

Norsk konferanse for organisasjoners bruk av informasjonsteknologi

NOKOBIT 2011

Universitetet i Tromsø 21. – 23. november 2011

NOKOBIT-styret og redaksjonskomité

Terje Fallmyr
Bendik Bygstad
Jørgen Fog
Laurence Habib
Jon Iden
John Krogstie
Laila J. Mathberg

Universitetet i Nordland (redaktør, styreleder)
Norges Informasjonsteknologiske Høgskole
Departementenes servicesenter
Høgskolen i Oslo
Norges Handelshøgskole
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Høgskolen i Nesna

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| Laila J. Matberg | Høgskolen i Nesna |

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ISSN 1892-0748

ISBN 978-82-519-2845-8

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Tapir Akademisk Forlag
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Tlf.: 73 59 32 10
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E-post: post@tapirforlag.no
www.tapirforlag.no

FORORD

Velkommen til NOKOBIT 2011!

NOKOBIT 2011 arrangeres av Universitetet i Tromsø, mens prosessen rundt det faglige programmet ble ledet fra Universitetet i Nordland. Dette er det 18. NOKOBIT siden starten i 1993, og det er 12. gang at NOKOBIT arrangeres sammen med NIK – og fra 2008 også sammen med NISK.

I år har vi mottatt 27 bidrag, og det er 20 bidrag som skal presenteres. Alle bidrag har vært gjennom en grundig fagfelleevaluering (blind review) av tre uavhengige reviewere. I god NOKOBIT-tradisjon vil hver presentasjon ha en diskutant som er grundig forberedt, og bidragsytere må også fortelle hvordan de har forholdt seg til kommentarene fra reviewerne.

Jeg vil gjerne takke alle reviewerne for konstruktive tilbakemeldinger. Uten deres innsats hadde det ikke blitt noen konferanse. Jeg vil også takke styret i NOKOBIT for et utmerket samarbeid.

Til slutt vil jeg takke den lokale arrangementskomiteen, og spesielt Lars Ailo Bongo. Det har gått veldig fint å samarbeide over distanse.

Vi gleder oss til en god konferanse!

Terje Fallmyr

Handelshøgskolen i Bodø, Universitetet i Nordland
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SHARING PRACTICE IN THE DISTRIBUTED ORGANIZATION

Inge Hermanrud, Hedmark University College, Inge.hermanrud@hihm.no

Abstract

This is an account of an effort to nurture networks and communities of practice in a distributed organization. In particular the use of ICT is investigated. The case is told via three health and safety inspectors based in Norway. They describe how they share experiences and learn from each other on distance by using stories, pictures and documents, which is made possible by the GoToMeeting tool. In this case the GoToMeeting tool supports learning activities across geographical and organizational boundaries and contributes to efficient conditions for sharing inspection practices. But there are problems for the networks to be able to mature and grow as communities.

Keywords: communities of practice, competence networks, knowledge sharing, learning, traceable practice, distributed organization, documents, pictures, GoToMeeting.

1. ORGANIZATIONAL BACKGROUND

The organization discussed is a large distributed organization, the Norwegian Labor Inspection Authority. Distributed is here defined as when; “ the manager are placed at another location”. The main task of the authority is to supervise that the work environment in the country fulfills the statutory requirements. The employees are based at several locations and they are given a high degree of individual autonomy. The employees in this organization often work alone at small district offices or from home offices. The inspectors have over the years developed individual inspection practices, which has made it difficult to promote equal handling of cases and to conduct joint inspections. Different districts have different industries, which has also influenced inspection practices and created variations in competences among the distributed inspectors.

