishing something related to maintenance service. He also missed the internal engagement from the top manager in the company related to the network, which in his mind would have increased their possible outcome. Even though this top management engagement has been lacking, it is a fact that the company has participated in most of the network meetings and in the workgroups meetings since the very

beginning. When it came to the results from the network cooperation the manager stated that in the industry the expectations are high when launching a project. The most common reaction is the disappointment of not reaching everything that was set up in advance. One has to defend why one only reached 80% of the planned goals, with no reflection about the realism of the 100% goal. In retrospect, I am uncertain if he related this to other projects in the factory or the network project.

Returning to the lack of spreading the results and learning from the network and workgroups, the manager's view on this was verified by one of their workgroup representatives. When I asked him if they had performed any internal follow-up or training resulting from the experiences in the workgroup, he stated:

> *"I have been told that I have to call for a meeting and run through it. If we are going to use it in-house, then everybody need to know how to use it. Because it is a very good tool for doing risk assessment. It asks the right questions. To train more people rests upon my shoulders to do, - then it eventually will start running by itself. Again, it is that matter of time..."*

When evaluating the different workgroups, the manager's evaluation coincides with the relevant representative except for one group. Whereas the manager meant that the apprentice training group had the best of intentions, he meant that they have reached nothing yet. However, this group had at that point come up with activities just in line with this manager's vision related to a new way of handling the apprentices serving them with modules of training in each of the companies. Through participation in the workgroup, the researcher "appointed" to the group had got to know that the apprentice training had made some internal disturbance in Alpha, when the representative started acting as a result of the work in the network workgroup. The manager had some interest in the area himself, which could be the reason for their differences in view. Unfortunately, their representative in the apprentice group didn't attend the interview, which could have given more input to the factual situation.

The importance of having the right representative appointed in the workgroup was brought up by one of Alpha's representatives in the interview I had with them in January 2010. He stated that the focus area of one of the groups where he is the company's representative is neither within his core competence nor his area of responsibility. He explained:

> *"….all machinery should undergo a risk assessment every third year, and that is why I feel it is important that it is a person from production, the responsible for this, who is present in that group. Because it is he who has to do it here. Then it is better that he is*

> *participating in that group…and learns and get the support from that crowd rather than I…because it is wrong that I am occupied with that group when I am not the one who is going to do the in-house risk assessment."*

This discussion also brought up the issue of how jobs are distributed when people leave. The same representative stated:

> *"At Beta they have placed the responsibility with their quality responsible. It is he who should keep this system running. I am not this person at Alpha. The quality responsible would have been the right person. This is the problem. We are not more people than we are. …At Beta they solved this nicely, they have one person responsible for HSE and quality and that. We used to have that here, too. When he left, it was spread out…as we use to do when people leave. This is why we don't have any direct responsible person here. So I am going to talk to NN (the manager) about this, to find the way ahead for that group."*

The right representative could also have direct consequences for the participation in the groups, as the representative stated:

> *"As with the industrial safety group—I am so interested in that and I am so engaged in that in-house that I always find time to participate. I really feel I get something out of that. It is always exciting to see how others do it."*

This could also be the reason behind the manager's statement about the questions he had got about whether or not they should attend a meeting in the network.

Returning to the manager in this company, he stated that in the ideal world the companies should be willing to appoint resources in the companies is important to ensure further existence.

> *"Again, dear friends, it is a matter of balance—in the ideal world each of the companies should evaluate this network so highly that they were willing to decide on a five year plan for the goals of this cooperation. The four participating companies should have had one person who could work 50% with management of the network – and within five years made a longer, plan with goals for what we want to achieve. And had that focus. Just to get different organizations to take an interest in the same is actually an obstacle which requires focus and time."*

To increase the number of companies in the network will do it even harder, since it is still heavy to "move the substance," as he stated. Another important element was to make the top management realize the advantages of the network, because it was not yet anchored all the way to the top of the organization nor written down in any strategy document. He pointed to making the internal commitment stronger as crucial. His wished that it could be made an

anchored decision about their participation in the network and that it could be implemented in the company's strategy plan and allocated resources for operating it.

The next network meeting was held at their premises, where the manager and two other representatives from the company joined the meeting. In this meeting they actively engaged in discussing the present and possible future areas of collaboration. Before the next network meeting, the facilitator got an e-mail five days before the meeting from the manager who stated that he regretfully has to realize that he is no longer capable of managing the company's participation in this network. This because of his internal job exchange, where he is no longer in charge of those involved in the network activities. He evaluated their participation, comparing it with one of the other companies in the network. He wrote:

> *"If we evaluate Gamma, then there is a 100% direct and part-taking engagement from the top manager and the meeting is with that prioritized in relation to other activities."*

He also stated that they unfortunately have an important, internal meeting many of them have to participate in at the scheduled date. He wrote further:

> "*When this is said, I think Alpha will return and take a stronger position. Both NN (maintenance), NY (building maintenance), and NZ (risk assessment and industrial safety) mean that they get a lot out of the cooperation. I will myself try to participate in the coming meetings, but I will not play a significant role in Alpha's engagement because of the changed position I have got."*

Not surprisingly the company was not represented in the next network meeting.

Summary

In the initiation phase, Alpha had a strong position in establishing the network through the engagement by a company manager. However, towards the end of this phase the focus became much more diversified than the initiators' intention and original idea. In the start-up phase, Alpha representatives contributed heavily, as they took on the group leader role in three of the six workgroups. While company experienced some results from collaboration during this phase, the manager expressed his doubts about the strategy of pursuing such a broad array of areas for cooperation. By late 2009/early 2010, the manager and the representatives evaluated the program and felt that they both learned from the collaboration and also made some internal use of the network—despite this use being limited to those directly involved in the workgroups. The manager is still worried about the future of the network, evaluating it as fragile, and expresses that their network participation is not anchored

in the organization strongly enough. In addition, he believed that all of the participating companies would need to invest more time and resources to keep it going.

9.1.2 Beta

Introduction

The manager who was interviewed at Beta was active in the first attempt to establish a network (which was abandoned). The external and internal situation was different for the company when the first attempt to establish the network was taken, because then the company was more locally situated. Now they are part of a big group of companies, and—according to the manager—in a big range of areas they really don't need a local network. Originally, he tells, the vision for the network was to establish a company where the participants owned one share each (which do not coincide with the story told by the manager at Alpha, who was central in both attempts). In his mind this new company' business area was supposed to be industrial services; maintenance, industrial safety, purchasing and other converging business activities. The idea, he tells, was to outsource these tasks to the new company and makes it to a commercial unit which could sell its services to others, too, not only to the owners. However, according to the manager, reflecting about this in December 2009, the anchoring was and still is missing. The manager uses the explanation that it will cost money and in addition a lot of "*blood, sweat and tears.*" The barrier related to the unions, to move employees from one company to another, is mentioned as an explanation to why this is difficult. He explains it as a big project, which cannot be run from level two, three, or four in the companies. The manager concluded in an interview in November 2009 that it will never materialize. This is a quite different interpretation of the vision for the first network, compared to the story told by Alpha and how it all along has been presented and told by the facilitator and in addition how it has later been played out in the second attempt and the realization of the network.

Initiation

This manager participated in the new attempt to establish a network (which resulted in the Ewa company network), up until the visit to another industrial network in October 2007. Then the involved manager was issued new tasks abroad. When he returned, the network had, according to him, become something quite different than his interpretation of the network's

vision. During the rest of the initiation period, the production manager participated instead. He is listed as a participant in the few minutes that exist from this period, but there is no documentation available of his role and contribution, nor does the facilitator remember this (I asked the facilitator about this in a conversation about the network's history in an audio-taped interview, 21.06.10). At the start-up meeting in December 2007, the production manager and one other person from Beta participated.

Start-up

During 2008, Beta participated in several of the groups due to the sign-up list, but it is unclear due to the documentation (minutes and data from interviews) of their actual active involvement in the different workgroups. However, the Gamma technical manager stated in a November 2008 interview that the production manager and some of the other people involved left after Beta was acquired by another company. Due to the (audio-recorded) fact that the facilitator had a meeting with the manager who had been involved in the first attempt (and who had now returned) in January 2009, where he convinced the manager that it would be beneficial for them to participate in some of the workgroups, it seems likely that their previous engagement had been very low. However, after the facilitator's meeting with the manager, the company engaged themselves in the different workgroups, and the manager sent me an e-mail with the names of their representatives.

Continuous learning spiral

At Beta there had been, according to the manager, no internal coordination of the work in the period when he was abroad (2008). However, since returning, he explained that he asked the representatives: "*What have you learned or what have we earned?"* According to him, they have trouble answering the question.

The existence of the boilerhouses/energy efficiency and economizing groups was the main reason for the manager to enter into the network again when returning from abroad. The facilitator and I set up a meeting where Beta and Delta could explore the possibilities of finding a joint boilerhouse solution. At this meeting, four people from Beta and three people from Delta participated in addition to the facilitator and I. The facilitator also invited a consultant from an energy advising company to the meeting. They explored the different options relating to a joint solution based on a gas-fired power boiler. The idea of cooperating was summarized into: "*The only thing needed is some pipes to and fro.*" They agreed upon an

action list including measurement of needed stream capacity at both factories, and a new meeting was decided for two months later. However, this meeting was first postponed because none of the companies had done their "homework" and it was later never carried out. The lack of dialogue between the companies after postponing of the follow-up meeting was brought up in the interview with Beta's manager as something that bothered him. First in a network meeting in May 2010, Delta told in a plenary session that they had decided to invest in a new boiler covering their own needs at their own premises (no one from Beta was present in the meeting). However, when I went back to the interview with Delta from December 2008, the manager already mentioned that top management had decided to search for a new in-house solution, and that a solution together with Beta already had been turned down as an option by the management group. However, the facilitator requested several times for permission to bring this issue up with Beta in his upcoming meeting with them. The manager at Delta finally agrees, but only when the facilitator included an option of bringing an external consultant, who can give advice regarding oil vs. gas solutions, to a possible joint meeting.

Before the facilitator's meeting with the manager in January 2009, the person responsible for risk assessment had been contacted by someone at Alpha asking if he could help them out—as they knew that Beta was way ahead of the other companies related to this task. It seems like this had not been correctly addressed, nor that the background for it and the anchoring in the network had been explained. The manager discussed this, and the conversation between the manager (M) and the facilitator (F) goes like this:

> M: *"I spoke with one here, and he says that he got the impression that the person he talked to at Alpha wanted him to come and do the job for him. I am not doing that, he said. It is not going to happen; he has to do it himself. I can show him and help out, but I am not doing the job for them."*
> F: *"Yes, we have to talk about that, you know. They…have to do it themselves."*
> M: *"Because I talked to him yesterday. It was just a coincidence that we touched into this."*
> F: *"Yes, then it is…the thing is…"*
> M: *"Help each other."*
> F: *"Yes, help each other."*

Then the manager summarized:

> *"Cooperation doesn't mean that one, in a way, steals the time of someone else."*

Even though, the representative from Beta has participated in the risk assessment group and he has done a really good job teaching the others in the use of the computer based tool his company uses. Since I have been present in these meetings, I have experienced how this has

worked out. However, the ambivalence of contributing in this group continued. As of November 09, the feedback the manager at Beta has got from the representatives in three of the groups (maintenance of building and purchasing, risk assessment and industrial safety) is that they have now trained the other companies, are they also supposed to carry out the assessments/drills for the other companies? In their mind, these requests come up because the other companies are not able to do it themselves. According to the manager, the representatives have demanded that he (the boss) instructs them to carry out risk assessment or perform an industrial safety drill in the other companies—otherwise they won't do it. He also tells that sometimes when there are calls for meetings, the representatives clearly have an interpretation that he is the boss in this system and some of them immediately send an e-mail asking *if they please can be allowed* ***not*** *to attend*. According to him, their attitude towards the network is:

> *"They think it is something…well, they found it funny in the beginning…but now they think it is only…yes. It doesn't give them anything anymore. When I ask them: What have we earned? Then they are not able to answer."*

He explains that it is his job to create value, to look after that they are engaged in activities that create value for the company and for their customers. The manager summarized the outcome like this:

> *"They have not learned anything, they have not gained anything, and the company has not earned anything."*

Four days later, when the risk assessment group had a meeting at their premises, the representative had included their main safety delegate in order for him to learn about this topic. In January 2010 the facilitator and I met with the representatives to listen to their opinions about the workgroups they take part in. Addressing the issue to their group representative, he summarized:

> *"We have given a lot, and got little in return. I have trained the others, and I feel I almost could have started my own business related to this. We haven't got anything back in the risk assessment group. Maybe in the other groups… We had an assessment here, but it was for the sake of appearances, and we didn't get anything more out of it."*

When I ask him what could be done to improve this and how he looks at the future for this group, he stated:

> *"I think it is important that those who come are those who participate… are those who give something…not just come and be there (referencing to those who don't contribute). Then it is important that the one who leads the groups, [actually] leads the group. Not just sit there and wait for someone to ask for something. Otherwise a*

> *group will not function. We all have a lot to do in our daily work, and if nobody is nagging, then you put it last in the queue…that's the way it is."*
>
> *"I think the management here finds it important that if Beta is going to participate further, then we soon need to get something back. That is what we have agreed upon. We willingly participate, but then we must start to get some input soon, not just output."*

Another representative had at that point joined in. The dialogue between the newcomer (N) and the representative in the risk assessment group (R) continued:

> *N: "Then it is also such that those companies—they shall learn from us also, then. Those that have nothing."*
> *R: "Yes, that is what they have done so far. And we have learned very little."*
> *N: "No, I haven't got that much in return of all the meetings, either…"*

When the risk assessment representative leaves (because he needed to attend another meeting), the conversation continues with the representative who had joined in relating to his engagement in the maintenance of building and purchasing group. Beta has participated in this group, even though the manager expressed in the interview that this group is not interesting. According to the manager this was because the group of companies which Beta is part of has much bigger potential to for instance negotiate good prices on maintenance services. However, the representative tells a story of a group, which in his mind functions very well. He tells us about the company's problems with flat roofs, stating:

> *"This is why it was ok to get into a group like that, because I have missed that for a long time—to be able to use such a group to exchange experiences. I realized after a while that we had a bit more experience than the others, men that doesn't matter, really. Because it is like I say, it is to help each other. After a while I got some input from them, too."*

He also tells us that the issues these groups are dealing with are the same as those that he would have liked to see handled better in Beta's group of companies. Even though it has improved, he, states, they are not good at cooperating on purchasing.

He also reveals that he thinks about the other companies relating to his network of contacts. He tells about a new company who has some better solutions for gateways, a common problem area for the companies. He has made an arrangement for this company to visit one of the other companies, too—and states that this is something he will take up in the next meeting. He sees a big potential in the group, and as an answer to what decelerated this:

> *"It is time. They lower the manpower to the bottom. I get less time. It is like I say, then—it is, after all, setting priorities."*

The same man took over as the industrial safety group representative. Also here he expressed a positive attitude:

> *"That group, it is going to become very good, it is going to function… we have a demand, we who are part of the industrial safety management, to cooperate with the neighboring companies."*

He also explained his attitude against sharing information in the group:

> *"In that industrial safety group, there was NN, who had never done these things before. Then he asked me if I could help him to build up their…book of routines, then. When he got those routines I use for industrial safety…he was so glad, because then he didn't need to work a lot with those things. And I…don't mind sharing those with them, because if people have good industrial safety [practices] around here, then it is also a cooperation we can use if something happens here. That too, is after all an important part. We have been at Alpha and put out a fire there. We could have poured on some petrol instead [Laughter]. Things like that are important to think about. Because one day we sit here with a big fire, requiring help from others. The fire brigade is not enough if a fire should occur in the factory here."*

According to the manager, the apprentice-training group is the only group which they have had some kind of advantages to participate in. The representative has evaluated the group as very productive, according to the manager. The outcome has been concrete, with plans for circulations of the apprentices, and the group's vision is to get better apprentices. This coincides with the representative's own story about fruitful cooperation with the other companies and that they have started a new way of handling the apprentices serving them with modules of training in each of the companies. This group has had ten meetings in a year. The representative expressed:

> *"I feel that we are on the right track. We have put down a lot of points, yes, I don't have to raffle off all of them, but it is areas where we can cooperate. Recruiting, courses and so on. We have put up a course plan (for new apprentices). However, we have had some resistance in Alpha. NN (the manager) meant that we took over YY's job at the training office. YY couldn't understand that. We invited YY to our meeting. We don't take over anyone's job. All companies need to get better in receiving and training apprentices."*

> *"I feel that we now are a group which will keep on working independent of the network."*

They have agreed that their common goal is to get and educate better apprentices. After having trained the apprentices according to the new cooperatively way, then the companies have to fight to get them hired in their own company. This is in line with the vision which was commonly set up for this group.

The representatives, besides the representative in the risk assessment group, thus report a positive effect from the workgroup efforts. However, by the end of 2009 the manager's overall view is that the extent of the network is too small and too delicate. He expressed that they can gain more in the network's areas of cooperation by using their own internal network. His intention of being part of the network despite this is the possibility for new, more interesting themes—one example being the need to establish a Lean Forum. Also, they don't want to withdraw from the network since it could harm their "goodwill" as an actor in the region. However, the company did not attend the next two network meetings held during the first half of 2010. On 5 July 2010, I received an e-mail from the manager stating that all company leaders received direct orders to concentrate on operative and internal tasks related to their own units. This means, he writes, that at least until the end of 2010, no one from Beta will participate in any network activities.

Summary

A manager from Beta was central in both attempts to start this network. However, in the middle of the initiation phase he was issued new tasks abroad, and another manager took over his role. When the first manager returned, the network had evolved into something else than what he envisioned. The company assigned representatives in all of the six workgroups in the start-up phase, and they took on the group leader role in one of them. However, their active involvement in this period is blurred. When the manager returned, he started to follow up with their representatives, and his overall evaluation of the network is that it is not of much use for the company. This overlaps with the story the representatives tell. However, some of the representatives have a more nuanced view, and see that they also have gained something from their partaking in the network.

9.1.3 Gamma

Introduction

Gamma was recruited into the initiative by the facilitator in early autumn 2007. Their manager first participated in a meeting in September 2007, and their technical manager participated in a field trip to another industrial network in October.

Initiation

The general manager and the technical manager have been united in their reason for joining the network initiative. They found the people involved in the initiative interesting to cooperate with, and the associated companies and resources were relevant to them. They compete for people, skilled labor, know-how, and expertise with the other companies. However, from the very start, they were quite confident that there would be a way to collaborate. From their point of view, two things were in focus early on: know-how/expertise and maintenance (joint spare part pool). They hoped to get access to know-how, which they didn't possess themselves, and to "borrow" people from the other companies based on some kind of job-rotation. And, they say, to decrease purchasing costs on parts and spare parts of course were in focus. These two managers participated together with two employees in the first network meeting in December 2007. The technical manager also took on the job as the workgroup leader for the building maintenance group in January 2008.

Start-up

In November 2008, I performed an interview with the general manager and the technical manager regarding their impression of the work done in the network and the workgroups so far. They could give detailed descriptions of the performed work in the different group, revealing their well informed status. They had also made use of the work internally; one example is being the first company who bought the risk assessment program recommended by Beta. They also quickly trained people in their own organization on the basis of the learning in risk assessment group, and the general manager and the technical manager evaluate this group as self-sustainable already at this point in time. The technical manager tells for instance about the risk assessment group:

> *"We have among other things bought software for this as a result of the experiences they have regarding this at Beta, and they have been sitting together and learned [how to use the software]. We will exchange people so that they can be present at each other's assessments. …This we already see as a good collaboration."*

The general manager also reflects upon the idea exchanging expertise among the companies as a fruitful way to solve the third party requirements relating to the risk assessment:

> *"At the same time I think it is a very nice effect that they can be together, because then you also get a little…so that it doesn't only become the goat and the oats-sack*[24]*—because we humans tend to be too kind towards ourselves, at least. …but then you get this controlling effect—you might get some corrections from those attending from the*

[24] Norwegian saying: *Bukken og havresekken* – you have a very strong self interest.

