Challenges and Success Factors in National E-leadership

A Case Study at the Swedish Transport Administration

Master's Thesis in the Master's Programme International Project Management

RICKARD ANDERSSON

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Abstract

PURPOSE - The purpose of this research is to identify challenges that can arise for managers performing e-leadership and identify critical success factors that can impact on managers' performance.

METHOD – A qualitative research design has been applied where eight managers from different business areas and central functions within the Swedish Transport Administration has participated in semi-structured interviews. The interviews and the research study have been based on ethical considerations to reduce risks for the participants.

EMPIRICAL FINDINGS – The findings presented are structured around the theoretical framework. It emphasizes on the importance of and challenge with communication, trust and ability to envision goals, but also illustrate the risk that individuals exhibit feelings of isolation and the difficulty to monitor work in the virtual work environment. It also discusses the organizations role in developing the e-leadership within the organization and emphasizes on the importance of education and management networks.

CONCLUSION – This study has generated insight on factors that can impact on manager's performance in a virtual work setting. The e-leaders role is to ensure that the right conditions exist for e-followers to operate autonomously, this include clarity in the work role, decisions making authority and the right conditions and infrastructure for communication.

Key words: E-leadership, virtual leadership, challenges, success factors, Swedish Transport Administration.

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Preface

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This study has been performed with the intent to deepen the understanding about the challenges that occur in e-leadership and also what the important success factors are. It was performed as a case study in a national context, namely at the Swedish Transport Administration, where eight managers from different parts of the organization was interviewed. The study has been performed in fulfilment with the requirements for the MSc Program International Project management at Chalmers University of Technology during the spring semester 2016.

I would firstly like to express my gratitude to Petra Bosch-Sijtsema who has been my supervisor at the academy and has accurately been able to narrow down and bring clarity to questions that have risen throughout this study. I would also like to express my gratitude to Jonatan Olsson at the Swedish Transport Administration for the guidance and support that I have received and for helping me make progress with the study. Also to the managers that has participating in this study and made contributions in terms of both time and their experiences and knowledge about e-leadership.

In addition, I would also like to thank Lina Olsson for our fruitful discussions and for providing helpful feedback during the opposition.

Gothenburg, June 2016

Rikard Andersson

1 Introduction

The first chapter introduce the reader to the rationale behind the study, to present background information on the selection of the research topic and present the aim and formulated research questions. In addition, the scope and limitations of the study, the structure of the dissertation and theoretical rationale will be presented.

1.1 Background

Hertel, Geister and Konradt (2005) state that there is an increasing de-centralization and globalization of work processes. They state that a solution for the increasing de-centralization and globalization is to introduce a degree of virtuality in the work place. This means that the workers primarily use electronic information and communication technology to coordinate work. Avolio, Kahai and Dodge (2000) similarly describe that the global economy is undergoing a major transition, where advanced information technology is at the core. This will change the possibilities for how we work and how companies create value, both when it comes to the physical and the virtual world. This means that companies and managers need to make major adaptation and change the way they are leading individuals in this new business environment.

The effects from introducing a degree of virtuality can be analysed from an individual-, organizational and societal level. Where the positive effects from the different levels include higher flexibility, empowerment and strategic advantages for the organization when acquiring the workforce based on expertise instead of geographical location (Hertel, Geister and Konradt, 2005). The rapid development of electronic information and communication technologies has made the distributed work even faster, easier and more efficient then before. The virtual work environment also offers benefits for the organization since it is as a way of maximizing the use of scarce resources (Rutkowski et al., 2008). Workman, Kahnweiler, and Bommer (2010) similarly describes that the virtual work context should be viewed as a strategic organizational innovation that create substantial benefits on individual, business and societal level.

On the contrary, some of the negative aspects for the individuals operating in an virtual environment are described by Hertel, Geister and Konradt (2005) as an increased feeling of isolation and reduced interpersonal contact, an increased risk for ambiguity in the work task and a higher risk for misunderstanding and conflict escalation.

1.2 Theoretical rationale

It has already been stated that the business environment is undergoing a major transition and that the technological development and the introduction of advanced information technology has change the way that companies do business (Avolio, Kahai and Dodge, 2000).

Schmidt (2014) also state that the environment and context for leadership is changing due to technological advancements and that the traditional view and traditional theories regarding leadership is not applicable in this new environment as it once had. The new type of leadership that is necessary in this virtual environment is often referred to as e-leadership and it is stated in Zaccaro and Bader (2003, p.377) that:

"…e-leadership will be the routine rather than the exception in our thinking about what constitutes organizational leadership".

Avolio, Kahai and Dodge (2000) also state that there is a gap in research as to what e-leaders are confronted with in the new work environment where work is mediated through advanced information technology. It is therefore necessary to further study the challenges that the leaders face and what the potential success factors are. Annunzio (2001) similarly describes that it is necessary to investigate the new environment in the digital age and investigate the new environment in which the e-leaders are operating and bridge the gap that exist between what is stated and actually practiced.

Avolio and Kahai (2003) describe that e-leadership should not be seen as just an extension of the 'traditional' face-to-face leadership. That it is necessary even though some of the fundamental principles of leadership will still be the same, to introduce a fundamentally new way of viewing the leader-follower relationship, both within and between organizations.

Much of the literature and research focuses on the e-leadership of virtual teams and not on individuals whose main work task is not interconnected to the other individuals in their unit. It should therefore be seen as important to deepen the knowledge about how e-leaders, which mainly lead loosely bounded individuals without interconnected work tasks, in this new virtual work environment.

1.3 Research aim and research question

The purpose of the study is to identify challenges that can arise for managers performing e-leadership and identify critical success factors that can impact managers' performance.

Research questions:

➢ What are the critical success factors for e-leadership?
➢ What challenges can arise when managing people virtually?
➢ How can managers develop their e-leadership?

1.4 Research scope and limitations

The study focuses on identifying success factors and challenges for managers when operating in a virtual environment. The focus lies on the managers' ability to perform their task, the challenges that they need to manage and how they can manage this in a successful way. However, the study is based on the preconception that in order for managers to successfully perform their task, they need to create the right conditions for their followers to perform their tasks successfully. So in order to study this area, it is necessary to also discuss challenges that might arise for the followers that operate in a virtual environment.

Much of the available literature within the area of e-leadership covers the management of virtual teams operating in a project environment. This study do however mainly concern leading groups of individuals whose work task is not highly interconnected with each other and should therefore not be referred to as ´teams´. Nor should it be referred to as project management, since the work tasks for the leaders is

not restricted to a specific time or task. Some areas will therefore not be considered in this study since they focuses on team aspects. There are however many similarities between work in project constellation and more permanent ones, where the need of e-leadership is are brought up as crucial and this literature does therefore need to be examined.

The words distance and e-leadership are very much interlinked with each other. But the word distance has according to the literature several meanings, it is referred to both geographical distance, cultural distance, mental distance as well as distance in time. Distance work does also reefer to individuals working from home instead of their designated work location (Nordengren and Olsen, 2006). It is therefore necessary to specify that the word 'distance' in the study mainly concerns the geographical distance and to some extent the cultural difference that might exist within an organization. Furthermore, the issue of mental differences will also be addressed as Nordengren and Olsen (2006) is describing that it exists in all organizations and is one of the main reasons that misunderstandings and conflicts to occur.

1.5 Structure of the dissertation

The following chapters within this report will be as follows. Chapter two will cover the theoretical framework that is relevant to this study. Chapter three presents the selection and justification of the methodology that has been applied in order to answer the research questions. Chapter four presents the empirical findings from the interviews that have been performed with managers at the Swedish Transport Administration. The fifth chapter presents a discussion on how the empirical findings is correlating to the literature and presents reasoning of why deviation might exist. The sixth and final chapter presents the conclusions from this study with the purpose of answering the research questions.

2 Theoretical Framework

Cascio (2000, p.85) defined virtual work or telework in the beginning of the 2100th century as:

"... work carried out in a location remote from central offices or production facilities, where the worker has no personal contact with co-workers, but is able to communicate with them electronically".

Virtual collaboration is described as individuals working together towards a common goal, they have infrequent face-to-face interaction and mainly communicate through the aid of information and communication technology (Duran and Popescu, 2013). Gibson and Cohen (2003) similarly describes in their discussion referring to the term virtuality that the degree of virtuality is dependent on two aspects, the geographical distance and the communication mode. The individuals' primary work setting is located differently from each other and that individuals mainly rely on information and communication technologies instead of face-to-face interaction to perform their tasks. Shin (2004) argues in his paper that the degree of virtuality of an organization depends on four different aspects, namely the temporal, cultural, organizational and physical differences. Gibbson and Gibbs (2006) has concluded from their literature review that the geographical dispersion as well as the dependency in information and communication technology is the most commonly appearing attributes when discussing about the degree of virtuality in organizations. It is also important to remember that the degree of virtuality in most work setting should be seen as a continuum ranging from slightly virtual to extremely virtual (Gibson and Cohen, 2003). This is because individuals that are located within the same city are less dispersed then individuals located on different continents, the same logic applies to the degree to which information and communication technology is adopted. This will have implication on the conditions for the work setting (Gibson and Gibbs, 2006).

Watson-Manheim, Chudoba and Crowston (2002) states that the term 'virtual' within a work context has been used in several setting and therefore risks becoming useless to its meaning, since virtual can mean almost anything and therefore nothing. They state that the common connection when examining the use of the term in different situation is discontinuity. When describing the physical dispersion, Watson-Manheim, Chudoba and Crowston (2002, p.194) state that:

"Virtual societies may have individuals communicating about a common subject or issue, with discontinuities in physical or temporal location."

It is therefore important to understand the discontinuities in order to manage the continuities or enablers, which reduce the impact of discontinuities.

2.1 E-leadership

There are several expressions within the literature denoting the situation when leaders are managing individuals mainly through information and communication technology, without frequent face-to-face interaction. Some of the expressions are e-leadership, remote leadership, virtual leadership and leading from a distance (Avolio, Kahai, and Dodge, 2000; Schmidt, 2014; Lepsinger and DeRosa, 2010). The main term that will be used throughout this paper to denote this relationship is e-leadership. Avolio, Kahai, and Dodge (2000) is describing e-leadership as:

"... a social influence process mediated by AIT (advanced information technology) to produce a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups, and/or organizations."

They further describe that the technology employed is shaping parts of the organizational structures in which e-leadership exists, and at the same time, both the leadership and the technology employed is transforming the organizational structures. This means that there is an interconnection between the technology, leadership and organizational structure that are affecting one another.

Walvoord et al. (2008) also describes in similar to other authors that there are some differences between traditional leadership and e-leadership, they are talking about the "void" in organization, which are to be filled by leaders. However, the void within the e-leadership context differs from the traditional leadership. This void that can also be seen as challenges for e-leaders are to:

"...coordinate and maintain knowledge, trust and accountability, while upholding influence and communicating vision to e-Followers." *(Walvoord et al., 2008, p.1886)*

They conclude that there are one common feature amongst these challenges that is key for successful management within e-leadership, which is the communication between the leader and its followers. The communication may be seen as the main aspect that separates e-leadership from the more 'traditional' face-to-face leadership.