The authority is challenged by rapid changes within the domain it is responsible for, such as changes regarding how clients behave and new insights from research – all of which might change the use of the legislation it is overseeing that has to be complied with by its clients. The region 1 unit, one out of seven in the authority, has around 50 employees and out of these around 40 are inspectors. The budget is approximately 40 million kroner (equal to US\$6.6 million). The networks’ mission is to ensure organizational learning in the authority on the topic area they are set up for. The organizational culture among the inspectors can be described as a very independent work culture, where the inspectors are used to working alone or in pairs and making their own decisions; often working with their clients more than with colleagues. Even though they often work alone, and have few colleagues at the office, a sense of identity with a group and identity with the organization have been developed by telephone calls to colleagues conducting similar tasks or experts at the core of the organization (the directorate, see Figure 1, The organizational chart).

1.1 Organizational Structure and Management Responsibilities

The organization has a long history that goes back more than 100 years. The authority’s mission is to encourage its clients to work systematically towards compliance with the laws and regulations. The organization has gone through substantial changes in the last seven years. The core of the organization, the directorate, has had its number of employees reduced, and responsibilities have been handed over to the seven regions in the authority. An organizational chart is presented in Figure 1.

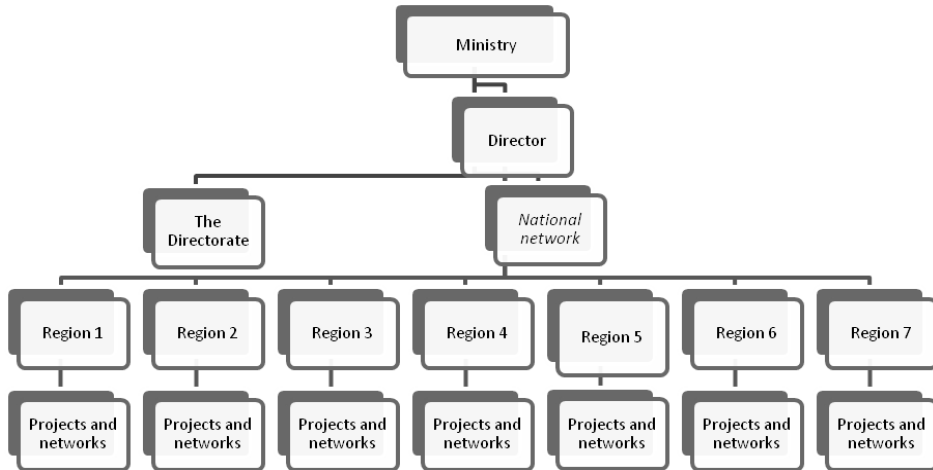


Figure 1 The organizational chart of the inspection authority.

The conduction of inspections by this authority is meant to take place in projects and organizational learning in the networks. The purpose of the national networks is to ensure knowledge sharing and learning across the regions. These network is set up with coordinators from the regional networks. In Mintzberg's (1983) terminology the organization has reduced its techno-structure and moved towards more flexible forms of organizing using more project work and networking, much in line with the current trend in organizational design. The organization specific argument for this design is that the inspectors are individually very knowledgeable, but very independent; they need to collaborate more in projects and networks to meet the challenges of the organization. The networks have so far been more a less permanent assignment to a specific competence network for the individual. Projects on the other hand runs from one to three years.

The mode of learning that has dominated the organization until now comprises an apprentice conducting inspections with a senior inspector. In other words, face-to-face-based learning– where the apprentice observes the senior inspector conducting inspections. While this organization used to have experts at its core, the expert knowledge now has to be developed in the regions – among dispersed inspectors in the intra-organizational networks set up by management. They are now supposed to become experts collectively. This is to be achieved by setting up competence networks of inspectors. The inspectors within each region are assigned to one of four different networks, more or less based on their professional orientation or interest.

