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**THE BEST PRACTICES OF EFFECTIVE  
REMOTE LEADERSHIP IN AN INFORMATION AND  
COMMUNICATION TECHNOLOGY COMPANY**

Master's thesis

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## **ABSTRACT**

This master's thesis is studying the remote leadership, and the challenges it offers for the companies. The purpose of this master's thesis is to study remote leadership and its components that affect team effectiveness through two different researches. Firstly, to identify the best practices of the effective remote leadership according to the scientific literature. Secondly, to study which practices of remote leadership that affect team effectiveness are practiced in an ICT (information and communication technology) company. Thirdly, the study continues by identifying whether the remote leadership practices in the company are aligned with the best practices of remote leadership according to the scientific literature, then identifying the possible challenges and improvement areas of remote leadership in the company, and proposing solutions for the improvement areas.

The qualitative research is based on content analysis with method of data collection by collecting research articles from different scientific journals, and the research is based on 20 sources. As the sample group of the research is the same as sources, the sample group is created by using the nonprobability sampling method called theoretical sample method. The method of data analysis used in the research is also content analysis of the sources. The result of the qualitative research is a compiled list of the best practices of effective remote leadership.

In the quantitative research the method of data collection is survey, and the instrument for data collection is structured online questionnaire. The sample group is 90 team members in an ICT company. The used methods of data analysis are methods of descriptive statistics, reliability test, One-Way ANOVA analysis, correlation analysis and regression analysis. The survey has response rate of 70,0%. The result of the quantitative research is the understanding how the team members perceive the remote leadership practices in the company, and the identified possible improvement areas.

In the final stage of the research the quantitative research findings are compared to the results from the qualitative research. The outcome of the comparison is positive. The survey results reveal strong remote leadership and strong team effectiveness in the company. Most of the best practices that are collected in the qualitative research are actually in use in the company, or if not, only minor items would need introduction or improvement.

Keywords: remote leadership, remote team, best practices of effective remote leadership, effective remote leadership, transformational leadership, transactional leadership, team relationships and trust, team processes, virtual communication, team performance, team member satisfaction.

## INTRODUCTION

“Virtual teams are here, and they are here to stay.” (Bell, Kozlowski 2002, 45)

All the organizations that have multiple locations, are facing the challenges of remote leadership. Remote leadership is a contemporary leadership style where leader and team members are not located in the same space, time zone and most of the communication is mediated by using ICT (information and communication technology) (Lurey, Raisinghani 2001). When the leader and rest of the team are not co-located, it might not be reasonable to follow the principles of the traditional management. The importance of appropriate leadership is obvious – when the team is managed poorly, team members have low performance, team work does not succeed and company results are not as expected, something needs to be changed. How to lead a remote team consisting of people from different cultural backgrounds, speak different languages and were raised in different countries with different value system, becomes a critical question as remote leadership is indeed more challenging than in the co-located teams (Siebdrat *et al.* 2009; Carte *et al.* 2006).

The problem of this thesis is that an ICT company is concerned about the quality of their remote leadership. The company has 21,1% of the team members working in remote teams, and team leaders have different backgrounds and experience. Therefore, the company has a need to evaluate their remote leadership and to identify possible improvement areas.

The purpose of this thesis is to help to identify whether the remote leadership practices in the company are aligned with the best practices of effective remote leadership according to the scientific literature, to identify the possible challenges and improvement areas in the company, and suggest improvement solutions.

The research questions to be answered in this thesis are following:

- 1) What are the best practices of the effective remote leadership that affect the team effectiveness in the ICT field according to the scientific literature – what are the challenges and which are the proposals to overcome them?

- 2) Which practices of remote leadership that affect team effectiveness are practiced in the ICT company, based on the conducted research survey?
- 3) What are the conclusions of comparing the practices of remote leadership in the company to the best practices of effective remote leadership according to the research articles?

In order to achieve the purpose of this thesis, the following tasks will need to be completed:

- To find out what are the theoretical approaches of the remote leadership in remote team and its components, and to find out the best practices of the effective remote leadership in remote team and its components according to the scientific literature.
- To conduct an online research survey in the company, and to analyse the results of the research survey, to make conclusions based on the results.
- To compare the survey results to the best practices of remote leadership according to the research articles, to discuss the findings, and to make proposals how to improve the remote leadership in the company.

The scholars have been studying the remote leadership and remote teams for the last two decades. There are published great number of publications and studies together with different theories about it. Many of the scholars are proposing the best practices of remote leadership and its components, but the author did not identify any relevant studies where the theoretical best practices of remote leadership and the actual practices of remote leadership had been compared and analysed together. Therefore, the author has conducted two researches to fill that gap – a qualitative research by collecting the best practices of the remote leadership from the scientific literature, and a quantitative research by conducting a structured research survey in the company.

The structure of the thesis is built on a model (Figure 3) that is based on Lurey and Raisinghani's (2001) research, used in the quantitative research. The modified model consists of six components of remote leadership: remote leadership, team relationships and trust, team processes, virtual communication, team performance and team member satisfaction.

Remote leadership and remote team as terms are being used in the scientific literature with several synonyms. For example, the term remote leadership is also used as remote management, e-leadership, virtual leadership, distance leadership, physical distance management, etc., whilst remote team is used as dispersed team, virtual team, e-team, etc. In this thesis the author has chosen

to use terms remote leadership and remote team, unless referenced to other sources using the synonyms.

The master's thesis is divided into three parts. In the first part the author gives a theoretical overview about the research object and its components, and about the theoretical approaches. In the second part is the empiric research with the description of two researches, their methodologies and analyses of the results. And in the last part the author concludes the results with the discussion and makes conclusions based on the results of the researches.



# 1. THEORETICAL OVERVIEW

In this chapter the author gives a theoretical overview of the essence of remote team and remote leadership, and the components of the remote leadership, and describes the advantages and challenges the remote teamwork offers. According to the scientific literature and earlier researches, the following six components have been selected by the author for studying the remote leadership: remote team and leadership, team relationships and trust, team processes, virtual communication, team performance and team member satisfaction. The six components are also the basis for the structure of the thesis.

There have been published great amount of theoretical publications about the traditional leadership. But after the working environment has been changing rapidly the past decades, the organizations and the leadership have globalized (Zaccaro, Bader 2003). The companies are no longer operating as stand-alone entities, instead there is global networking with all the stakeholders (Jarvenpaa, Tanriverdi 2003). Team members no longer need to work face-to-face or to be co-located in the same place in order to work together (Lurey, Raisinghani 2001). All they need is access to ICT to communicate and coordinate their work. The environment change has mostly influenced the technology and science-based industries, where the leader's role has become even more complicated by leading remote teams via virtual channels (Jarvenpaa, Tanriverdi 2003).

All the changes that organizations are going through – changes in organizational structure, size, complexity, and work arrangement, are influencing more leaders to be responsible for managing team members who are at a distance. The distance is making the leadership more challenging when they need to monitor, motivate, evaluate, etc. their team members (Avolio *et al.* 2001). In many publications it is argued whether the remote teams are more difficult to manage than the traditional teams. For better understanding it is recommended to familiarize with the best practices of remote leadership in order to understand what kind of leadership makes the remote teams succeed (Nunamaker *et al.* 2009).

Remote leadership of virtual teams is a reality, and the team leadership is playing a fundamental role in the team's and the organization's success (Guinalfú, Jordán 2016). As per Siebdrat *et al.* (2009), several studies have showed that the remote teams can actually outperform groups that are co-located (Bell, Kozlowski 2002; Siebdrat *et al.* 2009), meaning dispersion is not a factor for poor performance, however lack of processes can be negatively crucial for the performance. To succeed, remote collaboration must be managed in specific ways (Siebdrat *et al.* 2009), and needs support by the organization. The following subchapters study the components of remote leadership and the factors that are affecting them.

## **1.1. The essence of remote team and remote leadership**

This subchapter gathers the main characteristics of remote team and remote leadership, describes what are the reasons for emerging remote teamwork, what advantages it gives and what challenges people are facing when working in remote setup.

