**Discipline networks in Statoil:
Outcomes, success factors and challenges
for network leaders**

by

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Content

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1. INTRODUCTION

The purpose of this paper is to describe and analyze outcomes, success factors and challenges of the technical discipline and HSE networks in Statoil. Empirically, the paper is based on a survey of 2.517 members of 131 networks as well as interviews with 12 network leaders.

Statoil is a large, complex and geographically distributed organization. Firstly, Statoil is a line organization, based on clear reporting lines and responsibilities. Each employee should report to one line manager who is responsible for people, results and performance. Secondly, the line organization is supplemented by a number of horizontal mechanisms across units, including the process owner role and the professional disciplinary ladder. Disciplinary networks are such a non-hierarchical mechanism. The purposes of the networks are to contribute to knowledge development, exchange of experience and information, and the dissemination of best practices and governing documentation.

The technical and HSE networks are (with a few exceptions) led by a leading advisor in the respective discipline. The leading advisors are (with a few exceptions) located in a unit in the business area Technology and New Energy and have a report relationship to a line manager, *as well* as being part of a chief engineer's group of leading advisors. The discipline networks thus "belong" to a certain process owner. The "double membership" in a line unit and the chief engineer's group (and process owner) is intended to give the leading advisors a foundation in operative tasks in the organization as well as the leading coordinating role of the discipline.

Membership in disciplinary networks is voluntary, although it is expected that each employee take part in at least one network. Seen from the employee's perspective, the line manager and the respective organizational unit are usually where the daily tasks are located, and the primary "home" and source of identity in the firm. Participation in a disciplinary network across organizational units is therefore a *secondary source of tasks and identity*.

The leaders of the networks have neither a line relationship to nor any formal authority towards the network members, and there are only small economic resources committed to running the networks. In order to influence potential members to take part in the network, contribute to the network and use it is a source of knowledge and information, one has to use other means than those based on line authority.

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2. ORGANIZATON OF AND PARTICIPATION IN DISCIPLINE NETWORKS

One of the findings from our survey was that many employees took part in more than one network. 27 % were members of one network, 53 % two or three networks, 17 % of four or five networks, and 4 % of six and more networks. In the survey, the answers were related to what the respondent considered the most important network for him/her.

The "inner circle" of the network
Typically, some of the participants in a network are more active than others. We have found several examples of the establishment of an "inner group" (or similar) in the networks. In one network with 150 members such a group had been established. It consisted of one person from each of the relevant business units. These members were selected on the basis of special commitment to and the willingness to spend time working for the network. The group meets 3-4 times a year to plan activities and decide on a work program. Through having representatives from each business area, one is able to relate the work in the network to the challenges in the operative parts of the organization. Another leading advisor commented that:

> "it tends to be more and more based on the inner core, those that you know have a special interest, and who burns for this discipline, they are the people I am in touch with…I use them a lot".

Consultants in networks: Inclusion or exclusion
In many units and competence areas in the organization, external consultants work alongside employees. These consultants are potential participants and contributors to the discipline networks. Here, one is confronted with a dilemma. If the consultants take part in the network, they may obtain strategic knowledge which Statoil would like to keep inside the company. If they are not allowed to take part, potential vital contributions to the network is lost, and consultants will not benefit from information that is vital to the work they do in the company. Due to the retirement packages which led to lack of personnel in certain areas, the high level of activity as well as the lack of supply of engineers; the dilemma has been especially strongly felt in the years after the merger. Two of the network leaders provided us with different solutions to this decision challenge.

In network A, consultants are not allowed to participate. The network is intended as an arena where one discusses a range of issues, including experiences with contractors. It is felt that if consultants had been present, there would have been worries related to who would obtain the information, and members would be much more careful to raise or discuss certain issues. In network B, a different approach prevails. Consultants are perceived as less willing to share information and knowledge. In order to stimulate information sharing and make them feel a part of the discipline, the network leader has invited the consultants into the network.