Schmidt (2014) describes that the business landscape is changing and that this necessitates an increasing amount of virtuality in businesses. The virtual work environments offers a way of maximizing the use of scarce resources and can reduce both labour, office space and commuting costs, improve work-life and allocate individuals based on expertise instead of physical availability (Rutkowski et al., 2008; Mahler, 2012). The virtual work structures also offer businesses an increased flexibility within the business landscape that is constantly changing (Watson-Manheim, Chudoba and Crowston, 2002).

One of the problems with this is that the traditional view on leadership also needs to change since many of the traditional views will no longer be applicable in this new environment. It has for instance been shown through studies that traditional hierarchical leadership style has a lower impact on teams' performance when there is a higher degree of virtuality. It has also been shown that success in traditional leadership styles such as leader-member exchange is greatly connected to the communication frequency and is therefore described as a very important factor when leading in a virtual environment (Schmidt, 2014).

The ideal situation in a virtual work context is to reach the performance and synergies that exists within fully functioning social work units. However, this is not merely said and done, but necessitates a high degree of communication, trust, information sharing and training (Nydegger and Nydegger, 2010).

2.2   Communication

E-leaders are geographically dispersed from their followers and communicate mainly through information and communication technology. This has negative effects on the quality of the communication since it hinders the ability for interpretations due to the lack of social cues. The distance between the leaders and followers also hinders spontaneous and informal interaction that occurs naturally within 'traditional'

leadership (Gibson and Gibbs, 2006). Armstrong and Cole (2002) also describe difficulties of managing others virtually since managers communicate a lot through subtle and non-verbal behaviour, which is hard to transfer through information and communication technology.

Armstrong and Cole (2002) describes that they found in their studies that a big difference from introducing a degree of virtuality in a work setting is that it is very hard to deal with the increased misunderstanding in communication and the strangely escalading conflicts. The communication was often fragmented and caused a lot of confusions. The lack of sufficient communication caused different interpretation regarding tasks and assignments and people were not informed about either important decisions or other important information, which resulted in a lot of delays in the work. Nydegger and Nydegger (2010) state that the effectiveness in a virtual work setting is highly correlated to the quality of communication. It is therefore necessary that e-leaders are excellent communicators and have extensive knowledge on how the followers can and should use technology to interact with others.

E-leaders need to understand that both coincidental and scheduled encounters become much rare when managing from a distance. It has also been shown in studies that virtual co-workers communicate less through e-mail than what collocated ones do (Armstrong and Cole, 2002). This indicate that communication do not come naturally within the virtual work environment, but needs to be managed properly in order for it to occur.

Media richness is important for the understanding of communication technologies and it is therefore important for e-leaders to understand the implications of using different medias. The richness of a media is described as its capacity of providing feedback to the communicator, the capacity to transfer cues as well as how personal they are (DeRosa et al., 2004). A communication media with high richness helps the receiver to understand what the other party wants to convey and also include information regarding the context (Huang, Kahai and Jestice, 2010). Face-to-face interaction is described by DeRosa et al. (2004) as the media with the highest level of richness, the reason is that it is the one media that comes most naturally for human beings and we have evolved and adapted us towards this type of interaction over such a long period of time. In compared to face-to-face, the media richness of other communication technologies in declining order are video communication, telephone, letters and memos, e-mail, impersonal written and numerical documents. Walvoord et al. (2008) recommends video conferencing as a substitute for displaying nonverbal cues and tone of voice, which is not transferable via many other technology-mediated communication methods. It is described that graphical displays may be used as a less expensive substitute for video conferencing when trying to communicate ones intent. Graphical display is suitable for communicating concrete facts and information that is easy to quantify whilst more complex matters and abstract concepts necessitates the natural language.

Another aspect connected to the media richness is how synchronous or asynchronous different communication medias are. Face-to-face interaction, videoconferences and telephone provide quite direct feedback to the communicators, whilst the feedback for bulletin boards and memos is almost non-existing and not synchronous DeRosa et al., (2004). The media richness theory is based on the assumption that the richness for each media is more or less static whilst other theories such as adaptive structural theories and media naturalness theory suggests that it depends on several factors such as time and how accustomed individuals are to it, how well the technology fit with the

context and also what is being communicated. Schmidt (2014) study indicates that what should be regarded as appropriate communication media will depend over time. This is because individuals will become more accustomed to new communication technologies over time and will therefore be more aligned with the context. E-leaders should therefore reflect over what type of communication technology that is most suitable for the specific situation and the contextual conditions. Walvoord et al. (2008) is also describing that a mix of different modes of display, such as voice, text and audio, can be more and less successful.

Walvoord et al. (2008) describes that it is important for e-leaders to provide sufficient information to their followers. They should provide the information that is available, but not to provide information that is irrelevant or repetitive since it will not increase the understanding. They should also ensure that they do not generate an overload of data when transferring information to their followers. It is stated that the leader needs to consider the followers situation and provide such information that will increase their understanding of the task without generating an overload that might impair their ability to understand the message.

The communication and sharing of information has been brought up as problematic within the virtual context. Chen and Hew (2015) do however describe that several scholars presents the online environment is a much more suitable facilitator for knowledge sharing in the new multinational and geographically dispersed organizations. Chen and Hew (2015, p.467) state that virtual communities can contribute with several potential benefits and describe them as:

"Virtual communities are the informal entities, existing in computer-mediated environments that share the same interests, goals or practices. These entities interact to share knowledge"

Wenger and Snyder (2000) describes that communities of practice commonly consists of a loosely bounded group of individuals that interact with each other with the intent of learning from each other and share knowledge. It is commonly held together through the commitment of the members and the interest of sharing knowledge with each other. Communities of practice are also described as a way for organizations to cultivate and share the knowledge that exists within organizations. It is however described that executives should invest time and money for these communities to exist, since the loose bond might dissolve if the group runs into obstacles (Wenger and Snyder, 2000).

2.3   Communication technologies

Several authors describe effective communication and information management system as a key challenge as well as a key enabler for successful virtual collaboration. The development and introduction of advanced information technology is changing the global economy and the context for leadership (Avolio, Kahai and Dodge, 2000).

Walvoord et al. (2008) is stating that there is nothing more important for a leader than to have the ability to communicate one's intent to the followers and ensure that they understand the goals so they are able to perform their tasks. Even though this is so important, virtual collaboration is mainly based on virtual communication that creates significant challenges for effective communication (Gibson and Gibbs, 2006), and the subject therefore require particular attention. The communication within virtual

collaboration differs from face-to-face communication since it is mostly receiver controlled instead of sender controlled. The difference generates a lag time in the response that may lead to wondering if the message was received, cause misinterpretation of the communication process in itself as well as communication delays (Lee, 2014). Walvoord et al. (2008) also describes that virtual networks usually have a solid structure for transmitting and processing information, but it is usually weak for transmitting information that help create interpersonal relationships. The information that is sent through communication technologies is usually very direct and does not include the context from which the information was transmitted.

Even though the literature brings up several aspects that inhibit efficient communication within virtual teams, the technological development is also reducing some of the challenges. Schmidt (2014) describes numerous technological developments that can be used to share different types of information. Facebook for social medias, Google docs for multi-participatory document editing and several live videoconferencing programs such as Skype and Google hangouts. In addition to this there are also different virtual world programs where the participants, as avatars, can interact with each other in a virtual 3D world, all of which may be used to facilitate better virtual communication. Examples of other advanced information technology are described as, but not restricted to, e-mail systems, knowledge management systems, executive information systems, supply chain management systems, customer relationship management systems (Avolio, Kahai and Dodge, 2000). Advanced information technology is described by Avolio, Kahai and Dodge (2000) as systems that enable multiparty interaction within and between different organizations through intentional collection and processing of knowledge and data that are retrieved, made accessible and displayed.

But even though it is tempting to start considering the communication technology as the solution, it is important to remember that virtual work is still is as much built on a social system (Nydegger and Nydegger, 2010). The success of the work will therefore not depend on the communication technology in itself, but the key lies within the quality of the communication: how the information is being transmitted, the quality of the information and how the receivers are able to utilize the information and put it into practice. It is therefore essential that leaders are excellent communicators and understand that communication is not merely about communicating the message, leaders needs to understand how knowledge can be shared in the most effective and efficient way (Walvoord et al., 2008; Lee, 2014). Lee (2014) states that it is the leaders role to ensure that the communication technology is being used, to ensure that the members have sufficient information available and help facilitate interaction within the group.

Walvoord et al. (2008) is also emphasizing the importance when selecting appropriate technology for communication to consider the history and relationship of the team as well as their previous experience of the task and the technology. Leaders play a major role when new technology is introduced, Avolio, Kahai and Dodge (2000) is referring to the spirit of the leadership, its environment and the spirit of the AIT, that if they are not aligned, then it will be hard to realize the benefits of the new technology. Hence, it might be necessary to adapt the leadership in accordance to the technology in order to successfully implement it.

Sarker and Sahay (2003) state that it is not merely about making the technology available in order to get followers to utilize the technology. There needs to be systematic structures in place that triggers behaviour in combination with sufficient

training to achieve good communication (Sarker and Sahay, 2003; Kayworth and Leidner, 2000). Lee (2014) proposes a project communication plan that can help trigger such behavior and it consists of the following aspects:

- Which messages that need to be conveyed
- The frequency of the communications
- The outcome of the communications
- The audience for each message
- Level of detail needed for each audience and message
- Best format for each audience and message

This will help to ensure the conditions for frequent communication, set guidelines for what should be communicated and with whom and generates transparency in the project (Lee, 2014). The use of new technology should according to Avolio, Kahai and Dodge (2000) not be seen as radical change but instead as incremental adaptation with regards to temporary structures within the organization, which in the continuation will result in behaviour changes.

Schmidt (2014) also reflects upon the difference in time, that people a decade ago were not that accustomed to advanced information technology, but that it will become a common part in people's daily work life within a few decades. This will have implications on how managers in the future can best facilitate virtual communication. This also illustrate, as well as the discussion about the changing organizational context, that it is necessary to make adaptation in the communication according to the changing organizational structures (Schmidt 2014; Avolio, Kahai and Dodge, 2000; Walvoord et al., 2008).

2.4   Out of sight, out of mind

Leading virtually should be seen as a complex and problematic matter. It requires knowledge and understanding about the interpersonal relationship that can help to motivate, involve and support e-followers (Jenster, 2010). One problem for e-leaders is to ensure that off-site individuals do not feel isolated from the rest of the organization. The feeling of belongingness to a group is important since it might reduce feelings of anxiety, increase individuals' performance and generate behavioural norms (Swigart, 2012). The expression 'out of sight, out of mind' is commonly appearing in the literature and denotes what happens when individuals are not directly present in the context (Kurland and Cooper, 2002; Mulki et al, 2009; Offstein and Morwick, 2009). Mortensen and Hinds (2002) found in their study that individuals within a team or a group have more difficulties in acknowledging their membership when there is a degree of virtuality. One of the problems with individuals working off-site from the main organization is that there can be a lack of co-worker and manager interaction that might induce a sense of isolation for the individuals (Mulki et al., 2009). This will have negative effects on a personal level due to a lack of sharing daily experiences, the difficulties of gaining understanding about cultural aspects of the organization as well as a problem to not have people nearby for when questions occur, this is mainly referred to as social isolation. Swigart (2012) states in addition that individuals that experience a sense of isolation do not feel that they receive sufficient support, which can lead to reduced job satisfaction and commitment and in the continuation increased employee turnover. Kurland and Cooper (2002) describes another type of isolation, which is professional isolation that refers to

individuals being overseen by their mangers when it comes to promotion and risk missing out rewards for performance. This is closely connected to the control of employees and they concluded from their study that it is difficult for managers to have knowledge about e-followers performance over longer periods.