In the end of this subchapter the author presents the leadership theory that has been often referenced when studying the remote leadership. Transformational and transactional leadership theories (Bass 1999, 10-11) have been referenced in many of the research articles that have been written about remote leadership, and are also referenced in this thesis.

### **1.1.1. Remote team**

The remote team setting allows organizations to become more flexible, adaptive, and responsive by enabling them to cross boundaries of space and time, and organizations are able to respond faster to increased competition.

Most of the definitions of remote team consist of one of the three dimensions of the virtual distance: geographic, cultural and temporal (Ocker *et al.* 2011). The remote team is defined by three attributes according to Gibson and Cohen (2003, 4):

- 1) functioning team with common task, shared interdependence and mutual accountability,
- 2) geographically dispersed,
- 3) relying on ICT to connect and communicate.

Zander *et al.* (2013) defined remote team as nationally, linguistically, and culturally diverse work groups who coordinate most of their dispersed activities through the use of ICT, and herein lays the large part of the specific challenges they face.

To understand the essence of remote team, the scholars have studied the initial reasons why the remote teams are formed. Following are the reasons of forming remote teams (Cascio, Shurygailo 2003):

- to overcome geographical or temporal separations,
- to cut office-space costs,
- to unify a function across the organization,
- to cut time and travel costs,
- to recruit team members with right skills without need to have them moved to undesirable location,
- to integrate team members who were added through mergers and acquisitions,
- to respond to economic developments, such as the deregulation of many product and service industries, together with the growth of the global and interdependent economy.

The listed reasons are benefiting the organizations, but forming remote team can benefit also the team members. From the team members' perspective, they may enjoy the flexibility of conducting their work either from their organization offices or from their homes. This working set up will increase flexibility that may support team members' work-life balance and potentially increase their work satisfaction (Maruping, Agarwal 2004).

In several studies the scholars have defined the remote teams by their typology. The most used typologies are based how the team members are located (Staples, Webster 2007; Ocker *et al.* 2011):

- traditional or local or co-located or conventional team – all team members are located in the same building,
- distributed or remote or virtual team – all team members are in different location than the focal team member,
- mixed or semi-virtual or hybrid or partially distributed team – some team members are located in the same building and others are distant, mix of physically co-located and remote team members.

Another characteristics of remote teams are also the special environmental conditions like temporal distance, physical distance and dependence on technology. Following gives a short overview how the environmental conditions challenge the remote teamwork.

Temporal distance is presented by Zigurs (2013) as one of the main issues the remote leaders are facing, together with process and technology. In remote team, the leader's presence and position is not available as in traditional team, like where they sit in the office (Ocker *et al.* 2011), body language, style of dress, etc. (Zigurs 2003). Due lower level of co-presence in remote team, the leaders might have less influence and information about the team's status, progress and functioning, and therefore the leaders' management and team dynamics may be impaired (Zaccaro, Bader 2003; Zigurs 2003; Dulebohn, Hoch 2017). Another impact of temporal distance is the extra time members need to spend to accomplish interdependent work. According to Herbsleb and Grinter (1999, 91) only one hour difference can have massive impact on the team, as even small time difference reduces the overlap of work schedules across locations and hinders a team's ability for synchronous communication across locations, that again leads to reduced productivity (Ocker *et al.* 2011).

Physical distance is the amount of physical separation within a remote team (*Ibid.*). Remote leadership is facing a great challenge of managing and coordinating the team across locations in an environment where the physical distance decreases closeness and relationships, and that might lead to potential conflicts (Siebdrat *et al.* 2009). Physical distance together with temporal distance reduce the overlapping working hours, team members have to negotiate multiple time zones and need to reorganize their work-days to accommodate others' schedules, etc. (*Ibid.*). Team members also suffer in reduced level of social support, the leaders are not able to respond as quickly as in traditional teams (Zaccaro, Bader 2003). According to a research by Siebdrat *et al.* (2009), even small physical distance can impact the team's performance. To overcome the physical distance barriers, the remote leader needs to compensate it by active and diversified use of ICT, and being supportive and motivating to the team (Snellman 2014).

Dependence on technology and the heavy usage of it as means of communication is one of the main characteristics of a remote team. The technology helps the remote teams with asynchronous communication to overcome the faced challenges of the temporal and physical distance (Ocker *et al.* 2011). Remote leadership mediated by ICT is becoming similar to the traditional leadership as the virtual interactions are becoming more visual. Though, there will be remaining the differences

in feeling the leader's presence as the ICT is still not able to fully replace the face-to-face-contact (Avolio, Kahai 2002). Although the dependence on technology is one of the main characteristics of the remote team, it is and will remain to be one of the challenges for the remote working.

Understanding the essence of remote team, the reasons why the remote teams are formed, what are the different types of remote team and the environmental conditions that are challenging the remote teams, is helping both the team members and leaders to face the challenges.

### **1.1.2. Remote leadership and leader's role**

Remote leadership has developed from the traditional leadership together with the new era of virtual working environment. The leaders must adapt the changing environment by moving from the traditional ways of working and thinking to the dispersed environment where the teams need to be led from the distance (Avolio *et al.* 2001). The organizations and teams have high expectations to remote leaders who need to be more professionals than ever at leading as remote leadership requires different approaches and dedication than the traditional leadership in order to build an effective remote team.

Remote leadership is defined by Avolio *et al.* (2001, 617) as follows:

“E-leadership is defined as a social influence process mediated by AIT [Advanced Information Technology, explanation added by the author] to produce a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups, and/or organizations. E-leadership can occur at any hierarchical level in an organization and can involve one-to-one and one-to-many interactions within and across large units and organizations. It may be associated with one individual or shared by several individuals as its locus changes over time.”

Although the members of remote teams are not physically in the same place, the tasks, goals and missions for the teams might not be necessarily different from the traditional teams. The difference might be how they go about accomplishing those tasks and the unique constraints they face (Bell, Kozlowski 2002). The constraints the team and leader are facing, might require different approach than in the traditional leadership.

As a collection from different scholars, below are listed the core responsibilities of the remote

leader (Bell, Kozlowski 2002; Zaccaro, Bader 2003; Liao 2017; Ziguers 2003; Purvanova, Bono 2009): develop the members into a coherent and well-integrated work unit, excel in newcomer assimilation process, promote effective team functioning, guide proactively building relationships processes, link team purpose with the environmental and operational demands, ensure the team is equipped with cognitive, social and material resources, motivate team, empower team members, help team to coordinate with tasks by investing time and effort, coordinate within teams, build trust, form shared mental models, manage conflict, manage frequent communication, facilitate the team processes, excel in use of media and make their presence felt positively, and exercise appropriate influence to move the team forward. All the core responsibilities are actually similar for the traditional and remote leaders, with only one difference – the remote leaders need to excel the same tasks but from a distance.

Remote leadership has its advantages and challenges. Leading teams from a distance is giving the organizations advantages like the ability to assemble teams that maximize functional expertise by including professionals who are geographically dispersed, enabling continuous 24/7 productivity by using different time zones to their advantage, lower operating costs by reducing travel and relocation, sharing knowledge across the world, and organizations are able to respond faster to globalized competition. (Bell, Kozlowski 2002; Gibson, Cohen 2003, 8; Lurey, Raisinghani 2001; Guinalú, Jordán 2016; Siebdrat *et al.* 2009; Dulebohn, Hoch 2017) However, it is important to focus on the possible challenges the remote leadership might bring and to try to transform the challenges to opportunities instead. Difficulties of communication, coordination and collaboration, low levels of media-richness compared to traditional teams, potentially lower team engagement, possible trust issues and sharing responsibility among members, risks with isolation, high levels of social distance between members, increased inability to establish a common ground, and challenges in monitoring and managing remote teams (Dulebohn, Hoch 2017; Siebdrat *et al.* 2009) are only a few of the challenges to be named. It is organizations' obligation to be aware of both the advantages and challenges in the remote working environment, to create the conditions for effective leadership and support the leaders to establish effective remote teamwork (Gibson, Cohen 2003, 7).