3. OUTCOMES OF PARTICIPATION AND SUCCESS STORIES IN NETWORKS

In order to evaluate disciplinary networks, it is vital to look at the outcomes or consequences of such networks. We are able to assess such outcomes at two levels. First, in the survey we asked the respondents to estimate what the consequences of their participation in the network were. The main findings were:

- Participation in disciplinary networks is regarded as one of the most important tools for exchange of experience and learning.
- Participation in discipline networks has led to improvements in own unit (77 % of the respondents agreed), more speedy solutions to work tasks in the unit (71 %) and higher compliance in own unit (80 %).
- Participation is perceived as important for building personal networks (92 %) and for professional development (87 %).

Secondly, we asked the network leaders to describe "success stories" as they perceived it. Based on this information, we describe five examples of outcomes disciplinary networks.

In one competence group, they arranged a special meeting to work out the need for and the best design for a *specialized equipment.* Many members of the network took part in this meeting, and the solution was based on all compiled experience from previous operations. A vital factor in the approval of this investment, was the fact that the recommendation came from a meeting with network members that were closely connected to important decision makers in the organization. The phrasing "The network recommends…" was used, and was probably also effective.

Through *another* network (A) one has contributed to the internal professionalization of the discipline. The network leader perceives that *the quality of reports* has been improved through the activities initiated by the network. The feedback from the relevant state agency regarding reports is positive. Vital factors behind this improvement   are courses in a number of relevant competence areas, the network meetings as well as the increased awareness that accidents investigation is a vital function in the company.

In network B they have been able to develop *good solutions* in order to handle concrete challenges and problems. The network has managed to activate key persons from different parts of the organization with supplementary competence, and has got them working well together. The introduction of a particular solution (now an international standard) and the solutions to the problems with a specific type of components, are two examples of this. This network is perceived to be particularly competent in analyzing damages in operations, identifying solutions and recommend solutions; f.ex. changing material specifications.

In network C they have started a project in order to provide an *overview of relevant information for the products* in question. The purpose is to create *common tool independent of unit*, that enables the engineers connected to different licences to work and cooperate across units. The network leader initiated the project and gained

support by members from operations. Through anchoring the project among many stakeholders, they managed to establish a project with Global Business Services as stakeholder.

Several of the network leaders perceived that contributions from the network had contributed to *good quality of governing documentation*. Through the network one is able to get input from representatives for different units, enabling better solutions as well as providing stronger commitment to the documents. The disciplinary network is perceived to be a very efficient arena in the implementation of new documents since representatives for all relevant units are reached. In network D for example, there was a lack of governing documentation both in xStatoil and xHydro before the merger. In January 2009 a document was published that was based on input from members of the network, that included people with experience from both xStatoil and xHydro. A project "core" group of three people in the network did most of the work on the new documentation, while network members from different units were used to provide input to drafts. At network meetings, the information on progress of the project was provided, and after it was finished, on important aspects of the new documentation.

4. SUCCESS FACTORS AND BARRIERS FOR WELL-FUNCTIONING NETWORKS

Outcomes between networks differ, and a vital question is why some networks function better than others, and what the factors that contribute to positive outcomes from network participation are. Based on the quantitative data from the survey, we found that the following variables were positively related to outcomes of network participation:
- quality of network management
- line support
- experience from networks
- inter-personal relations among network members
- members share the same view of the challenges
- having an active role in the network
- intrinsic motivation

Network size was negatively related to outcomes. In this section several of these factors will be discussed. Network management will be analyzed in section five.

Network size
The networks differ in size; the smallest networks have around 10 members, while there also are networks with 500 and more members. It is quite obvious that the numbers of members affects how the network functions. Large networks will tend to be based on more one-way communication and less dialogue among members than smaller networks. In our survey, members of smaller networks tended to perceive better outcomes from network participation than members of larger networks. On the other hand, opting for smaller networks is often neither possible nor rational:
- "Natural large networks": Many employees regard themselves as members of a given discipline with several hundred members.

- Scope: Networks may comprise a number of related and interconnected disciplines, rather than a specific and "narrow" discipline
- Given the scope and number of potential numbers of members, the network leader may put the emphasis on inviting everyone that is interested in or will benefit from participating (inclusive approach), rather than restricting membership in order to enable more dialogue and communication (exclusive approach).

