Leadership on Distance: The Effects of Distance on Communication, Trust and Motivation

Svein Bergum

Eastern Norway Research Institute, Servicebox, 2626 Lillehammer, Norway, svein.bergum@ostforsk.no

Jan Tore Selvik

Norweigan Public Road Admin., Eastern Region, P. Box 1010 Skurva, 2605 Lillehammer, Norway, jan.selvik@vegvesen.no

SUMMARY

In almost all studies of management of telework, the leader is at the office and his subordinates are located at a distance, either at home or mobile at other remote locations (Bergum, 2000). In this case study we will report from a different type of project, where the leaders are the mobile teleworkers, visiting their subordinates at 3-6 locations. Norwegian National Road Administration (NNRA) are using telework as part of their organisational development process. This is a large organisation by Norwegian standards, with 12.000 employees. According to internal reports, 25% of these workers might be teleworkers in the future.

An interesting aspect of this organisational development process is that some strategic and tactical competence functions have been decentralized from Oslo, located at the regional offices. Some of these regional offices were re-established and decentralized on the initiative of the Norwegian Minister of Transport and Communication a couple of years ago. Vertical differentiation of the organisation is reduced, resulting in a reduced number of leaders and more management over distance (telemanagement). Like many other organisations, both public and private, NNRA is reducing the number of regional administrations in larger geographical regions. Surprisingly, most of the administrations of these regional offices are decentralized to medium sized places in Norway. Most of the people will however still work from their previous work locations. Many workers have to change their jobs because of regional specializations, where regional competence centres are formed. The new leaders at these larger regional administrative offices are often located at new places. Several of the factors mentioned above are driving forces in the development of telework. Telework in this organisation mostly means that leaders have to be mobile to manage a larger number of subordinates at other locations than their own. This means the "telemanagers" have to travel a lot to meet their remote workers. But NNRA have also invested a lot in modern communication systems, including videoconferencing.

The leaders therefore need to decide where to work, and to achieve a balance between face to face and virtual communication. Besides the decisions on locations and media-choise with their subordinates, the leaders also have to consider other distance dependencies. Telework has mostly focused on the distance between leader and subordinate. Leaders in NNRA also have other distance dimensions, for example towards: customers, suppliers, other internal functions/departments, public authorities etc. The leaders therefore have complicated decisions to make regarding locations, media use and communication patterns. In this paper we will focus on the effects of distance on the relationship between the distant and mobile telemanager and their staff.

A questionnaire was distributed via email to 228 employees in the East Region of NNRA. 176 of these employees answered, which give a response rate of 82%. This high figure could partly be explained by the fact that one of the authors works for the NNRA. The unit of analysis is there the individual employee and their attitudes and experiences with managers at a distance. In the population we also have employees that have their leaders collocated, so there are possibilities for comparisons based on different type of distances. Based on earlier research on telework by the authors, for example Bergum, 2000, the focus variables selected for the study are: communication and media choice, motivation, trust and control, as well as descriptive questions about distance. Besides the variable geographical distance, we also included "*frequency of contact*" as a perceived measure of distance.

A main finding from this study is that geographical distance has far less importance for the variables studies than the frequency of contacts between telemanager and (tele)workers. Results show that a contact frequency of once a week gave positive results. On several of the questions, respondents with such a frequency had a higher score than employees that met their leader several times a week. A possible explanation of this, based on earlier research and additional interview with one of the telemanagers in NNRA, is that this weekly meeting is effective, focusing on both personal matters, besides professional planning and follow-up. Another main finding from this study is that telemanagers are travelling a lot, prefer face to face communication and some email communication, but have very little telephone communication or videoconferencing. These results could be explained by a modest communication need in this organisation or experienced workers with independent jobs. A third explanation is that they are planning well, reducing the communication needs between the regular face to face meetings. A next phase of research could include a follow up on leaders to get their reactions on these answers, for example why once a week seems to be an optimal contact frequency. Further explorations of the differences between different types of distance-concepts, should also be analysed: why does contact frequency has much more impact than geographical distance.

INTRODUCTION

One of the most important tasks of managers is to motivate their subordinates to apply their own resources to obtain good results. In the management literature this is a well-known topic. Much of this literature is indirectly based on the assumption that there is a geographical co-location between leader and subordinate. However, the diffusion of advanced ICT-systems has improved the possibilities for new types of locations. Because of this the term distance management, telemanagement, or remote management has been introduced. The basic characteristic of this term is the geographical distance between leader and subordinate. In this paper we shall use the term remote management.

This paper will focus on some general factors that influence management at a distance. Especially we will look at how the motivation and

trust towards the leader is influenced by leaders who are not physically present part of the time. Through studies of relevant literature, both general management literature and specific theory of distance-management, we want to discuss different aspects of distance management in general, and especially those related to motivation and trust. We shall use these theories as a theoretical base for an empirical investigation of an organisation that to a large extent is organised with geographical distance between subordinates and their leader.

The Research Problem

The purpose of this paper is to identify and describe the possible correlations between the employee motivation and trust towards their remote manager, and the dimensions of distance that the employees have to their leader. Another goal is to focus on the challenges faced by a remote leader. This paper will provide knowledge of how remote management influences the relational aspects between employees and distant leaders. Trusting the leader is important in much of these relationships. This will influence the possibilities of the leader to motivate employees. Thus, when leader and employees see each other more rarely, also other leadership activities, communication and control must be developed in order to adapt to this organisational form.

In this paper we will focus on the following research questions:

- which particular challenges do exist when there is a geographical distance or irregular contact between employees and leader.
- how is the motivation of the employees influenced by such an organisational form
- how will this organisational form influence the employees' trust for their leader

THE CASE: NORWEGIAN PUBLIC ROADS ADMINISTRATION (NPRA), EASTERN REGION

Introduction

Our study colected empirical data from Norwegian Public Roads Administration (NPRA), Eastern Region. This region consists of the Norwegian counties Oppland, Hedmark, Oslo, Akershus and Östfold. The administrative headquarter for this region is located in Lillehammer, in Oppland county, 180 km north of Oslo. This region is organised with seven local offices, responsible for operational activities. As a support for the regional management team, some staff positions have been established. There is also a regional resource unit that, independently of geography, has been created to provide competence and extra capacity to the other units in the region. The philosophy behind this is to increase effectiveness in utilizing professional know-how and resources, and take advantage of larger collocated regional teams that can provide better opportunities for knowledge-development. This resource group is called the Resource Staff unit, and is basically financed by "selling hours" internally. It is this Resource Staff unit that is the focus of the empirical part of this study.