> *outside …at the same time we can participate with Alpha and Beta and contribute back this way."*

While simultaneously implementing the computer-based risk assessment tool, their HSE-manager and other relevant people have, as the general manager explained, "*turned over the pages and read about this*" resulting in developing a three year plan for risk assessment. Already at this point in time the managers evaluate the workgroup as a valuable contribution to their own work. The technical manager (TM) stated:

> TM: *"This is an area where we have full disbursement, at least in my opinion."*

The general manager (GM) agrees, and they don't feel the need for any corrections relating to this group. They only want it to keep going:

> GM: *"Looking ahead, it will be profitable just that this group exists. That it can be a resource for those companies that are part of this – this is positive in itself."*

In the building maintenance group, where the technical manager is the group leader, there were several, close in time meetings during 2008 to work up the potential areas for collaboration. He evaluates also this group as very useful where they have had benefits locally due to change of firms based the other companies' experience. They also list many potential areas for collaboration that were not acted upon, but the importance of not making the area of collaboration too big in the beginning is pointed to:

> TM*: "When we made those groups, we peeled off a lot, too…in order to not bite off more than we could chew."*
> GM: *"Yes, it is better to get success in a narrow area, because then you can extend it further later on…"*

When I asked them how they get updated on what has happened in the workgroups and how they inform internally about this, including if they do this at all, the technical manager explains that the network participation is an issue at the manager groups meetings and also at department- and production meetings. Another reason for their updated situation could be the size of the company, as the technical manager states:

> *"We are not such a big company, resulting in that we don't talk with one another. If we had been twice as big, then more information would have been required."*

Thus, they evaluate both the risk assessment group and the collaborating related to building maintenance as self-sustainable, but that the group related to apprentice circulation and the energy efficiency groups need to be pushed a little bit, since there has been only one meeting

in each of these groups. The point of getting the groups to be self-sustainable is addressed by the general manager:

> *"It is part of the aim starting something like this, that they should run by themselves, …so that it is not one person who needs to administrate it, because then….you don't have a network as such, …then it is someone who tries to push something—so it is fantastic that [the risk assessment group] has become self-sustainable."*

The technical managers address at the end of the conversation:

> *"It is important that the members of the network recognize that the others cannot move this forward and I can just get the results. Everybody needs to take part in moving it forward…To recognize that they have to do their part of the work. You cannot just be a member, without contributing."*

This is related to that exchange of people in the groups has had implications relating to the continuity and progress. They also raise the point that if they are member in too many groups, then it easily can become too much, and influence their own progress.

Continuous learning spiral

One year later, when the facilitator and a colleague of his performed an interview with these two managers (I was unable to attend), the general manager stated something that summarizes their attitude towards the network:

> *"It is difficult to become disappointed in a case like this. When we started, we were quite explicit about that we had to proceed tentatively."*

Viewed by him and the technical manager the risk management, building maintenance, purchasing, and industrial safety workgroups all functioned well. They had severe disbursement in the beginning in the building maintenance group. Now the group will meet if necessary, because the potential was acted upon early and gave results. They evaluated both the apprentice training and the industrial safety groups to have a good foothold. The most positive evaluation was of the risk assessment group. According to them, they are now more or less on a well-trained level when it comes to competence on how to perform such assessments. The disbursement is evaluated as good. Before this service was purchased from a consultancy firm, resulting in that they had to wait for this firm to come and do the assessments before they could put new equipment into service. It often took too long before they showed up and it represented also a cost to the company, as the general manager stated:

> *"It did certainly cost a couple of thousand [NOK] to get them done."*

They explained that now they can perform assessments themselves, with third party help from the other companies in the network. In addition they learned a lot more about their own processes by performing these assessments themselves; they even call it a good, internal learning process and, the general manager state, because of this new learning:

> *"….in the long term, maybe we even can manage to see all the deviations as early as the construction or the building process of the machines."*

They stated that the participation in this group has had a very positive effect and that they now have a network of people whom they can contact if needed. The manager explains:

> *"It is very surprising to get results so easily on a matter which has laid stress on us, [risk assessment] were actually a headache for us. Yes, a surprisingly positive experience."*

Later, in January 2010, the facilitator and I performed an interview with all the representatives in this company. All representatives attended, and the representative for the risk assessment group evaluated the group:

> *"The group functions well today. This cooperation has been very good. However, NN (a representative from another company) has an extremely heavy workload. We have a very good cooperation with the others, especially him from Beta. It is he who has steered the group, because it is they who have used the system for a long period of time. He has been our teacher, you might say. We have a meeting coming up. We shall continue further with this group. I think so. It is certain that the company make a profit on having a separate group on these things, because otherwise we had hired consultants. Company NN has done that for us before. That is very expensive and quite heavy to manage. Yes, I think it functions very well, and the company makes clearly good use of it."*

He continues:

> *"…it is very interesting to see other companies …and also that we can see the machinery at the other companies with our eyes. You become blind in your own house."*

The representative in the industrial safety group also expresses positive experiences with the work in the group. He states:

> *"Just…being present at each other's safety training has been incredibly informative."*

The apprentice group has, according to the representative, worked a lot with mapping of each company needs. A mechanical apprentice, who soon will take his skilled worker exam, is going to conduct his teaching practice at Beta for two weeks.

> *"This is because Beta has work tasks which we don't have,"*

the representative explains, and he continues to tell how the network can ease his work related to apprentice training:

> *"It is very nice when you have a network like this, because we have…toolmakers here, and then you must call around and check with companies. If you have such a network like this which you can use, then it is so much easier. Then you know what the others can offer. That is certainly really nice."*

The only group whose results did not lead to anything new is Dash, where a common system for spare parts has been abandoned. Also, Gamma's representative stated that it would require a lot of work to synchronize the systems. They did get some help from Alpha when establishing their own system, but that was before the network was initiated. One of the representatives reflects upon the potential that lies within this area of collaboration:

> *"There is a possibility within maintenance; we could maybe borrow a bearing from Alpha if needed. Or, Beta and Alpha are certainly companies which are quite similar; if they are friends, then they could borrow from each other in situations—and that is certainly very good. Instead of standing there in three months, waiting for it from Switzerland as an example—if they have it in their warehouse …they could have borrowed it. That is certainly an excellent thought!"*

They also reflect upon the issue of how to get the work in the groups self-sustainable, and the problem related to get time to do it.

> *"It is to get it to function in our daily work which matters; it is really not something isolated—something outside the work here. We do this to make it our job with the apprentices work. This should function by itself, and should do so without the network. It should be something self-sustainable, which we don't think much about. Which works like a tool…"*

> *"We get less and less time. It is the same people who have the jobs [meaning that they each have many areas of responsibility]. It is more work on those who are back when somebody leaves. …The reason is that it has practical use for us, it represents a help in our daily work."*

When we asked if something could be done better in the workgroups, the general reflection is:

> *"It is important to keep the pressure up, prevent it from falling over, because then it sort of dies a little. It is important that we don't have very long intervals [between the meetings]. It is needed to keep the pressure and to expand [with more companies], if possible."*

The facilitator addressed that some had started feeling embarrassed about mainly receiving help, and maybe not being able to pay back to the group.

> *"It is nothing to be embarrassed about, because that's why we are there. If it is so bad, then it is certainly just an advantage if we can make it."*

One of them also reflect upon the similarities with a company where he previously worked, stating that he understands how difficult it is to work in a system where laws and regulations is viewed as awful "rubbish," where production should run before anything else. They also reflect how much easier this is within their company, where they don't have to fight for every single case related to this.

Returning to the interview with the managers, they state that they don't interfere nor "control" with respect to their participation in the workgroups. However, they do get copies of the minutes from the workgroup meetings. The managers characterize the groups as mostly autonomous, where only some follow-up related to the minutes may take place. They don't feel any need to manage their representatives more, as the workgroups seem to function well and as intended. This may be based on the answer the technical manager gave the facilitator when asked if company employees know what management thinks about the network:

"Yes, we have been very clear stating that this is a good case for us."

The technical manager has also been very clear in declaring at the network meetings that the network collaboration is a good and important activity for the company. The technical managers explicitly states that this as a way to signal acceptance for the representatives to carry on with the work. They even mean that the network participation easily could be implemented in QMS (Quality Management System), however it has neither been formally implemented in their strategy nor any strategic documents.

However, in the interview they expressed worries about the network's size, which became smaller than intended when Epsilon withdrew in early 2009. In their mind, to include new, single companies (factories) could be interesting in order to strengthen the network. This was brought up as an activity at the next network meeting in February 2010, but as of the summer of 2010 this had not been acted on due to the facilitator's heavy workload and subsequently missing followup (I will return to this in Section 11.2.3).

Summary

Two managers from Gamma participated in the second initiative after being recruited by the network facilitator. They found this as an interesting way to exchange knowledge and expertise with neighboring companies. One of the managers became a group leader in one of

the workgroups. They reported positive outcome for the company already in the start-up phase. The other representatives also expresses positive outcome from their participation in the different workgroups, echoing the impression given by the managers. They are eager to extend the network with new member companies.

9.1.4 Delta

Introduction

This company is part of a larger group of companies, where there is internal competition between the companies (they are competitors in the market). However, according to the manager, they also cooperate with the other companies in this group on both a technical level and with respect to exchange of competence and practical experience. The manager evaluates this as "*not exactly neutral cooperation.*" This is based on that there previously has been what he characterizes as "*rough weather*" in the group, where there have been discussions about shutting down one of the factories. They even exchange knowledge and competence with their competitors outside their own group of companies, and there have been occasions where they have helped each other out. This complicates their participation in the network, because they already have many arenas for cooperation with others, more relevant companies within their own branch. The managers also express that he thinks that they have the biggest potential for synergy effects with companies in the food industry.

Initiation

The network facilitator recruited Delta in autumn 2007. All along, the network's main contact has been the technical department manager. He participated in some of the exploratory meetings in autumn 2007, which ended with the first network meeting in December 2007. At that meeting, two other people (not the manager) participated. Three employees attended the following meeting in January 2008, including the manager.

Start-up

According to the manager, he joined the network for one reason: His belief that the intention behind networks is only positive. He explains that the people who work with for instance factory operations and maintenance can feel quite alone in their jobs. A network where several people work with the same challenges and problems are then felt as a positive

resource. To exchange experiences and learn from other companies was his main objective. The manager expressed in December 2008:

> *"...there is nothing else I want more than to take part in such a network. I have to choose what I use my time on…"*

The manager is very positive and clear about the advantages of working in a network in theory, but when it came to practice Delta didn't engage much in neither the main network meetings nor the workgroup meetings after the 2007 exploratory meetings. During 2008, the company was only active in the building maintenance workgroup. In the interview the facilitator and I had with the manager in December 2008, the manager clearly expressed that he can see potential in the network collaboration. This can be exemplified by this dialogue when the facilitator (F) brings up the possibility to work on joint purchasing orders through the network group related to building maintenance:

> M: *"That's why I sent NN. Because this is the area of responsibility of XX and NN. I can dispose NN a little bit, even though it is XX who steers him, but XX will retire one day. Then there is the question of who takes over responsibility for the maintenance of buildings. I tried to send NN, because he is the man who deals with the maintenance of buildings here. And you know, building maintenance has a separate budget, and that budget does not increase. It gets lower and lower in order to keep the production budgets."*
> *F: "Joint purchasing, you might say that…"*
> *M: "Just great, just great…yes, yes, yes…It is actually only gold with collaboration, no doubt about it, I have known that from day one!"*

However, now their representative in this group had approached the manager saying that:

> *"I don't want to participate anymore, because now they have started talking about industrial safety and that sort of thing, which I know nothing of."*[25]

This confusion (the industrial safety group grew out of the building maintenance group) was not clarified in the meeting. However, when I sent out the sign-up list for the different groups in January 2009, Delta placed representatives in all of the groups except apprentice training. Also, the boss of the previous representative in the building maintenance group took on the job as the representative in this group.

The manager explains his lack of engagement in the network activities by exemplifying how his workday has changed during the last years. They received more new machines and more work tasks to handle, but not a bigger budget. He has to be available all the time, including

[25] The technical manager at Gamma told me in the conversation that the industrial safety group had become a spinoff from the building maintenance group.

vacation. This is because his deputy naturally can't know everything that is happening, or how things are supposed to be done. The most important obstacle for cooperation in the network is by him explained to be the "everyday life" in the company:

> *"The work day is so packed that it is necessary to single out all activities which are not directly linked to sales and which cannot be shown in positive economical figures. The only thing that matters is to keep to the budget!"*

At this point in time he said that he needed to be unloaded some of his responsibilities in order to be able to participate in the network activities.

However, the interview the facilitator and I had with the manager resulted in a list of areas where it could be interesting to collaborate locally across company borders. The manager is especially eager to get help in collecting information about the maintenance system Dash system:

> M: *"That system—I really want to succeed in getting it here, I said that to Johnny*[26]*. I got the telephone number from him, but then I have to get it moving…"*
> F: *"Can't we help you with that?"*
> M: *"It would have been fantastic to get that started! [smiling and laughing]. Yes, yes, yes."*

A workgroup connected to this issue was established within the network in 2009. The manager also states that it could be interesting for them to participate in the apprentice group. However, they never signed up any representative for this group. However, in this meeting the facilitator also pushes the manager to agree on exploring joint boilerhouse services with Beta, although the manager states when the facilitator first mentions this:

> *M: "I have mentioned that to the management group here. It was not of interest."*
> *F: "I don't think we should give in on that one."*

However, because the manager sees possibilities in placing gas tanks at their premises for the use of also other companies he finally agrees that the facilitator can ask Beta if they are interesting in attending a meeting for exploring joint solutions related to boiler house services. He clearly states:

> *"Relating to this issue, I can't decide this alone. I am not on that level."*

[26] Johnny had experience with this system from his time as an employee at Gamma.

Continuous learning spiral

In January 2009, Delta signed up with representatives in five of the six workgroups. In December 2009, the facilitator and I had a new meeting with the technical manager. The other involved person in the company unfortunately couldn't prioritize time to talk with us.

> *"What you hear is; I don't have time, I don't have time, I don't have time. But that is the reality here now. I have to say, I called NN [the representative] when you came, because it would have been nice if he could have got some words with you, too. He couldn't make it; he had scheduled meetings with this person and that person…"*

During 2009, three people left the company due to retirement including their representative in the building maintenance workgroup. These three work positions were rationalized down to one. The person who took over these three peoples' work became Delta's main representative in the workgroups for risk assessment, Dash, boilerhouses, and industrial safety. However, the technical manager also participated in some of the workgroup meetings. Due to the down-scaling in personnel and increased areas of responsibility for those left in the organization, it has not been possible for them to cover all the network and workgroups meetings. He states:

> *"NN [the representative] is clever. But he is so loaded…he is so loaded. It seems like there is no spare time where you can do this or that. I feel that Beta and the others have more resources, that they maybe have more middle positions, or more people. To lay hands on certain things."*

The manager also explains that they themselves can't decide much anymore, including what to participate in and local investments (this is done by the head office situated in another part of Norway). This means that throughout 2009 the resource and workload situation which was a reality in 2008 didn't improve—rather the opposite. In the December 2009 interview, the manager shared a situation where a lot of new control systems were being implemented. Three years prior, he used 90% of his time on technical planning and problem solving in the production hall, but now he uses 50-60% of his time on financial issues and a lot of meetings. Budgets and cost control are in focus. A much more hierarchical structure has developed in the company in recent years, and decisions are made mainly from the centralized office. Internal demands and deadlines have to top the priority list. The amount of employees in the production departments are constantly reduced and cost savings traced and introduced, while the economic, financial control, and purchasing departments have increased the number of employees. Due to the internal reorganization, Delta has not spent much time either with the network, or on diffusion of learning from the network. However, when the meetings were held at their own premises, several people from the company attended. For instance, when the network arranged for a meeting in the Dash group (which was established based on Delta's

spoken need) nine people from their larger group of companies attended. In addition, two from Alpha and two from Gamma, along with two from Dash software and the network facilitator and I, participated. At this meeting Delta got a lot of information from the other companies and from the supplier of the software system, helping them to get the work started related to a better maintenance system in the company. After the presentation of the actual software, the companies present (Alpha and Gamma, who both had used this system for years) exchanged a lot of experience with the system and possibilities for a joint system across company borders was discussed. However, in 2010 Delta remains undecided on whether to invest in such a system or not. However, the 2009 meeting gave the manager and the managers above him (which were present at the meeting) helpful information, which was at least useful in the internal investment application. Nevertheless, the manager's frustration in relation to the overall situation seemed so high that he was not able to evaluate this as a good outcome of the network participation.

The company also has participated in the risk assessment group, and there has also been performed one assessment at their premises. During the meeting at their premises the HSE-responsible person (the representative) evaluated this himself as useful and told in the group that they had now started working with this in their own company by making action plans. In the interview with the manager him too state that this have been useful for them, even though it will generate more work.

> *M: "That regarding risk assessment, we had a group here evaluating one machine—and I will say that was useful."*
> *F: "Two students are coming here to write their main thesis related to risk assessment?"*
> *M: "Yes, they will show up here on Thursday. NN [the representative] has made an action plan for the next six months next year covering all the machinery. Then it will become…it will be a lot maintenance work deriving from that too, then."*

The University College students who completed a bachelor's thesis (spring 2010) within the area of risk management using Delta as their case received this assignment because of the network and the relationship the company established with John and me. Through this work, the HSE-responsible person received useful documentation for internal use, and they finally got to the point of buying a computer-based risk assessment tool. This was told by one of these students during a presentation of his work in June 2010.

The manager has all along clearly expressed a high motivation for cooperation, and just as clearly expressed the main reason for not being able to live up to the ambitions as a problem of finding time to engage in the network activities and the lack of top management support. Related to the other companies in the network, the manager feels badly about being what he characterizes as the worst in the class in the network, or even more precisely—parasites. Whatever tasks they tried to manage at their factory, it seemed for him to be a hundred times easier to accomplish the same at other places (referring to and exemplified by observing incidents in the other network companies). Relating to this and his reason for participating despite this, he states:

> *"[The reason for participating] is certainly to collaborate. Share experiences. However, I have felt that we during this last year are parasites. We have nothing to supply back. We are the last one to get both this and that. And answers—we don't get an answer when we wish to get one."*

He explains this by the heavy focus on cost control developed during the past few years. He really wanted to be an active participant in the network, and as shown, also wished that they could have managed to give something back to the network. When I expressed how I had experienced the meetings at their premises and how their situation is just as interesting and a basis for learning for the others, he didn't agree that their openness and problem sharing with the other companies could be characterized as a contribution.

At the network meeting in May 2010 he specifically asked for help to argue for their participation in the network. He asked if we (the researchers) could speak with their managers and invite them to the next network meeting, so that they could hear and see for themselves how useful the network is and could be.

Summary

Delta was also recruited to the network by the facilitator. The technical manager participated in the initiation phase, but due to heavy workload his participation from then on has been sporadic. In the start-up phase they only participated in the building maintenance group. Their outcome from this phase is not known, since the representative changed during this period and the person who stepped in retired in early 2009. Due to the other companies stories they have got help in varied areas. The manager states that the risk assessment group has been useful, but he evaluates themselves badly as a company as they are not able to supplement

anything back into the workgroups and because the anchoring to the management group is lacking. This stands out as a potential menace for their future engagement.

In the next chapter, these companies will be compared in a crosscase analysis highlighting the differences between them in handling participation in the Ewa company network.

10 Case comparison

In this chapter I will compare the cases presented in Chapter 9 based on the empirical data across the companies. I additionally supplement with data from the network and workgroup meetings, since the interorganizational discussions took place in these forums. However, the focus will be on how the four companies handled network participation and what that led to within their own organization. As for the case stories in the previous chapter, the structure of this section will follow the three phases of an OD process, i.e. **initiation**, **start-up,** and the **continuous learning spiral** (for more a detailed description, please see Section 9.1).

10.1 The initiation phase

Serving as a reminder, **the initiation phase** includes the problem definition, or motivation, for establishing or joining the network. The persons involved and the strategic and practical elements of this phase will be compared and commented across the individual companies.

10.1.1 Problem definition (or motivation)

Klev and Levin (c2009) defines the phase of clearly defining the problem as the most critical part of an OD process. Through this activity, the actors must get to know one another, establish the initial basis of trust, and develop the first draft of an action plan. It is a challenging participatory process, where seeking opportunities to learn from each other in the established community should be in focus (Levin, c2004).

The initial interorganizational "community," where only the managers from Alpha and Beta participated, had a different vision and reasoning than the ideas that evolved when Gamma and Delta joined the initiative. The manager from Alpha, who was central to both initiatives, stated that the core issue was collaboration related to machinery maintenance. The manager at Beta expressed something different, as he wanted to establish a new, joint company. However, their stories coincide relating to the focus area—although the actual implementation deviated (collaborate across company borders versus create a jointly-held company). Since the third company that participated in the initiative (Epsilon) withdrew early in the process, I

unfortunately don't have data for their view of the network's vision. However, as newcomers in the second initiative, Delta and Gamma did not seem to have been presented a vision that included establishing a new company. I base this on the response the general manager gave when the facilitator mentioned that this was an option related to machinery maintenance and spare part administration during the interview he had with the managers at Gamma in December 2009. The general manager sounded really surprised when he heard this, but then he characterized it as an interesting thought. By extracting information from the few minutes that exist from the second initiation phase attempt and from the interviews with the managers at Alpha, Beta, and the facilitator, I concluded that the second initiative started as an idea to collaborate with a focus on machinery maintenance. This focus diversified early in this new attempt. Some of the people involved visited another industrial network, which was perhaps an inspiration that led to an even broader focus, as the network they visited had a broad array of interorganizational collaboration areas. However, together with the managers from the newcomers, the initiators and the facilitator started working on a preliminary list of interesting areas of cooperation. In minutes from the November 2007 meeting, the following areas were listed as interesting: apprentice training, logistics related to transport, building maintenance including heat and ventilation, and risk assessment. They also wanted to explore the possibility to collaborate about boiler house services and standardizing of equipment.