The acknowledgement of the advantages and the challenges of the remote leadership might be the key for successful remote teamwork. In a field study by Lurey and Raisinghani (2001) they studied the issue of effective remote leadership within remote teams, and the key findings were as follows: remote leaders must focus on team's processes, develop supportive member relations, create team

based reward system, select only qualified team members, team require more structure, team member roles and team's objectives must be explicit, team needs clear goals, and if possible, promote more face-to-face time. The study results confirm that successful remote teams can be achieved by conscious leadership.

Before closing the remote leadership subchapter, self-management and shared leadership must also be mentioned. A remote team might be developed to self-manage themselves. This is also used as a motivating tool for the remote team. The role of remote leader in a self-managing team is to distribute the leadership functions and create structures, routines to enhance team member self-regulation. Team members link individual goals, create a repertoire of team tasks strategies and build a compatible network or role expectations (Bell, Kozlowski 2002). And self-managing teams might have shared leadership which means that team members share responsibilities, mutually influence and guide each other, and conduct collaborative decision making (Hoch, Kozlowski 2014 referenced in Liao 2017, 653), everyone has ownership and empowerment that motivates them in excelling their work collectively (Liao 2017). Though, the role of remote leader is still to be responsible in building trusting relationships within the teams (*Ibid.*)

To conclude, for minimizing the risks and challenges the remote leadership might create, it is important to have a dedicated leader in the remote team. The scholars have agreed that the remote team requires a leader even more than a traditional team (Boule 2008). The leader is a facilitator and a driver who makes the remote team to work, is responsible of making sure that team practices are followed, team is engaged and deadlines met (*Ibid.*).

#### Transformational and transactional leadership styles

The concept of transformational leadership is tightly connected to the remote leadership and its concept. (Neufeld *et al.* 2010; Kelley, Kelloway 2012; Avolio *et al.* 2001; Purvanova, Bono 2009) The transformational and transactional leadership styles (Bass 1999) were first conceptualized by Bernard M. Bass who introduced this theory in his earlier writings. According to his theory, the transformational leadership is moving the team members beyond immediate self-interests through idealized influence and inspiration (the leader envisions desirable future, shows how to reach it, sets high performing standards, sets an example), intellectual stimulation (the leader encourages innovativeness and creativity) and individualized consideration (the leader supports team members' development and coaching). On the contrary, the transactional leadership refers to the

exchange relationship between the leader and team member to meet their own self-interests and it might take the forms of contingent reward (the leader gives directions to the team members how to be rewarded), active management-by-exception (the leader actively monitors team members' performance and actively interferes when standards are not met), passive management-by-exception (the leader passively waits the problems to arise) or *laissez-faire* (the leader avoids any actions, the avoidance of leadership) leaderships. (Bass 1999)

Main difference between transformational and transactional concepts is that the transformational leader emphasizes what the team member can do for the organization, whilst the transactional leader emphasizes what the organization can do for the team member (Kelley, Kelloway 2012). The transformational leadership in its essence is well suitable for the remote leader as the conceptual behaviour is coaching, frequently communicating, is associated with perception of higher ability and increased kindness and trust among team members, putting the team's interests to a higher level than self-interest, helping members to identify team's task and goal by developing team's common mission and identity, and thereby exceeding performance expectations. (Avolio *et al.* 2001; Kelley, Kelloway 2012)

## **1.2. Team relationships and trust**

The relationships between members in remote teams might have even greater value and impact than in the traditional team. In the traditional team there are several ways of communication and it is easier to build strong relationships, then again in the remote team the virtual networks are mainly the only communication channels the remote team members have (Jarvenpaa, Tanriverdi 2003). This means the leaders and the team members need to make an extra effort to contribute in a healthy relationship.

Kelley and Kelloway (2012) have characterized the ideal relationships as comfortable relationships where the individuals feel free to initiate casual interactions through different channels. From the effective team work perspective, it is very important that all the members of team inclusive the leader have good relationships to one another and that they take time to invest in it. Though, in reality the remote relationships are much more challenging. For example, a simple fact that it takes at least four times longer to type than to speak (Hancock 2004, 454). The extra effort to be taken might hinder conversations, leave necessary information unsaid, create



misinterpretations, etc. Some leaders might keep the communication minimal, leading the team often by one-way, top-down communication, and micro-manage (Hambley *et al.* 2007 referenced in Purvanova, Bono 2009, 345). Or on the contrary, the remote team might be left with high level autonomy and with very little direct control and guidance from the leader (Zigurs 2003). None of the described extreme leaderships support building good team relationships.

All the communication in remote team is channelled via ICT channels. This might make it easily tempting to transmit only the task related concrete messages, whilst keeping social conversations to minimum. Leader or team members might not take time to establish social relationships with their team members. Both the remote leaders and team members have reported in a study that leaders are challenged to establish relationships with team members (Hambley *et al.* 2007 referenced in Purvanova, Bono 2009, 345). Leaders must not assume that the relationships will develop automatically. What the leader can do is to establish mechanisms within the team in order for communication to occur and to support the development the relationships, and in some cases this might simply mean a matter of allocating time (Hart, McLeod 2003).

The scholars distinguish two types of remote leader behaviours: task- and relationship-oriented. Task-oriented leaders initiate structure, focus on specifying the roles and responsibilities, clarify the goals of each task, provide guidance to accomplish tasks, establish shared norms and monitor work processes (Suchan, Hayzak 2001; Kaiser *et al.* 2000; Liao 2017). Relationship-oriented leaders emphasize the importance member well-being, support for members, establish good relationships between leader and team members and among members, promote team-building (Kaiser *et al.* 2000; Liao 2017). In the remote collaboration both leader behaviours are important and critical (Liao 2017). Task-oriented leadership helps the team with processes, norms, structure, whilst the relation-oriented leadership helps to build the team and tighten the emotional and social connections between the members.

Another factor seems to be important when building successful relationships. According to several studies, the remote team members tend to have stronger relationship in case they know each other previously. (Alge *et al.* 2003; Hart, McLeod 2003; Kelley, Kelloway 2012) Prior knowing of members helps to minimize the volume of communication as sharing information requires less clarification, it helps to build stronger trust between the parties and improves the performance and satisfaction. That again confirms how important it is to invest in the social relationships within the working team.

In any team that has devoted and passionate members, there is risk for conflicts, as there are persons and emotions involved. But it should be noted that conflict does not always mean a negative thing, instead such conflict can often serve the team well in terms of energizing new ideas and perspectives (Zaccaro, Bader 2003). Though, managing the conflicts within the remote team is a great challenge for the leaders as perception and interpretation of emotions relies often on nonverbal cues, which are not available through ICT. And when team members come from different cultures, it is likely that the written messages can be misinterpreted. To manage the conflict, the leader needs to establish norms and rules that could help to avoid or handle the conflicts. Often those norms would help to discourage emotional and personality-based conflicts (*Ibid.*). Conflicts have also great impact on trust, therefore it is needed to react and solve the problems instantly.

A well-functioning relationship is based on trust. Trust is critical in a context where it is not possible to have direct supervision or common form of social control. According to Zaccaro and Bader (2003), trust in remote team is belief or expectation team members have for each other that they all will keep their commitments, are acting with good intentions, and work hard on behalf of the team. Team members are dependable meeting the team expectations by delivering what they promise and results that meet or exceed team's expectations (Cascio, Shurygailo 2003). In a remote team setting geographical distance, different backgrounds, cultures and experiences make the scene even more scattered (Avolio *et al.* 2001), and without a trust it is hard to achieve collaboration, good working climate or team success. In a trustful team it is rooted in the belief that team members are dependable that they will deliver what they promise, and do not present any surprises to its stakeholders during the execution of a task (Cascio, Shurygailo 2003).