Rotation

Networks benefit from continuity among participants, because the members get to know each other and develop an understanding of the challenges in the relevant disciplines. In an organization where rotation is stimulated and there is a norm for changing positions, continuity suffers. One leading advisor said that many enthusiastic members had left the network, because they had changed jobs, where they either did not have the time to contribute to the network, or b) the network was not relevant in their new job.

> "Seen from my point of view as a leading advisor, it is unfortunate that people move a round a lot. For the organization and the person in question it is probably a good thing".

Scarce resources

Several of the informants pointed out that there were scarce personnel resources in their area of competence. In such a situation, operative tasks are given priority. In general, scarcity of capacity and lack of slack resources implies that there is less time for network activities, which for most employees are "secondary" activities.

Trust and personal relations

As pointed earlier, members had developed their own informal networks through participating in disciplinary networks. Besides; personal relations between members, the level of trust and common understanding of disciplinary issues are factors that affect how the network functions. These characteristics of networks are usually referred to as social capital. Social capital increases the efficiency of knowledge transfer because it encourages cooperative behavior. If the members know and trust each other, the threshold for contacting other and seeking out help will be lower and the conditions for communication and dialogue in work related matters, better.

> "The strength of my network is that members know who they need to talk with, they know who they met at network workshops etc. and they have seen presentations of that challenge and that success story".

Line support

A formalized network creates an overlay across the hierarchical organization, which supplements the line organization. While the line organization is there "primary" home in the organization, the participation in discipline networks may be regarded as a "secondary" home of tasks and identity. Seen from the point of view of the potential members of networks, they would be interested in obtaining support from their line manager. Line support concerns whether they are "allowed" to participate in the

network, as well as their actual engagement in the networks. If they obtain line support, one would expect that they will be more actively engaged in knowledge sharing behavior. Also, if the line manager has a positive attitude to network participation, he/she would be more inclined to see the potential of the knowledge elements shared and disseminated through the network. In the quantitative survey we documented that line support had a positive effect on networks outcomes. This factor is also acknowledged by the network leaders.

The members: Type of contributors
In general, the functioning of the network is dependent on the dynamics between the various members and how well the leader manages to stimulate network processes. Several of the network leaders pointed out various "types" of members, who contributed positively to the outcome of disciplinary networks.

- "Idealists"; who devoted time and energy to the network without gaining any financial or other obvious benefits.
- "Knowledge seekers with special competence": who are genuinely interested in the a discipline, who wants to develop their own competence, to seek out vital challenges and contribute to solutions
- "Ambassadors"; members who have vital positions in the company and networks in other arenas, and therefore are able to influence important decisions in the given arenas.
- Employees from R&D; who enable better communication and reduced distance between academic/theoretic basic knowledge and operative problems and challenges.
- Employees from the operative units such as EPN should be in a majority to enable the network to work according to the challenges at hand in these units.

While these types of members are vital (in most networks), one should at the same time take care to combine different types of members.

One-way communication
Several of the network leaders said that there was too much one-way communication in the network, with information passed from the network leader to the members. The "ordinary" members tended to be "receivers" of knowledge and have a reactive approach to their participation. Our respondents generally perceive that more dialogue, two-way communication and proactive participation among members, would strengthen the network.

Motivation of network members
Intrinsic motivation is "the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn". These employees perform tasks in order to feel competent and self-determined and is fostered by a commitment to performing the task; even if "there is no apparent reward except the activity itself." This type of motivation is more advantageous to knowledge sharing activities that require creativity and a willingness to learn, since intrinsically motivated employees are more curious and are more likely to consciously seek out knowledge to improve their own competencies. In the quantitative study, we found a positive relation between intrinsic motivation and the outcomes of the network.

Based on the information gained in the interviews, we are able to go into more detail on motivational issues. In general, the motivation of members is considered a *key success factor* for the functioning of the network, and *key task* for network leaders is to motivate members to take part in and contribute to the network. Several aspects of motivation were addressed in the interviews:

- The themes and issues of the networks, f.ex. those presented and discussed in meetings, workshops and on team sites should be useful and relevant for the participants. Since most of the members tend to be "receivers" rather than "contributors" it is vital that the knowledge "items" (such as governing documentation, best practices, methods, examples etc) are presented and discussed in a manner that is relevant in their position in a given unit.
- The contributions to the network are not numerated financially. In the absence of such numeration, it is vital that the contributors are made known and become visible in the organization. Such attention should contribute to pride and recognition, which network leaders perceive as vital for the members motivation.
- Often, motivation has to be activated by communicating what the network stands for, the possibilities of developing one's own competence and the potential for the unit involved.