This organisational form was established on the 1st of January 2003. Generally the re-organisation has resulted in a small geographical movement of people, and most people work with the same type of jobs as before. Some employees sit together with familiar people from the old organisation, but they are now organised in new structures with a new leader, and some new colleagues, partly located at other geographical places than themselves. A main difference is that a larger number of people will have their leader at a distance, at least for part of the week.

More About the Resource Staff

We will now give a short description of the unit that is the empirical base for this study. Resource staff consist of 238 people, organised in 9 professional units independently of geographical distance. Each section has between 20 - 30 people. The number of locations for each section is between 3 and 6. An important pre-condition for the resource staff is to be highly qualified professional employees. They should utilize their skills where this is needed, at any time. In addition this resource staff should supply units for the best qualified specialists, and serve as a centre for competence development in the region. This organisational form means that several employees have been given the opportunity of taking part in exciting new projects independently of location. The principals or internal customers are distributed all over the region. Every employee often has more than one principal, and these are located at several places. This is also a dimension of distance when resources are to be allocated. There are several questions relating to locations of work: One example is whether the employee should sit at the principal's office or together with colleagues at a distance. In the resource staff unit different types of solutions exist, varying because of the size of the projects and the type of tasks to be done.

Work arrangements where leader and employees are at different locations, is therefore relatively new in this organisation, but the number of people involved is increasing and is substantial. A characteristic of telework in this organisation, is that this arrangement is central to the whole organizational structure from January 2003. And, as part of this solution we find that managers are the ones that have been hired to new positions and have to travel to visit many of their subordinates. Managers working as mobile teleworkers are not well documented in the literature. Therefore this study is particularly interesting and unique in two ways:

- the telework takes place among the managers, and
- the telework occurs on a large scale where a relatively large number of people in the organisation are teleworkers

THEORETICAL FOUNDATIONS

In this section we will present the focus of this paper and define important terms, and go through some of the main relevant theories. These theories will be earlier studies of management and organisation theory in general, and previous studies of telemanagement and telework. Through this survey we will identify factors and variables of special relevance for telemanagement, demonstrating how they can be influenced by different types of management distance.

For further descriptions of the theories, we refer to the references given in this chapter and a longer version of this paper, written in Norwegian (Selvik, 2004). In the last mentioned a more thorough description is provided. Instead of providing such a description here we are more interested in applications of these theories. This will take place in chapter six, the discussion.

Definition of Management on Distance, Telemanagement

This chapter is mainly based on Bergum, 1998, and Bergum, 2000. These are dissertations written for the Norwegian School of Economics and Business Administration and for the Licentiate degree at Linköping University in Sweden.

In the literature on management and organisation it seems given that there is physical proximity between leader and subordinate. At least a geographical distance is rarely described explicitly. However, the technological development within ICT has given new possibilities for more flexible and mobile work arrangements. Even if the concept or term telemanagement is not much discussed in the more traditional management and organisation literature, there is some research on this specific topic. In the study by Bergum (1998) the geographical distance was a key topic of concern. Telework and telemanagement are interrelated. Here we want to focus on telemanagement. Telework is traditionally understood as work carried out at a geographical distance from the principal or employer, either full time or part time. ICT is used for coordination and communication. This definition seems to think that it is the employee that is at a distance, and not the leader. Most studies focus on such relationships. However, our study covers a work situation where the leader is a teleworker carrying out part of his job outside the traditional office. Because the leader will travel a lot and visit several locations, he could be regarded as mobile teleworker, which is one type of telework (besides home telework, satellite offices and neighbourhood work centrals).

Another aspect of telemanagement could be the geographical distances to the principal or the customer. We do not focus on this relationship, but this could be a relevant topic in a later study.

The Managerial Need for Control
Traditionally control has been important for leaders. Therefore managers are assumed to be reluctant to do telework because they fear losing control. Managerial control has been in focus for a lot of telework studies, especially in the US. Studies in Scandinavia show that control is not the main challenge for telemanagers (Bergum, 2000). The challenges are rather the "soft factors" of leadership like motivating. However, a study done by Papacharalambous, L and Limburg D (2003) is called: "The balancing act of managing virtual working in knowledge intensive organisations". Control will always be at least one of the managerial issues in telework, so this variable will also be relevant in our study.

Challenges in Telemangement
Bergum (1998) classifies the managerial activities into six types:

- creating trust
- communication
- planning
- information dissemination
- motivation
- control

All these activities are important challenges in telemanagement, and questions will be asked about these variables in our empirical study.

A finding by Bergum, 1998, refers to how communication might be changed because of telework: firstly, communication must be *planned* more carefully, and communication must be characterized by *clearness*. Secondly, communication *frequency will be reduced*. The concept of "out of sight, out of mind" could be a problem. The telemanager must therefore stimulate activities to "remember" the teleworker. Thirdly, the choice of communication media is important in telemanagement. While traditional leadership is mostly face-to-face communication, telemanagement must rely more upon electronic media. Bergum, 1998 and 2000 give a thorough review of possible media choice theories. The basic theory is called the media richness theory (ref Daft and Lengel, 1986) and is based on two principles: a) rank media according to their richness in conveying information, and b) finding a correspondence between the complexity in the message and the media.

Complex information transfer requires a rich medium like face-to-face meetings. This basic theory has been modified over time, and other criteria have been included in the theories: like social theories, situational theories like time pressure and distance, and also the relationship between communication partners. Bergum (2000) shows that rather complicated tasks can be exchanged between telemanagers and teleworkers who know each other well and trust each other. Fourthly there is the aspect of feedback: Traditional collocation means that subordinates get informal feedback. Informal arenas disappear in telework, or at least are reduced. However, teleworkers also need feedback, communication and motivation.

Increased Need for Planning
When there are fewer opportunities to meet face-to-face, you need to plan and make formal arrangements for meetings.

Information and Motivation
Bergum, 1998, says that it is important for teleworkers to get the same information as collocated workers. This also affects motivation. Another point made by Bergum, 1998, is that it is very important that the telemanager has enough time when the teleworker visits him. The teleworker should feel welcome and seen.