Guinalú and Jordán (2016) researched the matters of trust in leader, and their study analysed the relationships between leaders and members in a remote work environment with the objective of building trust between them. The results suggested the leaders to improve the relationships with their team members in the sense to be able to build trust between them that again helps to build an efficient and committed work team. Leaders, who's image was transmitted through the channels of communication (e.g. video conferences) should emphasize the physical attractiveness of the leader, as this may reinforce trust among team members, and the leaders must also be able to develop and transmit a certain degree of empathy with their team members, as well as behave fairly toward them. (Guinalú, Jordán 2016)

Trust is fragile and is difficult to maintain. It takes no time to form an initial impression and those persist until new evidence show, in remote environment it is more difficult to develop a real understanding of one another and that all might decrease levels of trust (Zigurs 2003). It might be one of the most critical tasks for the remote leader to handle the challenge of the broken trust. The best way to handle it is meeting face-to-face, but if that is not possible, e.g. video mediated tools could help. The more the remote leader can foster a supportive exchange of verbal and nonverbal cues, the more likely trust can be re-established successfully over time (Zaccaro, Bader 2003).

The importance of social communication between the team members and their leader in a remote team cannot be underestimated. For a strong team and successful collaboration, the investment into healthy relationships is needed by all team members.

### **1.3. Team processes**

Another component that is essential for a functioning remote team is team processes. Remote team compared to a traditional team can be challenging for a remote leader to lead, but having appropriate processes in place, it is possible that remote team can even outperform the traditional team (Siebdrat *et al.* 2009). This means that both leadership processes and work processes need to be agreed, and need to be in actual use and updated. The scholars have identified that leadership is a key variable influencing team processes and outcomes (Ocker *et al.* 2011). In case the leader has established the norms and guidelines early in a remote team's formation, and the processes have been maintained appropriately, the team will be successful with high level of performance and team members satisfied with high level of trust. (Cascio, Shurygailo 2003; Avolio, Kahai 2002)

The scholars have divided the team processes into two categories. Firstly, task-related team processes are to help to ensure each member is contributing fully. Secondly, socio-emotional team processes are to increase the cohesion of the team (Siebdrat *et al.* 2009). In the study by Siebdrat *et al.* (2009), the task-related team processes are most important to have in place in a remote team, as those are critical for the remote team's performance by increasing the levels of mutual support, member effort, work coordination and balance of member contributions. And the importance of the good quality task-related processes can even be a remarkable factor in deciding whether

remoteness becomes a liability or an opportunity (*Ibid.*). Additionally, task complexity is adding the pressure on having the structure and processes in place in remote team – the higher level complexity of tasks the remote team must accomplish, the greater need for appropriate processes and structure within the team (Bell, Kozlowski 2002).

The responsibility of team's processes lies directly on the remote leader. The leader not only should set forth general rules, but need to develop standard operating procedures that specify also the ICT mediated communication and appropriate member behaviour. Another responsibility for the leader is to constantly update the processes as the team is acting in the changing environment where the deadlines change, tasks are modified, team's goals are adjusted, etc. (*Ibid.*). Updating the processes as the team develops is usually an important contributor to team success (Zigurs 2003). Up to date processes are helping to guarantee the performance of the team, and making the team adaptive to any changes. Even when the remote leader has provided and developed adequate processes for the team, it is challenging to update and keep them functioning.

There are several risk factors that can jeopardize team processes. The greatest risk is the geographical dispersion itself as it greatly enhances the complexity of establishing effective interactions and exchanges. Other risk factors can be team's low cohesion, low trust among members, lack of norms or standard operating procedures and lack of shared understanding about the tasks (Zaccaro, Bader 2003).

Medlin and Green (2014) studied how the management principles and processes impact work engagement, and the results showed that organizations operating in accordance to principles and follow processes have higher level of work engagement. And higher engagement leads to improved performance. That again confirms the earlier theory statement that effective teamwork requires processes (Siebdrat *et al.* 2009). Team members who adopt management processes understand their objectives and goals, they know what is expected from them, and are engaged to fulfil those expectations (Medlin, Green 2014).

#### **1.4. Virtual communication**

Virtual communication and dependability on the technology are the backbones of the essence of the remote team. In the remote team most of the communication, collaboration, collection and

distribution of information, if not all, takes place through ICT channels. (Cascio, Shurygailo 2003; Avolio, Kahai 2002)

Communication is the process of transferring information between two or more parties, it is either face-to-face or virtual and is fundamental for organizing work, and is a helping tool to collaborate, make decisions and achieve objectives (Berry 2011). Main difference of communication in co-located and remote team is that the communication in remote team is based on computer-mediated asynchronous information and knowledge diffusion which allows multiple conversations to happen at the same time from multiple parties. On the contrary, the communication in traditional team means taking turns, whilst in remote team the team members must handle all the flow of information simultaneously and manage the challenges of responding, prioritizing, etc. (Berry 2011)

It has been discussed and agreed in several researches that the key for successful communication in remote team is frequent communication as the frequency results in improved working relationships, increased job satisfaction and increased trust in leaders. (Hart, McLeod 2003; Kelley, Kelloway 2012) There are two types of frequent communication – unplanned and regularly scheduled i.e. planned communication. Unplanned means that e.g. the leader contacts through various media team members on ad hoc basis, not only as a response to the problems. Regularly scheduled means that e.g. the leader contacts team members regularly as planned, and it is important to keep the predictability and reliability of the commitment. (Kelley, Kelloway 2012)

From the team's perspective, the strongest teams have frequent but short communication. The teams who have achieved strong relationships, have also mutual knowledge or shared language, are able to leave the obviously understood unsaid as understanding has already been created through the development of relationship. That kind of frequent and short information exchange can be critical success factor for teams who are working under challenging time pressure (Hart, McLeod 2003).

In the study by Neufeld *et al.* (2010) the results showed that physical distance in a remote team did not influence either communication effectiveness or leader performance. Based on the results, the leaders should not presume that distance is automatically negative for communication effectiveness as distance does not have to be barrier to effective communication or leadership. Also, the results revealed that leaders who are perceived to demonstrate strong leadership

behaviours (both transformational and transactional leadership styles) are also seen as engaging in effective communication behaviours. (Neufeld *et al.* 2010)

The virtual communication in remote team has its challenges. As stated above, the remote team needs frequent communication, therefore the remote leader needs to promote and host different types on virtual meetings, establish communication routines and make sure the virtual communication channels are appropriate and accessible, and if possible, also organize face-to-face meetings for development of member relationships (Liao 2017). Members might feel isolation and misunderstanding of the organizational drivers (Purvanova, Bono 2009). And the remote leaders struggle on achieving the high level of communication effectiveness due limited ways of communication (Neufeld *et al.* 2010) while needing to motivate and inspire team members (Snellman 2014).

Contemporary remote teams are fully dependable on the ICT (Gibson, Cohen 2003, 5) that helps the team to link all team members together, to work closely together despite of the geographical distance and to adopt more synchronous communication media to provide greater information richness (Bell, Kozlowski 2002). The electronic tools that the remote teams are using, must be supportive for the team. Meaning, the tools must be relevant for its purpose (e.g. for task or agenda management, meetings), easy to use and accessible to all members. Apparently the teams who are able to choose their own tools, work more effectively and show better performance (Boule 2008). It is organization's obligation to ensure the remote team is supplied with sufficient resources. From the communication's perspective the team requires appropriate hardware, software, communication channels, technical equipment and user training (Staples, Webster 2007).

Although the technology is the foundation of the remote team, it is also just a tool for communication. Its purpose is to support the remote leadership and team in their daily operations and help to develop strong relationships.

## **1.5. Team performance**

Remote leadership has extensive impact on remote team's performance. Remote leader is responsible for the performance of the team and its members by monitoring the team's performance and progress toward task accomplishment. It is also leader's responsibility to act

accordingly when any problems occur, gather information and use this for finding effective solutions (Hackman, Walton 1985, 25). Though, the remote leader's ability to monitor performance and implement solutions is limited and restricted by the lack of face-to-face contact (Bell, Kozlowski 2002).