5. NETWORK MANAGEMENT

Creating a successful knowledge network is a challenging task. It is important that network leaders understand social processes and have an understanding of how people learn and share knowledge. In order to measure the quality of network management in the survey, we identified six dimensions:

- the network management is good at stimulating discipline-related discussions
- the network management sends out notice of meeting times and agendas for the discipline network meetings in due time
- the network management is good at passing on the experience and knowledge of the participants to the rest of the discipline network
- the network management is good at communication relevant discipline information between meetings
- the network management is good at communicating and disseminating best practice
- the network management is good at communication recommended training/conferences to the discipline network.

In the quantitative analysis there was a strong statistical relationship between the quality of network management on the one hand, and the perceived outcomes in the members' unit on the other hand. The relevant outcomes in members' units were improvements, more speedy solutions to work tasks and higher compliance to governing documentation. Thus, how the network is managed by the network leader is a vital success factor for obtaining good outcomes for the company.

The leadership challenge
Based on the interviews with the network leaders, we are able to go more thoroughly into the challenges of network management. A useful starting point is the formal

structure of which the disciplinary network is a part. Members take part in network as a secondary arena, while their line unit is the primary "home" in the organization. From the network leader's point of view, he/she perceives that there are *large responsibilities* connected to the role as leading advisor and network leader on the one hand, while he/she has no *formal authority* towards actual or potential members of the network on the other hand. This was expressed clearly in the interviews:

> "You have no authority. The only way to get the members to contribute is to explain to them why they should take part. The "heavy" part of this type of leadership is that is not possible to tell people what to do. Every argument that you bring forward in the company has to be agreed upon by those who have decision authority or have to pass it further on in the organization".

> "Time is a problem...they often tell me that they have to much do to (in their line unit) and have to prioritize what is most important".

> "It is a challenge to make a network member acknowledge that other people have experiences that may be useful for him/her"

> "It is not difficult to ask people to contribute, but it is difficult to put pressure on them, if they have other priorities".

Activating and motivating network members
Given the constraints described above, one of the main tasks of the network leader is to influence potential members to take part in and contribute actively to, the network. Although the employee's line manager is the key stakeholder regarding their use of scarce time, network leaders seldom have direct dialogue with these line managers. Rather, they intend to influence (potential) network members directly.

In order to exert influence on network members, it is useful to have good understanding of the technology involved and the challenges in the various units across the organization. Network leaders should take care to build their own reputation. They have to *prove themselves as professionals*.

> "It is a kind of internal marketing...it is a large organization...with lots of information....So the thing is how you are able to persuade the 100+ people that you need to get "inside the brain" of. Well, if you don't prove that you are professional, then people will say that what he comes up with, just don't make sense. People will then tend to withdraw from the network".

In order to exert influence in the absence of formal authority, one has to *develop trust and personal relations* with the members.

> My position is that you need to meet them, and in a sense "get under their skin" for communication to flow easily. Therefore, I prefer two-day network meetings, because you can have dinner together and talk outside of meeting rooms. It is very important that we know each other and respect one another".

It is vital to be aware of the interest and enthusiasm for the discipline among network members. The network will function better if one   is able to *use this commitment* in the various network activities. *The assignment of tasks* is vital here.

> "... use peoples commitment, make interesting tasks visible and assign tasks to different people... The leading advisor should not keep the most exciting tasks to himself, everyone should feel themselves as part of disciplinary management... You should ask yourself what is the most challenging task you could pass on to others, rather that keep them as part of your role as leading advisor".

In general, the attitudes of employees is regarded a potential resource for the company. In order to activate this potential and to motivate members, network leaders may strive to make contributions better known and the contributors *more visible* in the organization. Such attention should contribute to pride and recognition.

> "When a new manager is chosen, it tends to be "news". Working in a network tend to have a lower status. Those who have done a good job should be made more visible. I have published some of the contributions in an internal magazine and on the intranet. Then others see that..."yes Anna in unit x has done that, that's nice" and so on. It is a good thing to honour these people in the organization".