Choice of Focus-Areas
Based on what we have written and read, challenges of telework and telemanagement can be divided into two groups.

- practical activities: planning, goal descriptions, competence requirements, communication methods, methods of control
- relationship factors: for example building trust and motivation

Studies by Bergum, 1998 and 2000, indicate that soft- or relational aspects are the most complicated ones in telemanagement. These include leadership-activities with the goals of maintaining good social communication and motivating enough to avoid isolation and employees being dissatisfied with their work. Based on this, we have chosen to focus on two soft elements in telemanagement: trust and motivation. These are also interrelated. It is difficult to build motivation without trust. On the other hand, lack of motivation will exert an influence on the trust-relationship between leader and subordinate. But as stated earlier, we do not discuss theories of motivation and trust here, but rather use them in the discussion chapter.

METHODOLOGY
In this chapter we will shortly present the methods applied in this study, and explanations for the decisions made.

Research Design
By research design is meant the choice of strategy for collecting information, and how this can give us answers to relevant questions that we make (Remenyi et al, 1998). A common classification of research designs are between the explorative, descriptive and the causal research design. The selection of research design is dependent on the research questions, available resources, and the competence of the researcher (Remenyi et al, 1998). Telemanagement as a concept is relatively new, and there is a limited amount of research on this topic. This is the reason why we have selected an explorative design.

Based on the explorative design, the most natural choice for data gathering would have been to apply a qualitative approach, for example to use interviews. This is a method used by one of the authors earlier, for example in Bergum, 2000. This gave valuable information, but the sample was small, consisting of interviews with around 10 telemanagers. In this present case under study we have had the opportunity of studying a total department, with a relatively large population. One of the authors is employed in this organisation. This provided good opportunities for the collection information and getting a high response rate.

We therefore want to focus on the employees and their opinions on their relationship to their leaders. Some leaders will be collocated with the subordinates, while other leaders will be located at a distance to their employees. This makes it possible to compare the effects of distance. The unit of analysis is therefore the employee. We plan to follow up this study with interviews of some telemanagers at a later date.

Population
In this study the population is people who are employed in the Resource Staff section of the Eastern Region of the Norwegian Public Roads Administration. Telemanagement is introduced here as an organisational concept. But this does not mean that all employees practically have a leader at another place. The number of employees at the Resource Staff is 238. Of these people there are 10 bosses, and they are not included in this survey. The population for the survey is therefore 228 people.

Measuring Instruments
As mentioned earlier we chose a quantitative approach for this survey. We also chose structured questions with closed alternatives for answers. This makes it easier for data analysis, and it is relatively easy to compare the answers from the respondents. We chose to use a questionnaire based on the Likert-method (Kaufmann & Kaufmann, 1998, p 236-238). This

method is assumed to be effective for measuring the attitudes of employees. The Likert-methodology consists of a number of statements, on which the respondents should indicate agreement or disagreement. Between five or seven alternatives for answers are given in general. In this study we have chosen five alternatives; These alternatives vary from: "totally agree" to "totally disagree".

We planned this survey rather thoroughly. As part of the planning we made a simple pilot study with 12 persons in the organisation. Some questions were modified a bit, but the general feedback was positive. Questions were generally easy to understand.

The questionnaire, which is not enclosed her, had three main parts: Part one was about objective demographic data like age, sex etc. The second part focused on frequencies of contact with their leaders and opinions about this. Lastly, the third and last part was about different types of attitudes related to aspects relevant to the study. Instructions were given for filling in the questionnaire.

Measuring instruments will always have weaknesses. This will influence the results. Some of these will be discussed in the sub-chapters on validity and reliability. One aspect here is the choice of questions. Choices are taken based on available theories. We can see that further operationalizations might have given clearer indications of attitudes and actions.

Procedures
The whole population had access to PC's and had their own email address. This made the deliveries of questionnaires simpler. We therefore sent out an email where we explained the background and purpose of the study. The aspect of confidentiality was also addressed. In the email a direct link was provided to the digital questionnaire. The data company Questback delivered the Internet service for registration of answers and generation of results. Most of the respondents chose to answer anonymously. No questions were designed to link answer to one specific person. A few people reported to have technical problems. But these problems could not have been significant, because 187 people answered the questionnaire, of a total population of 228. This gives a response rate of 82%, which was very good. The collected data was automatically transferred to Excel, and data was processed and analysed there.

Validity and Reliability
No advanced statistical analyses were attempted. Discussions are therefore related to aspects of processes. Validity is related to whether what is measured is really what we want to measure. This study included partly socially oriented questions about attitudes and opinions, and partly more objective question like demographic data and frequencies of contact. Construct validity has been improved by using pilot studies. In addition questions have been discussed by two other telework experts during the process. To a certain extent we have tried to ask several questions about the same topic, to find out about systematic errors in the perception of questions. Based on these activities, construct validity should be regarded as good. External validity refers to the generality of the results, beyond this organisation. Obviously this organisation has certain characteristics. This is a public organisation consisting of people with long experience, high competence and independent work tasks, mostly men. Results should have relevance for other organisations with such characteristics.

Reliability refers to the degree that the results of the study are stable and consistent. One aspect that might influence reliability is the fact that one of the authors is working in this organisation. This made communication easier, and improved the response rate and the interpretation of answers. Structured questions also improved reliability.

Some Factors That Can Influence the Study
Considering the results, we should also be aware that a major reorganisation took place only one year before this study. In such a public organisation they are not used to radical organisational changes. Further, some of the

answers might reflect that people think that the old organisation was better. One of the questions in the survey covers this aspect, and 56% think that the new organisational form is better than its predecessor. Therefore, several people are negative to the new organisation. How these aspects influence the attitudes toward telemanagement is hard to say. Probably the basic commitment to this organisation from experienced worker will still be there. We therefore regard the effect of this factor as moderate.

SOME MAIN RESULTS
In this section we want to make a summary of some important findings from our empirical study, and also to draw attention to some factors that might have influenced the results.

Some Demographical Data
There are 187 respondents in total. 73% of these respondents are men, and 67% of the employees are more than 40 years old. 63% of the respondents have been in this organisation for more than 10 years, and 39% have been there for more than 20 years. Regarding education, 38% have more than four years of education at college or university level. Most are civil engineers. The other main group (39%) consists of engineers with 1-4 years of higher education. In total, 77% have a college or university degree.