Inspectors work from regional headquarters, from one of the different local offices, or from home offices distributed all over their region. The distance between the different members in this region can be as much as 1,300 km, and, owing to the limited budget, they may only see each other face-to-face twice a year for two days. In addition, the inspectors are often on the move as they perform their tasks. The members in the network have different professional backgrounds, ranging from engineering, degrees in social science to lawyers; some with lengthier professional education, like lawyers, to others with work experience from relevant industries. The organization employs a total of 500 inspectors, of whom approximately 40 work in region 1. The 40 inspectors in this region are assigned to one out of four different competence networks. Each network is set up with a coordinator, but this assigned person has no formal authority or formal sanctions towards the network members. Each coordinator for each region is represented in national networks. The management responsibility in this context is to support the networks so that they develop the necessary for knowledge and expertise to be able to conduct their tasks.

2. SETTING THE STAGE

External consultants have suggested that the authority should set up competence networks where the inspectors could develop their individual and collective competencies by reflecting upon experiences and practices, and give input to the organization. The Authority implemented competence network structures in 2005. The experiences in this case were collected in 2009 and 2010.

Research on the social aspects of learning have found that communities of practice enables learning in organizations (Wenger 1998). A community of practice is an emergent social collective who self-organize to help each other and share perspectives about their work, enabling learning within their community (Brown & Duguid 1991, Lave & Wenger 1991, Wenger 1998). This perspective regards it as difficult to convert tacit knowledge to explicit knowledge, meaning that knowledge cannot be transferred between people by ICT in a straightforward way. Tacit knowledge cannot be “captured”, “translated”, or “converted”, but only displayed or manifested in what we do (Orlikowski 2002). New knowledge comes about not when the tacit becomes explicit, but when our skilled performance – our praxis – is punctuated in new ways through social interaction (Tsoukas 2003). Data can be directly transferred, but their interpretation might be variable (Galliers & Newell 2003, Newell, Robertson, Scarborough & Swan 2009). Learning in communities occurs by doing things together, observation of what others do, through the sharing of stories and practice reflection. Knowledge is localized in social situations and practices that people actually perform (Newell et al. 2009), often labeled as knowing. The major tasks in knowledge management are therefore to nurture or build communities of practice – sometimes across organizational or geographical boundaries – where practitioners can learn from each other. The outcome of such knowledge-sharing processes could be the representation of individual practices and a collective diffusion of innovative work practices, across space and time. The role of management in this approach, according to Wenger (2004, 2005) is to coach managers, fund activities and supply the network with technology, facilitating arenas where people can talk about their work and their practices.

Communities of practice have existed since individual craftsmen got together to share issues, ideas and solutions. Today technology acts as an enabler linking dispersed individuals in terms of time and place, and facilitates their interaction. Brown and Duguid (2000, p. 143) describe a continuum of networks from communities of practice defined as : *“relatively tight-knit groups of people who know each other and work together directly... typically face to face communities that continually negotiate with, communicate with, and coordinate with each other directly in the course of their work”* to electronic networks of practice consisting of weak ties where individuals may never get to know each other or meet face-to-face. A relatively new aspect of this phenomenon is the managerial ambition to integrate geographically spread units into one integrated unit using ICT and networks aiming to develop communication, collaboration and learning horizontally in the organization (Newell et al., 2009), which this case is an example of. (see Table 1.)

| Macrostructural property | Work Groups | Virtual team | Communities of practice | Electronic networks of practice | Competence networks |
|---------------------------------|-------------------------------|-------------------------------|--------------------------------|--|--|
| Control | Formal control, not voluntary | Formal control, not voluntary | No formal control, voluntary | No formal control, voluntary | Formal control e.g. assignments, managerial participation, evaluations |

| | | | | | |
|------------------------------|--|--|---|---|--|
| Communication channel | Face to face | Text-based computer mediated (e-mail, intranet, can benefit from interactions face-to-face or on video) | Face to face | Text-based computer mediated (like blogs, bulletin boards and e-mail lists) | Screen sharing and telephone conferencing e.g. text, picture and voice-based, computer mediated, and occasionally face-to-face |
| Network size | Small | Small | Small | Large | Small and large |
| Access | Restricted, assigned by a formal control | Restricted, assigned by a formal control | Restricted, locally bounded, limited to co-location | Open | Restricted by management, regional bounded |
| Participation | Jointly determined, specific task outcomes | Jointly determined, specific task outcomes | Jointly determined | Individual determined | Jointly and individual determined, and sometimes with specific task outcomes |