Studies have shown that an individual in the virtual context that has been given relational training and has the ability to develop virtual relationship has an increased feeling of belongingness to a group (Jenster, 2010). Individuals should therefore be offered time for communication in order to build relationships (Schmidt, 2014). Successful e-leaders encourage a more informal and personal communication and information sharing with colleagues in order to increase this information exchange and understanding about each other (Schmidt, 2014; Swigart, 2012). It is mainly the e-leaders that has the responsibility to ensure that sufficient communication occur and the absence of managerial actions for facilitating this is seen as a major factor for isolation to occur (Swigart, 2012). Another crucial aspect for e-leaders is to promote face-to-face interaction, especially for newly employed staff where e-leaders should help to introduce them to the organization (Swigart, 2012).

Jenster (2010) describes three aspects that help to create commitment and trust amongst team members, these are to communicate a clear vision, express confidence in the team members and try to induce enthusiasm and energy in the followers.

2.5 Monitor work from a distance

A degree of virtuality in the workplace can be seen as a hindrance for leaders that wants to monitor the work progress of their followers. But the changes in the work environment have led to the development of novel forms of supervision that are based on more indirect forms of control. This has also affected the leadership within this virtual workspace and e-leaders are forced to move towards a more facilitating role that controls the performance of their followers through more indirect methods (Sewell and Taskin, 2015).

Walvoord et al. (2008) describes that e-followers becomes more informed and autonomous through the use of proper technological information systems. They can and should also be more involved in decision-making. This is based on the idea that followers are better able than their leaders to make well-informed decision since they possess a higher degree of contextual knowledge. These decisions will consequently be based on more substantial and context specific information than if e-leaders would make the same decision without context specific knowledge. Weisband (2013) similarly describes that many more people has the knowledge necessary in order to make informed decisions due to the technological development. Decision-making should therefore no longer be restricted to just senior management, but should be found in all levels of the organization.

Delegation means empowering an individual with authority and responsibility originally reserved for a superior (Konradt & Hoch, 2007; Zhang et al. 2009). Delegating or sharing leadership functions such as daily communication, has positive effects on the individuals' sense of self-worth and flexibility (Zhang et al. 2009).

It is necessary for future e-leaders to adapt their way of monitoring and controlling their followers due to the changes in work structure and the technological advancement is a facilitating factor that enables that. The work environment is

changing and it is no longer applicable to apply a traditional command and control method. People are to a large extent collaborating both outside their own department and outside their own organization and leaders that try to apply traditional control structures and monitor everything will find it impossible. They should instead build trust towards their employees and provide them with sufficient autonomy in order to enable them to deliver the best results (Offstein and Morwick, 2009; Mahler, 2012). Nydegger and Nydegger (2010) had identified similar problems within organizations, that many organizations rely on teams to perform tasks that are set by the organization and therefore apply a so-called team-based management structure, the problem is that most organizations has not implemented it well. The organizations rely on empowered individuals, but they rarely have the authority necessary to fulfil their tasks. The situation is described as being particularly serious when it comes to virtual collaboration, due to a high need of empowerment. If the management needs to be involved in too much of the decision-making activities, then it becomes a bottleneck and inhibits the individuals to operate efficiently.

Leaders should instead of applying the traditional view of controlling activities directly through task supervision apply methods for controlling the results and use performance-based metrics that reflects workers deliverables. But it is necessary to empower the workers and develop a relationship that rest on commitment and trust in order to develop autonomy for the workers to experiment, even if it sometime leads to failure (Offstein and Morwick, 2009). Another way of impose control is to focus on workers perception of the task and work environment. E-leaders should try to affect the worker view of work in order to leverage commitment towards the task and help the individuals to see the job and the work environment as attractive (Clear and Dickson, 2005). One important part for affecting this is for e-leaders to express and thereby establish expectations on workers behavior that is valued by them. It is also very important for e-leaders to act as a role model and behave in the same way as they expect others to do (Offstein and Morwick, 2009).

2.6   Create trust

Savolainen (2014) describes that trust is seen as a key leadership skill and even a human intellectual resource that has increasingly gained importance for both researchers and management practitioners during the last two decades. A major reason for this is the increasing need of collaboration within businesses where trust acts as a foundation. Trust is defined in Mayer, Davis and Schoorman (1995) as:

"… the willingness of a party to be vulnerable to the action of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to control that other party". (Mayer et al., 1995, p. 712)

Trust within virtual collaborations is an important element that determines the performance and success of the task (Kanawattanachai and Yoo, 2002; Lipnack and Stamps, 1997). Trust acts as a foundation for effective collaboration and it is necessary for individuals operating through technology mediated interaction to develop an ability to understand when and in which way to trust and be trusted by others, as well as to know when to control or monitor others (Savolainen, 2014). Trust is also an important aspect and foundation within e-leadership due to the difficulties of meticulously controlling the followers' progress (Clear and Dickson, 2005).

Kramer and Tyler (1996) present a three-stage model on how individuals develop trust in professional relationship. The three stages are calculus-based trust, knowledge-based trust and identification based trust. The central key in order to achieve a higher level of trust is interaction and knowledge sharing between the participants. The problem within the virtual context is the absence of face-to-face interaction, the geographical distance and the lack of verbal cues that otherwise helps to develop interpersonal relationships (Jawadi, 2013). Many leaders have described in a study by Savolainen (2014) that it is hard to gain knowledge about individuals in a virtual collaboration due to the short and often irregular personal contact but that trust is important for understanding the subordinates daily work situation. This is similarly brought up as an issue in Szewc (2014), that trust is very difficult to develop when there is infrequent interaction and when there are difficulties in having either planned or spontaneous interaction. Coerdery et al. (2009) describes that one part that is challenging when building trust in global virtual teams is that the team members do not want to share information with others. Team members described that the absence of face-to-face interaction hampered knowledge sharing and that they did not want to ask for advice due to the fear of appearing as less competent. It is therefore critical that leaders are able to utilize their 'soft skills' in order to create a trustful and helpful virtual environment, they might otherwise have difficulties of understanding the followers context and work progress (Hanebuth, 2015).

Savolainen (2014) describes that it should be seen as particularly important that there is a high degree of openness and high interaction frequency in technology-mediated interaction in order to understand the context in which the follower is operating and make adaptation in the interactions accordingly. Coerdery et al. (2009) also highlights that one of the keys for leaders is to create a feeling of psychological safety for the members and a climate where the members feel that their comments are appreciated and welcomed by others. Savolainen (2014) describes one way of creating an open atmosphere is to lead by example and supports openness and honesty. It is further recommended that leaders should act as coordinators that aid followers through consultation and guidance, something that is also supported in a study by Jawedi (2013). This will supposedly help facilitate trust towards the leader and thereby generate confidence for the followers to open up and discuss matter regarding both work- and private life. Another aspects brought up by Lipnack and Stamps (1997) is that virtual work is very information-intensive and therefore very dependent on having sufficient information available. This makes information availability a prime source for trust or mistrust, depending on the leaders' performance in supplying it.

Suitable characteristics for virtual team leaders that contribute to create trust are described as; open, extrovert, emotionally stable and agreeable (Pierce and Hansen, 2008). Savolainen (2014) describes important characteristics for e-leaders are ability to listen, approachability, good human relation skills, honesty and supporting and treating individuals equally. Jawadi (2013) has concluded in a study that clarifying goal and ability to enthusiasm followers is greatly connected to the creation of trust. Pierce and Hansen (2008) suggest that organizational leaders should evaluate leaders' characteristics in order to identify suitable leaders in virtual collaborations. These characteristics can also act as a base for training and educating leaders to become more successful in their work, this however rests on the notion that successful leaders can be developed and is not an inherent feature of individuals.

Even though the virtuality sets limitation to the creation of trust, Wilson et al. (2006) presents in their study that virtual or distributed group can attain the same level of

trust as ´normal´ teams that have regular face-to-face interaction. But that it do however take longer time in the virtual setting and that the mediating technology plays an important role for the time it takes to develop trust.

It is also described that e-leaders can build trust through different forms of interactions and that it is important that the quality of interaction is not merely dependent on the technology in itself. The quality is very dependent on the situation and the frequency, norms and procedures of the interaction. If the interaction is poor, then there is a risk of reducing the level of trust or even cause distrust. It has been described by e-leaders in Savolainen (2013) that face-to-face interaction in the beginning of a virtual collaboration can drastically increase the understanding about each other. However, Wilson et al. (2006) did not find a strong connection between realization of long-term benefits and having face-to-face interaction in the beginning of a virtual collaboration.

2.7   Envision goals and vision

Maynard and Gilson (2014) are stating that all members within a team needs to have a shared view about the goal and objectives of a task and how the work is to be organized. It has also been shown in several studies that a shared understanding has a significant impact on performance and a groups' ability to coordinate their work (Gibson and Cohen, 2003; DeChurch and Mesmer-magnus, 2010; Thomas and Bostrom, 2007). There is a risk that individuals will work in different directions and perhaps counterproductive to the intentional goal if they do not share a common perception or vision of where they are heading (Gibson and Cohen, 2003). Other problems that can occur include an increased risk for conflicts, frustration and mistrust, and the need for consultation, negotiation and monitoring increases. Bjørn and Ngwenyama (2009) also describes that the risk for communication problems increases within virtual collaborations with cultural and organizational differences. This is generally due to misunderstanding and lack of shared mental model.

Neufeld, Wan and Fang (2008) found that a shared mental model might reduce the negative impact from physical distance. They found in their study that the physical distance between leaders and followers did not affect either leadership performance or communication effectiveness. They suggest that this was because the participants had long tenure within an organization and had previous experience of working together. That leader and followers had a common perception regarding norms and behavior within the organization and understand the process to achieve desired outcome. This is also aligned with Gibson and Cohen (2003) who argue that it is easier for individuals in a group with similar background and experience of working together to create a shared mental model. Rentsch and Klimoski (2001) showed in their study that team members with similar life experience in general and specifically similar level of experience of the task have to a greater extent '...*similar or compatible knowledge structures for organizing and understanding team-related phenomena*' (Rentsch and Klimoski, 2001, p.108). The degree of virtuality in a work context is however defined by the physical distance between individual, which implies that they do not share the same work context. Also, e-leaders mainly use information and communication technology to interact with its followers and that creates barriers in the communication (Shin, 2004).

E-leaders should not define the work processes too narrowly. The reason is that they many times lack a comprehensive picture of the followers' situation and it is therefore hard for the followers to conform to something that's not properly align to their context (Walvoord et al., 2008). This could also be applied in a non-project work context and e-leaders should instead try to convey their intent when describing goals and formulate a framework for the followers to comply to. But this should not compromise the followers understanding about the goals and purpose of the task (Nemiro, 2008; Kayworth and Leidner, 2000). Group discussions surrounding this matter can help to involve the ones concerned and thereby create a shared ownership and a sense of unity. It should thereafter be written down and made available to everyone (Nemiro, 2008).

It is primarily the e-leader role to manage and ensure a sufficient information flow within the organization (Savolainen, 2014). They should therefore try to create a transparent communication structure so that individuals are informed about importance changes that occur (Bjørn and Ngwenyama, 2009). A transparent communication helps to ensure that everyone has correct and sufficient information about changes. It would otherwise be very difficult for members to understand others progress in their work and be up to date on the changes that needs to be made in the work task. It is also added that this transparent information and communication is made easier due to technological development that has made it easier to manage the increasing amount of information and transfer it within the organization (Savolainen, 2014).