One aspect that might influence telemanagement is type of work. Results show that 59% mostly work alone, while 38% mostly work as part of a project team. Further, only 2% say that the characteristics of their tasks require daily contact with their own leader, while 16% answer that they need weekly contact, and 31% need only sporadic contact. Almost half of the respondent, 49%, answer that their work tasks require most contacts with "principal" or internal customers.

It is difficult to say whether our results are representative for the whole of the Norwegian State Road Administration. But because of the size of the sample and the distribution of tasks and professions, the demographic results should be representative for the complete organisation. This organisation is an old established organisation with a long history and tradition.

Another characteristic of NSRA is the large percentage of males, with a relatively high level of education. Related to telemanagement, it is important to notice that relatively few of the employees need daily contact with their own leader. Half of them had extensive contacts with their internal customers. Some of the effects of this for telemanagement will be further discussed in chapter six. Compared to other organizations this organisation is characterized with a greater number of "older " men with higher technical education and more independent jobs. For these reasons the potential for telework should be higher than the average.

Distance to Leader
In this study we have illustrated or measured the dimension of distance between the leader and the employees in several ways. Firstly we have the geographical distance from own office to the office of the leader. Of the respondents 45% are located in the same building as their leader, while 20% have their leader in another building, but less than 100 km from themselves. 35% have their leader more than 100 km away. This means that a substantial part, 55%, have their working place at another geographical place than the leader. These results provide opportunities to look at differences in perceptions between employees who are collocated with their leaders, compared to employees who have their leader at a distance.

Another dimension of distance is how often the employee sees his leader physically. Only 16% says that they see their leader daily, while 51% see their leader at least one a week. Of the remaining, 23% see their leader 2-3 times a week, and 26% see their leader once a month or more rarely. These results give a broader impression of what is meant by having a leader at a distance, and it gives a more varied picture of the concept we can call "perceived closeness" or proximity. This variable

will be very individual and subjective based on personality and the character of the work tasks.

We included questions on the relation between geographical distance and how often the leader was seen.physically. This gives, not surprisingly, clear results where we can see that geographical distance has much to say. Of employees with their leader localized in the same building, 35% say that they see their leader daily, and 90% see their leader daily or a minimum of once a week. Of employees with their leader localized in another building, less or more than 100 km away, 0% say that they sees their leader daily, and only 20% see their leader a minimum of once a week. In this group 46% see their leader a maximum of once a month.

Another operationalisation of the distance-term is how often the individual employee talks face-to-face with his leader. Results show that only 3% talk daily with their leader, while 31% talk weekly with their leader. The remaining: 24% talk to their leader 2-3 times a month, and 45% talk to their leader once a month or more rarely. There is natural with a gap in frequency between how often the leader sees his subordinates and how often there is face-to- face communication. However, there is one interesting aspect related to telemanagement: Results show that even the employees who see their leader every day, and therefore have the possibility of talking to them face-to-face, are doing this relatively seldom. We cannot ignore the fact that leaders can be busy and the practical possibilities for meetings are limited. But 58% say that this frequency is optimal. We think that this result could be explained by the characteristics of the sample. An organisation with experienced and highly skilled people working in a knowledge-intensive organisation, will provide good opportunities for telework and telemanagement.

For practical reasons we have limited our focus in the rest of this paper along the dimensions: geographical distance and how often the employee sees his leader

Contact Between Leader and Subordinate
Our study gave us the opportunity to take a closer look at the different forms of contacts between leaders and subordinates, and how satisfied the employees were with their frequencies of use. Independently of how often the employee sees their leader physically, 39% think they see their leader far too little or too little, while 60% think they have a satisfactory frequency of contact.

We have further asked how much contact the leaders have with their subordinates via telephone. Results show that only 1% has daily telephone contact with their leader, while 14% have weekly contact with their subordinates. Of the remaining, 15% have contact 2-3 times a month, while 70% have contact every month or more rarely. In fact, 23% have telephone contact only once a year or less than that. This shows that the use of telephone as a communication medium remains at a relatively moderate level. This is surprising because all the leaders have their own mobile telephones. However, the employees are relatively satisfied with these frequencies. 75% think that this is OK, while 25% think the frequencies are too low or far too low?

E-mail has diffused widely during the last few years also in this organisation. In our study we limited the question to find out about emails sent from the leader to the individual subordinate. We wanted to find out about emails directed to specific persons, and therefore can be compared to other types of personal communication. Results show that 3% receive such emails daily, while 25% have this type of contact weekly. 18% answered that this frequency was 2-3 times a month, while 58% has this contact once a month or less. We can see that the frequency of this communication type was higher than the use of telephone. Again, the employees were satisfied with this level. 78% thought this was OK, while 20% thought this was far too little, or too little. This was almost at the same level as the figures for telephone-contact.

Videoconferencing has been almost non-existent in NPRA up to the time of reorganisation in January 2003. However, during the first six month of 2003, videoconferencing was established at most of the major locations. Leaders have motivated people to use this tool. The equipment is modern, and user friendly, but so far this is not widely used.

No respondents use this for contact with their leader once a week or more often. 11% say that they are using it 2-3 times a month. The remaining 89% use it once a month or more rarely. This is an interesting finding for an organisation that is both geographically and structurally fragmented and argues that it will actively support the use of videoconferencing. The opinions of the responding employees indicate that 82% thinks that the level of videoconferencing communication is OK, while 9% think this is too little or far too little. 9% think, surprisingly, that the small level is too high. These figures show that a lot of people do not know about it or have not tried it, and there are barriers to diffusions. However, after we had finished this study, there are indications that the application of videoconferencing is growing significantly.

At last we can mention the answers on a question of more formalised personal meetings between leader and subordinates. 55% said that they had had such a conversation, 16% had two conversations a year, 5% had three or more conversations, while 25% had not had any conversation at all. This last figure is interesting, because such a conversation or meeting is mandatory at least once a year. Another interesting finding is that 40% thought that this was too little or far too little, while 59% thought this level was satisfactory. The results show that both leaders and subordinates appreciate this form of communication. It is quite possible that this type of meeting or conversation will increase when the frequency of contact generally decreases. This can also be explained theoretically by the telemanagement literature (see e.g Bergum, 2000), where planned communication is becoming an important aspect in telemanagement.