Table 1. Varieties of groups and networks from Wasko and Teigland (2006, p139), except last column right, which describes key features of the competence networks in this case

The competence networks in this case are controlled by management since participation is not voluntary: the participants are assigned, one manager participates in the meetings and the networks are given tasks and evaluated by the organization. While the participants in the competence networks perceive face-to-face interaction as the best setting for sharing practices, sharing using technology is seen as a good alternative due to long travel distances. The tool used is GoToMeeting, a highly rated (Lipschutz 2007) web-based tool that allows everyone in a group meeting to share whatever is on each participant's computer. The tool contains features such as screen sharing, sharing of keyboard and mouse controls, web-chat, and phone conferencing, and the tool is also integrated with e-mail and the Outlook calendar to efficiently book meetings (see <http://www.gotomeeting.com>). While you can share everything you have on your computer and have a telephone meeting, the contenders do not see each other. When the networks are given tasks from the organization, such as answering hearings, these activities resemble a virtual team (see Table 1), and the strengths of GoToMeeting perceived in this activities are the ability to talk, read and write together simultaneously. The network size of the competence networks is small, since they are staffed with eight to 14 members, but as they are linked to other networks in other regions by the national network, experiences could potentially be shared among hundreds of people (see Figure 1).

Participation in communities of practice is regarded as jointly determined, since individuals generally approach specific others for help. In electronic networks of practice, participation is individually determined; knowledge seekers have no control over who responds to their questions or the quality of the responses. In turn, knowledge contributors have no guarantee that seekers will understand the answer provided or be willing to reciprocate the favor. The competence networks can be described as a mixed participation context – both jointly and individual determined, and also sometimes with specific task

outcomes. Access and participation is restricted and structured by management, but ultimately the participation is dependent on mutual engagement.

An ICT perspective on communities of practice relates to how people use ICT to organize the social world to be able to learn. It is about how ICT enables the establishment and maintenance of ongoing relationships between people who have the potential to help each other. A tool is not a community of practice in itself, but it might enable you to share experience and learn from others. Organizations use ICT to accommodate knowledge work and learning. But the impact of ICT on sharing and learning is influenced by human agency, the physical properties of a particular ICT and the context that it is used in (Newell et al. 2009). To develop communities of practice, according to Wenger, McDermott, and Snyder (2002), there is a need in the early stages to share information about individual competencies –sharing experiences to develop a sense of shared meaning, identity and knowledge. In later stages the ICT can facilitate ongoing collaboration and the storing of experiences relevant for the community. A more detailed description of the needs in different stages is presented in Table 2.

| Stages | Main Functions | IT enabling technologies |
|--------|---|---|
| 1 | Connect, plan, commit | E-mail, e-conferencing, listservers, online forums, internet, corporate intranets |
| 2 | Form framework, create context | As above, plus remote login facilities, file transfer, information repositories |
| 3 | Operate, collaborate, grow, improve, mature | As above, plus online directories, analytical and decision-making tools, may remain for use by future communities intelligent agents, e-surveying, and feedback facilities also portals |
| 4 | Sustain, renew, maintain, wind-down | |
| 5 | Shut down | Knowledge repositories |

Table 2. Wenger’s community evolution model. (From Dotiska (2006) p259.)