The team members in remote team are normally chosen for their expertise and competence, and have often prior remote team experience. Meaning, members are expected to have technical knowledge, skills, abilities and other attributes to contribute to team and operate in remote environment (*Ibid.*). Therefore, the need for severe supervision might not be as crucial as it might be in the traditional team. On the contrary, the team who is able to self-regulate and self-manage, needs only support from the remote leader to enable a system where they can regulate their own performance as a team (*Ibid.*), and respective processes to facilitate their self-regulated performance. Therefore, team performance is directly related to how well the members of the team are able to work together (Rockmann, Northcraft 2010).

From the team's performance perspective, it has been suggested by several studies that the self-managing teams are high performing teams. (Wageman 2001; Liao 2017; Carte *et al.* 2006) In those teams the leader is responsible for the team's performance, but leaves the daily operations and decision making to the team itself to take. Wageman (2001) has stated that in shared leadership team where the team is merely focused on executing and monitoring team work and goals, it works well when the leader focuses mainly on initiating structure and setting team goals.

Below are identified three enabling conditions for high performing remote team (Gibson, Cohen 2003, 8-9):

- 1) shared understanding – what the team is achieving, what they need to do and what each member brings to the team,
- 2) integration – the greater degree of differentiation in the organization and team, the higher need for integration,
- 3) mutual trust – teams with established mutual trust are safe environments to perform.

Siebdrat *et al.* (2009) conducted a field study to investigate the performance of global software development teams with varying levels of dispersion. The key findings were as follows: distance is not purely negative effect in itself but team's success depends rather on team's task-related processes and the contribution of the members, and even small distance can substantially affect

team performance, e.g. team dispersed in the same building, but on different floors can actually have worse impact than long distance team as the acknowledgement in long distance team is higher and they are able to cope the distance barriers more easily. (Siebdrat *et al.* 2009)

That again confirms that the physical distance in itself is not a negative factor, the success of the remote team and team's excelling performance is dependent on the leadership and support from the leader rather than simply being a remote team. The effective remote leader supports the team in their performance, provides the resources and processes, enables the system for the team to self-manage and self-regulate their own performance.

## **1.6. Team member satisfaction**

The last component is team member satisfaction. Team member satisfaction together with the team performance are the outcomes of all the previously studied components of remote leadership. Team member satisfaction is directly linked to team performance as organizations need highly performing individuals in order to meet their goals, to deliver the products and services, and to achieve competitive advantage, making high performance the source of satisfaction, with feeling of mastery and pride (Sonnentag, Frese 2002). Satisfaction is also used as a marker for how effectively each individual feels the team is able to perform (Rockmann, Northcraft 2010).

The reasons for team member satisfaction are effective leadership (Gerstner, Day 1997; Bryman 1992; Howell, Frost 1989 referenced in Miles, Mangold 2002, 114), the overall team leader performance that is related how the team leader resolve workplace conflicts and foster open communication within the team (Miles, Mangold 2002), and it is related to the work-life balance and the possibility to work from home or office, etc. (Maruping, Agarwal 2004). Team member satisfaction is achieved by keeping them engaged and productive, and coaching and mentoring them (Boule 2008), and creating opportunities for their individual development and growth (Lurey, Raisinghani 2001), but also adequate and commitment supportive reward system (Latham *et al.* 2002, 201).

On the contrary, the reasons for dissatisfaction are often interpersonal conflicts within the team, under-performing colleagues, and inadequate communication (Banker *et al.* 1996; Armour 1997; Drexler, Forrester 1998; Aeppel 1997 referenced in Miles, Mangold 2002, 114), individuals' low



performance and not achieving the set goals (Sonnentag, Frese 2002), not meeting expectations (Wanous *et al.* 1992 referenced in Rockmann, Northcraft 2010, 312), poor group processes (Rozell, Gundersen 2003 referenced in Rockmann, Northcraft 2010. 314-315) and negative emotions in the team (Duffy, Shaw 2000 referenced in Rockmann, Northcraft 2010, 315).

The component of team member satisfaction is possible to measure only together with other components, being rather an outcome of the effective remote leadership than the variable of affecting it.

In conclusion, the effective remote team and remote leadership are both fully dependent on all the above studied components – a professional remote leader who supports the team by offering structure and processes, the acknowledgment of the importance of the social relationships by dedicating time to build and maintain them, appropriate and updated team processes, frequent communication through right tools. This is how the remote leaders can build strong high performing teams and keep the team members satisfied. This chapter presented the theoretical components of the effective remote leadership, and what are the advantages and challenges the remote teams and the remote leaders must face.

## **2. EMPIRIC RESEARCHES**

### **2.1. Research area and research questions**

This chapter describes the research object, methodologies of the researches and analyses the results. The empiric research of this thesis is based on two researches that combined give answers to the research questions that are previously presented in the introduction. Firstly, to create a theoretical understanding what is an effective remote leadership and its best practices, secondly, to explore which of the remote leaderships are actually practiced in the company and thirdly, to compare the real practices to the theoretical knowledge. The first research is qualitative where the data is analysed and collected from different research articles. The second research is quantitative where the data is collected through structured online survey that is conducted in an ICT company. The aim with the qualitative research is to provide a systematic overview of the best practices of effective remote leadership that affect the team member satisfaction and team performance, and that are found in the research articles that are searched from online environments. The aim with the quantitative research is to find out which of the remote leadership styles are used in the company, and are those aligned with the best practices. The results of the qualitative research are used after the quantitative research results have been analysed, and the quantitative research results are compared to the results of the qualitative research.

### **2.2. Description of the research object**

As described above, this thesis is based on two empiric researches that both have the same research object that is effective remote leadership in remote teams.

In the qualitative research the research object is general – the data is based on research articles where the scholars have presented the possible best practices of effective remote leadership that affect the team effectiveness. The scholars have based their studies and results mostly on the field studies and presented the outcomes as effective practices from real organizations (mainly from technology and professional services industries). The object is generalized as the collected data is

based on different organizations from different countries, cultures, different structures and sizes, different types of remote teams and leadership styles, and is more of a summary of the different aspects of the effective remote leadership in remote team.

The research object in the quantitative research is company specific – the actual practice of the remote leadership in an ICT company. The company is a medium size international technology company that has 21,1% of the staff working in a remote setup in two remote offices in different countries. The company is facing the remote leadership challenges on daily basis and by having different teams working in different locations, the company acknowledges the possible improvement areas. Therefore, the company has a need to research their remote leadership practices to identify the main issues and possibly to provide solutions how to manage the remote factor better in the company. In the company are represented all three dimensions of virtual distance (Ocker *et al.* 2011): 1) geographic – offices in three countries, 2) cultural – additionally to the three countries, the variety of nationalities and cultures is even wider, 3) temporal – due different countries, teams are working in different time zones, and due to the work specifics, some teams work on different working hours. Teams are highly dependent on the ICT in their daily communication and performing their tasks (Zander *et al.* 2013). Their remote team typology is defined either mixed or semi-virtual or hybrid or partially distributed team (Staples, Webster 2007; Ocker *et al.* 2011) – some teams and team members are co-located and some in different locations.

## **2.3. Methodology**

The following subchapter describes the sample groups, methods of data collection and data analysis.

### **2.3.1. Sample groups**

#### Qualitative research

In qualitative research the sample group is the collection of materials – the research articles. The sample group is created by using the nonprobability sampling method called theoretical sample method where the researcher starts collecting data, then analyses the data, forms sample group, then again collects data based on the initial results, analyses the data and continues until the saturation of the data (Õunapuu 2014). The sample group of the qualitative research is 20 source

materials out of the population that is 67 source materials that are found according to methods of data collection that is described under section 2.3.2.

#### Quantitative research

In quantitative research the sample group is all the active team members in the ICT company, except the team members on probation and on maternity leave. The population is all the team members in the company, and the sample group is formed by using the nonprobability sampling method's purposive sample method where the participants are selected purposely and based on pre-selected criteria (Õunapuu 2014). The population is 101 team members, whereas 5 team members are on probation period and 6 on maternity leave. According to the purposive sample method, the sample group forms to be 90 team members.