Challenges to Telemanagement
There are a number of challenges when there is a geographical distance between subordinate and leader, and this is one of our main topics in this paper. As said earlier, we will present the most interesting empirical findings of challenges related to the following four topics:

- communication
- planning
- information dissemination
- control

Communication
Looking at communication based on geographical distance between leader and subordinate, we found that a leader with collocated subordinates talks to their subordinates more easily, and visits their office to start small-talk more often. Subordinates collocated with their leader feel that they are more seen by their leader. These results are natural, as geographical distance and frequency of seeing the leader will be negatively correlated. The results are generally positive on the questions of subordinates' perceptions of how the leader takes care of them and shows them attention. It is also easy to contact leaders, independently of locations. 76% of the subordinates with a collocated leader, deny that it is difficult to contact their leader. The corresponding figure for the geographically distributed staff is 61%, which means a difference of 15%. Our general impression is however that a majority of people do not generally have problems contacting their leader.

65% of the respondents that see their leader once a week agree that their leader takes cares of their employees. For employees seeing their leader daily or several times a week, the figure is 50%. This percentage decreases with reduced frequency of contact. We see that a contact frequency of once a week yields the most positive answers. Also for other questions this happens, like the following questions:

- to what degree the opinions of employees are taken into account
- knowledge of leader

Another clear finding is on the question on the time interval of talking to their leader. 64% of the subordinates that see their leaders daily or several times a week, do not agree with the argument that they see their leader too seldom. Only 19% of the respondents who see their leader once a week are negative, while 35% of the respondents who see their

leader more seldom than once a week, do not agree with the argument. It is also interesting to note that employees who see their leader daily or several times a week, to a larger extent feel that decisions are taken without their opinion.

Planning
Results on these variables show small variations related to geographical distance. However, we can see a difference on the question of coordination of resources. 49% of the respondents with their leader in the same building agree that the leader is good at coordinating resources, while 36% of the respondent with a remote leader are positive.

Looking at this variable, but differentiated according to how often the employee sees their leader, the results are even clearer. Coordination is perceived as less good the less contact you have with your leader. This is also the trend on some of the other questions. However, respondents with a leader contact frequency of once a week, have a better understanding of the department's objectives. Another indication in the same direction is the question of whether the leader has defined the yearly goals for the subordinate. The figure is as high as 65% for "the once in a week" group, but the figure is as low as 36% for subordinates who meet their boss more than once a week. This seems to indicate that telework requires more planning. But we should look for more on this in further studies.

Information Dissemination
The respondents are asked if they agreed that the leader gave necessary information to the individual employee. The majority of respondents agreed on this, independently of the distance between leader and subordinate. Considering this question related to how often they saw each other, the results were more differentiated. Of the employees seeing their leader several times a week, 65% agreed on the statement. The figure was even higher, 71%, for the respondents who met their leader once a week. For the ones who saw their leader more seldom, the figures were decreasing. But the general results were that even with relatively infrequent contact with their leader, the perception of the leader as an information disseminator, remained clearly positive.

Control
The results indicate that geographical distance has relatively little impact on the employees' perception of control, detailed management etc. Results also show that the majority of subordinates working on distance, desired a leader who would not interfere with daily activities.

Looking at the results, moderating for the frequency of contact, the group with a weekly frequency again stands out. Employees in this group feel more controlled than the others, but on the other hand they also feel that the leader trusts them. And these are the group that want fewest "interruptions" from their leader. Results are therefore a bit confusing, and should be further explored.

Telemanagement and Motivation
The next question in focus is how telemanagement affects the motivation of the employees. We had 13 questions covering this topic in the study, but we will only try to find some patterns in the results that describe some interesting trends related to telemanagement.

Considering the questions on motivation based on geographical distance, we can see that for most of the answers, geographical distance has minor importance. However we can see a difference with respect to the question: *"the leader motivates me to make an effort"*. Of the respondents with their leader in the same building, 33% answered positively to this question. But the figure was even higher, 39% when there was a distance between the two. This is shown even more clearly with the question based upon the statement that own motivation is independent of how much contact you have with your leader. 59% of employees with their leader in same building were positive to this statement. Only 38% of the employees with their leader at a distance

agree to this statement.   Put differently, the results indicate that employees with distant leaders, to a larger extent think that leaders are important for motivation.

Looking at the answers, but differentiating according to the frequencies of contact, the picture is more fragmented. Again the employees with a contact frequency of once a week had the highest percentages of giving feedback, both generally and positive feedback. The figures revealed that 58% of the employees seeing their leader once a week, agreed that their leader often gave feedback. The corresponding figure for employees seeing their leader several times a week, was not more than 25%. There were similar results on the question of *positive* feedback. Also the questions about professional evaluations from the leader, were most positively ranked by the "once a week group". Similar trends are also shown on other indicators of motivations:

- the leader motivates me to work long days to finish tasks by the deadline (48% against 39%, but lower for employees less than once a week)
- leader motivates me to work (51% against 33%, but less for the remaining group)

If we try to reflect on these results, it seems that geographical distance has a relatively limited effect for the motivation of the individual employee. This happens even if the employees with the leader at a distance to a larger degree emphasise the importance of the leader for their own motivation. A more differentiated picture is shown if we look at the contact frequencies. Generally it seems that the motivational activities like attention and positive feedback, have the optimal effect when they meet around once a week. *Further: employees seeing their leader on a daily basis underline to a minor degree the importance of the leader for motivations, compared to employees that meet once a week.* Based on these results it seems that for motivation the contact frequency is more important than the geographical distance.

Telemanagement and Trust
The last research question in focus for this paper is how telemanagement affects how employees trust their leaders. We had three questions about this. In addition we can also indirectly evaluate trust based on other statements in this study. We do not repeat this here, but rather look at these results in combinations when we analyse the data later in the paper. Accordingly, our goal in this sub-section is to look at the most interesting patterns related to telemanagement.

Once again the results show that answers to most of the statements are independent of geographical distance.   When we alternatively consider trust differentiated on contact frequency, there are variations: 71% of the employees seeing their leader once a week refuse the statement saying: *"their leader does not have enough "organisational strength" to defend the interest of the department"*. A lower figure, 55% of the employees who see their leader more often, were negative to this statement. For the remaining respondents, the trend is that the less you see your leader, the less you trust your leader.