Mature communities of practice are often regarded as skillful at putting all kinds of tools to good use, regardless of their designer’s intention (Wenger, White, & Smith 2009). Wenger et al. (2009) describe several strategies for communities in their effort to build community ICT structure. Strategies ranged from setting up a unique platform for the community or using existing internal and or external tools. This case describes groups who build on and are using what the organization offers. The ICT in use in the competence networks comprise e-mail, intranet and the GoToMeeting tool. Web 2.0 applications in terms of wikis, blogs and other social networking features are not a part of any of the official applications in use so far, and freeware is forbidden due to virus problems and the potential leaking of sensitive information.

3. CASE DESCRIPTION

The case is a qualitative study, taking a narrative approach (Czarniawska-Joerges 1998). Which facilitate deep descriptions of individual account. The objective of this case is to explore the experience in a distributed organization, the Norwegian Labor Inspection., using the GoToMeeting tool to facilitate knowledge sharing activities. T In this organization, which is often the case with older organizations, old and newer ICT tools and systems co-exist, but not all of them are used daily or by everybody. I can list as examples intranet, internet, e-mail, GoToMeeting, as well as old and newer systems related to task handling, registration and time-management. Historically the employees were recruited on the basis of some years of experience from branches like building and construction. Newcomers were hooked up with an experienced employee and the learning mode therefore was the process of becoming an experienced

inspector. In their respective districts the employees had to conduct inspections regarding different kinds of areas ranging from preventing accidents to psychological well-being. During the last six years this has changed: the employees are supposed to be more specialized professionals assigned to projects (where the production takes place) and competence networks (where organizational learning is supposed to be nurtured). The employees work from small regional offices, others from a home office and all of them are often on the move undertaking inspections all over their district.

The GoToMeeting tool was introduced in the organization at the same time as the competence networks were established, and has become an important tool in the inspectors' daily tasks in project work and is the main channel for the networks, which meet once a month online, but only once or twice a year face-to-face. Five to 10 participants participating in the GoToMeeting meetings and the duration of the meeting are from one up to two hours. GoToMeeting can be labelled as an audio-conferencing tool with web-based conference services, where active and reflexive listening (like rephrasing participants' statements) is needed for smooth and effective communication (Munkvold & Akselsen, 2003). Screen sharing and the use of text, illustrations or pictures have further positive effects in this respect. The activities in an average meeting in the competence networks are described on the next page.

| Activity | ICT in use |
|---|---|
| <p>Log on sequence</p> <p>The individual logs on the web- and teleconferencing (phone). All the necessary information is provided by Outlook.</p> | <p>Outlook e- mail and calendar, Web and teleconferencing (phone)</p> |
| <p>Small talk ...</p> <p>About the weather or similar, sometimes about rumours about what is going on in the organization are shared (3-4 minutes)</p> | <p>Phone</p> |
| <p>Who are here?</p> <p>Coordinator asks who is present or not, like “ are you there Hans”? “I can see you are logged on Elin!”. “Svein is sick”. All of the participants say something in turn, like “yes I am here”. “Here, but I have to leave this meeting early, due to...”</p> | <p>Phone / web</p> |
| <p>Coordinator introduces the agenda for the meeting</p> <p>Word document presented (also send by e-mail before the meeting)</p> | <p>Screen sharing</p> |
| <p>Change of screen control</p> <p>Coordinator let the presenter (network participant or external expert) of the day control the screen</p> | <p>Screen sharing</p> |
| <p>Experiences shared</p> <p>Power point presentations. With the help of stories, documents and pictures.</p> | <p>Screen sharing: Documents and pictures from PC and or ePhorte or Vyr (see below after table)</p> |
| <p>Discussion, questions raised and answered</p> | <p>Teleconferencing. Sometimes</p> |

| | |
|---|--|
| Sharing of experience, opinions and ideas. Sometimes questions are not answered. | participants during the meeting search the world wide web or intranet for answers to questions |
| <p>Evaluation of the meeting</p> <p>Everyone are “forced” to say something. Comments are very short like: “it was okay”, “I have nothing to say”, “interesting topic”, “well organized meeting”, “two hours without a break is too long”, “remember to turn of the microphone when you are not talking - your noises disturb the others”, “it is so sad that only a few took part in the discussion”</p> | Phone |

Table 3. Examples of activities` taking place in an average meeting in the competence networks

ePhorte: A task handling system, that includes a powerful search engine that makes it possible for the Inspectors to search by case number and in free text.