It is also important to remember that one of the challenges in virtual collaborations is that individuals might state that they share a common understanding but display contradictory behavior (Andres, 2012). This illustrates a problem for e-leaders to ensure that communication is understood as intended and be able to sense when there is a discrepancy between their own and the followers view.

3 Methodology

This chapter outlines the methodological consideration that has been made and specifies and justifies the selection of appropriate research methods. The chapter also aims to present the considerations that have been made in regards to research ethics and research reliability.

3.1 Research Strategy

Bryman and Bell (2012) makes the distinction between two specific research strategies, namely qualitative and quantitative. In addition to these there are also a mixed method, where methods associated with both qualitative and quantitative research are combined. They state that many writers on research strategies find it beneficial to see the distinctions between the two even though several others also find the distinction between the two as a bit ambiguous. They further state that it is vital to outline how the specific data for the research are collected and the design of the study.

3.1.1 Qualitative and Quantitative research

The study is based on a qualitative research strategy where Bryman and Bell (2011) describe that qualitative research focus more on words then digits and describes three other ways in which they differ from quantitative research, these are;

- An inductive view on the relationship between theory and practice, that theory is generated on the basis of collected data;
- That the theoretical viewpoint rests on interpretation of the understanding of social reality and is based on participants' interpretation of their own context and reality.
- An ontological viewpoint that is described as constructionist, which implies that the social characteristics is a result of the interaction between individuals.

One of the techniques to acquire empirical data in qualitative research is through qualitative interviews. Berg (2009) similarly states that the single technique for qualitative research is through observation, but that several writers is also including interviews as a way of performing qualitative research.

Quantitative orientations are many times viewed as a more respected way of research since the use of numbers might imply that there is something more valid to it. However, qualitative research do not rely on the notion of numbers, instead it utilizes words to gain greater understanding and in-depth understanding of situations (Berg, 2009). Berg (2009) refers to what Kaplan (1964, p. 206) that ' "if you can measure it, that ain't it!". Quantitative research is commonly associated with social research since it has generated significant contributions from social thinkers. When comparing the qualitative or the quantitative research, the emphasis in the qualitative lies on the what, how, when and where, and the quantitative is more focused on the measures and counts of things.

Some of the critique that are brought up when it comes to qualitative research is that it is subjective, that qualitative researchers builds up a relationship to what is being studied and that the research questions are often defined as the study progresses. Other critique is the difficulty to replicate the study since the data collected is based

on what the researcher acknowledge during the study and that there are few generally accepted ways of performing qualitative research. There is also a problem whether the results from a qualitative study is generalizable due to the unstructured interviews and the restricted amount of interviews that is performed within a certain organization (Bryman and Bell, 2011).

3.1.2 Research approach

The first step in the study is to review the literature regarding the subject of virtual teams and management. The Chalmers library as well as Google Scholar acts as a base for finding suitable theory. The theory that is to be covered mainly focuses on the subjects that are connected to distance and e-leadership, namely the challenges and key success factors that can occur when exerting e-leadership. In order to gain in-depth information about potential challenges and success factors when exerting e-leadership, a qualitative research approach has been applied. The specific techniques for gaining the empirical data is from semi-structured interviews with managers that has varied level of experience from e-leadership within a large organization, namely the state governed organization the Swedish Transport Administration.

Furthermore, an interpretivism epistemology is applied to the research study since the study aims to understand managers' behavior when operating within a virtual context. The study aims to depict how individual managers practice their e-leadership, which is connected to the different individuals' perception of it (Bryman, 2012). Hence, it would not have been suitable to apply a purely inductive or deductive approach in this study, instead a mix between the two approaches is applied. An abductive approach will be used as Bryman (2012) describes that this approach should be used when the point of departure is within the studying object. When the theoretical understanding lies within the interviewee and their way of describing their worldview.

3.1.3 Single case study design

The strategic consideration for gathering data for the study was through a single case study. A case study is a research design that is beneficial when there is a desire to map the characteristics and complexity of a unique situation and condition (Bryman and Bell, 2011). It is also suitable to use a case study as a research strategy when the aim of the study is to depict human phenomena (Gillham, 2004). The case study design offers researchers to examining both simple and complex phenomena's and the studied object may range from single individuals to large corporations. It also opens up the possibility of applying different methods for gathering data, and research performed through case studies can generate very rich and detailed information that provides an in-depth understanding about phenomena that can appear in large organizations (Berg, 2009). Another benefit with applying a case study design is that it has the ability to lead the researcher towards new discoveries. Berg (2009) also states that case studies are usually seen as a weaker method then other within the social sciences, it is however greatly applied across a number of disciplines. But it is necessary to recognize that there are two aspects to consider, the first one is to consider whether there are subjective assumptions made through the study and second, whether it is possible to draw conclusions that may be viewed as generalizable.

A case can take off from several different viewpoints; an organization, a plant of facility, a key person or a specific event and it may also be based on the study of a specific context or situation (Bryman and Bell, 2011). In this study, it originates from the organization of the Swedish Transport Administration and it will more specifically rest upon the responses from the interviewees within the organization. This study rests on a single case and it can thereby be seen as unreasonable to make generalizable conclusions based on such a restricted amount of samples. It is however important to emphasize that there is an opportunity to show the specific findings that occurs within this particularities context and organization (Berg, 2009).

3.2   Interview design and data collection

The data collection is based upon a primary source of information, namely interviews (Wellington and Szczerbiński, 2007). The interview style can be either structured, unstructured or semi-structured, where a structured interview has a fixed set of questions and the interview keeps rigid towards those questions. Bryman and Bell (2011) describe both semi-structured interviews as well as unstructured interviews as qualitative interviews. The semi-structured interview is positive when there are large amount of interviews and can generate both quantitative and qualitative data. The unstructured interview could be viewed as the opposite of a structured interview, where there are no fixed questions or specific order. A compromise of the two is what semi-structured are, to gain the flexibility of an unstructured interview whilst at the same time reduce its inherent problems of fully structured ones. It is described that semi-structured interview is commonly the most valuable one. It usually contains some kind of interview guide or checklist, but the degree structure can vary dramatically (Wellington and Szczerbiński, 2007). A semi-structured interview technique is therefore applied in order to enable the possibility to go beyond fixed questions and gain further relevant information that otherwise might be missed out.

Techniques described by Berg (2009) have also been considered such as giving the interviewee pauses and time to reflect over its response before continuing with the interview and thereby avoiding or interrupting their responses. Furthermore, that what is described as 'echoing' has applied so what the interviewee has said is repeated has been applied and thereby reassuring that the message has been received correctly.

3.2.1   Interviewing

The interview is based on the areas that have been brought up in the theoretical framework. The aim of the interview is to gain insight into how the interviewees in their role as an e-leader are managing the difficulties that are brought up in the literature.

The interview should be seen as a so-called semi-structured interview, where an interview guide has been developed on beforehand and acts as a base for the interview, but the interviewee and the interviewer are able to bring up aspects and questions that goes beyond the original template (Bryman and Bell, 2011). The structure of the interview guide is based on the theoretical framework and consists of five introductory questions about the interviewee, the person's role in the organization and how that person encounters e-leadership in their profession. The second part consists of five main topics, namely Communication, Communication technolog,

Monitor work from a distanc, Create trust and Envision goals and vision . The third and final part consists of four questions regarding more general aspects about their view on e-leadership and their performance.

The participants have been informed before the interview and they also gave their consent to be audio recorded and also knew on beforehand the intention of the study. They also knew that the findings would be presented anonymously and were given the opportunity to control what is presented in this report before publication, this in order to reduce the risk of misinterpretations and factual errors (Bryman & Bell, 2011).

The interview is partly based on face-to-face interviews when the circumstances have made it possible. Whenever that was not possible due to geographical distance, the interviews have been performed through Skype or telephone. Three interviews were conducted face-to-face and five interviews via Skype or telephone throughout a three-week period. The interviewees received the interview guide on beforehand and were asked to read through the questions before the interview so that they were prepared and were able to reflect over the questions before the actual interview (Bell, 2006).

The empirical data is based on eight interviews performed throughout a three-week period. The interviews were performed for about one hour peer interview, which according to the interviewees was sufficient to sufficiently respond to the questions. The interviewees are performed with managers at the Swedish Transport Administration that are fully or partly managing individuals through e-leadership, they had varying experience both within e-leadership as well as tenure within the organization. They also represent a variety of departments within the organization such as human resource, finance, communication and so forth and also had a difference in the amount of followers. The reason for the diversity of the interviewees was to generate a broad overview of how the organization and the individuals are dealing with e-leadership as well as to increase the possibilities to gain useful tips and success factors for successful e-leadership. An overview of the interviews is presented in section 10.2 Appendix B: Interviews overview.

3.2.2   Transcribing

The interviewer is usually interested of both what the interviewee is telling as well as how that person is telling it. So in order to assure that this information is made available and to ensure that the interviewer is not distracted from making notes, audio recording of the interviews has been made. But it is necessary to ensure that the individuals interviewed know that they are being recorded. There is however a risk that the notion of being recorded might distract the interviewers and that they reduce their transparency in the area concerned (Bryman and Bell, 2011). In order to reduce this occurrence, the interviewee was ensured that the response was anonymous and that they would not be mentioned by name or not recognized through the use of title within the organization. Due to the reason that transcribing can be very time consuming (Bryman and Bell, 2011), the transcriptions will be restricted to audio recordings and written transcription that generally convey the message of the interviewees.

3.2.3 Analyzing

It is according to Bryman and Bell (2011) important for the researcher to recognize the analytical form. This might be especially true when dealing with qualitative data, as there is critique on the difficulty to depict how the analysis of qualitative data is actually made. The analysis for this study has been based on the empirical data from the interview where the responses from the participants has been transcribed and compared with the intentions of finding similarities as well as dissimilarities. Berg (2009) describes this as an interpretative approach, where the researcher use interviews and observed data that is transcribed and compare it to the theoretical orientation by the researcher. Some parts of the interviews were not relevant to this study and were therefore left out, as they did not make any contribution. The relevant responses were connected to the different key areas that are brought up in the theoretical framework. The similarities are based on the comparison between both challenges and success factors that the participants have experienced through their work. These, as well as individual expressions are then compared to the relevant literature that is brought up in the theoretical framework and brought up as important findings.

3.3 Research ethics

The study will be based on qualitative research where interviews will be performed with managers to gain better insight to how they are managing their virtual collaborations as well as to gain knowledge if they have experienced any challenges in their e-leadership. It is important in this type of qualitative research to ensure that the participants are ambiguity in the results due to a lack of honesty from the interviewees. This might appear if the interviewee feel that they are obliged to participate or if there are some risks in answering truthfully or they are portrayed personally (Bryman and Bell, 2011; Berg, 2009). The interviews will be based on what Bryman and Bell (2011) describes as a semi-structured interview and they present four different principles, which will act as a base for the ethical considerations during the interview in order to reduce the risk for the participants, they are:

1. Whether there is harm to the participants.
2. Whether there is a lack of informant consent.
3. Whether there is an invasion of privacy.
4. Whether deception is involved.