Another of the indicators of trust is: "how you believe in the professional knowledge of your leader". These figures do also show the same pattern, with "the once in a week group" scoring the highest figures (62% positive). A difference is however that employees seeing their leader between once a week and once a month have a higher score than employees seeing their leaders more than once a week (56% against 54%). The last indicator is a statement saying that the leader is regarded as a leader. The trend is similar for results on the other indicators.

In total, this indicates that geographical distance has relatively minor importance for trust towards one's own leader. How often you see your leader, gives more variations in results. In the same way as the results on motivation, the employees who see their leader once a week have more trust of their leader. They appreciate most the professional knowledge of their leader.

DISCUSSION

We structure the discussion according to the research questions.

Research Question 1: Which Particular Challenges Exist When There is a Geographical Distance or Irregular Contact Between Employees and Leader?

In this sub-section we will discuss this topic referring to four aspects, mentioned earlier in the theories: communication, planning, information dissemination and control.

Communication

Communication is essential in remote management. As said earlier, communication will change regarding frequencies and the kind of media applied. Our results show that the frequency of communication and the geographical distance to leaders are interrelated. This supports our theoretical thesis. It is quite logical that a leader who is collocated finds the opportunity for a small talk. Results from our study show that the majority of the respondents having their leader on distance experience that they see their leader too seldom. But most of the employees having their leader in the same building are satisfied with the frequency. An interesting point is that our results indicate that the effects of this reduced contact are both positive and negative. We will discuss this later. Seeing their leader once a week seems to be an "optimal frequency" of contact in our sample. It can also be argued that the regularity of meetings is more important than the frequency. The theories of telemanagement also focus on the importance of planning, especially related to communication. Possibly a frequency of once a week is them optimal", not to rarely and remote. This makes the leader and employees conscious of the need to utilize these meetings effectively.

One aspect that will influence the perception of contact is the possibilities of having access to or reaching the leader when needed. Results from our survey indicate few problems with this variable. When the need for contact arises, the employee has to send an email, take a telephone-call, or alternatively take the opportunity when they meet their leader face-to-face. This shows the importance of good planning when leaders' came on visits. They were to inform about their expected time of arrival at the different locations. Another explanation for the possible optimal communication frequency of once a week, is that this stimulates the individual employee to take a responsibility for the operational tasks on a daily basis. You cannot ask your leader in your daily work. Leaders that see their employees once a week, get the most positive responses related to information dissemination, taking care of their subordinates, and listening to their opinions. These leaders are also good at defining personal goals for the individuals and they give positive feedback on completed tasks. We can therefore assume that leaders seeing their employees once a week, or at least having a regular rhythm related to this contact, probably results in an adaptation of their style of leadership to this frequency of contact.

Regarding choice of communication media, this is not only dependent on availability. It is also dependent on the preferences that employees have for different forms of media. Telephone is rarely used, and videoconferencing is hardly used in direct communication with the leader. The majority are satisfied with this communication frequency. But respondents with their leader at a distance, would like to have more contact via the telephone. Results show however that email has become a relatively important form of communication between leader and subordinates. According to media choice theories (e.g Daft & Lengel, 1986) this is a rather lean media best suited to uncontroversial and relatively simple topics. Based on the answers, the subordinates are relatively satisfied with this. But also on this variable they would like the leader to use this media more extensively.

The subordinates therefore want to see their leaders more often. Results indicate however that the practical consequences of more irregular contacts are relatively limited. It seems that both leaders and subordinates adapt their actions and attitudes in relation to the frequency of contacts. It is also important to say that the results show that the unit analysed indicates a modest need for the subordinates to see their leader on a daily basis. This makes it possible for such contacts to "work in practice". Other types of work that require more regular contacts with the leader, will probably suffer because of limited contacts with the leader.

Planning

We have earlier addressed the need for telemanagers to be structured, so that they can plan their own activities and the activities of the organisational unit in a good way. As said in sub-section 6.1.1, our results indicate that the telemanagers emphasize and give priority to this. There is no reason to believe that more irregular contact between leader and the subordinates influences the consciousness of the employee related to personal goals or the goals of their unit. Employees seeing their leaders once a week do have the most positive results.

The picture is different when it comes to looking at the need to coordinate resources of the organisational unit. This is influenced clearly by the geographical distance to the leader, and the frequency of how often you see the leader. This is somewhat surprising. We would have thought that coordination of resources was related to how well the resources of the unit were utilized, and through this achieved effects. It is possible that more irregular frequency of contact between leader and subordinates implies that important information that is used for the allocation of resources, is not identified by the telemanager, and that the coordination of resources is influenced by this. This is in accordance with our theory base, saying that more irregular contact reduces the number of communication arenas. In this way the information that reaches the leader is "filtered" in relation to the subordinate's considerations of what they regard as important and what they regard as less important. Seen in relation to the topics that often comprise the term planning, coordination of resources is dynamic. The leader must keep up to date with what is happening in the organisational unit, in addition to allocating new projects and tasks to the right persons. By this type of dynamic exchange of information a telemanager can be too "remote" and important information can be lost.

Information Dissemination

As mentioned above, a leader who sees his subordinates more rarely, will miss a good deal of information, both important and unimportant. However, results might indicate that the practical consequences of a reduced amount of information are not serious. One exception was mentioned earlier in chapter 6.1, regarding coordination of resources. Here it is natural to find alternative information channels, through for example standardized forms for the report of results. Regarding the employees' perception of whether he/she receives the necessary information, geographical distance is of minor importance. If we instead look at the variable "how often you see your leader", the results show that the ones who see their leader once a week are the most positive to the information they receive. This means it is possible to say that geographical distance is not the most significant factor, but leadership behaviour is. As mentioned earlier it seems that the leaders who see their subordinates once a week are well organised and structured. This underlines impressions from above related to planning and communication. What concretely is included in this type of leadership behaviour is difficult to say. One explanation might be that leaders who see their subordinates once a week are more conscious of their information dissemination. Employees who see their leaders more rarely, are more insecure whether they receive the necessary information. Answers on other questions related to information, show however that employees are generally well informed about the goals for the organisational unit and for themselves individually. The organization studied in this paper has stressed the importance of the individual's own responsibility for obtaining information. However, earlier surveys have shown that the leader as an information channel is perceived as relatively important. The results here indicate that conscious leadership behaviour related to information dissemination to a large extent meets the need of the employees.