Vyr: The Authority records the reported damage to a business and occupational injury into a register called Vyr. The Authority and the competence networks use Vyr to analyze the registered data to monitor the situation within different branches.

4. GOTOMEETING FACILITATING LEARNING ACTIVITES ACROSS BOUNDARIES

An ICT perspective on communities or networks of practice implies that we describe them by their ICT in use, uncover activities and knowledge bases. In the following I describe the networks through three different narratives. The experience is told through three inspectors, two senior members of staff, Tor and Stein, and one newcomer, Nils.

4.1 GoToMeeting facilitate sharing of Tor’s “workbench”

Tor has worked for 20 years in the authority, within different issues but mainly within engineering. He has also worked part-time as a lecturer at a university. He regarded himself as very open-minded towards ICT. From the early days he has worked from his home office, where his boss has let him try out the new technology. Tor is an early adopter of ICT. Today he has a fully equipped office at home, the same technology as at the office. He sees many opportunities for ICT-based sharing of knowledge related to his work, and he has used it on several projects. Additionally, he has been an assigned mentor and a union man online. He is assigned to a competence network for technical expertise.

Tor likes to do PowerPoint presentations when using the GoToMeeting tool, and he also likes to pick up files from his PC or intranet and present them as the discussion moves on. His intentions behind this are threefold:

1. To enrich the discussion with cases presented orally, accompanied by the use of pictures and documents.
2. To help others to view and exploit the possibilities that the GoToMeeting tool contains.
3. To help others to look up and put together relevant information from different systems that they have: intranet, Vyr and ePhorte.

When using the GoToMeeting tool Tor can access rich illustrations regarding content and processes on inspected enterprises, while he is elaborating on a given topic. To illustrate his work he uses his own “work bench” – his computer with access to everything he needs stored on it or available online. He shares the legislation he uses, how he interprets it, how he writes letters to inspected businesses and their answers. He does this by presenting documents from the task-handling register, cases he has previously worked with. He picks out an accident – a file describing what happened at the site, pictures of it and the letters he wrote and how the business responded to it. He moves around between different applications to underline and illustrate his key points, as well as showing the others how to use the GoToMeeting tool. He stresses the importance of taking and attaching pictures to the case before putting it into the archive, useful for task handling and for later sharing online on GoToMeeting in the competence network setting. This informs us that work activities and learning activities are dependent on each other. Taking pictures in the work context provides the means for later online knowledge sharing and learning. Several times Tor has gone through accidents, sometimes the whole process, and at other times only what happened. Tor regards the tool to be very efficient:

If the legislation is changing, pictures on screen can easily create a mutual understanding of the new legislation. Like when I present machines and equipment that are in line with the new rules.
(Tor, senior member of staff)

In his view they are not ready for video-conferencing, but may be in the future if the organization becomes more specialized and the need for communication and interaction internally within the organization increases. Tor’s story tells us that GoToMeeting can be a very useful tool for enhancing sharing conversations. It has the ability to gather people and their artifacts (documents and pictures) and participants have conversations about the artifacts. For this purpose GoToMeeting is more efficient than face-to-face meetings. Since the participants in GoToMeeting meetings, compared to face-to-face meeting, have more easy access to documents. The result of the activity is justifications, mutual understanding of the practice of the others and more collective practice. In other words processes and outcome promoting a community. However the sharing of documents and their conversations depends upon how open they are, and that differ. Some are more reluctant to disclose too much about what they actually do, as they are afraid to lose some of their flexibility when ‘in-action’, since new routines increasing the standardizing can then be forced upon them.