### **2.3.2. Methods of data collection**

#### Qualitative research

In qualitative research the method of data collection is content analysis. In this research the author used the qualitative research method as the article texts are analysed based on the content. The search was carried out in two online environments: Google Scholar and Tallinn University of Technology Library e-resources.

The data collection started with pre-defining the search criteria, i.e. keywords that presumably give relevant responses. The keywords were defined according to the structure of this thesis, where first it was defined the search field (remote leadership), and then defined the components (the same structure of components as in the theoretical overview) in order to provide relevant data for the qualitative research. The keywords were categorized in two:

- 1) keywords for defining the search field (remote / distant / virtual leadership / management, e-leadership, remote / distant / virtual team / organization, e-team, best practices of remote / distant / virtual leadership / management, best practices of e-leadership, effective leadership / management, challenges of remote / distant / virtual leadership / team),
- 2) keywords for defining the components (team processes, team relationships, trust, virtual / remote communication, team performance, team member / employee satisfaction).

The criteria for the selection of materials were:

- 1) the keyword search needed to match at least one of the keywords from both categories (search field and component),

- 2) the content analysis needed to give more than three (inclusive) matches either used both in the theoretical overview of this thesis and for qualitative research, or exclusively in qualitative research, i.e. no source with only one or two matches did not fulfil the requirements.

In total resulted 67 sources with the pre-defined keywords from the two online databases. After screening the research articles by reading the abstracts, 36 sources were used for both the theoretical overview and for the systematic review, i.e. 31 sources were excluded. Out of 36 sources, according to the theoretical sample method it was selected 20 source materials (i.e. sample group), based on the selection criteria as explained in the previous paragraph. The literature overview of qualitative research has listed 22 sources (Appendix 2), but 2 of the sources are referenced in another source of the already listed 20 sources. The overview of the 67 sources with references are listed in the Appendix 3, and Figure 1 is illustrating the study flow process of the sources.

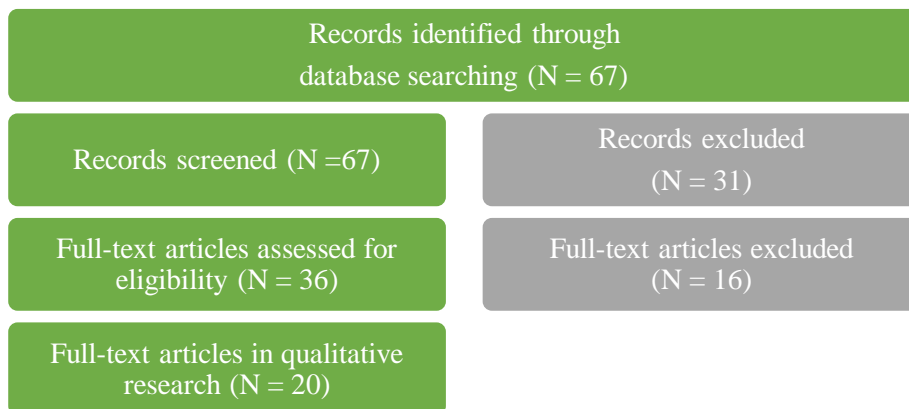


Figure 1. Study flow diagram of sources in qualitative research  
Source: compiled by author

The sample group (20 sources) is research articles from different scientific journals from the online publishers Elsevier Science Inc., Sage Publications, Springer Science+Business Media B.V., and a book of collection of research articles (Gibson, Cohen 2003). The search was finalized after the collected data started to repeat, i.e. the content of the research articles started to repeat and to reference to the same already collected sources.

### Quantitative research

In quantitative research the method of data collection is survey, and the instrument for data collection is online questionnaire. This research is using survey as quantitative research method

because the structured questionnaire has only close-ended questions with given answer options. The author sent the online survey to 90 team members of the company via email where they had a link to the Google Forms application in Google Drive environment. The survey was accessible from 17 October until 26 October 2018.

In the beginning of the questionnaire there are 6 background questions that help to analyse the data (e.g. respondents' location, gender, etc.) and it continues with 56 statement based close-ended questions. The questionnaire together with the introduction email and survey instructions is found in Appendix 4.

The 56 statement questions are predominantly used from previous research surveys. The overview of the origin of the questions used in the current questionnaire is found in Appendix 5. The majority of the questions are from the survey by Lurey and Raisinghani (2001) – the 33 questions cover all the components of remote leadership in this research. In Appendix 5 is explained which of the question blocks and questions have been used in the current questionnaire and which are not. Lurey and Raisinghani (*Ibid.*) study involved wider range of research sections than it is required in this research and the non-relevant sections have been excluded, i.e. majority of the questions regarding the design of the remote team, job characteristics and team member selection process, etc. Additionally, 5 questions are originating from a study by Kayworth and Leidner (2002) – questions mainly about virtual communication and team performance. 4 questions about leadership styles are originating from Avolio and Bass (1995), and the author has composed 14 questions to cover the missing gaps that were not covered by the above-mentioned questionnaires.

The majority of the questions (55 questions) are using the 5-point scale that is also used in the questionnaire by Lurey and Raisinghani (2001): “not applicable” – “strongly disagree” – “disagree” – “agree” – “strongly agree”. The rest of the questions are scaled as follows: 2 are using binary scale (“yes” – “no”; “female” – “male”), 4 are using nominal scale (lists of choices), and 1 is using ordinal scale (multiple choice grid).

### **2.3.3. Methods of data analysis**

#### Qualitative research

In the qualitative research, the author collected the research articles, and used systematic review for analysing the content. The selection process and criteria for the sources are described in section 2.3.2. The data analysis started with structuring the search according to the structure of this thesis,

i.e. the data was categorized by the six components. All the 36 sources were read, relevant data collected, and then used according to the criteria of selection. The repetitive data was sorted and merged. When studying the different scholars, a lot of suggestions for effective remote leadership are repeating from scholar to scholar, there are some variations due to the background of the research (field study or laboratory study) or the nature of the organization or the type of the remote team, but the core suggestions are mostly repetitive.

### Quantitative research

After receiving the results from the quantitative research, the data is recoded to numeric values as most of the answer selections are text values. E.g. the evaluation scale that is used in most of the questions, is recoded as follows: “not applicable” = “0”, “strongly disagree” = “1”, “disagree” = “2”, “agree” = “3”, “strongly agree” = “4”. The responses of “not applicable” are not rated in the calculations, and the system is treating them as missing items. For the data analysis, the author used IBM SPSS Statistics software program.

The author is using different methods of data analysis, starting with the methods of descriptive statistics: arithmetic mean (M), standard deviation (SD) and frequency tables. Cronbach alfa ( $\alpha$ ) is used for measuring the reliability of the results. One-Way ANOVA analysis is used to determine any statistically significant differences between the means of variable groups, measured by significance probability (p-value). Correlation analysis is used to study the strength of a relationship between the variables, measured by Spearman rank-order correlation coefficient. Regression analysis is used to examine the relationship between the variables of interest.

Author is using Lurey and Raisinghani (2001) research study as main reference for this research. In order to match the current study with referenced study, the author has used Lurey and Raisinghani's (2001, 526) model of predictor variable groups for the basis of the research analyses. In Figure 2 is presented the modified model of the predictor variable groups that are predicting the effectiveness of remote team and its leadership. Team effectiveness is measured by team performance, i.e. team's ability to perform their work assignments, and team member satisfaction, i.e. satisfaction while working with their remote team. As per model, the effective remote team and its leadership need to have good quality internal group dynamics (team processes, team relationships and trust, internal team leadership) from one side and supportive external group mechanisms (executive leadership style, tools and technology, communication patterns) for high level team effectiveness. When comparing the original model to the below model (Figure 2), team

member relations predictor variable has been renamed to team relationships and trust in this thesis as the author considered the trust component relevant to be added to the scope of this thesis. Additionally, five predictor variables have been excluded in this study (internal group dynamics: job characteristics and selection procedures, external support mechanisms: education system and reward system, design process), as these variables are out of the scope of this thesis.