Control

The managers need for control is assumed to be one of the main barriers in the use of remote work arrangements. Traditionally these activities have been central for managers. Considering this topic the managerial need for this is dependent on the type of tasks allocated to the employees and the personal characteristics for the employees. Results from this study must take this into account. A large proportion of the respondents have relatively good education and they have long experience of working with independent tasks that require moderate contact with the leader. Other cases might have provided us with other results.

Therefore, this is one of the key issues in telemanagement and control. A telemanager is not able to have the same detailed control as a collocated leader. Implicitly a telemanager is dependent on trusting the remote worker to do a satisfactory job. This varies from person to person, but it is not always possible to compensate by more contact between the leader and the subordinate. How this dilemma is resolved by the individual leader, is not been researched here. In the interview of the leader, one suggestion was that the actions of the leader to a certain extent must be adapted to the accumulated experience of the individual employees. This would make it possible to focus on employees who have fewer personal qualifications and attitudes considered necessary for telework. Results from this study might indicate that the leader has adapted his role as telemanager, by keeping the amount of control to a modest level. There are small differences between employees that have their leaders in the same building or the leader at a distance.

How often you see your leader influences how detailed information you get. It is interesting to note that employees who see their leader on a regular basis also have a positive score here. This group perceives most detailed control, but they are also the most positive to this form of leadership behaviour. They also believe that the leaders trust them. It is not easy to interpret this kind of data. One explanation can be that this leadership behaviour can be taken as an indicator of interest for the individual employee and therefore be regarded as positive. Finally we want to underline that a clear consciousness of goals and plans, together with the definitions of quality norms, will make work with control easier. Therefore, this refers back to the previous variables on communication and planning as important aspects of telemanagement.

Research Question 2: How is the Motivation of the Employees Influenced by a Distributed Organisational Form with Leaders at a Distance

The aspect of motivation is also important. The focus has been on motivation related to the activities of the leader. We also had questions in this study on motivations related to work tasks, competence development and salary. But we do not include these aspects in this paper.

As described earlier, the effects of motivational activities will depend on the content of the activity, and the effect of the activity on the individual's attitudes and activities. We have focused on well-known activities like feedback and other types of attention and encouragement. As described in the theories, such activities are assumed to have positive effects on most employees. We also looked at the *frequencies* of the leaders' motivational efforts. Telemanagement often means a greater distance between leader and subordinates, at least geographically, but it can also be a "mental distance" (perceived distance). In our opinion it is interesting to notice that our study indicates small differences related to perceived motivational efforts by leaders, independently of geographical distance between the leader and subordinate. The employees who had their leader in the same building thought that contact with their leader had less significance on their own motivation than the employees who had their leader at a distance. These are relatively significant differences. The results show further that the majority of respondents argued that the individual employee was responsible for their own motivation. When we analysed the results differentiated by how much the employee sees their leader, the results became more complex. Again the group who saw their leader once a week stood out, confirming to a greater extent than the rest of the respondents, that their leader gave them positive feedback. The contact frequency seemed to affect the

result. One explanation of this result, according to interviews with one of the telemanagers, was that feedback must be related to the knowledge of products and results executed. Put differently, a minimum of knowledge of the "results" from the employees must be known to the leader. This leads us to believe that the more contact between leader and subordinate, the better the basis for the leader to give feedback. When results do not show this relationship, this might be explained by the leadership behaviour performed once a week. As said earlier, it seems that the leaders that had this level of contact with their employees were relatively conscious about their activities when they met face-to-face. They utilized these occasions limited by proximity, to motivate for future action.

In total the results show that telemanagement and motivation are dependent on the activities of the leaders, along with the needs of the employees and their working situation. The results from this study show that geographical distance cannot separately predict how motivational activities are affected. However, it seems that a conscious leadership behaviour based on a regular contact pattern with the individual employee can function with respect to motivation.

Research Question 3: How Will This Distributed Organisational Form Influence the Employees' Trust for Their Leader

To find out about the individuals perception of trust to their own leader, it would have been difficult to ask only about how much trust the employee has to his own leader. Trust is a multidimensional term, it is dynamic and built over time. Trust is built, shown and maintained through interaction between people. One way of looking at it is to call it "memory experience" as a basis for building trust. In this way trust is something that the individual employee does not get, but something received on the basis of action. This forms a basis for our discussion of the theories and empirical results of the distance dimensions between leaders and subordinates.

Our study shows that generally that the employees generally exhibit a relatively high or large degree of trust towards their leaders. We can for example draw this conclusion when a majority of respondents say that they trust their leaders to give them the necessary information to carry out their jobs. The same impression of trust is created when we see employees stating that their leaders have enough "organisational strength" to protect the interest of their group or department against other departments in the organisation. But we see that this type of trust is decreasing for employees who have a reduced contact frequency with their leaders. This supports the theory that just stresses specific experiences as a decisive element in the building of trust. Sørhaug, 1996, says that personal meetings are mandatory to build trust. However, we also see in our study that employees seeing their leaders relatively seldom also trust their leaders measured in terms of "organisational strength". This result does not support Sørhaug's argument, but it can have some possible explanations. One explanation might be that these employees have an initial level of trust because they knew their leaders before the reorganisation to a distributed structure took place. Another possible explanation might be that the leaders during this first year after re-organisation have shown that they will fight for the interest of their department. A third explanation might be that the individual needs to fight for the interests of the department, to maintain a minimum of job security in the future. In a situation characterized by downsizing this seems logical. Another perspective of this is related to control: A large majority trusts their leaders to give them freedom to do their job as they want. This is especially interesting in telemanagement, where it is important to encourage the individual to take responsibility for their own work, and work independently. If there is a sense of insecurity, effectiveness will decrease.