Tor address a problem when using the GoToMeeting tool. The problem is the emergent ‘multitasking’ during the GoToMeeting meetings in the competence network. The engagement in the discussions varies from participant to participant. Not everybody is interested in every issue all the time. They do not work with the issue discussed, or they have other opinions. Since nobody sees the individual, some are tempted to do other things while being logged on to the conference. This might not be true all the time, but the impression of ‘lack of engagement’ among some can turn into vicious circle of ‘reduced engagement’ in the network. Hindering the participants in creating a community. To reduce this problem coordinator are asked to involve everybody at the meetings, by addressing each and everyone directly.

4.2 GoToMeeting enables Stein to share his practice, which are traceable in documents

Stein is an experienced member of staff with more than 10 years’ experience working with the authority. Previously, he worked for more than 10 years as a teacher. He is assigned to a competence network for technical expertise. He works from a regional office and has taken a university course about ICT use in the distributed environment, which addressed how to work together while not physically being together. At the course he learnt the importance of ensuring that everybody is heard and addressed during a GoToMeeting meeting. He speaks very highly of the GoToMeeting tool for sharing of experiences. He puts it this way:

We are discussing something. I say, yes, but I have something on my PC, just give me the screen and I’ll look up, and so I find it, and I find statements, pictures or any other orders given before. So screen sharing is very useful. It is flexible. (Stein, senior member of staff)

Stein regards it as too cumbersome to meet face-to-face too often. Instead, he points out that by using the GoToMeeting tool they share the documents needed if he runs into a similar case. He puts his point this way:

We can't share by referring to what we remember, we need to find the case, our sharing must be traceable. (Stein, senior member of staff)

In bureaucracies, such as this authority, action is taken on the basis of and recorded in written rules (Weber 1971). This is also true regarding sharing and learning as pointed out by Stein. Sharing and learning starts with recorded cases and the written rules in use. This implies that the sharing of documents is necessary to inform people about what legislation they use and how they use it when sharing experience and their knowledge.

The use of documents is a necessary resource for learning activities in a bureaucratically organizational context. To achieve 'equal handling', documents are needed to understand the practice of others, and works as the window into it and contribute to shared meaning and community.

4.3 GoToMeeting enables Nils to discuss and learn from practice across the organizational boundary

Nils has worked for three years in the authority, from a local district office, and mainly with industries. This is his first job after finishing college. Around half of his tasks are related to chemistry – the area the competence network he is assigned to is set up for. He thinks the meetings in his competence network have improved lately, since they are now discussing more and more professional issues – recent developments in research and the experiences of colleagues and other practitioners. For Nils, GoToMeeting is the best they have so far:

GoToMeeting is the best we have, you can invite external experts and practitioners – to develop a dialog between our authority, researchers and our businesses. (Nils, newcomer)

This use of GoToMeeting reveals networking outside of and across the boundaries of the organization. Bringing different people together using GoToMeeting is possible. Everyone has access to a phone and to the world wide web, that is all that is needed.

When people with different backgrounds, but who are engaged in similar work start to have discussions, there is an extra 'spin-off' effect according to Nils. Practitioners and researchers start to share and discover solutions together. This is best achieved face-to-face, but is also possible using GoToMeeting. Like Tor, Nils stresses the role of pictures and documents in sharing and learning using GoToMeeting. The sharing of pictures can be of well-placed ventilation facilities in a welding shop and why it is well placed. Sharing documents can be very useful because they give many ideas about what to look for when conducting inspections, according to Nils. Nils also argues for storing PowerPoint presentations presented at the network meetings on intranet for later use. As he puts it:

When you need ideas and names of people to contact about a special issue, then the PowerPoint presentations can be very useful. (Nils, newcomer)

Nils reveals an insight to us here. Useful informal contacts across the organizational boundaries are not only made up of people you know, but also names stored on your computer or intranet, accessible when needed in your work.