There are however different views on what to consider regarding ethical approaches within social and economic research depending on what is seen as acceptable from a ethical viewpoint and that there are viewpoints that are seen as passé by some and not by others (Bryman and Bell, 2011). The ethical considerations have also been aligned to Berg (2009) and it is ensured that the interviewee is voluntarily involved and informed about the potential risks. It has also been considered whether there are some risks that the participants feel that they are obliged to participate in the study.

3.4 Research reliability

The terms validity and reliability can according to Bryman and Bell (2011) be assimilated when it comes to qualitative research without actually changing the

meaning. But the result by doing so will be a reduced emphasis on questions regarding the actual measuring. Validity and reliability can be divided into an internal and external part. External reliability is concerned with whether it is possible to repeat the study, this is however very difficult in qualitative research since the social environment is always changing. Internal reliability is concerned with how the empirical data from the study will be analyzed, so that other researchers would come to similar conclusions. The internal validity is focusing on the correlation between the observations and the theoretical ideas that is developed. These aspects are supposedly strengths for qualitative research due to the researchers' long lasting presence and participation with the studying object. Lastly, the external validity is concerning to what degree the conclusions that has been made is applicable to other social environments and contexts. This is described as a downside with qualitative research since it is often based on unique case studies and a limited selection.

It is described in Maxwell (2005) that it is impossible to perfectly validate a study when it comes to qualitative research. Validity is described as more of an approach that is to be applied through the research and the result can never really be proven. The validity depends on relationship between the conclusions and the reality, and whether or not this relationship has been accurately captured can never be proven, since truth in these scenarios is relative and depends very much on the beholder. It is also stated that the ultimate goal with validity is not to present an absolute truth, but to show the credibility of the study and make it possible to distinguish it from other research.

Maxwell (2005) presents an eight-part checklist for increasing the validity of a study, but as described by the author, not all might be applicable to all studies. Those that will be taken into consideration are listed below:

Intensive, long term involvement. A more long term and intensive degree of involvement, such as observations of the studied object, will generate both more complete data and also a higher variety of the data. Researchers are therefore better able to go beyond the general impressions from the interviewee and better able to understand the processes that they are part of by combining both repeated interviews and observations.

"Rich" data. It is necessary to consider the richness of the data collected. This is to ensure that sufficient information has been obtained from the research object in order to generate a full and revealing picture.

Respondent validation. Respondent validation is about ensuring that the interpretations that are made from an interview is correct. The best way of doing so is to offer the respondent the opportunity to check the conclusions and give them the opportunity to read how it is portrayed.

Intervention. Refers to that it is necessary minimize the impact that the research might have on the studying object. It needs to be reflected over how the research need might have affected the outcome of the study.

Searching for discrepant evidence and negative cases. This aspect is concerned with not just focusing on aspects of the data that is confirming the conclusions but also to include data that is dismissing it.

4   Case Description

This research is based on a case study at the Swedish transport administration. The Swedish transport administration is responsible for the Swedish transport system, including road, rail, sea and air transport. The vision of the organizations is to ensure that "*Everyone arrives smoothly, the green and safe way.*" They are also responsible for the construction, maintenance and operations of the state railways and roads. The Swedish transport administration employs around 6500 people situated around Sweden. The headquarter is located in Borlänge and the six regional offices are located in Luleå, Gävle, Stockholm, Eskilstuna, Göteborg and Kristianstad (Trafikverket, 2015). The structure of the organization is based on seven central functions, five business areas and a profit centre. The central functions have an overarching responsibility for the specific main area within the whole organization and the business areas are managing the different operations that the agency are set to do (Trafikverket, 2014). This study is concerned with e-leaders operating both within the central functions and the business areas.
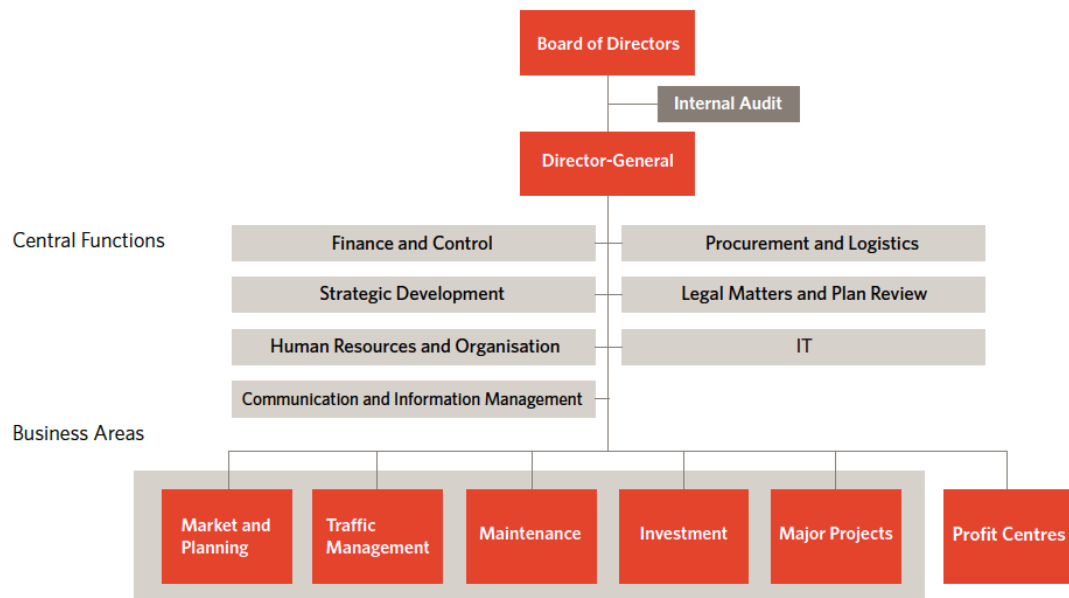
Figur 1 Organization structure of the Swedish transport administration (Swedish transport administration, 2014, p.7).

The Swedish transport administration was established as a new agency on the 1st of April 2010. The new agency is mainly a consolidation of what was previously known as the Swedish Rail Administration and Swedish Road Administration (SRA). When the new agency was formed, the structure within the organization became much more centralized then what it had been in the former organizations. A result from this centralized organization was that it was necessary to introduce e-leaders within the organization, which are to manage the nationally dispersed co-workers.

5 Empirical Results

This chapter presents the findings from the empirical material. It is presented based on what has been most commonly brought up by the interviewees. It presents the interviewees view on the different subjects and also a section about their general view on e-leadership.

5.1 General comments

Several of the interviewees describe that one of the major differences between operating in a virtual context compared to a more 'traditional' one is the time it takes to develop interpersonal relationships. This is very much affected by the way the leader-followers are interacting and communicating. Most of the interviewees describes that they build different and more personal relationship with the individuals who they meet in person on a daily basis and have more informal discussions with. But there were also some mixed comments on the impact of less interpersonal relationships. The communication and the leadership in itself becomes much more formal and e-leadership requires more structure, clearer work methods and defined processes.

One interviewee stated that e-leaders can many times improve on different aspects since the leaders needs to be more aware of the challenges that exists within e-leadership. The e-leaders actively take countermeasures to reduce the negative impact and therefore enhance the performance on these aspects.

Most of the interviewees are very positive towards both e-leadership and operating in a virtual environment, even though there are some challenges that need to be addressed. Most of them are also very positive towards how the organization was managing and assists them in their e-leadership. This was mainly due to how the organization has structured the work for the employees operating within the virtual context and that they have created a good infrastructure for communication.

Some of the aspect that is brought up as points of improvement is to bring up the virtual work as a bigger part of the agenda and discuss it to a larger extent. Some of them believe that it is known that the virtual work puts strain on the organization and leaders but that it also generate substantial benefits, and both the positive and negative aspects needs to be discussed even further. Another aspect that also needs to be discussed is the managers' responsibilities when it comes to the virtual work environment. The e-leaders are not physically present and describes that it is difficult and impractical to be responsible since they lack daily insight in the followers work situation. Some managers articulated that a clear network between managers would be beneficial. That managers situated on site could be more responsible for aspects regarding the work environment and provide feedback on the workers situation.

The education that the managers had received on e-leadership varied. Some has participated in courses associated with e-leadership, such as communicative leadership and distance leadership, but several had not. Many stated that they want more 'hands-on' tips on how to improve their leadership and get to know more aspects that is necessary to consider. A few managers also added that it would be beneficial to have mandatory courses for e-leaders. Another aspect was that not only the managers should be offered or undertake education, but that also the individuals

operating within the virtual context should get sufficient training since they are as much affected by this as the managers.

5.2   Communication

It has become apparent from the interviews that communication is one of the most central aspects when it comes to e-leadership. Communication should be seen both as a key success factor and a great challenge that needs to be managed in a proper way since it will otherwise risk disrupting or hamper the virtual work. It has also been described throughout the interview that communication is something that is affecting, to some extent, all of the topics that are brought up in the theoretical framework. It has also been stated that the communication is working well, even though there are several challenges regarding communication that do occur in the virtual context.

Communication is according to several of the interviewees one of the most important challenges in e-leadership and it has been expressed in several ways. One of the reasons that the communication is difficult to manage is that it can be quite time consuming. Many of the leaders describes that it is hard to find time to communicate with everyone on a regular basis, or to such an extent that they perceive as exhaustive, especially when they are managing larger groups of individuals. They still describe that it is very necessary to have frequent communication, but that it does not come as naturally since the natural and unintended encounters do not occur. Another reason why the communication to some extent feel insufficient is that the leaders express that visual cues are absent and that they are unable to properly interpret the condition of their worker to the same extent as they would be able to if they would instead met in person.

Another commonly appearing subject is about the development of interpersonal relationships. This topic has generated mixed responses, but it still ends up referring back to some common themes, that most of the leaders find it more difficult to build interpersonal relationship when they are operating in a virtual environment. Many describes that the lack of interpersonal relationship affects the communication in a way that many times feel very formal and that it lack in content. Most of the interviewee states that it takes longer time to build relationship in virtual settings and that it would be easier to build relationship if they were able to meet more often.

"The communication is usually very 'dry', it is mostly work related discussions and it's very rare that you sit down with the co-workers and discuss aspects that goes beyond work. If you would, then you have a totally different foundation to build relationships on."

Many state that this lack of informal communication and interpersonal relationships does not affect the work performance in itself so much, whilst others believe that it has major impact.

Another aspect discussed during the interview was the leaders view on e-leadership and conflict resolution or managing differences of opinion. Most of the leaders stated that they had not experienced major conflicts within their group, even though they have worked in a virtual context for a long time. They did however described that misunderstanding due to the communication occurred very often. The one that had experienced conflicts, which usually concerned task related issues, stated that one challenge was that they never experienced the issue at first hand but were instead

forced to rely on secondary information and create their own view of the situation based on that.

One of the key success factors for good communication is to create the right conditions and prerequisites for communication to occur and to provide communication channels for information. Some of the interviewees referred to this as infrastructure and other just as enablers for communication. The communication and its channels can be divided into two parts, information sharing or 'one-way communication' and two-way communication where there is some type of feedback involved. It is stated by several interviewees that it is necessary when it comes to one-way communication in this virtual context to have good documents that specifies the individuals work content and clear descriptions of work processes and procedures in order to reduce the risk of ambiguity and uncertainties. One interviewee stated that

"…the communication is very much based on discussions regarding the work and the units deliveries and goals, but the documents of work descriptions act as a backbone."