Relevant employees and union representatives from all of the companies were invited and participated in the first network meeting (because broad participation was a requirement for including the initiative in the research project). The preliminary list of interesting areas of cooperation was included as a guideline in the meeting invite. As such, they all had the same possibility to prepare for and discuss locally in their own company the relevance of the network before attending. At this first network meeting the participants joined the groups they found interesting. Here they discussed on the group's potential focus areas, mirroring what they saw as challenges in their own company. I participated in the group that discussed issues related to energy and energy efficiency. At the plenary meeting afterwards, one person from each group reported back the main ideas of the group. Clear goals for collaboration relating to either the network or the workgroups were not set. Instead the work in this phase took on an exploratory form, searching for areas where they could benefit from working together.

Alpha and Gamma took on active roles in this phase, where people from their organizations took on the job of being the group leader and thereby kicked off activities in the workgroups.

The workgroups had the responsibility to individually explore their possibilities for collaboration and create their own action plans. In this phase, Alpha and Gamma participated with many representatives at the network meetings. This is shown in Table 3. After the second network meeting in January 2008, Beta was only active in the apprentice group, whereas Delta only participated in the building maintenance group. From this, it appears that companies who had group leaders also became the most engaged in actually establishing the network. This could indicate that having responsibility (i.e. the group leader role) equals an increased activity level. It also supports the argument that even at this early phase, heavy involvement increases the members' input (motivation and willingness to participate) and also a commitment to the process (Cummings, c2004; Klev & Levin, c2009, p. 35).

Record of number of representives from each company present at network meetings

Network meeting, date:		11.12.2007	29.01.2008	01.04.2008	17.06.2008	13.01.2009	12.02.2009	26.03.2009	16.06.2009	06.10.2009	09.02.2010	11.05.2010	
Held at, premises:*		UC	A	B	G	UC	UC	D	G	UC	A	UC	Average
Company:	Alpha	4	5		3	5	1	1	0	3	3	0	2,3
	Beta	2	6		0	1	3	2	2	2	0	0	1,6
	Gamma	4	4		3	2	5	4	7	2	7	7	4,1
	Delta	2	3		0	0	2	2	2	0	2	3	1,5
Comment:		Uncertain	Uncertain	No record									

*Held at: University College = UC; Alpha = A; Beta = B; Gamma = G; Delta = D

Table 3 Record of number of representatives from each company present at network meetings

Summary

The findings indicate that the problem definition in the initiation phase was not harmonized internally in each company, but that it became so across the companies through the work done in the initiation group and the first network meetings. In this case, harmonizing does not mean erasing differences, but to respect these differences by mapping both them and possible paths forward (Greenwood & Levin, c2007, p. 262). The workgroups were established where enough overlap of interest was found to permit action. The overlap applied to both the focus area as such and the area of competence to the involved representatives. I interpret this as *converging problem definitions* and *converging competence*. To take on responsibility (such as being a group leader) seems to have increased the activity level in the company related to the activity to which responsibility had been taken.

10.2 The start-up phase

In this part of the comparison analysis, I will look at **the start-up phase.** This includes the way the companies have organized their participation in the network internally and externally, and how this has supported or not network participation as a long-term process to improve

and learn. It also includes how they have used, and what outcome they have experienced from using the network arenas (including the workgroups), and how these processes have been organized.

10.2.1 The planning and forming of arenas

To create learning in an organization, creation of social meeting places are seen as a basic and crucial act (Eikeland & Berg, c1997; Klev & Levin, c2009). One of the reasons why such meeting places (which represent plans and structure) are important is that learning and development tasks can be experienced by many as coming in addition to, or in the way of, the daily work (Eikeland & Berg, c1997, p. 130). This means that exploration of new possibilities and improvements can easily be given lower priority (Holmqvist, 2003). In the case descriptions all of the companies have argued for the problem of integrating the new initiatives. However, new routines gradually emerge through human interaction and it is thus a result of the actual social interaction among members and the meaning constructed through this process (Chapter 3). Then social meeting places become crucial as means to implement new things into an organization.

Comparing how the different companies acted in the network's first year of operation, one distinct factor is managerial involvement. The technical manager at Gamma took on the job as the leader for one of the workgroups, whereas the Alpha and Beta managers stepped back after the initiation phase and left the work to other company representatives. The managers who were involved in the initial attempt to start the network (Alpha and Beta) now started to express their doubts about the network and what it had become.

The daily running of the factories, other priorities, and lack of time was used as explanation by all of the companies as the main reason for the slow progress related to the network, and/or why they were not able to participate more, or run internal processes based on network outcomes. However, Gamma stands out in the way they quickly managed to make use of the learning gained through the risk assessment and building maintenance groups. This could be due to the strong position the technical manager took in pulling the strings in one of the groups. The manager at Alpha also used the Gamma manager's engagement as an explanation

of why the groups this manager has been involved in have had, at least in his mind, better progress than the others:

> *"NN [the technical manager at Gamma] is very interested and very engaged. Then it works – when you have somebody who is more eager than usual."*

Also, Gamma was at this stage the only company who reported that the network was an issue discussed at internal meetings. Of course, this could also have been a result of the technical manager's direct engagement with and knowledge of the network. This was also the only company where the general manager had involved himself in the network. On the other side of the scale was Beta, where the manager stated that there had been no internal coordination or follow up in his absence (which coincided with the start-up phase). This could indicate that anchoring in top management and management showing interest and following up their own company's network participation were crucial events in the start-up phase. The issue of active involvement and support from top management is also emphasized by French and Bell (1984, p. 17) as a condition for clear, effective OD processes.

10.2.2 Problem solving and reflection

The difference between the *managers'* perception of the network became evident at the first round of interviews in November/December 2008. The manager at Alpha could not discuss the status of any of the workgroups. The manager at Beta only knew of troubles relating to the risk assessment group and was not informed about the other groups in which they participated. Delta had only attended meetings in one of the workgroups, but the managers at Gamma could account for the status of five out of six groups. This difference in the informed status corresponds to the involvement and the activity level of the managers related to the network.

The arguments all of the managers used to explain why they wanted a network were mainly based on increasing efficiency and economic gains for the company. When it came to what they had got out of it at that time, the Alpha and Gamma managers also discussed their personal experiences of getting to know other people in a mostly similar situation. In addition, they emphasized the experience of how easy it had become to pick up the phone and ask somebody outside their own company regarding matters they previously would have searched for answers elsewhere. When it came to the more robust outcome from network participation,

the start-up phase had not led to very concrete results. At this point in time, the risk assessment group was the only group that had started introducing a new way of doing things. However, new ways of doing things must be integrated into the organization (transformed from exploration to exploitation (Holmqvist, 2003)), which includes changing work routines. How the different companies are able to utilize the network can be influenced by factors such as technology, manpower, markets, and the economic situation (Levin, 1997, p. 302). Such differences have become evident between the companies in the network (the swift introduction and in-house training at Gamma versus the problems at Delta to get management attention for the desired new solutions). These differences can be one of the reasons why the internal utilization and follow up has been distinctly different. However, at the January 2009 network meeting—by the end of what I have interpreted as the start-up phase—–all of the companies were very clear that they wanted to continue with the cooperation. They also wanted to put more effort into the workgroups.

10.2.3 Summary

The findings indicate that most of the companies did not establish or use internal arenas for discussing or playing back results from their partaking of the network. The main reasons given for this were the daily operations, other priorities, and the overall lack of time. However, at Gamma, where the technical manager had actively engaged in the network, reporting events and outcomes from the network was included in management and department meetings. Most of the workgroups were still in the establishing phase, but participation in the risk assessment group had already led to results like purchasing of computer tool at Gamma. The outcome evaluated as most valuable in this phase was the formation of personal relationships.

10.3 The continuous learning spiral

In the case stories, the third area of attention under focus was **the continuous learning spiral**. There I addressed whether or not concrete problem solving has been reached, and whether this resulted in collective reflection processes where new insights problems have been revealed and played back to the network arena. The long-term goal of any learning/development process is that it becomes self-sustaining. This means that it becomes an integrated part of the

daily life within the organization, where exploration of new possibilities is addressed simultaneously with the exploitation (Eikeland & Berg, c1997; Holmqvist (2003), p. 116; Levin, 1997, p. 74). I therefore also addressed this issue.

10.3.1 Has concrete problem solving been reached?

There is a somewhat different evaluation of the outcome depending on the position of the person who answered this question. Not surprisingly, managers who had only participated at the main network arena evaluated the outcome quite differently from the representatives who had also been engaged in the social space of the workgroups. The manager from Gamma, who had been a member of one of the workgroups, had a distinct different view and approach to the network.

The manager at Alpha evaluated the outcome of the network participation as variable: good in some workgroups but "nothing reached yet" in others. This (the collaborative workgroups) was not his intention of the network, and he expressed disappointment because he had bigger hopes. The manager at Beta evaluated the outcome as poor. He was not happy at all, and thought that the network had become something that was only "peanuts." It didn't help the company in any way, and he felt that they were training and helping the others and receiving nothing in return. The manager at Delta did not evaluate the outcome, but stated that "to cooperate is always a good thing." He focused more on his evaluation of the company's position as "last in the league" in the network and felt they were like a parasite by not being able to give something back to the community. The only company that evaluated their outcome as satisfactory was Gamma, where the managers even expressed that in some areas, they were positively surprised of what had been achieved. They also stated that they early decided to benefit from this (the network). They were quick to establish themselves in the workgroups and for instance to buy recommended software tools. When the facilitator then told them about Beta's initial vision of the network (having a shared company), they found it fascinating. It could seem like communication between the managers and the different representatives in Alpha and Beta was not well developed. Their representatives also seemed to have had problems articulating the results they experienced, or it could be that they lacked the internal arenas for doing so. This resulted in a situation where the managers evaluated the network quite differently than the workgroup representatives. For instance, the aspect of

shared learning experiences has been visible and communicated at the workgroup level. However, when we (the researchers) have talked to people at the management level this aspect mostly has been absent, or not highly valued. At this level, the focus has been on economic outcome and "bigger hopes"; it had not become what they hoped for, it was not on the priority list because of lack of time, and so on. As such, the majority of the managers painted a mainly "gray" picture, saying that the network was of little use. However, in the workgroups, members focused on the tasks, created cooperative initiatives, exchanged knowledge and stories from their own daily work, helped each other out, and so forth. Thus, a quite different, much more positive picture could be painted from the workgroups' and the representatives' own perspective. This was also the case when looking at Gamma's story—a company that was actively engaged and with a manager taking part in one of the workgroups. Looking at the record of participants at the network meetings (Table 3, p. 153), Gamma, the company that invested most into participating at the network arena, also reported the most extensive outcome. Both the managers and the representatives in this company communicated a positive attitude towards the network. This strengthens the argument of a collaborative process across positions internally in the companies to anchor participation and commitment, thus increasing the chances that it will be acted upon and implemented (Cummings, c2004, p. 35). Because of management's direct participation in the network, they can articulate the strategic importance of the work done in the network and the workgroups (Klein, c2004, p. 62), legitimizing the representatives' use of time on this.

10.3.2 Collective reflection processes resulting in new insights and new problems

Even though the managers in these companies had different initial motivations for the cooperation (from establishing a new company to "just" cooperating on certain issues), they in fact found a common platform to start working from during the autumn 2007 meetings. Since then, some of the task forces have changed, others added, and some terminated. These shifts came because different people got involved, focus areas were adjusted, terminated or new ones started, and internal strategies in the companies changed (for instance at Beta). As such, the internal problem definition and motivation can be followed at the network arenas, where this has played an important part of the process of defining current focus and way ahead. However, as previously mentioned, it could be questioned if the problem definitions

posted at the network arenas were a result of cogenerated problem definitions in the representative's own organization, or if this was mainly based on their personal evaluations. The findings from most of the companies indicate the latter. Then it is also likely that the new problem definitions resulting from the reflections done at the network meetings and in the workgroups were not played back to the representatives' own organizations in a structured way (i.e. internal meetings after returning from network activities).

10.3.3 Has the initiative become self-sustainable?

When it came to evaluating whether the initiative (the overall network) was self-sustaining, only the manager at Alpha evaluated this in the interviews. He wished that it was possible to hire a part time network facilitator who could run it professionally. The only indications of similar evaluations have taken place in the network meetings in 2010. Here the participants have stated that they want to keep the network active, but the focus has clearly been on the workgroups. During the workgroup interview at Alpha, one of their representatives even expressed that he sees no point in facilitating the overall network, as the important work in his mind was occurring in the workgroups. The managers, or the representatives in the other companies, have not given any clear indications of how they evaluate the overall network. The evaluation of the workgroups has thus also been more in focus, both by us (the researchers) and the companies, when we have interviewed them.

One of Alpha's representatives is the group leader in both the risk assessment and the industrial safety group. He evaluated these groups as having become self-sustainable, especially the industrial safety group. He told that there had even been an initiative to start up such a group before the network was "born." As such, there were people engaged in this issue who wanted to work on this from the very beginning.

The Beta representative, who is the apprentice training group leader, also assessed this group as self-sustaining in January 2010. The group had developed a program based on modular training, where apprentices would alternate between the cooperating companies in order to cover the different parts of their learning program.

The Gamma representative, who is the building maintenance group leader, already told after the first year that problems they had worked with in this group had been acted upon and solved. After this, the group agreed to meet only if they found new interesting issues to pursue. In May 2010, this group was merged with the Dash group to a group focusing on maintenance in a broader perspective (buildings, machinery and purchasing of services). Also a new group was "born" at this point in time, dealing with issues of quality. These two new workgroups were the only workgroup not declared self-sustaining by the summer of 2010.

In Chapter 11 I will come back to some of the data supporting that the overall network (the main arena) has not become self-sustaining.

10.3.4 Summary

In the continuous learning spiral phase, the evaluation of whether or not concrete problem solving has been reached turned out to be very different. The managers have different view on this compared to the representatives who have been actively engaged in the workgroups. Again, the company that invested most into the cooperation (measured in actively engaged people and by the number of participants at the network meetings) is the company which reported the most extensive outcome. In this company the managers and representatives have the most converging evaluation reports of the network and expressed outcome. The group leaders and members evaluate several of the workgroups as having become self-sustaining during this phase. However, the utility of the main network arena is now being questioned, and a more professionally-run network organization asked for.

10.4 Case comparison summary

In the initiation phase all of the companies were actively engaged, including the managers. The understanding of what the vision of the network was varied among the companies, from establishing collaboration on various areas to creating a new company to focus on maintenance issues. However, this did not hamper network creation, and various workgroups were established where converging problem definitions and competences were mapped out. Alpha and Gamma, which actively engaged in kicking off the workgroups, had a higher activity level compared to the other participating companies.

During the start-up phase, only Gamma reported using internal arenas for diffusion of network learning. They also reported that the network attendance had led to internal process, like purchasing of a new computer tool for risk assessment. This was the only company where management kept their strong involvement in network activities, partly resulting from the technical manager's role as a leader for one of the workgroups. The missing internal results in the other companies were explained to be due to heavy workloads with daily factory operations, competing priorities, and a general lack of time.

In Gamma, where the management was actively engaged in the network during all the phases of the network, the most extensive outcome of the network participation is reported. Their locally experienced problem solving and extended use of network learning seems to be the highest of the companies compared. In the other companies where the management's involvement dropped after the initiation phase, the local outcome is reported to be quite low. This could be due to that the representatives were left alone to pursue the possibilities which the network represented, or that the "pull" in these companies were less. However, most of the workgroups had, according to the workgroup leaders, by the end of the last phase become either self-sustaining, shut down, or cooperatively redefined (at the network's common meetings).

11 Network participation conceptualized as a dual OD process

In this part I return to the theoretical model of network participation conceptualized as a dual OD process, which in this study is interpreted to be equivalent to a dual cogenerative learning process. An illustration of this process can be found at page 117 (Figure 18).

I will reflect on and discuss the experiences across the companies. Due to my methodological approach of action research, I have also aimed to understand the barriers for making network participation contribute to local OD processes in a company. With the help of the empirical data, I also searched for actions or strategies to make this work. This is also supported by my conceptualization of network participation as OD, where discrepancy or gap analysis is an important underlying model defining both problems and goals (French & Bell, c1984, p. 81). This will, together with the action research validity criterion (does it work?) guide my reasoning in this section.

I will systematize and structure the learning processes related to the network and the organization in the three different parts of the model in Figure 18; the organization (Section 11.1), the network (Section 11.2) and the bridge (Section 11.3). The differentiations between these three parts have been discussed in the literature review (see Chapter 7). In this part I will leave the structure used in Chapters 9 and 10 that was linked to the phases of an OD process: *initiation*, *start-up,* and *continuous learning cycle.* These three phases together represent the total learning (OD) process for those involved. Instead, the three different parts (organization, network, and bridge) will be reviewed against three elements: organizing (external conditions), actions taken, and actors (who are involved). The actions taken are found in the center of the cogenerative learning process model (see Figure 18) and are: problem definition/motivation, communicative actions in arenas, mutual reflection and learning, problem solving through acting, and creation of opportunities for learning and reflection in and on actions. For the purpose of simplifying the reading, I have grouped these actions into two major thematic groups: *problem definition and problem solving,* and *dialogue*. These two theme groups are also based in my own reasoning: The problem definition and problem solving point to the problem (subject matter) as such, whereas dialogue points to the meaning

constructions of the problem. How these actions have been organized (external conditions) and who has been taken part in them (actors) will be incorporated into each of these two theme groups.

11.1 Focus on the organization

In this section, I analyze internal organizing, which includes actions taken and what organizational actors were involved in the network. These analyses form the basis for evaluating network participation as an intraorganization development process, which answers the detailed research questions posted in Section 7.5. Thus, in this section I concentrate on findings related to the company, which is the intraorganizational part of the model shown in Figure 19 (highlighted in orange color). This part of the model has been discussed in Section 7.3.

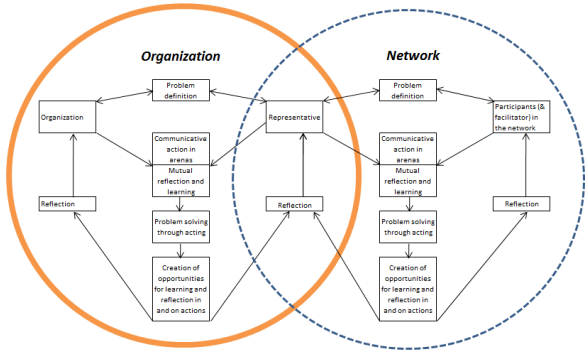

Figure 19 Conceptualization model – focus on the organization

If joining a network is meant to initiate or support a company's OD process, then this process must be consciously planned; this is the challenge for management (Levin, 1997, p. 303). A question which could then be raised is: Did the managers have a working conceptualization of the relationship between network participation and development of their own organization? The OD process must be designed to support both network participation and the utilization of its outcomes in the organization (and vice versa, of course)—where the overall goal is to create a learning organization (Levin, 1997; Senge, c2006).

11.1.1 Problem definition and problem solving

Two of the companies were involved in the early attempts to start up the network, whereas the other two were recruited at a later stage. In this initial, exploratory process the vision changed from an idea of collaboration with machine maintenance to a broader array of possible cooperative task areas. There is no evidence indicating that the representatives (including the managers) based their input to the common problem definition in the network on structured, internal problem definition sessions in their own company before or during network initiation; nor did they create a local "network team" to prepare for, use, and follow up with work done in that arena. As stated by Klein (c2004, p. 24): "*Opportunities to pull in new ideas end up being merely serendipitous without a system that consciously matches outsider-insiders*[27] *to key organizational challenges*." In this further discussion, I primarily concentrate on the *systems* established in the organizations whereas the representatives (Klein's outsider-insiders) and their roles will be discussed in Section 11.3.1.