Even though GoToMeeting has several strengths there are also limitations according to Nils. One dilemma exists between time and cost-efficient knowledge sharing and relation building. Nils puts it this way:

Face-to-face meetings are important, when you are using the phone, not seeing each other, then you don't get to know each other. (Nils, newcomer)

Not getting to know each other means that the social network, the ties, might not develop as strongly as they could have. GoToMeeting seems not to be a sufficient tool for these people to develop the stronger ties and the mutual recognition that defines a fully developed community of practice. Since face-to-face meetings take time and travel costs are high over long distances, they need to find other ways to develop their relations, and, in particular, develop the “know- who” - the experts among them within particular areas. One way is to engage others (in particular people you don't know) in your project.

5. DISCUSSION AND CONCLUSIONS

In this case GoToMeeting enables the sharing of work practices across distances well through its ability to gather the inspectors, their documents and their pictures. Through presenting accounts, documents and pictures inspectors are able to represent and reflect upon their work practices. GoToMeeting is regarded by Tor, Nils and Stein (three engaged and dedicated network members) as a very useful tool for sharing and learning. GoToMeeting enables efficient sharing and learning activities across distances. Tor's sharing of ICT skills seems also to be a best practice, of which the organization could look into for developing the use of GoToMeeting for sharing and learning further. The narratives highlight that collaborative IT can enhance 'sharing conversations' - when collaborating and when representing practice in documents or pictures. The narrative of Nils also tells us that the Powerpoint presentations information that facilitate contact to a broader network of practice across the organizational boundary. These findings are accounts of two types of knowing shared through GoToMeeting as presented in table 4.

| ICT facilitate | Activity | Knowing |
|--|----------------------------------|--|
| Easy access to pictures and documents | Sharing pictures and documents | Knowing work practice (Knowing how the legislation are used in practice) |
| Easy storing of documents being presented at GoToMeeting | Storing Powerpoint presentations | Knowing where to contact a broader network of practice |

Table 4. Two types of Knowing facilitated by GoToMeeting

On the other hand, pictures and documents useful when sharing knowledge are more or less stored “by chance” by the individual on PC or intranet, and not very access able for everyone. For some, often the case for experienced veteran employees, it is too difficult to import documents from the systems and into PowerPoint presentations for sharing at GoToMeeting. On *Wenger's community evolution model* these networks have not moved more than to stage 2. By the use of GoToMeeting they are able to connect, plan and commit (stage 1) and they are also able to form and create context (stage 2) by sharing documents and pictures. But it is harder to grow and mature further.

One problem is that it is hard to get to know each other on GoToMeeting. Participants who are not that interested or out-spoken and who do not engage themselves in discussions online, are not well known among the rest of the network participants. GoToMeeting facilitates sharing of documents, but don't sufficiently support the development of social relations. One reason might be the strong individualistic culture as well as the face-to-face learning mode among the inspectors in this organization. To develop the social relations there is a need for more face-to-face interactions. Tools like Skype, have video as well as screen sharing, and could substitute GoToMeeting to improve the social networking in addition to some more face-to-face interactions to develop communities of practice. There is a lack of sharing and learning across the 7 regions in the Authority. While experiences and practices are shared and reflected upon among a few people, the members in a regional competence network, experiences and practices are nearly never shared across the different regions. Network members of a chemistry network in one region

do not know what the chemistry network in another region have experienced, discussed or learned. It is the same situation for other competence areas as well. Moving forward, management should consider how to develop sharing and learning across the regions, supported by IT. Researchers should further investigate how networks of practice across regional competence networks or similar can be nurtured by management.

Videoconferencing is suggested by the organization's IT department to replace GoToMeeting in the coming years. This is mainly due to the fact more daily interaction is needed since the planning and conduction of inspections is increasingly supposed to take place in projects and in collaboration with other authorities. This suggested IT change, if implemented, might have consequences for the competence networks, consequences which also should be considered by management.

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