It is also necessary to keep individuals updated with the necessary information regarding the deliverables and changes that occur within the group. This can be provided through one-way communication such as e-mail, newsletter etcetera, but it is necessary that individual or group interaction occur, so questions and uncertainties can be brought up. The interviewees state that the interaction needs to be frequent and that it is necessary to mix different communication methods and also include both physical and virtual interaction. There should also be a varying degree of formality during discussions and time available to interact and discuss about matters that goes beyond the work context. An important enabler that ensures that communication occurs is through fixed scheduled interaction, both in groups and individually. Most of the supervisors use this and has different agendas based on the situation. Some meetings have a focus on specific work related issues whilst other do not have a fixed agenda, but the participants can bring up what they find interesting.

The physical meeting is described as very important, even though several individuals had difficulties in fully emphasizing on the benefits, but one interviewee described it simply with:

"… a lot happens in the physical meeting between individuals."

Denoting that something happens in that moment that also continues later on in the virtual contact. It affects both the interpersonal relations and also improves the communication. The physical meeting gives insight in the individuals' context, their condition and their mental state in a way that is hard to convey through technology. Most of the leaders try to meet their co-workers as much as possible and stress on the importance of it even though it might be time consuming.

It has already been stated that it is important with a frequent interaction with the individuals. But what is regarded as frequent enough cannot be based on some general rule, but varies between individuals and has to be based their need and that will vary depending on several reasons. The individuals' work content, their experience and tenure, how autonomous the person is and the persons network within the organization affect the need of interaction. The leaders also discuss what the followers perceive as adequate communication frequency during performance and staff appraisals. Another aspect that all managers have brought up or highlighted as particularly important is for the leaders to make themselves available for the group.

The followers need to feel that they can easily contact their leader if there are any issues or questions that has occurred and this will increase a psychological safety for the followers. This is described as a challenge for several leaders, but what they try to do in order to increase their availability is to use several channels for contact, and ensure that even if they are not always available, they always get back to the person as soon as possible.

5.3   Communication technologies

When it comes to the communication technologies, most of the e-leaders are communicating through the same type of technologies; telephone and e-mail and also most of the daily communication through Skype, both as telephone calls, built-in chat functions and some leaders use it as video communication. Those leaders that include video in their way of communicating is expressing that it is very useful. That the video generate a much broader insight and understanding about the individuals to whom they are communicating and also that the participants become much more a part of the interaction. One of the interviewees stated that:

"I believe that if you have the opportunity [to do something in a better way], then you should seize it."

Implying that if there is technology available that can improve the communication, then you should, or it is your responsibility, to use it.

The other ones that doesn't use it describe that it is either redundant or that they for some undefined reason do not use it even though they can see benefits from it. The ones that use describes that it is mandatory within their group and that it is necessary to have it like that, since most people otherwise feel a bit uncomfortable with it at first. Other types of communication medias include one-way communication such as documents, intranet blogs and weekly and monthly letters to the employees. The interviewees describes that the technology that is available is sufficient to their need. This topic was also concerned with the education that the e-leaders and e-followers has had when it comes to the technology that they are using. Most of the interviewees described that they and their followers has received some basic education when it comes to the software, but that the technology is working very smoothly and that it is not much of a problem since they have good technical support available. Several of the interviewee had undertaken some education regarding distance leadership, but this was not the case for everyone. But some individuals discussed whether it should be mandatory for managers to take these courses. Several interviewees also highlighted that it could be as relevant for the followers to undertake courses about working within a virtual context, since they are as much a part of it as the leaders are.

5.4   Out of sight, out of mind

It has been stated by most of the interviewees that there is a risk that individuals that are geographically spread becomes or get a feeling of isolation from the rest of the group and organization. Many of the interviewees describe that their work units can get divided into several work groups or islands based on their geographical location. Different subcultures and work methods can emerge within these islands and this is something that might have negative impact on the organizations that want to have a uniform way of working.

One risk within the different islands is that the individuals do not raise their view and therefore lack an overview of the organization, what it is doing and where it is heading.

"... it can be difficult for individuals to lift their eyes from their focal point [their work context] and get a more holistic view and see that they are a part of something bigger."

The individuals needs to have understanding about these aspects in order to act accordingly and to be motivated, the leaders therefore face the challenge of ensuring that the individuals are updated on these aspects. The feeling of belongingness is also highly connected to the goals and vision of the organization. Individuals need to have a great understanding about how he or she can contribute to the groups' goal and how the group is contributing to the organizations overarching goals. Most managers therefore set goals for the entire group, which also generate a greater group feeling since they are striving towards a common goal and it also generates insight into what the other members are doing. They also specify during group meetings what the different individuals or groups are supposed to deliver throughout a specific timeframe.

Another risk is that if individuals do not want to belong to a group or wants to be more autonomous, then it is probably easier in a virtual environment and managers should be aware of this. It can even be so that some individuals are more comfortable to have a manager that is physically present can get more continuous feedback and assistance. The virtuality makes it harder, or at least more time consuming for the manager-follower relationship to develop on a deeper level due to the differences in communication and interaction. Hence, the relationship with the followers at the same location is commonly more profound. This is also related to the degree of communication and the managers that naturally has good and very frequent communication since the work task necessitates it, naturally builds a stronger connection. Some of the managers also state that individuals within virtual contexts need to be more autonomous and be able to take initiatives by themselves. The managers should help and encourage individuals to create their own network, and through that become more autonomous and get the right preconditions to be that.

5.5 Monitor work from a distance

It has already been stated by the interviewees that the virtual work necessitates individuals that are autonomous and able to take initiatives to a higher degree, than in a 'traditional' face-to-face leadership context. They need to be able to work more independent from the managers and therefore have the authority to make decisions based on their context and viewpoint as long as it is within the certain limits and regulations that are set by the organization.

There is some difference between the leaders responses when it comes to the control of individuals work performance. It can however be stated that none of the managers apply any kind of daily based or detailed control over their followers work. Several interviewees stated similar to what one highlighted, that:

"...e-leadership cannot be based on meticulous control of the followers work ."

Instead, the working relation rests very much on trust. The leaders trust that the followers is performing their work task in a correct matter, that they work the hours

that they should and very importantly that the followers themselves contact the managers in case they need any support. It is therefore emphasized by several of the managers interviewed that they encourage the followers to contact them both if there are any problems or if they just want feedback or even discuss subjects that goes beyond the actual work context.

Another crucial part that needs to be available and enables individuals to be autonomous is to provide the worker with documents that defines the work content and the proper work procedures and processes for which the individuals should comply to. It is also important that the worker are well informed about what they need to deliver in their work and there needs to be a higher degree of structure within the organization and the work environment in order to enable virtual follower to operate smoothly. One of the interviewee stated that:

"I might talk to some individuals once a week and the individuals needs to know what they are supposed to do in between and what is expected from them, there cannot be to much confusion."

Even though the work is very much trust based and that it is mainly up to the workers to contact their managers if problems occur, there are usually several systems in place that monitor the progress of their work and also illustrate the intended work processes. These systems usually monitors and provides feedback on several aspect, one is that the work is being done and reported according to the specified time, secondly that the work is being performed according to the standards set by the organization and thirdly, that it is reported according to the resources that are allocated. These systems themselves cannot make the assessment by themselves but are restricted to aspects that are quantifiable and pre-programmed. Another channel that give input on the workers performance is through the routine communication that the managers has with the employees, staff and performance appraisals and in the feedback from customers, clients and other co-workers.

5.6 Create trust

The interviewees has described that it can be difficult to gain insight into their co-workers daily work and it is therefore necessary to trust that they are performing their work task in a appropriate manner and contact the leaders if necessary. They also describe that it is more difficult in the virtual context to develop trust since the communication and interaction differs. One of the biggest differences that they bring up is the time aspect, that trust created in a virtual context takes a lot longer time than in regular face-to-face interaction since it is more difficult to build interpersonal relationship. One of the interviewee stated when he was asked about what creates trust that:

"it's a difficult question, I try to be honest but it is very much about getting to know each other… that the anticipated behaviour of an individual correlate to what they then experience."

Some of the managers therefore encourage more personal communication and discussions since it helps to create interpersonal relationship. Several also stated that try to provide some time for personal interactions whenever they meet in person. This helps to create an understanding about each other's behaviour since it is necessary with both a lot of communication and interaction. The manager should therefore

ensure that they are acting in a way that they say they will and if not possible, at least clarify the reason why they did not. It will otherwise risk diminish the trust that already exists.

Most of the interviewees bring up several behaviour and actions that the person who wants to be trusted needs to fulfil in order for them to become trustworthy. This shows that a persons' trustworthiness is not dependent on a single behaviour or variable. One aspect that is brought up is that trust is very much connected to if the person who is trusted acts and behaves in ways that help the individuals in their work and elevate them. Also, that the leaders show the followers that they are available and help them if problems do occur. It is therefore necessary that the leaders gain insight into the workers context and be able to see how they are managing aspects such as stress, the workload and the work environment. But this is one aspect that is described by some of the interviewee as a challenge. Several managers stated similarly to what one of the managers said, that:

> "It is problematic that you are not able to see the co-workers 'status' in their daily work".

One of the interviewee also emphasized the difficulty of understanding the individuals situation when communicating through ICT without the possibility to visually se them and described that:

> "...it is necessary to heighten your other senses like someone with visual disabilities in order to understand the other individual"

What most of the managers do and describes as success factors is to communicate. Most has subject regarding the work environment and workload as reoccurring topics on the agenda during group and individual meetings. It is however described by leaders as to seldom and that they wish to have more continuous insight into of their status. They also state that it is crucial if problems do occur, that they act quickly and gains insight on the matters as soon as possible since it will otherwise require much larger efforts to alter or reverse problems.

5.7   Envision goals and vision

It has already been stated that managers described that it is necessary to have followers that are autonomous and have the authority to make decisions based on their own viewpoint. But it is necessary that they share a common perception of what the organization, function and group are and where they are heading so that decisions aren't made that might be counterproductive to the goals. The overarching goal of the organizations needs to be made clear and available, they should then be broken down into sub goals down to a level so that the individuals understand how they can contribute with their work. Furthermore, it is also important that the different goals are coherent and contribute to the overall goal and that this is made clear and visible for the followers. As one of the interviewees stated:

> "It is important [for the followers] to understand the correlation between the individual goals up to the overarching goals of the organization since it clarifies their role in the organization and provide meaning in the work and motivates them."

It is therefore a very important ability for the managers to be able to break down the goals in a clear way and transfer this knowledge down to the individuals. There are however many managers that describes this as challenging. They describe that they

are working very hard with this, but that it is still a major challenge that necessitates a lot of time and one of the major differences when it comes to a virtual context is that they are not able to communicate the goals to the same extent in their daily work. One of the issues that might occur is sometimes that the goals are forced down in the organization and individuals can have difficulties in understanding how it relates to them in their daily work. It should also be noted that the goal in them selves do not differ between the e-followers and individuals operating in the same location, it is just the way of communicating the goal that differs. Another issue is that it takes so much time to communicate the goals and vision out in the organization and that the goals may at times change during this process.

> *"We can discuss about strategies in our management board and several matters are discussed and analysed from different angles, but it is difficult to get everyone on-board when goals are communicated out into the organization. This is a really big challenge."*

One way of getting the individuals to acknowledge and understand the goals is to include them in the creation of the goals.