The company which has been most successful in matching the activities in the network to their own challenges is Gamma. Both the managers and their representatives also state that they are pleased with what they have achieved. They were quick to include network activity reports in both group leader and departmental meetings. The company is not very big, so as they explained, the communication lines are not very long. This could be one of the reasons why network participation was addressed more broadly in the internal forums compared to the other companies. According to Klev and Levin (c2009), if the employees involved in these kinds of processes are not used to working autonomously, there could be a lack of engagement in further developing their own change projects—especially if the normal situation is that these employees are used to being told what to do. Klev and Levin then point to the importance of finding something to solve quickly which can provide an understanding that engagement leads to results. Finding some "quick fixes" has been a focus for the different workgroups. However, it could be questioned whether it took too long a time to organize the groups for the members to get a feeling that they progressed quickly (meetings had to fit into the calendars of people across company borders, as expressed by the Alpha manager). However, since the groups have been self-organized, it has been completely up to the company representatives to arrange meetings and keep to the wanted progress. Again, Gamma, which quickly appointed their own representatives and started working to thrive on

[27] In relation to my work: the representatives from the companies

the participation, is the company that had the earliest report of an internal outcome. Compared with the other companies, they were also less focused on obstacles like finding time to participate. Gamma also acted on what they saw as their own problem areas (for instance, industrial safety), and recruited people from other companies with similar interests to establish a relevant workgroup.

As time went by, and they "*had to start working,"* as the Alpha manager stated, the motivation for participating in the network seemed to drop considerably. This goes especially for Alpha and Beta, as the managers reported that the representatives had asked them to be excused from attending the network or workgroup meetings. For both companies, their managers' original idea was renegotiated in the network, resulting in a broad array of cooperative task forces. These task forces have changed both in number and focus areas during the network's existence, which influenced who was involved from the companies. Based on the empirical data, it appears that management involvement was crucial; managers needed to show interest, engagement, and a positive attitude, as at the case with Gamma. In those companies where the management has not been involved, the learning and possibilities for change that the representatives have brought back to their companies has mainly remained with the representatives. In most cases, learning has not been used for internal development (which has been the general situation in Alpha, Beta, and Delta). The internal motivation in these organizations seems to have been highly influenced by the (lack of) top management engagement and heavy workloads. It has also been strongly influenced by the changes in people involved in the process. Another reason for the differences in translation into local projects exploring and making use of the network learning could be the different cultures in the companies and company size. Gamma is a smaller company and the managers expressed that they are focused on giving the representatives the ability to work autonomously. Even though, these managers seem to be well informed about the activities in the network and focused on the utilization of it internally. The combination of these factors seems to have produced better internal results.

I interpret the findings to indicate that related to an organization's internal process, the problem definition or motivation phase is a continuous, renegotiable, collective activity which has to be nurtured and supported by top management to keep going. By keeping the internal learning process going (as in Gamma's case), the need for also keeping the interorganizational learning process going is reinforced (Holmqvist, 2003). With the exception of Gamma, the

participating companies did not handle the problem definition process in a cogenerated and structured manner. In all companies the problem definition was highly influenced by those who took part in the process, and mainly done in an ad hoc manner.

Summary

Already in the initiation phase, the network became a complex web of actors, with the process being influenced by multiple interests and points of view internally in the companies. In this phase, both the managers and the involved company representatives were eager and idealistic about the possibilities for cooperation and development. During this exploratory phase, a social understanding emerged of a framework that enabled the companies to start acting and working from it. After the initiation phase, the internal motivation in the organizations was highly influenced by the (lack of) top management acknowledgement and engagement and heavy company workloads. As such, in most companies the idealistic visions from the initiation phase met reality, and most of the companies had problems in following up on network tasks and further exploring the network learning on top of their day-to-day operations. Motivation and utilization was also influenced by the changes in people involved in the different phases. Both a structured internal organization of problem definition and outcome evaluation seems to have been missing in three out of four companies. This also resulted in lacking reformulation of challenges to be posted in the network. From this I conclude that problem definition or motivation is a continuous, renegotiable collective activity which has to be nurtured and supported by top management for a network to continue running—and consequently be an activity that supports internal problem solving.

11.1.2 Dialogue

To create learning for more than the person who is the company's representative, there has to be created room for learning processes internally (Eikeland & Berg, c1997, p. 34; Kristansen, 2009, p. 246). For these processes to happen, relevant arenas have to be established and used. These arenas can for instance be a meeting between two or more people, a teambuilding session, a task force meeting or a leadership group meeting (Greenwood &Levin, c2007, p. 94; Levin, c2004). Klein (c2004, p. 24) points to the importance of building infrastructure that fits the organization's unique cultural attributes (formal or informal systems). Whatever form these arenas have, to create them rests in the hands of the representative and his organization.

Such arenas could also be looked upon as company internal networks used to "spread the good work or words." This way of network organizing means to work across the organization both vertically and horizontally, including those affected and who could benefit from the learning process.

Based on the empirical material, there are two distinct different approaches to both learning in the network itself and the subsequent internal company utilization of that learning. First of all, there is the "Yes, it is very important, and we know it requires some work. However, we don't have the time." Then there is the "Yes, it is very important, and we have decided to do what is needed to get the most out of it." The structured internal follow up process is missing in all of the companies (all of them stating that this feedback was not done in a regular, planned way). However, in Gamma this seems to have been managed the best. This can be exemplified by the work done related to risk assessments, which has influenced their work with health, safety and environment (HSE). In the other companies, internal followup has been sporadic; for instance, that more people from a company attend when the meeting occurred on their premises. Turning to the Beta manager's explanation of how he followed up their network participation: "*What have we learned, and what have we earned?"* are definitely legitimate questions. However, according to the theories of participatory OD processes (Cummings, c2004; French & Bell, c1984; Klev & Levin, c2009; Levin, c2004), this could have been part of a collective process where the engaged people and the manager(s) jointly evaluate network participation on a regular basis. Based on the utterances of the manager in Alpha and the manager in Beta, the internal communication and/or internal arenas for making this happen seem to have been missing. To be able to use their knowledge and learning internally, it is important that the results are not kept only as thoughts (Lysø, 2010). It would also help if there is a positive "pull" in the organization (Klein, c2004), meaning the knowledge and learning the representatives bring back is requested in their own organization. The representative is left walking in no-man's land if his learning and knowledge is not requested and subsequently used in the organization. This means that it is important that the network learning is used as basis for internal exploration and its use cannot rest solely on the company representative. However, there must of course be a reason for creating the internal arena. The network participation must then have given some outcome that could be beneficial for the organization to follow up with. The interest for and the possibilities for participating in a particular network are of course influenced by strategic or other changes in the companies as

time goes by (this was the case at both Beta and Epsilon, where internal changes eventually led to withdrawal from the network).

Even though such internal arenas seem not to have been created in each company, the representatives and the managers at least have had a joint forum in the main network. Of course, this has only been relevant for the times when both the managers and the representatives have met at these network meetings. However, on these occasions, they have met each other, listened to what the different groups have accomplished, discussed, and evaluated their own work in the network. This has also been a forum where they, to a certain extent, have expressed for instance changes in company strategies which already had influenced, or would become influential on, their participation. However, there is no evidence that the plans ahead which have been posted at the network arena were based on their own internal preplans for this work (planned and discussed before they came to the network meeting). When asked about this, none of the companies had internal preparation meetings prior to the workgroup or network meetings. Also, the empirical data clearly shows that there was little communication between the leaders and the representatives in some of the companies, strengthening the argument for that this has been an ad hoc, here-and-now process.

Only one company (Gamma) has pointed to actual economical benefits resulting from the network participation, even stating that they have saved "quite a lot" on consultants who they previously used for doing risk assessments. Gamma clearly articulated that they got done some tasks they can't do alone; they reported the most extensive outcome and they also communicated a positive attitude towards the network. As stated by French and Bell (1984), the belief that something is important tends to result in it being important. The belief that the organization can benefit and learn from the network could then tend to produce this result. Thus, values and beliefs can be self fulfilling. Therefore, the question becomes "*What do the companies choose to want to believe?*" (French & Bell, c1984, p. 51). The insecurity company workers expressed about "should or could we use time on this" (both the network and workgroups) was not an issue for Gamma representatives. Both the managers and the representatives themselves stated that the company had decided to actively use the network. What the representatives actually gained from participating in the network may not have been visible to managers in the other companies. This could be because the managers were not present in the activities that took place, or it could be because the participants (as stated by the

manager in Beta) had trouble with reporting their outcomes. Another explanation could be that some of the managers do not value the invisible results, like increased competence and that the employees have developed a community of practice across company borders. Such tacit-knowledge (Polyani, 1956) results are not easy to quantify (as "*what have we earned?*"), communicate, or measure. Managers and skilled workers can have different worldviews, making it difficult to communicate results in ways that both can find meaningful. As such, when internal forums where these kinds of results can be expressed and discussed are lacking, then it is difficult to establish a common understanding of the relevance and importance of the work done in the network. Another way to handle the network participation is to anchor it at different levels in the organization, allocate resources and actually have a plan for how to use it, including local diffusion (Miles et al., 2005). Management is the activity related to developing possibilities for long-term survival of an organization (Cummings et al., c2001), and it seems like management also is needed for increasing the long-term survival of being part of and develop benefits from network participation. The findings show that if arenas for local handling of and dialogue relating to the network participation are not arranged for and used, then learning from the network remains with the individual.

Summary

To create internal arenas as a result of network participation did not appear to be part of the companies' strategy; neither was it a priority to practically arrange for such meeting places. This indicates that, despite the network being built to support their own defined problems, the internal arrangement for using this as input to solving company problems mainly has been lacking. However, the one company that used their existing arenas for reporting and had management staff engaged in the network expressed the most extensive outcome of their participation. This company also said that they used their learning from one of the workgroups as a stepping stone to develop more extensive plans and systems relating to HSE (i.e. as means for intraorganization development). From this I have concluded that the creation and use of internal arenas are influenced by a visible "pull" in the organization, and/or internal conduction and support and nurture from the management. As this also is highly influenced by the people involved and the constantly changing environment internally in the companies, it has to be kept "fresh." It is as such an ongoing, continuous activity, as indicated by the lack of actions in the companies from the idealistic initiation phase, compared to the subsequent, realistic phases (when they had to start working).

11.1.3 Network participation as an intraorganization development process

For participation in the Ewa company network to be conceptualized as an intraorganization development process, companies should have had some sort of organizational change as a result. If nothing has changed (problems solved or opportunities seized) in the organization as a result of the network participation, then no organization development has taken place. This also means that no sets of actions (corrective actions, enabling actions, or alignment activities) to change situations internally related to the issues dealt with in the network has taken place.

The findings show that the problem definition in the organizations was not based on an internal cogenerated, exploratory process. The problem definition has been found to be a continuous, renegotiable activity highly influenced by those who have participated in it, and has mostly been an individual activity. Also, in three out of four companies the network participation did not lead to a locally structured and planned problem solving process. The creation or use of existing internal forums/arenas as a result of participation in the network has only been found in one company, where learning from the network has been used for intraorganization development. As such, the learning from the network has mostly remained as individual learning for the representatives. The collective internal reflection processes related to their network participation has thus not taken place. This leads to the main finding that the structured and planned way of handling network participation as a means for organization development has mostly been lacking. Also, the lack of (top) management support (3 out of 4 companies) has been found to be vital for the (lack of) results. However, the company that adopted the most structured way to handle their participation and had the most extensive use of it (counted in numbers of representatives in meetings and internal processes as a result of their participation), also reported the most extensive outcome. As the other companies, they did not consciously arrange their participation in the structured way as laid out in the cogenerative learning model (Figure 19). Despite this, the problem definition, problem solving and communication in intraorganizational and interorganizational arenas, including learning and reflection, seem to be intangibly interrelated. If the internal processes is lacking, then the network is not found to be that valuable; at least when evaluated by the less engaged managers.

11.2 Focus on the network

In this section I focus on findings related to the network, which is the interorganizational arena of the model shown in Figure 20 (highlighted in blue color). This part of the model has been discussed in Section 7.2. I analyze the problem definition/motivation in the network, the creation of arenas in the network, and the outcome of these efforts. In this part, the network facilitator also becomes visible. How the network facilitator organized and carried out his role, including how this has been supported by reflection processes within the researchers' team, will be addressed. I also addressed how the workgroup leader function has been organized and played out. These analyses form the basis for evaluating network participation as an interorganization development process, and through this, will answer the detailed research questions posted in Section 7.5.

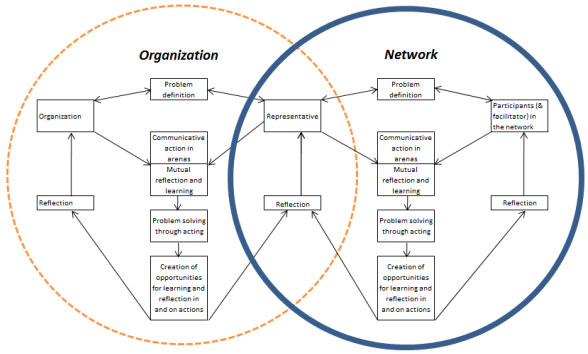

Figure 20 Conceptualization model – focus on the network

11.2.1 Problem definition and problem solving

As already presented, the idea of what the Ewa company network should concentrate on varied to a certain degree among the companies. However, what the two managers who were involved in the first initiative found really interesting circled around the same idea; joint efforts related to maintenance of machinery. When new actors (the managers from the other companies) entered the arena it quickly became redefined to the need for a competence based network (a learning arena) within an array of problem areas. Why it turned out this way is blurred, and none of the involved actors has been able to explain exactly why this turn away from the strict focus on maintenance of machinery (and presumably a jointly owned company dealing with tasks related to this) happened. Maybe the initiators didn't manage to take the

vision down to a practical level where it could be put into concrete actions? As expressed by Miles, Miles and Snow (2005, p. 84): *"If one cannot conceive of or justify something, then it is unlikely that it will become a reality."* Did they leave the further development of the network to other managers further down in the organization, as the manager in Beta implied? Then the focus switched, because these new people who got involved started working on matters which were important to them, not paying attention to the initiators' vision of the network? Or are some of the answers hidden in the financial system or the other systems (like the relation to the trade union) which the companies are part of? Whatever the real reason for this turn in focus was, it was highly influenced by those actors who left and those who entered into the process of materializing the initiative. As argued by Holmqvist (2003, p. 105), when where there is a low degree of interdependency between the companies, the need for bargaining increases. This can be exemplified by the fact that the original idea of a jointly effort related to maintenance of machinery was collaboratively renegotiated to a broad array of cooperatively task forces.

The next step was that the workgroups were established based on an area of interest (risk assessment, handling of apprentices and so on). These self-managed workgroups, inhabited by the relevant employees from the different companies, worked up their own concrete "package" of problems during their meetings. They did this by identifying gaps in their knowledge and practice which could be addressed in the group, i.e. they explored the concrete subject matter within the task area where it would favorable to cooperate. The motivation and problem definition has also been addressed at the end of almost every network and workgroup meeting, in some variant or another of "*Where are we, and where are we heading next?"* This process of setting the joint problem definition in the network shows that motivation for working in a network is not something that is a one-time happening, and only related to the first steps of the process. The ongoing problem definition in the network and in the workgroups has supported the development of these arenas, complying with the different and emerging needs of the participating companies. This is discussed by Haga (2007, p. 82), who states that the network itself has to improve if it is to be a strategic tool for the companies. Just as the companies change due to continuously changing business environment, the network has to change accordingly (Haga, 2007). Relating to the problem definition, the network and the workgroups have functioned as cogenerative arenas, and this activity could potentially have supplemented valuable input to the participating companies' own exploration of internal problem areas. I find problem definition and motivation closely linked, and as

stated by Greenwood and Levin (c2007, p. 93), the problem definition is not ever final. When the initial problem is reshaped to include newly discovered dimensions, this is a good sign of learning having taken place (Greenwood & Levin, c2007). This also implies that strategies and goals must be changed as the network evolves and develops (Kristansen, 2009, p. 246-247), and this has been an ongoing process in the Ewa company network. Since the problem definition has been steered by the companies themselves (although some of it has been streamed through the researchers and the facilitator), the network has focused on working-level challenges. If these challenges were important enough could be questioned. Were they for instance barriers to achieving strategic and tactical objectives for the participating organizations (relevance) (Klein, c2004, p. 21)? This questioning is based in the data supporting that the companies' follow up and utilization of the network has been variable (as discussed in Section 11.1).

However, the problem definition process went from occurring in a management-steered, closed forum, to a more open initiative where those who became company representatives among the employees "took over" the problem definition early in the process. As such, the process involved many people with different viewpoints and agendas[28]. This shifted the problem focus in directions not everybody agreed upon. It is a widely held belief that people tend to support what they have helped to create (French & Bell, c1984, p. 113). However, this didn't happen in the network with the two managers who were the initiators. Why is this? Is it because they did not get what they initially wanted? They continued in conversations with the facilitator and I to reference to the original intention: to set up a new joint initiative (maybe even a jointly-owned company) based on maintenance, a spare-parts pool, and maintenance services. Strangely enough this was not put up as an option, nor proposed, at the first mutual network meeting in December 2007. The two managers clearly expressed their disappointment with the change of focus, both stating that the network had moved in the wrong direction. By the end of 2009, they spoke of the network as almost an object, as it was something existing in of itself that they did not control (Berger & Luckmann, 1967). It could also be viewed as they didn't hold on to the process, making alliances to turn it into what they wanted (Latour, 1987). In the end, it could be interpreted that they wound up in some kind of a Frankensteinian dilemma: They didn't love their own product. The two other companies,

[28] The managers could have had different reasons, such as cost reduction and establishing a new company, compared to the representatives, who in most cases were skilled workers who wanted to work with solving concrete problems and to leverage their own competences.

which were recruited and where the managers did not take part in the initial vision of a joint effort related to maintenance of machinery, did not express nor share similar worries. Their motivation for joining the network coincides more closely with what the network actually became. However, to start up as these companies have done, could be a way to lay the ground for the initial vision relating to a jointly owned company (Miles et al., 2005). This includes the open sharing of information across the companies to foster collaboration on certain areas, and the establishing of workgroups where the governance system is self management instead of hierarchical direction and control. This theory can be supported by Gamma's reaction when they eventually heard about this idea in late 2009, where the managers stated that a jointly owned company is a really interesting option. As such, this network initiative could be a stepping stone towards such a goal. So far, these companies have a share in both their jointly made network and what takes place within. Just as would have been the case if they had a jointly owned company, they must take responsibility for their own share in the network to obtain maximum outcome from the investment. However, the companies' investment by management has been variously handled.

The anchoring against the Norwegian Confederation of Trade Unions, LO, and the Confederation of Norwegian Enterprise, NHO, the shop stewards in the companies, and the workers or technical responsible were well covered in the initiation phase of establishing the network. However, it was neither anchored to the top management level in some of the companies, nor was it implemented into the strategies of any of these companies. As addressed in Section 11.1, there also was no internal buildup of any formal or informal follow-up strategies. Klein (c2004, p. 21) claims that the top, middle, and lower levels of an organization must work in unison to propagate new ideas throughout the organization to create true change. The question then is how the missing commitment from the top management or strategic level and the missing internal arenas influenced the outcome. This could be linked to the lack of focus on the goals setting in the beginning of the network process, and how this influenced the further process. Goals can be seen as gaps between where we are (present state) and where we want to be (desired state) (French & Bell, c1984, p. 82). The problem definition in the initiation phase increased the gaps for the managers (between the initial vision and what eventually became). For the technical employees, who entered the process later, they actively worked to close gaps seen from their perspective via workgroup participation. This could indicate that through the broad participation introduced by the research project, which resulted in heavy involvement of employees from lower levels

in the companies, some of the companies lost their (top) management supported. According to French and Bell (1984) this support from the power structure is important to ensure an effective OD process. Coming back to Klein's (c2004) claim, the top, middle and lower levels of the different organizations did not work in unison to establish their own problem definition relating to the network. This could be the reason why each company was not able to post clear, shared problem definitions in the network arena.

Summary

The problem definition process in the Ewa company network has been ongoing and cyclic. The initial problem definition, which was broad and idealistic, was tested and renegotiated several times, being influenced by those who participated and worked in the different phases of the network process. The network learning process could thus be conceptualized as an ongoing, collective, cogenerated interorganizational learning process. The lack of a unified problem definition internally in the different organizations resulted in the inability to post a common problem definition for their organization at the network arena. It was left to an ad hoc, here-and-now process. However, this part plays back to the intraorganizational part of the network participation, interlinking the internal and external problem definition processes.

11.2.2 Dialogue

The network arena has been used as both a reporting and knowledge-exchange arena, mainly steered by the facilitator (and the other researchers). In addition, common activities like lectures have taken place here. In this joint forum the workgroup leaders have reported on and discussed future plans for their group. At these meetings, resolutions related to redefining, ending, or starting new workgroups took place. This was not only based on reports from the workgroup, but also what we (the researchers) extracted and played back from prior interviews with both the companies and the workgroups. In addition, this has been a here-and-now process among meeting participants. The network meetings have thus been both moments for reflection and guidance for further action in the workgroups. As such it could be interpreted that cogeneration of new actions took place at the network arena. However, a question raised several times by some of the participants, and as recent as January 2010 by an Alpha representative, has been: Do we really need the network arena? They have questioned the purpose of it, and the matter of who should attend these meetings. As attending these

meetings has been found of little interest for some of the representatives, there has been put forward a suggestion that this could serve as a forum for the management level only. This problem is highlighted by Wenger (c2003), who states that spending time reflecting can detract from engagement (as spending time at the main network arena can be felt like). Several company representatives also posted a suggestion to add consistency to the network meetings (for instance four meetings a year on set dates). By the summer of 2010, no resolutions related to these questions have been taken. However, if the "overarching" network is removed, it could be questioned if it still is a network. Since the network is a social construction, it cannot be separated from the actors engaged in it (Levin, 1997). If it is reduced to an arena for management only, the anchoring against the workgroups disappears. Then it will potentially be even less visible for management to see the usefulness of the workgroups. As such, the network will lose its node, and the workgroups will not have any interconnections with each other. This also means that the possibility for innovation, knowledge production, and learning processes across workgroup boarders is lost.