Recruit ambassadors into the network
The influence of the network may be enhanced by recruiting members that have vital positions and networks in other arenas. The range of such influence may range from making the network better known in the organization to the "selling" of technical solutions or investment alternatives developed in the disciplinary network. One respondent stated that he had several ambassadors in the network, that contributed to the "opening of doors" and simplifying the process of influencing vital decisions.

> "Among the participants in the network, there are people in managerial positions, who want to have a foot in the technical camp…It may seem banal, but if you have any well known names it tend to provide legitimacy …. it is incredibly much easier to get things to happen".

Scope and focus of the network leaders
A finding from the qualitative interviews is that some network leaders perceive a clear boundary between the role as network leader and other tasks in the job as leading advisor. A typical answer is that they spend appr. 15-20 % of their time on the network. A few of the respondents emphasized that there were less clear boundaries

between the network activities and other aspects of the leading advisor role. One said that:

> "Everything I do is related to exchange of experiences and development of the discipline. That is 100 % of my working time and everything is related to the network".

Thus, some of the network leaders tend to have a network perspective on their role as leading advisor, and have an inclusive approach towards contributors to the discipline.

Another dimension of the role is the ability to have a strategic approach to the role. As a leading advisor it is vital to identify the most important challenges, and not only be competent as a technical specialist, in operative tasks and treatment of cases. In order to provide leadership in the discipline, one should be pro-active and set the agenda, in contrast to a more reactive approach concerned with single issues.

Relation to "superiors": Line manager and chief engineer
One aspect of the matrix like organization in Statoil is the employees' "double membership"; in the line organization and the disciplinary network. Another aspect is that the leading advisor (network leader) reports to a line manager, while being a member of a chief engineer's (and the process owner's group. Therefore, there are potential tensions and dilemmas built into the organization at this level also. Based on their own experiences, only a few of the network leaders interviewed perceive the "double membership" as challenging. Typically, they regard themselves as having a large degree of autonomy in the role, and especially in their role as network leader. They have good relations to both "their" line manager and chief engineer, although time often is scarce. It also helps if the two superiors are located close to each other in the organization. However, many stated that there could easily be tensions in these relations, and that "I have heard of others that have experienced problems". In our previous study of process ownership (June 2009) some of the leading advisors reported some tension in these relations.

Activities and tools in the network
At the operative level, networks activities comprise meetings (for the whole network), workshops targeting parts of the networks, as well as electronic information (presentations etc.) sent in emails or made available at team sites or network web sites on the internet. Besides, since the merger, leading advisors have activated many networks in the work on improving and standardizing governing documentation. Network leaders typically reflect on the improvement of these activities; f.ex. the number of meetings per year, whether there should be one or two-day meetings, the quality of team sites and the relevant information available, using new technology to improve communication in and between meetings.

The internationalization challenge
The survey indicated that employees located outside Norway participated less intensively in disciplinary networks. Geographical distance is a barrier to taking part in meetings, and in general the network leader has less information about and less communication with employees located outside Norway. In the transition to a more international company, with more activities in other parts of the world, this is a vital challenge for a number of networks as well.

6. CONCLUSION

Here, we have analyzed outcomes and success factors for discipline networks in Statoil, as well as the challenges for the leaders of these networks. The paper is based on quantitative and qualitative data, and is restricted to the 131 technical and HSE networks. The general picture is that the outcomes are satisfactory; as network members report improvements, more speedy solutions to work tasks and higher compliance in their own unit.

We have discussed a number of success factors and barriers for well-functioning networks; such as network size, rotation, trust and personnel relations, line support and type of contributions to networks.

The quantitative study showed a strong statistical relationship between the quality of network management on the one hand, and the perceived outcomes in the members' unit on the other hand. From the network leader's point of view, they perceive large responsibilities connected to the role as network leader, while they have no formal authority towards members of the network. They describe their main leadership challenge as the ability to influence potential members to take part and contribute actively to the network. Network leaders have to prove themselves as professionals, develop trust and personal relations with the members, assign interesting tasks to others and make contributors more visible in the organization.