The managers try to involve the individuals early on in the process and during discussion and let them give their input. By doing so, they are not only including and informing them about the goal they are also making them connect the goals to their own work and ensuring that it fits with their view on the tasks. As it was also stated by one of the interviewees that:

> *"The goals should be developed based on the conditions of the context and the followers should therefore be included in the discussion since they possess great context specific knowledge."*

But this can only be applied for certain goals and it can be very time consuming and therefore becomes more challenging when leaders are managing larger groups.

Another important aspect that has been discussed earlier is the aspect of isolation, that individuals operating in a virtual context can feel isolated from the rest of the group and organization. Some of the interviewees describe that by envisioning the goal and illustrate where the group and organization is heading, it generates a feeling of cohesiveness and belongingness towards the group. It shows how the individuals within the group is connected to each other and if the group is discussing and developing the goal as a group, it generates insight into each others situation and the feeling of belongingness becomes even stronger.

6 Discussion

This chapter presents a discussion on the correlation between the empirical findings from the interviews and the topics that has been covered in the theoretical framework. The discussion is based on the research questions and brings up the central aspects that affect the e-leadership.

6.1 What challenges can arise when managing people virtually?

Communication is key

Based on the definitions of e-leadership and the finding from the interviews it is possible to state that the main difference between e-leadership and more ´traditional´ leadership is the communication and therefore becomes a very central aspect and red thread that is critical to manage properly. The communication is described by Gibson and Gibbs (2006) as a major challenge when it comes to virtual collaboration since there is commonly a lack of non-verbal cues in the virtual communication and that the media richness is according to Huang, Kahai and Jestice, (2010) lower and the communication technology is according to Lee (2014) many times asynchronous.

It becomes apparent from both the literature and the empirical results that communication is an area that needs to be managed in an accurate matter since it will otherwise risk to interrupt or even ruin the virtual work. It has also become apparent that communication is an area that is affecting the other topics that has been brought up in the study. So if the communication is not sufficient enough between the leader and follower or is managed poorly in some other way, then it risks having negative knock-on affects on those areas.

An aspect that has been brought up by interviewees as challenging is that the communication naturally becomes much more formal in the virtual communication than in face-to-face interaction, which in turn will have negative effects on several parts of the virtual work. The more formal communication hamper informal and personal communication, something that is described to inhibit the creation of interpersonal relationships (Schmidt, 2014; Swigart, 2012). It becomes apparent through this study that the formal communication can in turn have negative knock-of effects on the creation of trust and have negative implication on the individuals feeling of belonging to a group since the negative effects could be reduced through more interpersonal relationships.

Some of the individuals also commented that they feel that communication do not occur as naturally as it would in a more ´traditional´ face-to-face work environment. It is more difficult to gain insight into the workers daily work since coincidental encounters and communication do not occur as frequently, as also stated by Armstrong and Cole (2002). They interviewees also state that they feel that it is a great challenge to communicate with everyone as frequently as they would prefer. Many states that it takes a lot of time to communicate and that it becomes difficult to set of time from their own work to communicate with everyone as much as they would prefer, especially if the groups are bigger.

Challenging to create trust

Kanawattanachai and Yoo (2002) have described that trust act as an important element that determines the performance and success of a task within a virtual work setting. The challenging part is however to understand how to create trust since there are few explicit finding on how to do so. Most of the interviewees describe many different behaviours or actions that helps to create trust. This seems to be similar to how Pierce and Hansen (2008) and also Savolainen (2014) are describing leadership characteristics that can contribute to create trust. But it seems that both the interviewees and the literature is bringing up several aspects concerning communication. That leaders needs to be able to listen, be open and extrovert and that it is necessary to build interpersonal relations that helps to understand and predict each others behaviour. But there are however some inherent problems within the virtual context that inhibits the creation of interpersonal relationships, and both the interviewees and the literature is referring to aspects concerning the communication. But the interviewees state, just as Wilson et al. (2006) does, that it is still possible to attain the same level of trust in virtual settings as in more traditional ones, it just takes longer time.

Clear and Dickson (2005) has stated that trust is even more important within a virtual context compared to a ´traditional´ face-to-face work setting due to the difficulty to monitor individuals performance from a distance. This is also something that is stated by the interviewees, that it is much more difficult and not even desired to monitor the progress of their followers. It is therefore necessary for them to be able to trust that they are performing their tasks as intended and trust that they will make contact if necessary.

It should therefore be seen as particularly important and necessary to create trust in a virtual work environment, but perhaps even more challenging if trust rests on the notion of good communication.

Isolation in the virtual work

A feeling of isolation is a big risk that can occur within the virtual work context. Many of the interviewees has described that individuals or groups of individuals operating on a site geographically spread from the rest of the organization can become isolated. This can result in negative feelings of isolation and being left out from the rest of the group and also result in subcultures and unique ways of working. It is also described that it can be particularly difficult for these groups to raise their viewpoint and visualize what is happening in the rest of the organization. It is therefore a challenge for the e-leaders to ensure that they do not become isolated and gains insight on goals and what is happening in the organization. This is an aspect that is brought up in the literature as important for the performance (Gibson and Cohen, 2003).

The problem becomes particularly difficult when there are fewer individuals that are located remotely from others and when the work task does not necessitate natural interaction with the rest of the work unit and the organization. The geographical distance have implication since face-to-face interaction becomes much more seldom, if individuals are located on sites where e-leaders visits more frequently, then they usually meet the individuals more regularly. The risk is therefore that it will have negative impact on the effectiveness of the work (Nydegger and Nydegger, 2010).

Exercise power

The literature state that it can be difficult to exercise power in the virtual context hard due to the difficulty to communicate through information technology (Armstrong and Cole, 2002), this has however not been brought up as a particular problem. The reason that they do not perceive this as a major problem could be that the e-leader do not exercise that much power, that they instead base their leadership on more indirect forms of control and that they do not have any intention to meticulously monitoring the individuals.

6.2   What are the critical success factors for e-leadership?

Clear communication infrastructure

Is has already been stated that one of the major differences between leadership in a virtual environment in compared to a more ´traditional´ environment is the communication. It has therefore become apparent from this study that it is necessary to create what is described as a good infrastructure for communication. This infrastructure includes several aspects, but what are maybe most pronounced ones are the technological aspects that need be made available and also triggers that make communication occur.

When it comes to the technological aspects, then it is necessary for the leaders to ensure that there is proper communication technology available for the individuals, so that they can perform their work. Also, that it might be necessary to have guidelines for how to use the communication technologies that is available and ensures proper usage. This should both be concerning with the type of media that is appropriate for the specific message and also to ensure that the technology is used.

Sarker and Sahay (2003) is saying, that it is not merely about having the right technology available, it needs to be more aspects in place that triggers communication. So in addition to the technology, the infrastructure is also very much about ensuring that communication does occur and that there are channels available for communication. The workers should know when there are specific times set for discussing certain aspects. Many of the interviewees describes as Lee (2014) that they have different meetings that brings up certain topics and that those meeting include different individuals and are both in group and individually. Many of these are also has a fixed agenda so that the individuals know when different topics will be covered and also that there are set timeframes for discussion and interaction. But in addition to this, that most of them also describes that they do encourage them to make contact if they have something that they want to discuss.

Even though the communication technology is a central aspect when it comes to the virtual work environment, it is still emphasized by the interviewees and the literature that it is very necessary that face-to-face interaction do occur. It is might be difficult do specify why it is so important, but the interviewees has indicated that it acts as a boost for creating interpersonal relationships. The face-to-face interaction helps to create understanding about each other, something that should be seen as vital for the creation of trust. They further state that good face-to-face communication also extends to the virtual context and creates better communication through technology-mediated communication. It should also be seen as particularly important when new individuals enters the group, to help them meet individuals and create a network within the organization.

Open environment

In addition to the more structural aspects of the communication, it is also particularly important for e-leaders to create an open environment for the workers where they feel safe to express their opinion. This is especially important within the virtual context since communication is so essential (Savolainen, 2014). One aspect that has consistently been brought up by the interviewees is that it is essential to make themselves available for the workers. Even though they are not physically present, they need to feel that they can reach their manager in some way, perhaps not instantaneously but at least within an acceptable timeframe.

They need to feel that they are able to make contact and discuss whatever matters they want to discuss and bring up problems or questions that occur. This is an aspect that has also been brought up as important by Coerdery et al. (2009), to create a feeling of psychological safety and an open climate. It also connects to the aspect that communication acts as a base for the creation of trust and that the leaders should act in ways that supports the individual interests and the leaders should ensure that everyone is included in conversations, since it will otherwise become more difficult to create trust (Szewc, 2014).

The reason why the open environment and the assurance that everyone participate in the discussion is so important is that it is much easier for individuals in the virtual work context that do not wish to participate or is more uncomfortable in social settings to disappear and not participate. It is therefore important for the e-leaders to ensure that everyone is included in the discussion and that they feel welcomed and invited to participate, whatever they wish to bring up, an aspect that is also brought up by Coerdery et al. (2009). This is also very much connected to another aspects brought up in the literature. That the inclusion in the discussion can reduce the feeling of isolation, since the lack would otherwise stress that their presence in the conversation is not missed. In addition to this, it is also necessary to get feedback from the workers to ensure that everyone has understood the messages, especially when it comes to envisioning goals.

Provide clarity and structure.

One of the aspects that are consistently reoccurring throughout the interviews is the necessity of clarity and structure within the work context. One fundamental aspect of the virtual work context is that it is necessary for the workers to be able to operate autonomously and they should not have to rely on the assistance of the e-leaders since it can otherwise risk becoming a bottleneck. This is also aligned to what Nydegger and Nydegger (2010) and Maynard and Gibson (2014) is describing. The interviewees does therefore state that it is particularly important for e-leaders to create a high degree of clarity that describes the work content for each individual, so that they have a clear understanding about this. This should include both an overview of the work and role description, as also described by Walvoord et al. (2008), and also more specific information about their deliveries.

Another aspect that enables the individuals to be autonomous is to ensure that they understand the process of the work. This is dependent on the work content but several has described that it is necessary that individuals understand how they should perform their work. It is therefore essential that there are clear descriptions of the work processes so that there is not too much uncertainty so that they need to rely on the e-leaders knowledge to make progress in their work. The e-leaders also need to ensure that not only the information exists, but that the information is made available for the

worker. This means that the e-leaders both need to ensure that this information exists and ensure that it is available for the worker.

The changing work environment necessitates that e-leaders adapt towards more indirect methods of monitoring the work progress of the workers (Sewell and Taskin, 2015). Many of the interviewees did therefore describe that this control is very much built into the management systems that they use in the organization. So even though there is no direct control, there needs to be structures and indirect reporting methods that ensure that work has been performed, both according to the specific time frame but also according to predefined processes.

The second aspect when it comes to create autonomous individuals is to provide them with the proper decision-making authority and enable them to make decisions based on their own context specific information. Several of the interviewees describe that it is necessary for the individuals to make their own decisions in order to operate efficiently and that a major part of that the workers role is to make decisions as they see fit and most efficient for that specific context. So if they are not provided with this authority, then they are not able to operate appropriately. The interviewees has described it very close to Walvoord et al. (2008), that it is the individuals that has the most context specific information and should therefore be the ones that makes the decision. But it is however important that there are frameworks for how the individuals should base their decisions and also clear descriptions for what types of decisions they are allowed to make. May it be dependent on the type of decision, the financial amount it concerns or other aspects.