Subarenas to the network, called workgroups, were already established in the initiation phase. The ideas, which were collectively explored at the main network arena, were not possible to handle at this level. At the main network arena, only the focus area which was found interesting to explore was discussed, and a loose framework was drawn up. Defining specific goals for the work to be performed in the different proposed groups were left to their inhabitants. In this way, the participants created forums and arenas where they could discuss, train in practice (performing situated/action learning, revealing tacit knowledge), and where they reflected together both on the current situation and told learning histories from their work life. As such, the workgroups quickly started working as separate communities of practice across company borders (Wenger, 1998b). Here the participants could offer each other advice with no risk of getting entangled in it, and they could listen to advice and experience from others with no obligation to take it (Wenger, 1998b). This could be the reason behind the surprisingly open sharing of information which took place in the workgroups I attended.

Both the network and workgroup meetings alternated locations. This has been part of one of the early addressed goals for the network: to get to know each other better as companies; to visit each others' factories was highly desired. The practical arrangements for these meetings were done in several different ways. The network meetings were called for by either the facilitator or me, but the location and date for the next meeting would always be set at the

current network meeting. At the second network meeting, when workgroups became populated with people from the different companies, they appointed a person in each group to make arrangements for the first group meeting. After that, some workgroups continued to place the responsibility for arranging the meetings to the appointed person. Others alternated the responsibility and placed it on the representative in the company where the next meeting was to be located. Two workgroups planned ahead—four meetings a year with set dates at set locations—in hopes that (as stated by the group leaders) this would contribute to the group's continuity and survival.

At the workgroup level, the "give-and-receive"[29] problem became more and more a subject as time passed. This made it difficult for the workgroup participants to establish a sustainable "community of sharing" (Kristansen, 2009, p. 85). An important point here is that competence and experience at the individual level can neither be too close nor too disconnected; otherwise, it can lead to a situation where learning has not taken place (Wenger, c2003). This variance can also be found at the group level; perhaps it is even more challenging to handle this in an interorganizational learning community. As expressed by the Alpha manager, *"…when you feel that you only are giving, then you immediately don't bother anymore.*" The feeling of only giving has been expressed strongly by both Beta's manager and some of its representatives. To put oneself in just the "giving" position could be explained by the lack of ability or interest in searching for opportunities to pull in change to one's own organization (Klein, c2004, p. 185). Another possible explanation could be that, as mentioned before, the representatives didn't manage to articulate their outcome internally when asked. At the other side of the scale, the manager at Delta expressed that he felt badly about being "the worst in the class" in the network. He even phrased it as the feeling of being a parasite. The manager learned from participating in the network that whatever he tried to manage at his factory, it seemed for him to be a hundred times easier to accomplish the same in other places (the other companies in the network). When we discussed this issue (December 2009 interview), Delta's manager didn't agree with me that their openness and problems sharing with the other companies could be characterized as a contribution, and that the others probably learned from this, too. Their participation in the network could be understood as a legitimate peripheral participation (LPP), which is a theoretical description of how newcomers become experienced

[29] Give and take is a more common expression to use, but one of the representatives from Gamma pointed out that this expression was not correct to use in the network situation. He explained that to receive means that it is given to you, but to take does not necessarily mean so. One can take something from others without their consent. After this, the members started to use "give-and-receive" when they talked about this issue.

members and eventually old timers of a community of practice or collaborative project (Lave & Wenger, 1991). However, this explanation does not solve the problem of the unbalance in "give-and-receive" at a set point in time. The feeling of being only a giver or only a receiver is both far from the ideal situation (balance). Both could potentially end in withdrawal. The problem is that this "give-and-receive" situation (divergence) is as necessary for some learning to take place as a certain degree of convergence (Wenger, c2003). If everyone is at the same level, there is no dynamism and the group is in danger of becoming stale (Wenger, c2003).

Beta withdrew from the network during the summer of 2010, but the "giver" situation was not part of the reason offered for this. Beta and Delta, both operating within a group of companies, have intraorganizational networks which they could use. The manager at Beta even stated that they had more than enough work trying to use and thrive on internal cooperation, and that they didn't need another network. (This was contradicted by one of their company representatives, who stated that they do not cooperate with the other factories in their group on these matters anyhow.) However, at the same time the Beta manager said this, he was also eager to find new more "promising" areas of cooperation, like Lean production. This could be interpreted in at least two ways: 1) Single companies need interorganizational networks because they do not have the same possibility as those that are part of a group of companies, or 2) what really matters is that the topic is important and interesting for the company. The findings support the latter, since Gamma is also part of a group of companies. Gamma found great value in network participation, and it also seemed like they found a balance of giving and receiving in the network. In a network like this, boundaries between companies are crossed over, and different mindsets meet each other in a new social learning system. As such, there should be learning and innovation potential for all of the actors who really are seeking this (Wenger, c2003). Lack of interest, engagement, commitment, and willingness to interact could be possible explanations for not experiencing this (Wenger, c2003). Another reason could be that the company does not have a clear strategy including routines for where and when they can enter an opening-up process for exploring intraorganizational and/or interorganizational issues related to perceived internal problems (Holmqvist, 2003).

Summary

Based on the needs of the participants, areas for collaboration were explored and negotiated at the main network arena. These collaboration areas were broken down into task areas which could be handled in separate workgroups. Over time, these workgroups have been established, renegotiated, and terminated due to the collective evaluation of their performance and usefulness. As such, the network consisted of multiple arenas dealing with different tasks operating independently of one another. The main network arena has served as a forum for both discussing progress and collective reflection across workgroups and the different companies, which served to adjust further work and to a certain extent align the workgroups. In addition, other common activities, like lectures, have taken place here. However, the purpose of this forum has been questioned by several of the representatives.

11.2.3 Facilitation and reflection

The project manager for the research project connected to the Ewa company network has been the researcher who was asked by Alpha's manager to help with the process of establishing the network (he has been called the facilitator in the previous chapters). He has been the keeper of the main facilitator role for the network all along. During 2007, the facilitator mainly handled this initiative by himself, but then he gradually involved the overall project manager of the regional VRI project and a process of including it in this started. The facilitator termed the process he had got involved in as very exciting, and he recommended that I joined in and used it in my PhD study. He worked by himself to set up and perform the meetings, which in this phase was treated with great secrecy. The managers feared a reaction from the unions, so until the facilitator had informed NHO and LO[30], the meetings relating to the initiative were kept outside the companies.

However, since the first network meeting in December 2007 a team of researchers has been involved in the network. In this phase (end of 2007-autumn 2008), responsibilities within the research team were blurred, resulting in a situation where minutes were not produced and the network was poorly followed up with. In this early phase, I was a "novice" on the team. I was occupied trying to understand and orient myself in the setting and contribute where I could, and less focused on "collecting data" (writing down what was said and done, taking minutes).

[30] The Confederation of Norwegian Enterprise, NHO and the Norwegian Confederation of Trade Unions, LO

In autumn 2008, when nothing had happened in the project since June, I felt that the situation became so pressing that I asked the overall project manager to step in and call for a meeting in the researchers' team. At this meeting, the overall project manager asked the facilitator to include me actively in the project. On my request, he also persuaded the facilitator to ask the companies if they would allow me to interview them before the next network meeting. This way we could get a better impression of how the different workgroups were proceeding, and what the participating companies thought of the work done in the network so far. I performed these interviews (the facilitator joined me at Delta), processed them, and the results were presented back to the network by the facilitator at the January 2009 network meeting. At this meeting, slow progression in the workgroups was revealed. It became clear that this was partly due to confusion about who to call for meetings, as any list of the company representatives' names and contact data related to the different workgroups not had been made. The participants asked for help to setup a list of the different representatives. I did this job, and the companies expressed later that this helped them administrate the workgroups. However, my willingness to help and swift response to the companies' request resulted in some turbulence relating to areas of responsibility between the facilitator and me.

Since autumn 2008 there have normally been held a meeting within the researchers' team in the project before the network meetings, where planning of the meeting and burning issues were discussed. In these meetings no network representatives were present (nor were they invited). A draft of an agenda for the upcoming meeting would be sent to network members (managers and all company representatives), asking for comments and input on issues of interest. After the network meetings, we normally had an informal researchers meeting to discuss what happened and its outcome. There has been a dispute within the group of researchers, with some criticizing the way the project has been run addressing the lack of a more strictly planned research agenda. As such, the discussion centered on the balance between action and research, with participants taking sides. This issue plays back to the problems raised in the methodology chapter related to the multiple roles of an action researcher (Section 8.3). If I were to try to evaluate myself, I think I have moved between these positions, gradually finding a balance between action and research.

During 2009 and 2010 the facilitator regularly wanted to cancel network meetings. This has been due to either him or us (the researchers) not doing what was expected until the meeting or little overall progress in the network. The facilitator has also been heavily occupied with

other projects. This situation of postponed or potentially canceled meetings has been documented in many e-mails. There have also been regular phone calls and conversations initiated by me, but mainly executed by the overall project manager, who repeatedly took on the job of gently encouraging the facilitator to arrange both internal meetings and network meetings. This kind of facilitator follow-up activity was not done from early summer 2008 until the late part of 2008, resulting in low activity in the network and corresponding research project. However, from the beginning of 2009 and onwards, I took on more and more of the responsibility to maintain progress in the network and the connected research project. This included, for instance, preparing for meetings and following up the companies. Despite this, the facilitator still remained in his formal position in the project. Fortunately there were several researchers working on this project, and as such had the possibility to push each other or provide backup for one another (Thorsrud, 1976). This is probably not the case for the representatives in the different companies. When nobody softly encourages one—or at least shows an interest for what a person is doing—it is, based on the experience from the research side of this network project, not hard to see that such initiatives can easily fade away. However, the lack of progress and preparation from the facilitator's side became more visible also externally (outside the researchers' team) as time passed. At the 2010 network meetings, company representatives also expressed their dissatisfaction as activities that should have been performed before the meetings had not been done. The facilitation of the network had not occurred according to description of how OD should be performed (French & Bell, c1984; Klev & Levin, c2009). Neither does it coincide fully with the action researcher's obligation to contribute to learning both for the insiders (the participants in the network) and the outsiders (the researchers/the research community) (Greenwood & Levin, c2007; Klev & Levin, c2009).

The situation which arose at the network arena could also be seen as a result of that the responsibility for the network had been placed on the external facilitator. The facilitation of this network was outsourced from the very beginning. The long-term goal within action research is to hand over the responsibility for the process to the locals, but in this project the researchers kept the responsibility for the activities at the main network arena. It could be questioned whether our interference blurred the companies and their representatives' ownership to the network. The fact that the activity regularly dropped in the workgroups when there were periods of no engagement from the research project side, and increased when call for a new network meeting was sent out, could indicate this. Instead of engaging the

companies in the activity of recruiting new companies to the network (summer 2010) this was put up as an activity for the facilitator to do. This could have easily been done by the companies themselves: Who knows who? Who can you try to recruit? The problem of staying in the facilitator role could be that the companies in fact disconnect themselves from the responsibility of making the network work, and they get somebody to blame if it fails.

Another way of running the network arena could have been to handle it just as some of the workgroups have handled the group leader role; they handed the responsibility to call for the next meeting to the representative for the company next on the list to keep the meeting (keeping the meetings has been circulated among the companies). The circulation model for location has also been used for the network meeting, but the responsibility for planning the meetings has been placed on the facilitator (activities which, over time, I mostly carried out). He has also acted as the chairman of the network meetings, which easily could have been distributed to the hosting company. Based on the experience, I will argue that we have failed in the way we have facilitated the network after the start-up phase. This has not been discussed in the researchers' team yet, but will be played back as a reflection and possible rearrangement in the continuation of the project.

However, the manager who asked the facilitator to help out with the network initiative has all along stated his positive attitude towards the research project which eventually was built up around the network. He has stated that to establish theories around their work are important, and to document it for later use. He said:

> *"…we have a very operative and result-based focus. We need to get results. However, if researchers with a theoretical foundation can harvest practice-based experiences from us, maybe ask critical questions—that is solely positive. But we need to see some economic results of it in our organization. The researchers cannot act as clever guys – because many of the people in the company have simple thoughts, not meaning that they are simple people. They are on and off. If you get them in off position, it is very hard to get them on again, so to speak. [Laughter] Then it is like hell. People have expertise, but maybe nearly no education. You have to show humility with respect to their expertise. It is all about respecting each other."*

The facilitator was asked to help with the network because the manager knew him from other projects and believed that he both acted respectfully towards people at the shop floor and that the workers trusted him. The facilitator has substantial industry experience, with insight to the problems and challenges being dealt with. The facilitator is thus highly valued in the industrial community, balancing the problems which have been faced internally in the

research community. I will argue that this speaks in favor of having a group of researchers facilitating projects like this, because depending on the arena, different persons can fill different roles (just as different people from the companies fill the different group leader roles in the workgroups). However, the responsibilities should then be defined and the roles made clear. This could, at least potentially have avoided some of the problems which have been present within the researchers' team. If this is not done up front, it would be favorable to include an evaluation of the roles and how it works it practice in the ongoing reflection processes as the project proceeds. This is in line with the right side reflection loop in the cogenerative learning model.

In autumn 2008, the managing committee of the regional VRI project also placed pressure on both the network project and the facilitator. They felt the network was too small and occupied with matters which were not interesting enough. They wanted the researchers to both find other networks which could be linked to this one, and start a new network in a different part of the county. The request for expanding the network was presented to the participating companies at the January 2009 network meeting. The companies turned this down, claiming it was far too early to include other networks into their own, quite new, initiative. They argued that they needed to establish a more solid foundation, and build stronger relations among the existing collaborating companies. They argued that they had not gotten to a point where they had acted on the different possibilities for cooperation across the current group of companies. The companies were actually quite clear in their message: This is our network and we want to decide *if* new companies should be taken up as participants—and if so, *when*. However, this didn't affect the regional VRI project managing committee's perception of the situation. It created a tension related to the financing of the project. This specific event is an illustration of one of the controversies which has been present at the research project side of this network. It is also an illustration of how the network members wanted to "guard" the boundaries of the network themselves, and that such boundaries connect communities (Wenger, c2003).

The workgroups have been facilitated by a representative from the companies (or they have circulated this role among the group members). In this way the workgroups have taken responsibility for their own agenda, which should have deepened their mutual commitment and pushed their practice further (Wenger, c2003). However, as already documented, this has been hampered by both the companies' "daily worklife" and the confusion about who the members of the workgroups were in earlier phases.

Summary

The facilitation of the main network was outsourced to the researcher who has all along been the network facilitator and the project manager of the connected research project. Gradually a team of researchers became involved in the network activities, which also led to different voices in the debate on how the project should be run. On one side, the research project added structure and helped keep the work going; on the other side, the entry of an external facilitator and the research project possibly hampered the companies' ownership of the network and its activities.

11.2.4 Network participation as an interorganization development process

For the Ewa company network to be conceptualized as an interorganization development process, the network as an entity (Knight, 2002; Knight & Pye, 2004) should have undergone organizational change of some sort. If nothing has changed (problems solved or opportunities seized) in the network as a result of the activities performed within, then no interorganization development has taken place.

Relating to the main network arena there has been several problem definition cycles including renegotiating of the areas for cooperation. Based on the processes at the main network arena, task forces (workgroups) have been established and run. The problem definitions and problem solving have been done in an interorganizational, cogenerated manner, where reflection and evaluation processes have been going on at all arenas (main network and workgroups). The workgroups have been operated autonomously, where the group facilitation has varied, from dedicated group leaders to circulation of this role. The main network arena has been facilitated by an external facilitator, who was highly involved in the initiation phase of the network. This arena has served as a forum for discussing progress, collective reflections across workgroups and the different companies, serving to adjust further work and to a certain extent aligning the workgroups. Evaluating these processes from a network level (Knight, 2002; Knight & Pye, 2004) and by the elements in the cogenerative learning model, the network has fulfilled the requirements of being an interorganizational learning process. The network has learnt, as the processes in the workgroups and the main network have changed the properties of the network (practices, structure and interpretation) over time (Knight &

Pye, 2004, p. 485). However, the engagement related to the network and the workgroups has been variable, both seen from the participating companies side and from the research side. This has led to periods of high activity with many interventions led by the facilitator and/or the connected researchers, and periods with very low activity.

11.3 Focus on the bridge

In this section I analyze and discuss the aspects relating to the bridge between the organization and the network. The research questions posted in Section 7.5 will here be sought answered. These research questions were:

- How does the organization handle bridging between itself and the network?
- How does the network facilitator organize and work with the bridge between the organization and the network?
- What does the bridge consist of?

The role of the representative as the bridge builder and bridge walker between the organization and the network will here be in focus. This is illustrated in the highlighted area in Figure 21. However, resulting from the analyses, the facilitator's role, converging problem definition and problem solutions and a common arena will also be discussed related to the bridge.

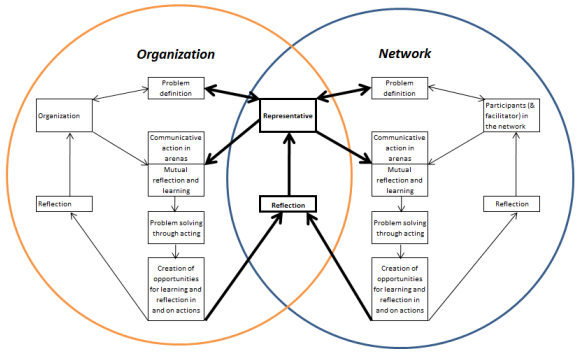

Figure 21 **The bridge between the organization and the network**

Serving as a metaphor, a bridge has a solid surface and a railing that prevents people from falling off the bridge. What constitutes the surface and railing between an organization and a network? Can an I-shaped representative fulfill the role as both a bridge builder and local

development agent in his organization? Who else needs to be involved and what are central activities? These analyses form the basis for evaluating network participation as a facilitated, bridged process where the network facilitator has an extended role also helping out as an OD facilitator in the participating companies. How this influences the conceptualization model will be discussed in Chapter 12.

11.3.1 The bridge walkers

The representative's role

The representative is supposed to "walk the bridge" between his organization and the network. He has to deal with alternating between the collective process in his organization and in the network, and the individual process bridging these arenas (as shown in Figure 14, Section 7.4). This could potentially be challenging. Klein (c2004) uses the metaphor of being able to wear two hats for people who tackle this challenge, calling them outsider-insiders. They are accepted as an insider in their own organization, but have an outsider's view to see the gaps. Klein states that one can "create" outsider-insiders through development activities, which joining a network could represent. It is a way to break individuals out of any ingrained mental models that foster complacency and reject diverse points of view (Klein, c2004, p. 18). An alternative to the notion of outsider-insiders is T-shaped people (Hansen, 2009; Hansen &von Oetinger, 2001). Those are people who break out of the traditional corporate hierarchy to share knowledge freely across the organization (the horizontal part of the "T"), while remaining fiercely committed to individual business unit performance (the vertical part of the "T"). I have extended the notion of T-shaped people to I-shaped people. It symbolizes those who are able to both collaborate and share knowledge across organizational borders (the upper horizontal part of the "I"), and across their own organization (the lower horizontal part of the "I"). In addition, they are able to deliver results in their own job (the vertical part of the "I"). In my mind, this is a picture of the tension the representatives have to deal with, and ideally what is within their responsibility to handle.

In the early initiation phase of the network, managers filled the company representative role. The network was quickly supplemented by a set of workgroups, which were populated by other representatives from each company. However, during this phase the managers in the companies were involved and showed great interest in the network, eager to making it

become a reality. The representatives for the workgroups were chosen based on internal responsibility and relevant competence, in line with what the technical manager in Gamma stated in a November 2008 interview:

"We have to use those people who are the right ones in those groups."