Another aspect of trust in our study is based on the employees' evaluation of their leaders' professional knowledge. Results from this study generally show that employees generally reveal high trust based on this criterion. There are insignificant differences based on the contact frequencies. This is an interesting finding, because trust to the

professional knowledge of leaders can be regarded as a basis for the authority of the leader, and as a source of legitimacy for control. For employees with very rare contact, the results show a slightly reduced level, and this might be because they have a closer relationship with their principal rather than their leaders. An additional criterion of trust might be whether the leaders take care and see the employees. The results show that there are only small differences between having a leader close or remote. But the contact frequency has more effects. On the basis of these personal experiences it is quite natural that contact frequencies will play a role. But it is interesting to see that even with very limited contact with their leader, a relatively large number feel that they are taken care of and seen.

In total, our empirical data indicates that telemanagement to a certain extent influences the relation of trust to the leader. But this is not to such an extent that this can be regarded as a problem. Results might indicate that geographical distance in itself has little to say for building trust, but that contact frequency is probably a more important variable. We can see the results related to trust and motivation together, and see that such relational aspects are influenced in quite an identical manner because of telemanagement.

CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH

Here we will make some conclusions and recommendations based on the theories and empirical data. Both the theories and the empirical data indicate that telemanagement faces challenges, especially related to the relational cooperation between leaders and subordinates. Basically it is the geographical distance that characterizes telemanagement. One of our goals has been to differentiate the concept of distance by including contact frequency and "felt distance" between leader and subordinates. An important finding is that telemanagement means drawing a boundary towards being too remote or distant as a leader. Our study might indicate that a contact frequency of one day a week gives some positive effect. Based on our results it seems that for motivation contact frequency is more important than geographical distance. But we need further research to find out about how perceived distance or closeness influences different aspect of the relationship variables.

Another finding from this study is that the availability of several ICT-applications does not automatically give broad usage. Media choice theories, focusing on richness, are supported empirically. Most of the respondents prefer face-to-face communication. This supports the finding that leaders must see their remote subordinates regularly. At the same time our study shows that daily contact between leader and subordinates does not automatically give the best results related to aspects of relationships. This indicates that leadership behaviour and telemanagement must be seen together. Telemanagement means leadership adapted to and conscious of the characteristics of geographical distance.

Leadership- and management theories do mostly ignore spatial aspects. There are therefore a lot of possible research topics to be covered in the future. One exception is the recent book from 2002 edited by Hinds and Kiesler, entitled Distributed work. In this book there are a couple of chapters about the role of distance in organisations over time. However, this topic is not covered in more general text books on management. Probably the interest for telemanagement will increase in the future, not merely with respect to home work, but as a more general phenomenon because of for example more specialization and globalization.

Lastly, we would argue that telemanagement must be seen in relation to the competence of the employees and the type of work. The potential for work over distance is higher in organisations where the competence level is high and work tasks to a high degree can be solved independently by the individual worker. Our study also shows that if practical problems happen (for example definitions of goals) or relational problems (for example conflicts), a telemanager will often not see distance to the remote subordinate as a difficulty. There is need for more research on communication and personal relations related to different distance dimensions. It will also be advantageous to do more research on leadership behaviour related to geographical distance more generally and reduced contact frequencies with subordinates. In this way, we can probably find out more about the relational processes in distant relationships between leaders and remote subordinates. An improved knowledge base can make leaders, employees and organisation better, even within such a complex organisational form. And as said before, the next phase of the project will entail interviewing the distant leaders.

REFERENCES

Bergum, S. (1998): Telemanagement: changes in leadership functions and the importance of electronic communication media in leading teleworkers, Unpublished master thesis at Norwegian School of Economics and Business administration, August 1998 (in Norwegian)

Bergum, S. (2000): Managerial communication in telework, Linköping Studies in Science and Technology, Thesis No 807, Linköping 2000

Bjørnhold M and Heen H (2004): Fjernarbeid i Statens Vegvesen: erfaringer med bruk av internt fjernarbeid i omstilling av en statlig virksomhet (Telework in The Norwegian National Road Administration: Experiences of the use of Internal telework in the Reorganisation of a State Concern, Arbeidsforskningsinstituttet, februar 2004

Daft, R.l. and Lengel, R.H. (1986: Organizational information requirements, media richness and structural design, Management Science, Vol 32, No 5, may 1986

Daniels, K., Lamond, D.A., Standen, P. (2000): Managing Telework, perspectives from Human Resource Management and Work Psychology, Business Press, Thomson Learning

Hinds P. and Kiesler S. (2002): Distributed work, MIT Press, 2002

Papacharalambous, L and Limburg D (2003): The balancing act of managing virtual working in knowledge intensive organisations, Telework conference in Brazil, September 2003

Selvik, J.T. (2004): Telemanagement: to lead managers you rarely see, Master Thesis at Norwegian School of Management, May 2004,

Tegnblad, S. (2000): Continuity and change in managerial work, Gothenburg Research Institute: report 2000:3, Göteborg University

Westling, G (2002): Balancing innovation and control, the role of face to face meetings in complex product development projects, Stockholm School of economics, Doctoral Thesis, November 2002

Related Content

Do We Mean Information Systems or Systems of Information?

Frank Stowell (2008). *International Journal of Information Technologies and Systems Approach (pp. 25-36).*

www.irma-international.org/article/mean-information-systems-systems-information/2531

A RNN-LSTM-Based Predictive Modelling Framework for Stock Market Prediction Using Technical Indicators

Shruti Mittaland Anubhav Chauhan (2021). *International Journal of Rough Sets and Data Analysis (pp. 1-13).*

www.irma-international.org/article/a-rnn-lstm-based-predictive-modelling-framework-for-stock-market-prediction-using-technical-indicators/288521

Hybrid TRS-PSO Clustering Approach for Web2.0 Social Tagging System

Hannah Inbarani H, Selva Kumar S, Ahmad Taher Azarand Aboul Ella Hassanien (2015). *International Journal of Rough Sets and Data Analysis (pp. 22-37).*

www.irma-international.org/article/hybrid-trs-pso-clustering-approach-for-web20-social-tagging-system/122777

Metadata in Digital Audio

Kimmy Szeto (2015). *Encyclopedia of Information Science and Technology, Third Edition (pp. 5957-5972).*

www.irma-international.org/chapter/metadata-in-digital-audio/113053

Testable Theory Development for Small-N Studies: Critical Realism and Middle-Range Theory

Matthew L. Smith (2010). *International Journal of Information Technologies and Systems Approach (pp. 41-56).*

www.irma-international.org/article/testable-theory-development-small-studies/38999