It might be so that the need of clarity and structure is even more emphasized through this study then in the literature since the work task for the individuals in the case necessitates an even higher degree of autonomy then what is common in the literature. Much of the literature that has been included in this study is based on virtual teams, where the individuals in the group are more closely connected, and the members can rely on communication between each other. Many of the interviewees also stated that the individuals have work tasks that necessitate a high degree of autonomy and that they are operating very individually in the unit.

Ability to envision goals

It has previously been stated that it is necessary for the e-leaders to provide clear structures and present what the individuals are supposed to deliver. This is to ensure that the individuals understand what their work content is. But this is not enough. It is necessary for the e-leaders to be able to provide information in order for them to understand the goals for the organization and their work unit. Then they should also ensure that the individuals understand how their work can help contribute to these goals. This has been described as particularly important due to the necessity of structures and understanding about what is included in their work and what they should base their decisions, so that they are aligned with the organization. Similarly to what Gibson and Cohen (2003) is stating, that it is necessary with clear goals so that the worker will not operate or base decisions that are counterproductive to the rest of the organization. It is also necessary to create an understanding about the goals since it help to create an understanding about their role and how they contribute to the organization and thereby also create motivation. The key is however to connect the separate goal from the individuals up to the overarching goals of the organization.

The aspect of clarifying the goals is also an aspect that is connected to the individual's feelings of isolation from the rest of the group or the organization. The interviewees

describe that individuals that have understanding about the goals of their work unit and the organization are more likely to feel connected to them. It generates a feeling that all the individuals together is contributing with something that together has a bigger impact on the organization, hence the performance of the individuals in the group is connected to each other. This is an aspect that is also brought up by Nemiro (2008) that common goals create feelings of shared ownership and a sense of unity.

6.3   How can managers develop their e-leadership?

It is difficult to state specific aspects when it comes to the development of the manager's e-leadership. This is because there are certain aspects that managers might need to develop depending on their context specific conditions. E-leaders that are situated physically close to their followers are better able to have face-to-face interaction and thereby find some of the challenges described as less distinct. Other aspects that also affect what is necessary for the individuals to develop are also dependent on their previous experience of e-leadership as well as their personal attributes and preferences. That some individuals more naturally communicate with their follower, but that it might be necessary for some e-leaders to have a more structured approach, in order for communication to occur.

Educational training

An aspect that was brought up as an important aspect from the e-leaders was that they would prefer more hands-on tips and suggestions from individuals that has more extensive knowledge and experience about e-leadership. This could be in the form of education that is provided from organizations. Another aspect that was brought up was that it is necessary for the organization to bring up the subject of e-leadership and virtual collaboration on the agenda and discuss in to a further extent. To discuss both positive and negative aspects and recognize the implication it can have on individuals. Most of them stated that a degree of virtuality generates substantial benefits for the organization and should not be removed, but that it is necessary to identify the challenges in order to reduce the impact form it. Since it has become apparent from this study that most managers use specific techniques and methods to improve their e-leadership, and that the organization should increase the discussion about the subject, then the organization and the e-leaders should probably try to utilize the knowledge that already exists within the organization. To try to extract what is commonly expressed in the literature as the unknowns. The literature brings up 'communities of practice' as a way of extracting and sharing information that exist within the organization, which in this case can be the e-leaders experiences of how to manage the leadership in a suitable way. These communities could also act as a forum for discussing the impact of virtual work environment to a further extent. It is however emphasized that upper management should take an active role in facilitate these communities (Wenger and Snyder, 2000).

Another important aspect when it comes to education is also to provide the followers with proper education regarding the virtual work environment. Several of the interviewees stated that the followers have not received much training within the subject, but that they should since they are as much affected by the virtual work context as the leaders are. Training and education is also aspects that are brought up by Nydegger and Nydegger (2010) in order to increase performance, by Jenster, 2010

in order to easier develop interpersonal relationships and Sarker and Sahay, 2003 as necessary for communication to occur.

Management networks

Several e-leaders stated that it is their responsibility to ensure that the work environment and the work load is good and that the followers do not experience these aspects as negative. This is however described as contradictory, since they seldom get insight on these aspects themselves, but needs to rely on secondary information concerning these aspects. It is also discussed in the literature about 'Out of sight, out of mind' in the literature, that it can be difficult for managers to have insight into the followers situation, when they are not physically present (Mulki et al., 2009). What several have therefore discussed is that this aspect should be brought up for discussion in the organization and they should explore the possibility of managing it in a more suitable way. Some state that managers that are physically situated on the same site as the followers should be responsible for these aspects, since they would thereby have greater, probably daily, insight in the workers situation. Others state that a more pronounced network should exist between managers so that there is a more structured way to discuss these matters.

7 Conclusion

The purpose of this study was to identify challenges that can arise for managers when working with e-leadership and identify critical success factors that can impact managers' performance. Three research questions were developed and are to be answered in order to satisfy the purpose. What has been shown through this study is that several of the areas that have been covered in the theoretical framework can act as both a challenge and a success factor in e-leadership.

The most important success factor that is also very challenging is communication. The reason for why it is so important is that it affects all of the other areas that are considered in this study. It is necessary to create a infrastructure for communication and ensure that communication occurs frequently. E-leaders should also ensure that there is time set for discussing important issues regularly and also to create an open atmosphere where time is available for building interpersonal relationships. It is clear when it comes to the technological aspect that it is necessary to have sufficient technology that enables communication. But the mere existence of proper technology is not enough for communication to occur. The challenge and success factor is to ensure that there is a systematic structure in place that triggers communication.

The study has also shown the importance of structure and clarity in the virtual work environment in order for e-followers to be able to operate autonomously. These include clear description of goals, the work content, processes and decision-making authority. This study has shown that there is an increased risk that individuals exhibit a feeling of isolation from the group and organization. A necessary characteristic of the e-leaders is therefore to be able to envision, make clear and ensure that individuals understand the goal of the organization, unit and individual. Clear goals and vision is necessary since it increases motivation, feelings of belongingness and trust, but in addition to this, it also acts as a base for making decisions that are aligned with the organization.

It has also become apparent that e-leaders cannot rely on meticulous control of the e-followers work progress and it is therefore important that they can trust that they are performing the work as intended. Trust is however very difficult to create and necessitates a lot of time and an understanding about each other. The difficulty of creating trust in the virtual work environment is that there are inherent hinders that impedes good communication, which make this understanding much more time consuming.

The main aspect when it comes to developing the leadership is for the organization to provide education and extract the knowledge that exists among the leaders, and spread this knowledge out into the organization and to the e-leaders. It is also necessary to bring up the virtual work on the agenda and discuss the benefits but also the challenges that are connected to it, so that the work conditions can be developed even further, and the downsides minimized.

7.1 Limitations and future research

The methodology for this research has been presented in chapter three of this report. The study has been based on qualitative research that has inherent drawbacks since

the interpretations are based on a subjective view and there are challenges to explain with precision how the empirical findings has been achieved. The interviews performed were semi-structured and the discussion during interviews will therefore reflect what the researcher perceived as interesting.

The study is performed on a specific case at the Swedish Transport Administration. This has implications on the generalizability of the study since the conclusions are perhaps not applicable on other cases, since the organizational structures and context might impact on the manager's performance.

This study covers several challenges and success factors that can occur for managers in a virtual context. It would however be more fruitful to gain deeper knowledge into how the individual topics contribute to the success of e-leaders. To gain deeper insight on what the e-leaders should do in order to overcome the challenges and increase the performance. The study also has the restriction in the limited amount of samples in the study and the fact that it is based on a single case study and it therefore needs to be more comprehensive research in order for the findings to be validated. It is also necessary to add that the majority of the literature that exists in this field has a focus on both project management and the management of virtual teams. This study aims to deepen the knowledge on the e-leadership of individuals and non-project contexts and e-leadership within theses conditions should be studied further.

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9 Appendences

9.1 Appendix A: Interview guide

Intervjufrågor – Distansledarskap

Introduktionsfrågor

- Namn:
- Befattning:
- Antal år inom Trafikverket:
- Berätta lite om din befattning.
- Hur många leder du och hur många sitter på distans?

Kommunikation

- Hur gör du för att skapa en god kommunikation?
- Vad fungerar bäst i din kommunikationsteknik? Varför funderar den bra?
- Har det uppstått några problem i kommunikationen med dina distansmedarbetare?
- Hur ofta har du möjlighet att träffa dina distansmedarbetare i person?

Kommunikationsmedier

- Vilka kommunikationsmedier finns tillgängliga?
- Hur ofta kommunicerar ni?
- Har du och individerna du leder genomgått några utbildningar i olika kommunikation- och informationsmedier?

Delaktighet

- Finns det en risk att geografiskt spridda medarbetare känner avsaknad av delaktighet?
- Hur arbetar du för att geografiskt spridda medarbetare ska känna sig delaktiga i organisationen?

Inflytande

- Hur säkerställer du att distansmedarbetare utför tilldelade arbetsuppgifter?
- Vilka metoder använder du för att utöva påverkan i distansledarskapet?
- Till vilken utsträckning har individer möjlighet att påverka sitt eget arbetsgenomförande?

Förtroende

- Hur gör du för att skapa insikt i dina medarbetares arbetssituation?
- Vad tror du skapar förtroende?
- Hur hanterar du konflikter eller meningsskiljaktigheter?

Målbeskrivning

- Vad ser du för skillnader i målbeskrivning i distansledarskap jämfört med traditionellt ledarskap?
- Hur gör du för att tydligt beskriva mål för distansmedarbetare?

Övergripande

- Skiljer sig ditt distansledarskap på något vis jämfört med "traditionellt" ledarskap?
- Vad fungerar bra respektive mindre bra i ditt distansledarskap?
- Hur skulle du vilja förändra/förbättra ditt distansledarskap?
- Vilket stöd skulle du vilja få från organisationen för att förbättra ditt distansledarskap?

9.2 Appendix B: Interviews overview

	Interviewee 1	Interviewee 2	Interviewee 3	Interviewee 4
Date of interview:	31 mars 2016	1 april 2016	5 april 2016	7 april 2016
Interview type:	Face-to-face	Skype	Skype	Skype
Number of e-followers (Total amount of followers):	37 people (47)	15 people (22)	10 people (12)	13 people (19)
Part of organization:	Central function: Communication and information management	Central function: Human resource and organization	Central function: Communication and information management	Business area: Market and planning
Tenure within the Swedish Transport Administration:	Since the establishment 2010, previously the Swedish Road Administration.	Since the establishment 2010, in e-leadership: 8 month.	Since the establishment 2010, as manager since February 2014.	Since the establishment 2010, previously within the Swedish Road Administration.

	Interviewee 5	Interviewee 6	Interviewee 7	Interviewee 8
Date of interview:	8 april 2016	11 april 2016	12 april 2016	14 april 2016
Interview type:	Skype	Face-to-face	Skype	Skype
Number of e-followers (Total amount of followers):	3 people (4)	3 people (3)	20 people (20)	7 people (9)
Part of organization:	Business area: Trafic management	Business area: Investment	Business area: Maintenance	Business area: Maintenance
Tenure within the Swedish Transport Administration:	Since 2013 years.	Since the establishment 2010, previously the Swedish Road Administration.	Since the establishment 2010, previously the Swedish Road Administration.	Since Augusti 2015.