Klein (c2004, p.18) argues that overall, being an outsider-insider (representative) means creating and maintaining attitudes that continuously question underlying models. They are accustomed to questioning both their organizations' and their personal assumptions (Klein, c2004, p. 184). I interpret this to be in line with Argyris and Schön's concept of double-loop learning (Argyris & Schön, c1996). My interpretation is that insider-outsiders are people able to practice double-loop learning, and not only single-loop learning. The questions which could be raised are then: Did the managers evaluate who they sent as their representative to the different workgroups beyond criteria based on their internal responsibility and relevant competence? Did they evaluate if those people were able to facilitate the process of pulling in, and push utilization of new ideas in the organization? It is most unlikely that this happened in Beta, where even the manager stated that they had little to learn or gain from the other participating companies. The representatives' (R) own story about how this selection had been done at Alpha also indicate that it was not based on a more thoroughly process.

> *R: "It doesn't work to force someone into the role, because then it just becomes … it will come to a stop."*
> *Synnøve: "Was this [who were going to be the representatives] discussed when this was decided?"*
> *R: "No, it was more like…as you are the one who pursue Dash, you are in this group, and you who deals with apprentices—you take that group…"*

It could seem like the focus was to get someone to take the role, but the question of how this role was going to be filled to be advantageous for the company was not addressed. The challenge of handling the cyclic process of working in the workgroups and at home in one's own organization (including evaluation), is very much in line with the challenge of shifting between the work organization and the development organization addressed by Eikeland and Berg (1997). They compare this with working in a theater, where one must be able to manage the shift of working both on stage as in the work organization (perform: the role of Klein's (c2004) *insider*) and backstage, in the development organization (practice, discuss, reflect about what went well and not, improve, change and shift roles: the role of Klein's (c2004) *outsider*). To handle these shifts[31], Eikeland and Berg propose establishing a learning system

[31] These shifts between the work organization and the development organization are also discussed by Holmqvist (2003, 2004), who refers to them as the shifts between exploitation and exploration. These shifts

that handles this. It could be a systematical and methodical utilization of already existing meeting places for learning, but it could also imply creating new ones. As already addressed in Section 11.1, the use or formation of such internal meeting places have mostly been lacking. These shifts between the work organization (back home in their own organization) and in the development organization (both in the network and in their own organization) described by Eikeland and Berg, has been influenced by people leaving, new people arriving (new representatives) and change in focus. It has been an ongoing process in the network and in the workgroups (which have also been changed and supplemented as time went by). These shifts have also influenced the possibilities for matching the problem definitions and problem solving in the organizations and in the network/workgroups, ensuring that these at least have been partly overlapping.

After the initiation phase, all managers, except the technical manager at Gamma, mainly remained as representatives acting in the main network arena. The leaders in Alpha and Beta (the initiators) have, because of reasons like reorganization, interest and lack of time to engage in it, not stayed in or played out their role as the internal ambassador for the network. The data show that the representatives have mostly been left alone, with few possibilities to actually pull in ideas which could be beneficial and lead to positive changes. However, at Gamma they have used ideas from the network as a steppingstone to initiate larger internal development processes (related to HSE). According to Klein (c2004, p. 21), there are three structural beams which can provide leverage for outsider-insiders: 1) the criteria that organizations use to evaluate ideas, 2) whom organizational members listen to, and 3) whether outsider perspectives need authorization by influential champions. Gamma probably had an advantage related to all of these points because of the technical manager's involvement also at the workgroup level. Klein's third point could imply that the situation at Alpha will be even more difficult ahead since the manager has got another position. Who speaks in favor of their participation now? Who is going to tell the representatives that the work they are doing is important? When the people who have ideas are left alone it could be difficult, a dilemma the manager at Alpha was well aware of:

> *"I worked in headwind, I became alone [when the two managers who were involved in the first initiative had to abandon it]. You need someone to engage in it, somebody who pulls it…John [the facilitator], who has some theoretical knowledge and who is easy to engage…I thought he could be the one who helped us to pursue it further.*

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consist of the ability to opening-up (from exploitation to exploration) or focusing (from exploration to exploitation).

> *He—maybe he is in the situation I was in—that he works a little bit in headwind. Everybody is interested, but to have network meetings never suits us. And then it falls apart."*

The variable activity level has been discussed at the network meetings. All companies have stated that a certain degree of push is necessary to get the activities going (both in the network and in the workgroups). However, the motivation and problem solving in the workgroups has been handled by the representatives themselves without any interference from the network facilitator. As previously discussed, if nothing happens in the workgroups between network meetings, it could be questioned if there is sufficient "pull" in the companies relating to the tasks, and if the problems are really overlapping internal challenges. The representative must thus be able to create meaning in his own practice of learning in the network. Relative to this problem, all the companies talked about a shortage of time, down-scaling and less people to do the jobs. However, one of the representatives at Beta and all Gamma representatives mention that it is simply a matter of prioritizing. If the representative feels that the issue is in the heart of his field, as stated by the Alpha representative, then it is much more likely that he will follow this up both internally at the company and externally in the network. As argued by Klein (2004, p. 99), time is the main roadblock of becoming an outsider-insider while still on the inside. Both management support and a coevaluation of the project's importance are missing in all companies except Gamma. This could be an important reason for the slow progression and why there became a need for an outside push (from the facilitator/research project). This indicates that the facilitator has a role to play walking the bridge between the organizations and network in addition to the representatives, ensuring that the problems focused in the network are overlapping those in the organizations.

The facilitator's role

Besides the interviews the facilitator and I have had with the managers and the representatives, the researchers have not had any activities or offered any direct support or help to the companies. By interpreting participation in network as an OD process, *the facilitation of learning to shape new understanding and the skills necessary to change the organization* (Levin, 1997, p. 302) becomes important. This is demanding and requires more than skilled representatives. Klein (c2004, p. 25) argues that "*At every step of the way, the outsider-insider 'supply chain' is a shared responsibility between outsider-insiders and their organization."* In a network setting, is the supply chain (walking the bridge between the network and the organizations) also a responsibility for the facilitator? Through the interviews

we (the researchers) learned about several challenges in the companies and obstacles that hampered their ability to take advantage of network participation (for instance, the resolution related to purchasing Dash in Delta). Some challenges have been addressed at network meetings, determining if it would be of interest to establish a new workgroup (this was for instance done relating to boilerhouses). In the initiation phase, the facilitator walked the bridge with the intention of recruiting companies, and he investigated possible areas for cooperation between the organizations. It could however be questioned if the bridge has been walked sufficiently by the facilitator (and the other researchers) in subsequent phases to keep up the pace and use of the bridge between the network and each separate company.

During 2008 the researchers didn't participate in the workgroups; we had no separate meetings with each company until the end of that year. I did not pay much attention to each company representative when participating in the workgroups (since 2009). This means that I mainly saw them as a group, not as individuals from different companies with different problems and focus areas. Wenger, McDermott, and Snyder (c2002, p. 83) address the need for the coordinator in a community of practice (which I argue this network can be compared with) to "walk the halls." According to Wenger et al., this activity is done for a variety of reasons, including following up with action items, picking up on hot issues, and requesting input from members about upcoming agenda items. It could of course be a danger to push too much, but the experiences from the network is that if one doesn't, very little happens. This is documented by the drop in activity level when there have been long periods between network meetings. The importance of having someone to "pull the strings," both in the network and in the workgroups, was mentioned by some of the group members and highlighted by one of the managers. They mentioned the situation where internal demands are so high that they never get to these activities if somebody doesn't push, organize, and prepare as much as possible. Otherwise, as stated by one of the Beta representatives, it doesn't appear on their agenda and is placed on the bottom of the "to-do" list. This situation also indicates that the facilitator could take the extended responsibility to administrate and make arrangements for the different network forums for the benefit of the participating companies. Another advantage of the facilitator taking on additional responsibilities is that someone can keep track of all the threads and secure the continuity of the networking activities (Haga, 2007, p. 83). Haga states that this calls for establishing a wide set of relations with personnel appearing in the network and in the subnetworks (workgroups). Again, this represents a unique resource for accessing the internal life and needs within the different companies. To a very limited extent, we did get

to know the culture in the different companies, where the learning was going to be used. Because of the different approaches, the representatives faced different dilemmas (Levin, 1997, p. 301). Learning processes are complex, and Haga's arguments indicate that it would be favorable if the facilitator learned and knew as much as possible about the participating companies to understand and help them overcome these barriers. Then the facilitator can help in the process of arranging practical activities that generate learning and development, both in the network and individual companies (Klev &Levin, c2009, p. 72; Levin, c2004, p. 82-83).

In the network, few activities ensured that the dialogue with the management level were kept going. It could be questioned if this is one of things we (the facilitator/researchers) could have strengthened, and by keeping an open dialogue with the management level we potentially could have simplified the local transfer process. One argument for this is that the representatives do not necessarily walk the same halls as the managers. Of course, in a network like this, with many workgroups, these activities would be demanding and time consuming. It would include keeping track of all the problems, challenges, and ongoing activities and learning processes that will vary throughout the different phases (initiation, start-up, and continuous learning cycle). Haga (2007, p. 83) interprets the facilitator to be "the glue" in this process. However, the common problems and motivation for working together has constituted the "glue" for this network. I will return to the common problems as a type of "glue" when discussing bridging activities. However, the revitalization which occurred in the network after we (the researchers) played back the impressions from the two series of interviews could indicate that bridgewalking by the external facilitator is beneficial for keeping the network "alive," and the conversation going.

11.3.2 Bridging activities

During the analysis of the organization and the network, I came to realize that the bridge constitutes more than just the representative. First, the bridging activities we (the researchers) did in the form of interviews stood out as an important element to connect these two arenas. As already discussed, I interpreted this to indicate that the network facilitator should get an extended role as the bridge walker in addition to the company representative.

Then, through the analyses and closer exploration of the cogenerative learning model, it became evident that the problem definition and problem solution also have to be partly overlapping between the company and the network for the network to be found interesting for the company. I interpret from this that one part of the bridge between the company and the network is the common problems and the interest in finding solutions to these problems. This, together with the strong relationships of belonging which are built up over time, can prevent the network arenas from being torn apart (Wenger, c2003). As mentioned many times, at the common network arena reporting, discussions across the different workgroups and value adding activities (lectures by invited guests) have been going on. Here, both the managers and the company representatives have met each other, tying the participating companies and the network together. This has been evident even though the potential use of this arena has not been utilized fully in the network. This is maybe because the use of this arena was not consciously planned in cooperation with the users. As such, goals for network learning (Knight, 2002) related to this arena were not set up. Cooperative planning could have given input to common interesting subjects to pursue, which again could have increased the participating companies experience with this as a valuable arena.

As such, the model I created on the basis of the literature review does not cover all elements of the bridge. I interpret that the boundary objects are even more than the company representative, including also the converging problem definition and problem solution and a common arena. In addition to this come the facilitator and the engaged managers who can help out in the bridging process. This means that the model in Figure 21 does not mirror what the bridge is found to consist of.

11.3.3 Network participation understood as a bridged activity

The findings indicate that the bridge has been walked in a random, ad hoc manner both by the representatives and the facilitator (and also the involved researchers). The managers were actively engaged in walking the bridge during the initiation phase, but given over to workgroup representatives in subsequent phases. These representatives were chosen based on internal responsibility, whereas an extended understanding of this role as a person responsible to pull in possibilities for change in their own organization was probably not part of the decision-making process. The facilitator walked the bridge in the initiation phase, but after

that it has just been two activities relating to the management level in each company (two rounds of interviews), and one round of interview with the representatives in each company. Even though these conversations have given many entries for problems and challenges which could have been dealt with in the network, the facilitator and the researchers have only acted on a few of these. The reflections and discussions in the researchers' team relating to the best way to fill the facilitator role has not been structured enough to capture this. How this role could be played out to benefit the participating companies' outcome has as such not been sufficiently addressed.

Based on the analyses of the organization and network parts of the theoretical model, the bridge came to consist of more than just the company representative. My conceptualization of the bridge changed to also include the converging problem definition and converging problem solution, a common arena, the engaged managers, and the facilitator. These findings deposit the changes in the model as shown in Figure 22. The overlapping area between the organization and the network is what I interpret as the bridge. These elements of the bridge are shown in the newly magnified part on the right side of the figure.

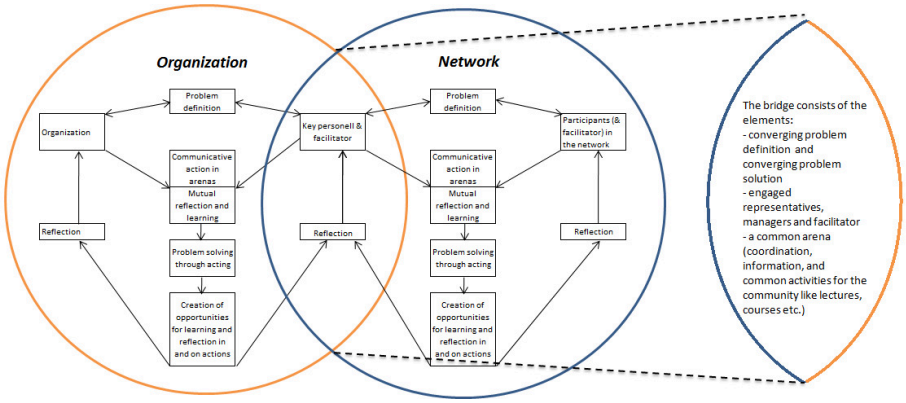

Figure 22 **Revised model, adding more elements to the bridge**

11.4 Summary of the main findings related to the theoretical conceptualization model

Based on both organization development (OD) theories and the cogenerative learning model, I sought to conceptualize participation in a network as a dual OD process. I will now

summarize the findings from testing this model against the empirical data relating to the participating organizations, the network, and the bridge between the two.

The organization:

The problem definition and the problem solving has been a continuous, renegotiable, and mainly individual activity; as such, it was not handled as part of a cogenerated and structured process. The management level was generally not involved after the initiation phase. However, for the one company who reported the most extensive internal outcome of participating, the process was nurtured and supported by top management. Their handling of the internal development process has also been more in line with the cogenerative learning model than in the other companies. This point to the importance of handling the problem definition as a continuous, renegotiable collective activity which is nurtured and supported by top management to keep it going and thus support or create organization development efforts (an outcome/solution).

The network:

The problem definition in the network went through several cycles. It started in a closed management forum, but changed considerably when union representatives and other relevant company employees also became involved. It could be conceptualized as an ongoing, collective, and cogenerated interorganizational process. Many different arenas have grown out of the main network in the form of workgroups. These autonomous workgroups were established, renegotiated, and terminated due to the collective evaluation of their performance and usefulness. The main network arena has served as a common arena for discussing progress, and aligning and adjusting tasks in the workgroups. The purpose of the main network arena was however questioned by several of the company representatives. The facilitation of the main network was outsourced to a researcher, and gradually a team of researchers became involved in the network activities. On one side, the research project added structure and helped provide continuity in the work (even though the facilitation itself could be characterized as unstructured). On the other side, the entry of an external facilitator and the research project perhaps hampered the companies' ownership of the network and the activities, as the companies' level of engagement subsequently varied.

The bridge:

The bridge between the participating companies and the network has been walked in a randomly and ad hoc manner by the representatives, the managers and the facilitator (and the other involved researchers). Whereas the managers were active in keeping this bridge alive during the initiation phase, it was mainly left to workgroup representatives to walk the bridge afterwards. However, since most of these representatives did not have a clear mandate related to their own network participation, it could be questioned whether they had a clear role related to pulling in possibilities for change to their own organization. Based on the analyses of the organization and network parts of the theoretical model, the bridge came to consist of more than just the representatives. My conceptualization of the bridge changed to include also the converging problem definition and problem solution, a common arena (as the main network arena), the engaged managers, and the facilitator. The findings revised the conceptualization model, specifically with the bridge metaphor. These revisions will be highlighted further in the concluding part of this thesis.

Part IV Conclusion

In the following chapter, I present the concluding part of this dissertation. In the introduction, I recapture the goal and context of this research, the research question itself, and how I have conceptualized participation in a network as a planned, dual OD process. In Section 12.2, I briefly summarize some key aspects from the reviewed theories and then account for my main findings related to the participating company (organization), the network, and the bridge between the two. These empirical findings are used to contrast with and elaborate on the key normative aspects from the theories. Final comparisons of the main findings are performed against some similar studies. The findings are then used as background to answer the main research question in Section 12.3. In that section, I discuss the conceptualization of *the bridge,* which is the link between the intraorganizational learning processes within a single organization and the interorganizational learning processes between the organizations (in the network). Section 12.4 addresses how this work contributes to literature in the field (how network participation can influence internal company development processes) and suggestions for further research. Finally, I widen my focus in Section 12.5 to speculate about possible implications and recommendations based on my findings.

Finally, this part ends with an epilogue where I give some closing comments and reflections.

Well done is better than well said.
Benjamin Franklin

12 Concluding the study

12.1 Introduction

The point of departure for this study was my accumulated curiosities related to the presumably different outcome companies get from attending a network-based research project. The questions that puzzled me were: How can network participation influence local development processes in a company? Why is the outcome so different from company to company? What are important elements enabling a company to successfully achieve the desired outcomes from network participation?

The goal of my study has thus been to understand how network participation can influence internal company development processes. This resulted in a conceptualization of network participation as a dual organization development (OD) process—a bridged, facilitated, intraorganization and interorganization development process. The conceptual framework has been built on participatory organization development and the cogenerative learning model. Conditions in the company (organization), in the network, and the bridge between the two have been addressed.

The study has been based on data from a longitudinal, action research project in a competence-based network among four industrial companies. Initiated by the companies themselves, the goal of the network was to find new ways of working together on common and noncompetitive problem areas. The network consisted of several different workgroups, which varied in numbers and had different focus areas during the project period. While action researchers facilitated the overall network, the workgroups within have either been led by one of the company representatives or the members alternated in this role. Workgroup topics include apprentice training, building maintenance, boilerhouse services and energy efficiency, industrial safety, and risk assessment.

I started out exploring both theoretically and empirically how network participation influences local company development processes. Through my search in innovation and

network theories, soon the concepts of learning and learning processes became central theoretical aspects to explain what was occurring in the project. To take advantage of participating in network, to have an absorptive capacity, to have the ability to change, and to be or transform into a learning organization seemed vital. Combined with grounded theorizing and an action research approach, this led me to understand these learning (change) processes as organization development (OD). The creation of arenas and forums for learning (dialogue and practical training), both internally in the company and in the larger network, where cogeneration of knowledge can take place, became key aspects. I then posted the following main research question:

Why is it that for an individual company to benefit from network participation, there must be a link between both internal and interorganizational learning processes?

Managing the learning processes both in the network and internally with each company can spell the difference between success and failure of the overall effort. The (lack of) maintenance and management of both learning processes may help explain why there are many aborted network efforts and few long-range, successful ones. In addition, organizing and operating the bridge between these processes stands out as either the grease or a wrench in the works for both.

Several cycles between reading theory and generating data by acting in the field (Alvesson & Sköldberg, 2009), gave rise to conceptualizing network participation as a dual OD process. From this, I created a theoretical model that gave three areas of inquiry and subquestions related to the participating company (organization), the network, and the bridge between them. The main findings are presented and contrasted with other studies in the following section.

12.2 Summary of main findings and final discussions

The network under study was initiated by the companies themselves (“bottom-up”) and grounded in their own needs and challenges. This has not been a sufficient prerequisite to ensure a viable, self-sustainable network where the participants have experienced a high degree of local outcomes. This seems to have been highly dependent on how the learning

processes were handled and played out both in the companies and in the network. It also seems to have been dependable on the bridging between the participating company and the network, which involves both actors and actions. This bridge has been found to consist of the elements of converging problem definitions and converging desired solutions, a common arena for coordinating and value-adding activities, and engaged actors. These engaged actors have been the company managers, the company representatives, and the facilitators (the researchers). I provide a more detailed description of the findings in the following section. I will divide these findings into three areas: The organization (i.e. the participating company), the network, and the bridge. For each of these parts, I summarize relevant extractions from the reviewed theories and present the empirical findings. In addition, I compare my findings with two other relevant, empirical studies. I will briefly introduce these studies here, while relevant parts will be further compared with my own findings in the following sections.

The first study is a case study on product development within a leading Scandinavian software producer and its interorganizational collaborations with a business partner (Holmqvist, 2004). Holmqvist focuses on how experiential learning processes of exploitation and exploration within the organizations concerned generate interorganizational exploitation and exploration, and vice versa. This study deviates from the one presented here in the way that it deals with a product development process between business partners, i.e. the incentives to cooperate are different. However, questioning the link between intraorganizational and interorganizational learning processes is the same. The second study is a case study of three companies that participated in an interorganizational action learning programme (National Action Learning Programme, NALP) reported by Coughlan et al. (2002). The NALP programme involved 20 companies in four networks in the first phase, whereas the second phase involved 70 organizations in 13 networks. As such, it is a much larger and extensive network project than the one presented here. In addition, the case companies set up their own internal change projects, and reported their progress on them in the network. They then received feedback from the other companies and the researchers. This means that the objectives were not to find areas where the companies could collaborate directly through common change projects. Even though the NALP project and the Ewa company network study presented here have strong similarities, related to how the projects were run and analyzed, they also represent interesting deviations in the methodologies followed.