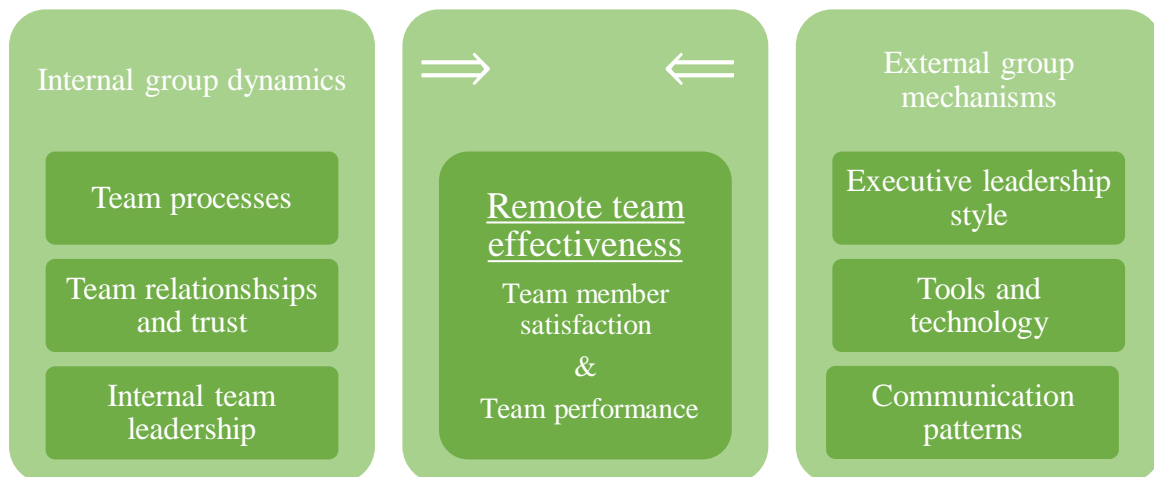


Figure 2. Modified model of predictor variable groups expected to impact the effectiveness of remote team

Source: Lurey and Raisinghani (2001, 526), model modified by author

The survey questionnaire in this thesis is divided into six blocks (Table 1), exclusive the block with the background questions that helps to analyse the data and these are used as independent variables (team member's remoteness, team leader's location, team member's department, team member's length of employment, team member's gender). The author combined the six blocks according to the components of remote leadership of this thesis, except the remote team and leadership component that was split into collaboration and leadership blocks in the online survey, and team performance block was merged with team member satisfaction. In Table 1 is an overview how the six blocks from the survey conform to the blocks of predictor variables according to the modified predictor variable model.



Table 1. Table of remote leadership components vs variable groups as per Lurey and Raisinghani's (2001) modified model of predictor variables

Blocks as per survey questionnaire	Blocks adjusted for the data analyses, used as dependent variable groups, based on model by Lurey and Raisinghani (2001)	Abbreviations of variable groups, used in SPSS
I Team processes	Team processes	PR
II Team relationships and trust	Team relationships and trust*	R
III Virtual communication and tools	Communication patterns	C
	Tools and technology	T
IV Collaboration	Executive leadership style	E
	Internal team leadership	I
V Leadership	Transformational leadership style**	TF
	Transactional leadership style**	TA
	<i>Laissez-faire</i> leadership style**	LF
VI Team performance	Team performance	PE
	Team member satisfaction	S

\* trust components added by author

\*\*not in the original study by Lurey and Raisinghani (2001), added by author

Source: compiled by author

## 2.4. Researches outcomes and analyses

The outcomes of qualitative and quantitative researches are presented separately.

### 2.4.1. Qualitative research – the results of content analysis of the research articles

Firstly, the qualitative research is based on the model (Figure 3) of the six components of remote leadership which affect team effectiveness. The research is conducted based on the components of the model and the results with references are presented in Appendix 1. The resulted best practices of the effective remote leadership have been categories by the six components of remote leadership, and in the beginning of each block is a summary description of the content of the best

practices. Many of the researched sources are able to present real life suggestions how to manage the specific challenges of remote leadership, how to change them to opportunities and how to make the remote teams successful. The best practices have been combined from different scholars and can be used as proposed action points for the remote leaders.

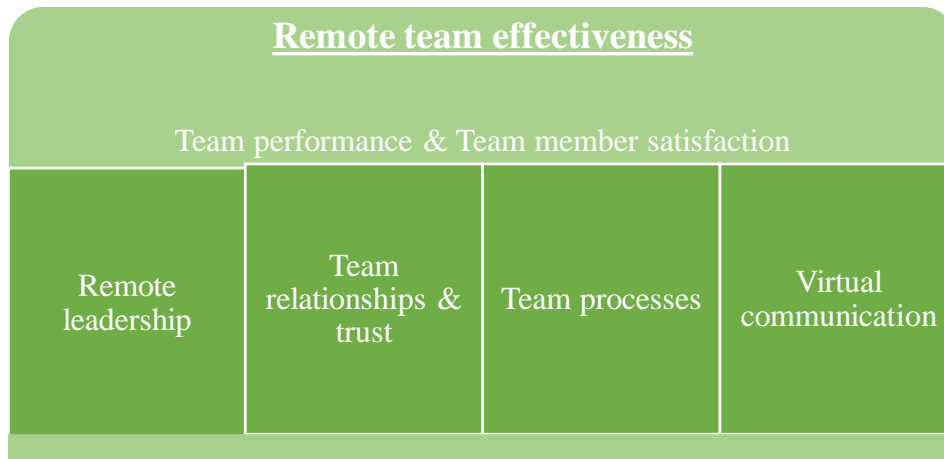


Figure 3. Model of components that affect the remote team effectiveness, used as basis for the qualitative research

Source: compiled by author

Secondly, the author has compiled a literature overview of the sources (sample group) with keywords (Appendix 2) that are used for the qualitative research.

The purpose of the qualitative research is completed as the task was to compile a collection of the best practices of effective remote leadership according to the research articles. More detailed analysis of the results is not required for the purpose of this research as the collected data is used as an input for the quantitative research and for the comparison of the two researches.

#### **2.4.2. Quantitative research – the results of the online survey**

##### The respondents' profile

The online survey in the quantitative research is sent to sample group of 90 team members. The response rate of the survey is 70,0% (N = 63). The different categories of the sample group's profile and the different response rates by categories is presented in the Appendix 6.

According to the respondents' profile, the greatest amount of responses is from the head office country ("country B" = 71,4%), from departments D and I ("department D" = 38,1%; "department

I" = 31,7%), from team members who have been working with the company for more than 1 year, but less than 2 years ("more than 1 year" = 25,4%). On the contrary, the smallest representation of the responses is from the "country C" ("country C" = 9,5%), there are no responses from the "department J" ("department J" = 0,0%) and from team members who have been working in the company for more than 4 years, but less than 5 years ("more than 4 years" = 11,1%). Majority of the respondents are male ("male" = 68,3%). About half of the respondents are working in a remote team ("remote team" = 52,4%), whilst 27% (team leader's location is "in different location from the majority of the team" = 27,0%) of them are working in a team where the team leader is not located in the same location with the majority of the team. 21,1% of the sample group are reported as remote team members, whereas the results show that 52,4% of the respondents work in a remote team, i.e. the remote team members are more active respondents in this survey than the co-located team members.

### Descriptive analysis

Due to the length of the questionnaire (6 + 56 questions), the questions are grouped into 11 variable groups as presented in Table 1. The mean scores can be interpreted as positive when the mean results are greater than 2,50 ( $M > 2,5$ ; score range: 1 (negative) – 4 (positive)), except in the variable *laissez-faire* leadership style (the avoidance of leadership) where the lowest mean reveals negative results of perception of *laissez-faire* leadership style in the company by confirming low rate level of *laissez-faire* leadership style.

The author has excluded question 25 (tools and technology variable group) from the statistical calculations as the question is measuring the frequency of the usage of the communication tools and do not include relevant information for the rest of the data analysis. Tools and technology variable is analysed separately in the section below.