Finally, I will integrate the three areas; organization, network, and bridge, into one concept that explains my understanding of participating in a network as a planned, dual OD process.

12.2.1 The organization

According to the reviewed theory and the cogenerative learning model (as presented in Chapter 7), the representative's mandate normatively should have been based on a cogenerated problem definition in the organization, where gaps between the present state and desired state are revealed and discussed (Elden & Levin, 1991; Greenwood & Levin, c2007; Klev & Levin, c2009). The company representative can experience knowledge exchange and learning in the network setting. However, it is ultimately management's responsibility to design and develop internal arenas (organizational infrastructure) for learning, reflection, and dialogue—or at least ensure that existing arenas are used for utilizing the representative's knowledge (e.g. Eikeland & Berg, c1997; French & Bell, c1984; Klev & Levin, c2009). The company representative must also act as an internal process facilitator in this (e.g. Klein, c2004; Wenger, c2003). Together this can ensure that the resources spent on the network activities are transformed and maximized into development of the participating company's own organization, and subsequently turn into a long-term change process.

Turning to the individual companies, their network participation has been a long-term engagement[32] that could have similarly laid the groundwork for using it as a long-term organizational learning process. Probably the most surprising finding from this study is that although this network was initiated and developed by the companies themselves, most of them did not seem to have planned for and structured their utilization of the network. As shown in the case descriptions and the analyses this has been due to numerous reasons. The companies had different starting points when this network was initiated, and their motivation was highly influenced by who took part in the various parts of establishing the network. Defining and solving the problems posted in the network and the workgroups has been a continuous, renegotiable activity. However, in most of the companies this has been left to the current company representative to decide and act upon (both what and how). Both acknowledgement and engagement of top management and the collective notion has generally

[32] Approximately three years when I stopped my data generation. However, the network is not limited to this period of time and it will keep running according to the needs and wishes of the companies.

been lacking. Using the outcome of network participation locally has been hampered by difficulties in including new activities in daily work tasks. There has also been lack of internal follow-up activities and absence of internal meeting places. Alternation in people involved both related to the level in the organization and level of domain interest also slowed company utilization of the network. However, in one of the companies, network participation has been anchored in the management group. Here management has both engaged in and made visible the notion that the network is an important learning arena. This company has used internal meeting places to utilize and discuss the network activities. The same company has also reported the most extensive outcome and internal practical use of the learning from the network. These findings show that network participation can serve as a trigger for internal development projects. For the other companies, partaking in network activities mainly led to individual learning for those involved, and has not been used as a long-range effort to improve internal practice.

Holmqvist (2004) found that interorganizational exploration occurred on the basis of exploitation of intraorganizational experiences. In his case, a company internal decision to open-up for exploration had been taken. This differs from my study, as the problems they worked with in the network arose only to a limited degree from internal discussions where an internal decision had been made about opening-up for exploration between the companies related to certain tasks. One of his main findings is that dissatisfaction with ongoing behavior of either an exploitative or an explorative kind is the key learning mechanism. This dissatisfaction generates transformations between internal exploitation and exploration through opening-up or focusing (Figure 7, p. 57). Holmqvist's findings point to the importance of having an internally planned process in place when partaking in an interorganizational cooperation. This enabled the companies in his study to develop the network learning into their own exploitative activities.

My findings deviate from those reported by Coughlan et al. (2002), where all of the case companies showed a strong commitment to the change projects. In Coughlan et al.'s project, the companies had focus on internal change projects which seem more extensive and crucial to the operation of the companies than the themes dealt with in the Ewa company network. However, the companies used the main network arena similarly; to report on progress and receive feedback from the other members, and engage in common activities like lectures. As in the Ewa company network, the organizations identified real work issues which they wanted

to address. However, it seems like Coughlan et al.'s project succeeded to a greater extent in providing a structure which disciplined the companies to maintain focus on their internal change projects. Also, there was high focus on the managers and their own learning process (p. 139), and the company representatives got one to one coaching provided by the learning network leaders. Such activities have not been provided in the Ewa company network. All of Coughlan et al.'s companies reported that the project had effected longer-term changes in the organisations (p. 138). Coughlan et al. also conclude that there is evidence that these three companies moved towards becoming learning organizations. This can only be partly claimed for one of the four case companies in the Ewa company network. The similarities between the projects lie in the companies' control of the agenda and pace in the project and the action research methodology followed. The deviations, and possibly enabling conditions, lie in the focus on internal company projects versus areas for collaboration, the structure provided by the project, the focus on the managers learning trajectory, and the extensive help offered to each company including coaching of the company representatives, company visits and business consulting.

Based on my findings I have concluded that internal problem definition and problem solving is a continuous, renegotiable, collective activity that has to be nurtured and supported by (top) management to be kept going, and thus be an activity supporting internal development processes. The creation and use of internal arenas are influenced by a visible "pull" in the organization (connected to recognized challenges and/or daily work), internal conduction and again, management support and involvement. This too is an ongoing, continuous activity, which has to be kept "fresh" and updated to suit the people involved at the current point in time and keep the development activities in focus.

12.2.2 The network

In a network, which by definition is a nonhierarchical organization, the collaboration often takes place without a prescripted plan and without certainty of outcome (see Chapter 4) (e.g. Herbst, 1976; Oddane, 2008). It is up to each participant to get something out of the collaboration. Because of the network's nonhierarchical, democratic form, the responsibility to develop the network is shared among the participants (even though it has an appointed facilitator). According to my theoretical conceptualization model, the representative becomes

responsible for speaking on behalf of his company, acting as an organizational practitioner (Brown & Duguid, in Holmqvist, 2003). This includes engaging in the problem definition process, actively engaging in the communicative actions at the network arenas, mutually reflecting and learning, and engaging in solving the selected problems through action (Elden & Levin, 1991; Greenwood & Levin, c2007; Klev & Levin, c2009). He then takes part in a collective learning process in the network together with the other participants and the facilitator. In addition, he has also his individual learning process. For the collective learning process to take place, the network arena has to be dominated by dialogue and a willingness to share and learn from each other (Kristiansen, 2009). One can observe and listen to what others do, and make one's own unique interpretation out of it. Most people achieve clarity in their thoughts when there is an ability to mirror against what others do (Gustavsen, 2004). Gustavsen further states that once these conditions are in place, it is up to each company to capitalize upon this common learning environment. If the network has a facilitator, he should work in close cooperation with the network participants (Gustavsen, 2004; Philips, 1988).

Turning to how the network was established and run in practice, it has all along been tailored to meet the needs of the participants, as the Ewa Company Network was initiated by the companies themselves (a "bottom-up" network). The problem definition in the network has been an ongoing, cyclic process. The initial problem definition, which ended up broad and idealistic, has been tested and renegotiated several times, influenced by those who have participated and worked in the next phases of this process. The problem definition could thus be conceptualized as an ongoing, collective, cogenerated interorganizational process. However, the collective element has not been "stable," as who has been involved has changed. In the majority of the companies, the top, middle, and lower levels of the different companies did not work in unison to establish and agree upon a shared problem definition relating to the network. This means that they were not able to develop a common problem definition at the network arena, leaving this to an ad hoc, here-and-now process. This could be one of the reasons why the network ended up with a broad focus, which has been criticized by some of the actors. Areas for collaboration have namely been developed at the main network arena, based on the needs of the *present* participants. These areas for collaboration have been handled in an array of task forces (workgroups). These workgroups have been established, renegotiated, and terminated due to the collective evaluation of their performance and usefulness. The workgroups have been run autonomously by their members. As such, the network has consisted of multiple learning arenas dealing with different tasks operating

independently of one another. In these workgroups, members have exchanged knowledge, trained together, and helped each other out, which has subsequently moved them towards a collaborative culture. Some of the groups (risk assessment, industrial safety and apprentice training) have developed into learner networks. This means that new, improved praxis has developed across company borders as a result of the group's work. However, over time, the collaborative culture has been hampered by a spoken imbalance in the "give-and-receive" ratio experienced, which has remained unresolved. The main network arena has served as a forum for discussing progress and performing collective reflection across workgroups and the different companies. In addition, the main network arena has been used for current lectures held by invited companies. It also served to adjust further work and to a certain extent align the workgroups. As such, these meetings forced the workgroups to commit to their own goals and to revise their plans for further activities. However, the purpose of this forum has been questioned by several of the representatives. It could indicate that the objective of this arena as being a bridge between the workgroups and serving the network with added value has not been successful. Similar to the companies' engagement in the network, the facilitation of the network has had the hallmarks of an ad hoc, here-and-now process. This has resulted in randomly held meetings (preplans not followed), and unstructured and randomly managed facilitation. Exploration of and responsiveness to the companies' needs and wishes have only partially been in place, which could be interpreted as a result of a lack of extended reflection processes in the researchers' group.

Holmqvist (2004, p. 79) found that the company who had the need for changes, initiated a process in order to get interorganizational help in reframing their own experiences. In this way, fruitless internal explorative behavior was challenged by external players. However, he found that "*…interorganizational learning did not "automatically" produce intraorganizational learning or vice versa*" (p. 79). There were two intermediate learning processes involved which linked them – extension and internalization. The companies in Holmqvist's study had "stronger" motivation to collaborate on working with common product development, compared to the companies in the Ewa company network. Holmqvist (2004, p. 75) report that the companies came up with an idea together which resulted in a new program which was "*…the concrete result of a process of translating organization-specific experiences into common rules for action between different organizations that would form a template for their concomitant interorganizational learning*" (p. 75). This also happened to a great extent in the company network in Ewa, even though new ideas and solutions were not

acted upon by some of the companies. As in Holmqvist's study, the participants in the workgroups combined their experiences in ways that they were unable to do by their individual efforts alone, and similarly they *"…eventually managed to produce some new and innovative ideas that were retrieved as particular interorganizational experiences in the form of collective rules for behavior. This generated interorganizational exploration*" (p. 75). This is similar to the processes which have been going on in the Ewa company network. However, the low degree of interdependency between the companies and a low degree of perceived obligation to further explore and exploit the network learning back in one's own organization can also explain why some workgroups in the Ewa company network developed slowly and moderately. Related to this, Holmqvist (2004, p. 75), found that it is the exploited intraorganizational experiences that fuel interorganizational exploration.

Coughlan et al. (2002, p. 138) found that regular network meetings and reporting requirements helped and had a disciplinary effect when internal capacity to run the change initiative was limited. The companies also expressed that the other participants in the network provided more effective advice which they wouldn't have got from others (e.g. a consultant). The access to a broad array of competence and the possibility for active reflections on own change initiatives was highly valued. This has also been the case in the Ewa company network. Nevertheless, as already mentioned, the disciplinary effect of participating in the network has not been that strong.

From my findings, I have concluded that the problem definition in the network is an ongoing, cogenerated interorganizational process that gives birth to new, separate development processes. Network arenas are developed down to an actionable level (allowing people to work with their specific challenges). They are established, renegotiated, and terminated due to the collective evaluations in the network. This means that the network develops and changes due to the emerging needs of its members. In this study, the main network arena has not been utilized fully as the bridge between the workgroups and as a value-adding arena for the participants. The facilitation aspect lacked rigor and responsiveness.

12.2.3 The bridge between the participating organization and the network

The bridge between the participating organization and the network has the purpose of interlinking the internal development process (in the organization) and the external development process (in the network). By using the cogenerative learning model and organization development theories (e.g. Elden & Levin, 1991; French & Bell, c1984; Greenwood & Levin, c2007; Klev & Levin, c2009), these interlinkages can be interpreted to consist of converging problem definitions and converging desired solutions. These interlinkages also include actors, which include company managers, company representatives to the network, and the network facilitator. The company representative presumably holds the most important position, as the bridge walker and messenger between his organization and the network (e.g. Hansen, 2009; Hansen & von Oetinger, 2001; Klein, c2004). The representative becomes the carrier of his company's mandate and brings knowledge and learning to and from the network. The facilitator should "walk the halls" to nurture, support, and align the network, and attend to the interests of the participating organizations (e.g. Wenger, 1998b, c2003; Wenger, McDermott & Snyder, c2002).

The findings indicate that the bridge has been walked in a random, ad-hoc manner both by the representatives and the facilitator (and the involved researchers). Company managers were actively engaged in walking the bridge in the network's initiation phase, but in subsequent phases this activity was mostly left to the representatives in the workgroups. However, managers in one of the companies have been much more active in bridging activities than the others. They have also had a more active local utilization of network learning. In all of the companies the network representatives have been chosen based on internal responsibility. An extended understanding of this role as a person responsible to pull in possibilities for change in their own organization was most likely not part of the decision process. Most of the company representatives have not operated on a clear mandate from their own organizations, and as such they have been left alone to walk the bridge. However, overlapping problems dealt with both in the network and at their own organization has been in place due to representatives being chosen based on their area of responsibility in their own organization. The facilitator actively walked the bridge in the initiation phase, but after that it has just been two activities relating to the management level in each company (two rounds of interviews), and one round of interviews with the representatives in each company. Even though these conversations gave many entries for problems and challenges which could have been dealt

with in the network, the facilitator/the researchers have not fully utilized these to create a stronger bridge between the organizations and the network. However, the use of inputs from the participating companies have revitalized the network and kicked off new areas of cooperation between the companies. As such, these bridge-walking activities most likely have been valuable for the network. Structured reflections and discussions in the researchers' team relating to the best way to fill the facilitator role, and how this role could have been played out to benefit the participating companies' outcome, has however been lacking.

Holmqvist (2004) addresses what I have termed *the bridge* as the dynamics between intra-organization and interorganization development processes. However, according to his findings, these dynamics consist of the processes: opening-up extension, focusing extension, opening-up internalization and focusing internalization. These processes are equivalent to problem definition and problem solving both internally and between the companies in the network and what they choose to bring back and forth between their own company and the network. His case companies *"…improved their understanding of each other's ideas, hunches and intuitions through this "interlevel learning"…" (p. 79).* This improved understanding also arose between the companies as a result of the network activities. However, my conceptualization of the bridge goes beyond Holmqvist's, by adding arenas and actors (the engaged managers, company representatives and the facilitator) to it. Nonetheless, it should be kept in mind that he is not addressing a network like the one studied here.

Coughlan et al. (2002) had a strong focus on the managers in the participating companies, enabling them to develop a focus for their operational improvement efforts and develop learning systems. This was done through activities in the separate companies as well as in the network, facilitated by the researchers. Through the company specific activities, the researchers had the possibility to create the bridge over to the network activities and to align them. The common arena was found to be very valuable in the Coughlan et al. study. This was where the companies could attend lectures, discuss and exchange knowledge, and be challenged by the other participants. The workgroups in the company network in Ewa have been similarly valuable for the network participants, whereas the usefulness of the main network arena has been questioned. This underpins the importance of aligning the activities to the companies needs, i.e. make sure that the bridge is maintained and used.

I conclude from my study that the bridging between the participating organizations consists of converging problem definitions, problem solutions and engaged actors (company representatives, company managers, and facilitator). As a result of the findings from the network analyses, a common arena, where coordinating and value adding activities can take place could also be included as part of the bridge. A common arena can be used to strengthen the total relations between the participating organizations, coordinate the different initiatives in the network and keep the total network "alive and kicking" (otherwise it ends up in a number of independent initiatives). Additionally, the common arena can be a place where management representatives and the workgroup representatives mutually engage in interorganization development activities.

12.3 Answering the research question

When I now return to my research question: *Why is it that for an individual company to benefit from network participation, there must be a link between both internal and interorganizational learning processes?* I will try to answer it based in the findings accounted for, and by use of *the bridge* as a metaphor.

When the goal of participating in a network is to influence internal company development processes, then the findings speak in favor of **treating network participation** as **a bridged, facilitated, intraorganization development process and interorganization development process.**

1. Bridged, because the actors involved and the related activities at least pave the ground for development processes in both the participating companies and the network. Without the bridge, these development processes are just separate activities, where no overlaps are required to make them work. I have chosen to name this interlinkage *the surface* of the bridge, which has been found to consist of the elements of converging problem definitions and converging problem solutions. In addition the surface consists of a common arena that can be used for coordination, discussions and common activities like lectures and courses. *The bridge walkers* are the engaged company representatives (both the managers and the skilled workers) and the network facilitator. They are responsible for processing and restructuring of information (knowledge and learning) back and forth. By using these enablers, the network

learning processes are more closely linked and converge with internal learning processes in the participating companies.

2. Facilitated, because the need for somebody to "pull the strings" in the network, in the workgroups, and internal in the organizations, has been extensively addressed by the companies. Otherwise the initiatives just drown in daily work activities (even though the network is said to be important for the organization). The facilitation is *the bridge's railing.* It consists of engaged managers, who anchor and legitimize the network participation in their own organization, and the network facilitator, who helps out in the process of matching the needs in the organizations with the network activities. They can prevent the initiative or the involved people "to fall off" the bridge, i.e. help to keep focus on the tasks.

3. Intraorganization development process, because using the company representatives strategically and as internal development agents, learning from taking part in a network can lead to new solutions in the company. The interorganizational exploratory processes in the network can be used as a stepping-stone to explore new solutions in one's own organization, finally challenging and changing work processes. Changes in one part of the company can lead to new ideas and ways of doing things in other parts when the representatives are used actively to pull in change. This intraorganization development process in the participating company represents *one of the two foundations of the bridge.* It consists of the planned learning processes internally in the participating company handled according to the content of an OD process (associated with the cogenerative learning model).

4. Interorganization development process, because the cogenerated problem definitions and problem solutions across the organizational borders give new, innovative and hopefully better ways of both looking at a problem and solving it. The meetings between different companies (different mind-sets, practices and knowledge) move things forward in a flexible process, where both the network and its members learn and develop. The network learning process[33] evolves with the needs and development in the participating organizations, as these processes are mutually dependent on each other. This interorganization development process in the

[33] Knight (2002, p. 432) states that *"..organizational learning is considered to be more than the sum of the learning of individuals or groups that constitute the organization."* Likewise I consider network or interorganizational learning to be more than the sum of the learning of individuals or companies that constitute the network. In relation to learning by a group of companies, Knight (2002, p 435) further states that *"…this would only be network learning if there were indications that the learning was embedded across the group of organizations as a whole."*

network is *the foundation of the other side of the bridge*. The foundation thus consists of the planned learning processes in the network handled according to the content of an OD process (associated with the cogenerative learning model).

A visualization of the bridge is shown in **Figure 23**.

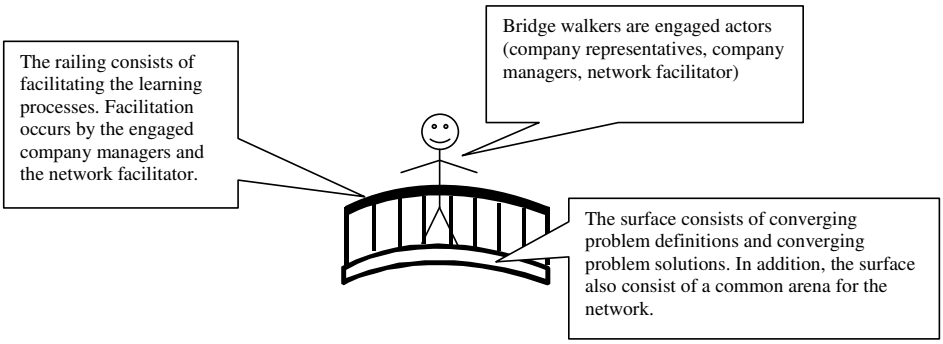

Figure 23 **Participation in a network understood as a bridge**
(Clipart from Microsoft Word modified by S. Rubach)

12.4 Theoretical contribution and suggestions for further research

First, I address the theoretical contribution in terms of participation in a network as a planned, dual OD process based on my findings. I then sketch some suggestions for further research.

12.4.1 Contribution to the literature in the field

The reviewed network and innovation theories speak in favour of using a network as a way to develop and increase innovation in one's own organization. Even though, as Kurt Lewin stated, *there is nothing as practical as a good theory*, these theories do not supply much understanding of how to operate in practice to organize for and subsequently experience the development and innovation. By applying OD theories to my framework, models for handling this in practice emerged. My contribution to the discourse about use of networks as means for innovation and development of an organization is thus to interpret the partaking in such an initiative as a dual OD process. The developed model and the use of *the bridge metaphor* is

my main contribution to the field. Figure 24 shows the modified model, which includes the additional understandings that emerged through the analyses. The interlevel represented by the overlapping area between the organization and the network is what I understand as the bridge itself. The foundations of the bridge are the learning process internal in the participating organization and the learning process in the network.

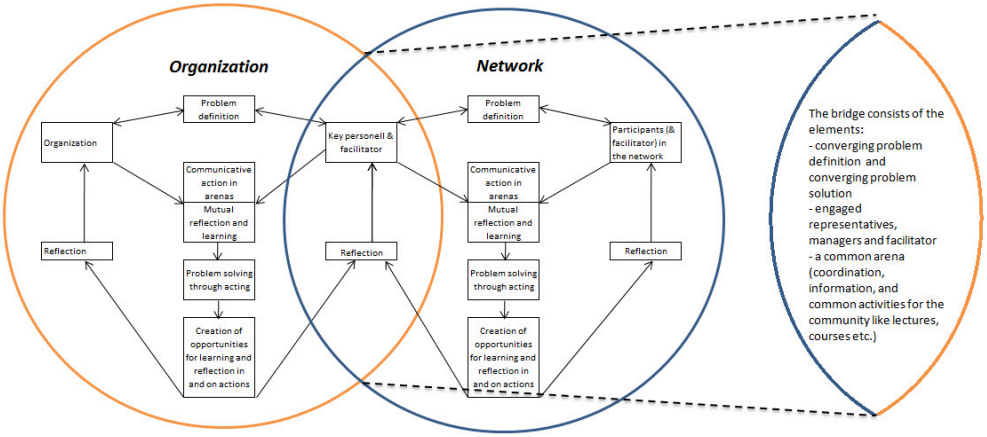

Figure 24 Highlighting the content of the bridge

Most OD theories have been developed as means for internal use in organizations[34]. In this dissertation, I use OD as a conceptual framework for understanding partaking in a network and a way to work in practice with network participation. The OD theories are also used as a model for developing and handling the different phases of a network by introducing the phases of initiation, start-up, and continuous learning cycle. OD includes an external consultant or a manager to facilitate the change process. I have used the descriptions of this role both to understand the role of the company representatives and the managers, and also the network facilitator's role. As such, they all play an important part being actors responsible for organizing and managing the change processes. Finally, in this dissertation the development of a network gets the same hallmarks of developing an organization. If the participating organizations do not change and develop, then neither will the network, and vice versa. By attending a network, one enters into an interorganizational learning process which is fuelled by its members, i.e. their intraorganizational learning processes. In fact, OD, innovation processes and networks all have the same goal—to organize for and gain change. To bridge

[34] Exceptions include Participatory Rural Appraisal (Greenwood & Levin, c2007, p. 200), and Cummings (1980) discussion of the need for OD to address interorganizational issues. However, Cummings argues to broaden OD to also include interorganizational issues, and how this is different in symmetrical and asymmetrical linkages to other actors. He does not use the elements of an OD process to understand or develop a network.

OD theories, network theories and innovation theories have in this dissertation shown its usefulness.

My contribution can also be seen as a supplement to the understanding of the interlinkage between intraorganizational and interorganizational learning processes, by adding a broader picture of activities and actors involved in the actual interlinkage. This has been done by using the cogenerative learning (action research) model. According to network theories, the outcome of taking part in a network depends on the company's ability to recognize, assimilate, and use internal and external knowledge, which by Cohen and Levinthal (1990) is called absorptive capacity. Thus, to be able to learn stands out as the most important basis for network participation. The cogenerative learning model adds a way to systematize and structure the network participation by adding activities and actors to the interorganizational learning process, which can enhance the possibility for an intraorganizational learning process for the participating organization.

My methodological approach (action research) has also been somewhat different than most studies of networks, whereas I have not only observed what has been going on, but also involved myself in the network facilitation over a long period of time. As such, I participated in both planning and implementing activities that intended to increase the outcome of the network participation for the companies (i.e. performed interventions, interviews and played back and used information gathered for further development). Even though there are many actions that could have been taken (but were not), learning from the failures and obstacles experienced provided useful information for the next round of actions. I also claim that being an active participant in the network process increased my research outcomes.

12.4.2 Suggestions for further research

One of the fascinating parts of being involved in a research project is that when one tries to answer one research question, many more are revealed as the theory building and one's own insight to the field expands. In this dissertation, I provided a model and discussed aspects related to network development and implementation. I have also discussed aspects related to how to participate in a network and actively use the outcome to further develop one's own

organization. The network in focus is competence-based and was initiated by the companies themselves. In the network they cooperated on tasks that are not subject to competition.

The three focus areas of the organization, the network, and the bridge between them, include many issues that could be further explored and discussed to build knowledge about network participation as a contribution to organization development and innovation. Here I will post some suggestions for further research which has emerged throughout my work.

The organization:

The findings from my study address several elements which, if handled differently, probably could have increased the outcome of the participating companies. Future studies may address and follow the internal processes in the companies more closely; adding knowledge to what enables the companies to utilize the learning from the network more explicitly and extensively. There are many interesting aspects related to how these internal processes are influenced by for instance environmental/technical, organizational/social factors, and company culture (for instance organizational routines, management systems, social relations). I would thus recommend an in-depth, longitudinal study of an actual internal organization of and outcome from partaking in a network, studied from within the participating organizations. This could provide further insight in organizational conditions for making use of network participation for innovation purposes.

In this thesis, OD literature was useful to develop a conceptual framework for utilizing participation in a network as a means for organization development. Further research in different kinds of companies (not just industrial) and on a larger scale could shed light on the workability of my findings and of the proposed model in other contexts.

The network:

The theoretical framework established in this thesis was not used as a roadmap during the actual in-time process (the theoretical framework was developed in retrospect). Therefore it would be interesting to use the model and the important elements pointed to in this thesis as a methodological approach when establishing and operating a network. A longitudinal study could then give more insight into problems like:

- The “give-and-receive” problem and related issues of power balance in a network

- The importance of the composition of actors in the different phases of the network process and also how to include new actors and phase out others during the process
- Managing the network facilitator role, including different models for handling this role and its implications for the network
- The importance of clarification related to the different actors' roles, especially the interface between a company's internal actors and the network's external actors (for instance researchers and/or facilitator)
- The importance of anchoring of the different actors' roles and mandates internally in the company they represent
- The importance of contextual factors like the network's purpose (i.e. knowledge exchange, new products/services, new markets, new technological developments, organization development), organizational cultures, and the existence of an internally or externally hired facilitator.
- Determining factors to evaluate when recruiting companies to network initiatives (i.e. organizational culture, available time, and resources)

The bridge between the network and the organization:
It would also be very interesting to pursue more deeply to the concept of enabling strategies and actions for better handling of bridging between the organizations and the network. Do different kinds of networks require different types of representatives? How can the facilitator/action-researcher role be interpreted and played out within the framework of an extended role as catalyst for internal development processes in the participating organizations (in addition to the network facilitator role)? The organization of the mutual-transmission processes between the innovation processes in the companies and in the network related to different network types would also be an interesting area to pursue further.

12.5 Implications and recommendations

To avoid excessive repetition, I refer to Section 12.3 for suggestions about how to both handle participating in and managing a network.

The proposed model for network participation is quite ambitious, and the empirical findings show how demanding being part of such cooperative initiatives actually are—if the

participating company wants to use it as means for own organization development. This implies that the companies should allocate sufficient resources (manhours) to do this in a thoroughly and coordinated way. It also seems important to have a clear vision related to network participation that is well known and anchored both across the organizations and on all relevant levels in each organization. The organization would also profit on being clear on how to achieve purpose and profits, i.e. based on their network participation, have a plan on how to deliver results for the short term and long term. If one doesn't plan for results, one will probably not get any! By this I don't mean to plan *the specific* result up front, but be prepared for discussing the ideas the representative brings back to the company. This includes having a plan on how to spread the results and share the knowledge from the network, and not least, how to put the plan into action. To appoint I-shaped representatives can be a way to ensure that the bridge is being maintained. I shaped people are those who are able to simultaneously deliver results in their own job (the vertical part of the "I"), deliver results by collaborating across company borders (the upper horizontal part of the "I"), and deliver results by collaborating across and inside the company (the lower horizontal part of the "I").

The findings relating to network construction and operation also imply that research programs wanting to create and operate a network would benefit from obtaining sufficient funding to actually do the job. Maintaining the bridge is a time-consuming activity! It seems wise to fund fewer network projects sufficiently versus evenly funding as many initiatives as possible. For the researcher, this implies that he or she should not only be open and give companies realistic requirements if they want to benefit from partaking in a network like this—but also emphasize that it will be favorable for their outcome if they are willing to invest in it. It seems vital to highlight the commitment to both the intraorganizational process and the interorganizational process in such initiatives. It is frustrating for company representatives if there is a conflicting double message: participating in a network is important, but we can't allocate much time or resources to it. Then also local company utilization of the network learning will probably be difficult and will most likely not take place. It is also frustrating for other network members to have colleagues who tag along only when it suits them. The findings indicate that genuine engagement and prioritization are closely connected (like in Gamma).

Epilogue

Since this dissertation deals with how companies can benefit from taking part in a network, I will now make some closing comments about my experience in writing this PhD. My internal arena has been the "research community" of which I am a part, and my external arena has, as for the companies, been the network (the research project). Throughout these years, I alternated between my own individual process and several collective processes—in the research project (and other research projects in which I have been involved), the PhD program, and in my collegium.

Of course, my learning has increased from partaking in all of these activities. When I started acting in the field, the parallel process of building theoretical and practical "guidelines" helped me to understand, interpret, and gain deeper insight into my research problem. The most surprising experience is the difference I felt before and after I "discovered" the conceptualization model. Before finding a way for my theoretical and empirical reasonings to "fit together," I felt uneasy with my theoretical reasoning. As I got stuck in the exploring process, it could be interpreted as an inability to focus and exploit the learning and knowledge that I had gained. Something was definitely missing, but I had no idea what that was. However, my inner mode changed after getting an idea of the model presented in this dissertation—an "aha" experience which appeared when working on another project. After that point, it became easier to focus and prioritize the important aspects of my previous work, and also much easier to act in the field.

I have also learned a lot from "going back in time" to review written notes and audio recordings, which continued to provide new insights that evolved my thinking and theoretical conceptualization. First, it has been useful to see how my thinking has developed over time and how my reasoning has changed (*Did I really interpret this in that way?*), which otherwise is easily taken for granted or forgotten about (despite the "aha" moment). It has also been a good learning experience to exemplify and remind myself about how we "rewrite" the story in retrospect—meant both for the people who have been involved in the network initiative, and myself, with regards to what happened and how things evolved. My experiences point to the importance of documenting every step of the way in a research project. This is my recommendation to PhD candidates: document, document, document. In addition, I

recommend taking part in as many activities related to your project as possible. You probably will not know what bits and pieces of the puzzle you will need to end up where you didn't know you were going!

I will leave you, the reader, here, with the hope that you have interpreted this dissertation in relation to your own theoretical and practical knowledge base—and in ways I had not considered. That is the cogenerated process between you and this dissertation. I know eventually the *l'esprit d'escalier* will sneak up on me, and I will start thinking: *Why did I say it this way? Why didn't I make that point?* For the time being, I will leave these clever comments to you.

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Appendix A: Record of events, the Ewa company network

When	What	Comments	Data
2006	Initiative taken by three managers in different companies to start a network cooperation. Stranded.		None
2007			
May 07	Meeting between Alpha and a researcher, John, from the regional University College		Summary notes from John
19.06.07	Meeting between Alpha, Beta, and John		Summary notes from John
13.09.07	Meeting between Alpha, Beta, Gamma, another company and John		Summary notes from the researcher
xx.10.07	Visit to another industrial network in Norway		Summary notes from John
13.11.07	Meeting at the regional University College between Alpha, Beta, Gamma, Delta and John	Summarizing visit to the industrial network	Minutes
23.11.07	Researchers' meeting in VRI	John tells about the network initiative	Notes, minutes
11.12.07	The first official network meeting at the regional University College, NHO and LO present		Notes, minutes (not completed)
12.12.07	Network formally included as a project in the VRI project		
2008			
29.01.08	Network meeting at Alpha	I was not present	Draft of minutes
01.04.08	Network meeting at Beta	I was presented to the network, ref. e-mail from John dated 14.02.08	No minutes exist, field notes from researchers
17.06.08	Network meeting at Gamma		Minutes, log
16.09.08	E-mail sent from me to John regarding me using this network in my PhD (formally)		E-mail
19.09.08	Researchers' meeting		Notes
27.11.08	Interview with Gamma	Synnøve	Sound file, minutes
28.11.08	Interview with Alpha	Synnøve	Sound file, minutes
03.12.08	Interview with Delta	Synnøve, John	Sound file, minutes

When	What	Comments	Data
2009			
09.01.09	Interview with Beta	John	Sound file
13.01.09	Network meeting at the regional University College		Minutes, logs
12.02.09	Network meeting at The regional University College	I was not present	Minutes
24.04.09	Meeting in the Risk Assessment group, at Delta	Synnøve	Field notes, minutes
26.03.09	Network meeting at Delta		Minutes, logs
16.06.09	Network meeting at Gamma		Minutes, logs
06.10.09	Network meeting at The regional University College		Minutes, logs
12.10.09	Meeting in the Risk Assessment group, at Delta	Synnøve	Sound file, field notes, minutes
20.11.09	Interview with Gamma	John and another researcher from the University College	Sound file
23.11.09	Interview with Alpha	John, Synnøve	Sound file, field notes
26.11.09	Interview with Beta	John, Synnøve	Sound file, field notes
30.11.09	Meeting in the Risk Assessment group, at Beta	Synnøve	Sound file, field notes, minutes
15.12.09	Interview with Delta	John, Synnøve	Sound file, field notes
2010			
28.01.10	Interview with the representatives at Alpha, Beta, and Gamma	John, Synnøve (John participated in two of the meetings)	Field notes, sound files
09.02.10	Network meeting at Alpha	John, Synnøve	Field notes, minutes
11.05.10	Network meeting at the University College	John, Synnøve	Field notes, minutes
21.06.10	"Interview"/conversation with the facilitator (John) about the network's history	John, Synnøve	Field notes, sound file

Additional data sources to those listed above:

Meeting minutes from the researchers' team and the project's managing committee (written by the overall project manager) in the regional VRI project (2007-2010).

Appendix B: Interview Guides

Interview in December 2008

Navn på bedrift: xy

Spør om det er greit å ta opp samtalen.

Fokus i samtalen:

- Status for arbeidsgruppene i nettverket. Hvordan komme videre? Skal vi ta noen grep nå for å komme videre?
- Meg selv og mitt arbeid
- Invitere oss (forskerne) inn i gruppene. Hvilken kompetanse har de bruk for? Be om å få være med på neste møte i gruppen.

Bedriften

1. Hva mener du er bedriftens viktigste utfordringer fremover? Prioriter de tre viktigste.

Nettverket

2. Hva anser du som de viktigste områdene hvor det er behov for nettverksarbeid med andre aktører?

3. Hvorfor ble dere med i nettverket?

4. Hva mener du er nettverkets viktigste misjon?

5. (Hvilken type prosjekter vil det for dere være naturlig å samarbeide om innenfor nettverket? Fremkommer av arbeidsgruppene de er deltager i?)

6. Hvilken strategi har dere for deres deltagelse i nettverket?

7. Bør nettverket involvere kun toppledelse eller også andre funksjoner og nivåer i bedriftene?

8. Er det konkurransemessige forhold eller andre forhold som gjør et mulig samarbeid med andre i nettverket vanskelig fremover? I så fall, på hvilken måte?

9. Hvordan bør offentlige myndigheter og kunnskapsmiljøer trekkes inn i nettverkssamarbeid?

10. Hva mener du er viktig for å få mest mulig nytteverdi tilbake til bedriften av å være med i nettverket?

11. Har dere vært deltagere i nettverk tidligere?

12. Hvis ja, hvilke typer nettverk har dere vært medlem av? Og hvilke erfaringer har dere fra dette?

13. Hva mener du er viktige faktorer som spiller inn for at en bedrift skal få noe ut av å være med i et nettverk?

14. Hvordan bruker dere resultater/arbeid fra nettverket internt i egen bedrift? Til daglig?

15. Hvordan gjør dere nettverksarbeidet kjent i bedriften?

16. Hvilke resultater har dere hatt foreløpig av å være med i nettverket? Er de noe annet enn de resultatene dere regnet med på forhånd å få av og gå inn i nettverket?

17. Hva mener du er viktige faktorer for at de andre medlemmene skal oppleve dere som en god nettverksaktør?

18. Hva er de kritiske suksessfaktorene for at nettverket skal lykkes i dine øyne?

Be om et oppfølgingsmøte? Ny avtale for å avklare spørsmål, eller avtale om at jeg kan ringe.

Interview in November/December 2009

Spør om det er greit å ta opp samtalen.

Hvorfor
Hvorfor gikk bedriften inn i samarbeidet?
Hva var utløsende faktorer for å delta?
Hva forventet bedriften å oppnå i nettverksamarbeidet? (hadde man konkrete mål?)

Hvordan
Hvordan planla man deltagelsen i nettverket og organiseringen av denne?
Hvordan gjorde man deltagelsen i nettverket kjent i bedriften?
Hvordan bestemte man hvem som skulle representere bedriften (både fellesmøter og de enkelte gruppene)?
Har samarbeidet utviklet seg som forventet?
Hvordan bruker man nettverket og/eller resultater fra nettverkssamarbeidet internt i bedriften?
Nettverket er et bedriftsnettverk – hvordan ønsker bedriften at det skal fungere i praksis?
Hvordan ser bedriften på at det også er forskning involvert?
Hvordan ser man på nåværende organisering av nettverksamarbeidet?
Er samarbeidet godt forankret i bedriftens strategiske dokumenter?

Hva – status

Hva har bedriften oppnådd gjennom samarbeidet?
Konkrete resultater?
Relasjoner?
Overraskende resultater?

Veien videre:
Føler bedriften at de har tilstekkelig med ressurser for å delta slik som man ønsker?
Er det behov for sterkere strategisk forankring (internt/eksternt)?
Hva mener dere om størrelsen og sammensetningen av nettverket?
Har nettverket nok kunnskap til å videreføre et konstruktivt samarbeid?
Hvordan tilføre ny kunnskap hvis det er behov for dette?
Er det behov for revitalisering av nettverksamarbeidet – i tilfellet hvordan?
Ser dere konkrete muligheter som ennå ikke har utspilt seg?

- Nye spennende temaer?
- Utvidelser av nettverket? Hvordan? Hvorfor?
- Organisering?
- Profil? (Det geografiske området/by som grense? Fokus på kompetansedeling?)
- Forskerrollen?

Interview in January 2010 with representatives in each company

Intervjuguide for arbeidsgruppene

Spør om det er greit å ta opp samtalen.

Fokus i samtalen:

- Status for arbeidsgruppene i nettverket sett fra bedriftens representanter.
    - Oppstart
    - Hvordan har det gått til nå
    - Hvordan komme videre?

Forventninger og oppstart:

1. Hvorfor gikk bedriften inn i samarbeidet?
2. Når og hvordan ble du informert om nettverket/arbeidsgruppen?
3. Hvordan ble du plukket ut som representant? Og når ble du med?
4. Hva forventet du å oppnå i gruppen? (hadde du/bedriften/gruppen konkrete mål?)
5. Hva motiverer deg mest med å delta i gruppen?
6. Hva mener du er viktig for å få mest mulig nytteverdi tilbake til bedriften av å være med i gruppen
7. Er det at du deltar i arbeidsgruppen forankret i ledelsen? Involverer ledelsen seg i og diskuterer med deg hva du bør få ut av samarbeidet i gruppen?
8. Har du vært med i noe lignende samarbeid på tvers av bedrifter før? Hvis ja, hva omhandlet det? Og hvilke erfaringer har du fra dette?

9. Hva mener du er viktige faktorer som spiller inn for at en bedrift skal få noe ut av å være med i et nettverk/en slik gruppe?

Resultater:

1. Hvilke resultater har du/bedriften hatt foreløpig av å være med i gruppen? Er de noe annet enn de resultatene du regnet med på forhånd å få av og gå inn i nettverket/gruppen?
    - Konkrete resultater?
    - Relasjoner?
    - Overraskende resultater?
2. Hvordan bruker dere resultater/arbeid fra nettverket internt i egen bedrift? Til daglig?
3. Hvordan gjør dere arbeidet i gruppen kjent i bedriften – og hvordan skjer denne kommunikasjonen? (Til ledere, andre medarbeidere etc.)
4. Hva mener du er viktige faktorer for at de andre medlemmene skal oppleve deg som en god aktør i gruppen?
5. Hva er de kritiske suksessfaktorene for at gruppen skal lykkes i dine øyne?
    - Hva har vært bra?
    - Hva kunne vært bedre? Hvorfor, på hvilken måte?
6. Hva synes du om at det er en forsker med i gruppen?

Veien videre:

1. Er det ønskelig å videreføre arbeidet i gruppen?
2. Ser du konkrete muligheter som ennå ikke et utnyttet?
3. Hvordan er situasjonen med hensyn på tid og mulighet til å delta sett opp mot hvordan du ønsker å delta i gruppen.