The arithmetic mean score results of the 10 variables (Figure 4) are revealing that all the variables are rated positively as all 9 of 10 variables (excluding *laissez-faire* leadership style variable with ( $M = 1,71$ ;  $SD = 0,432$ )) are scoring mean results above 2,50 ( $M > 2,50$ ; range 3,08 – 3,48). The highest scored variable is team member satisfaction ( $M = 3,48$ ;  $SD = 0,424$ ) and the lowest scored is transactional leadership style ( $M = 3,08$ ;  $SD = 0,414$ ). The descriptive data for variables is available in Appendix 7.

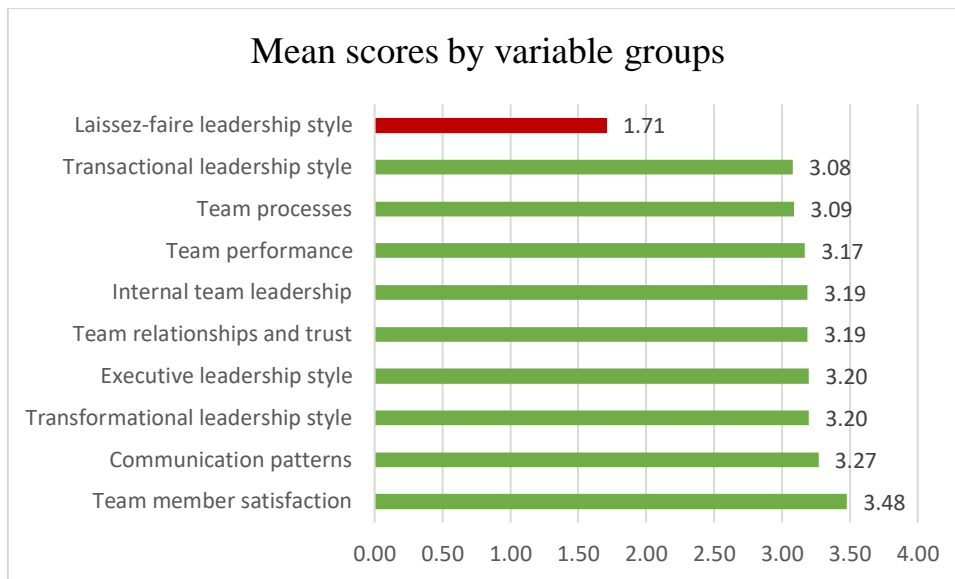


Figure 4. The arithmetic mean scores of the variable groups  
Source: author's calculations

Looking at the general results of the questions, 52 questions out of 55 are scoring mean over 2,50 ( $M > 2,50$ ; range 2,56 – 3,64), and 3 questions are scoring below 2,50 ( $M < 2,50$ ; range 2,08 – 1,44). According to the evaluation scale used in this thesis, the score “2” equals to “disagree” and “3” equals to “agree” that is setting scores 2,50 and above perceived as positive responses. The results of the arithmetic means and standard deviations by questions are found in the Appendix 8.

To estimate reliability, the reliability coefficient Cronbach's alpha ( $\alpha$ ) is used. The test reveals that not all variables are on acceptable level (Figure 5). There are 8 variables on an acceptable level ( $\alpha \geq 0,700$ ; range: 0,717 – 0,814), but 3 variables are below acceptable level, marked in red (range: 0,588 – 0,612) (Loewenthal 2001). Therefore, the lowest scored 3 variables need to be interpreted with reservation. Though, the average  $\alpha$  of the questionnaire is 0,912 that is on good acceptable level and confirms the reliability of this questionnaire.

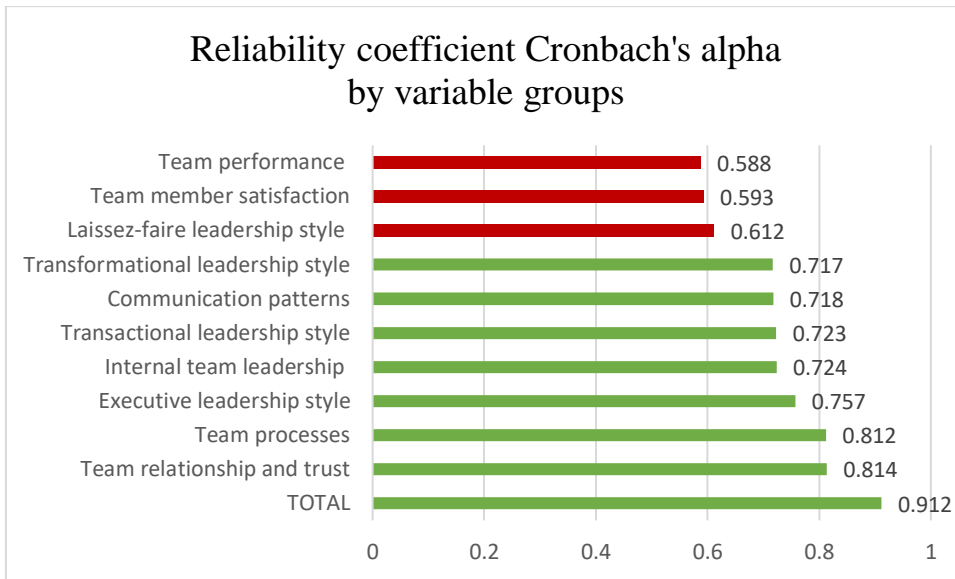


Figure 5. The results of the reliability report  
Source: author's calculations

The frequency table analysis is revealing low scoring on the dissatisfaction level. By analysing the variables, the greatest frequency of negative responses is found in executive leadership style variable (N = 8; cumulative percent = 13,1%), and no dissatisfaction is found in communication pattern variable, see Figure 6. The author has analysed the frequency of the negative responses also by questions, the results are found in the Appendix 8.

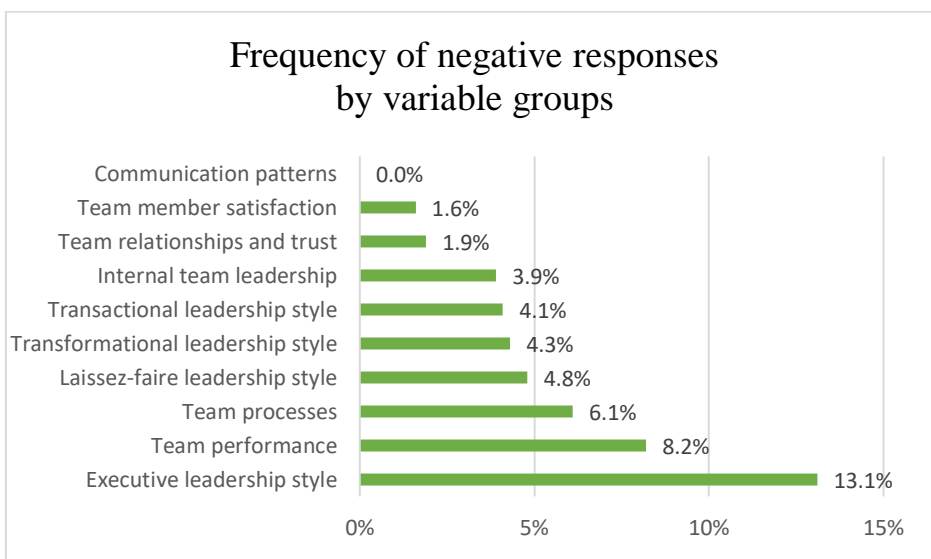


Figure 6. The frequency of the negative responses by mean scores of variable groups  
Source: author's calculations

The tools and technology variable is analysed separately by measuring the frequency of usage of the different communication tools. The most frequently (= “daily”) used communication tool to connect the closest remote colleagues is online communication tool (Skype, etc; N = 47). On the contrary, the less frequent (= “daily”) communication tool is personal phone call (N = 1). The tool that is not (= “never”) used to connect the closest remote colleagues, is personal phone call (N = 34), whilst online communication tool is not (= “never”) used by 5 users (N = 5). Communication tool frequency is presented in the Figure 7.

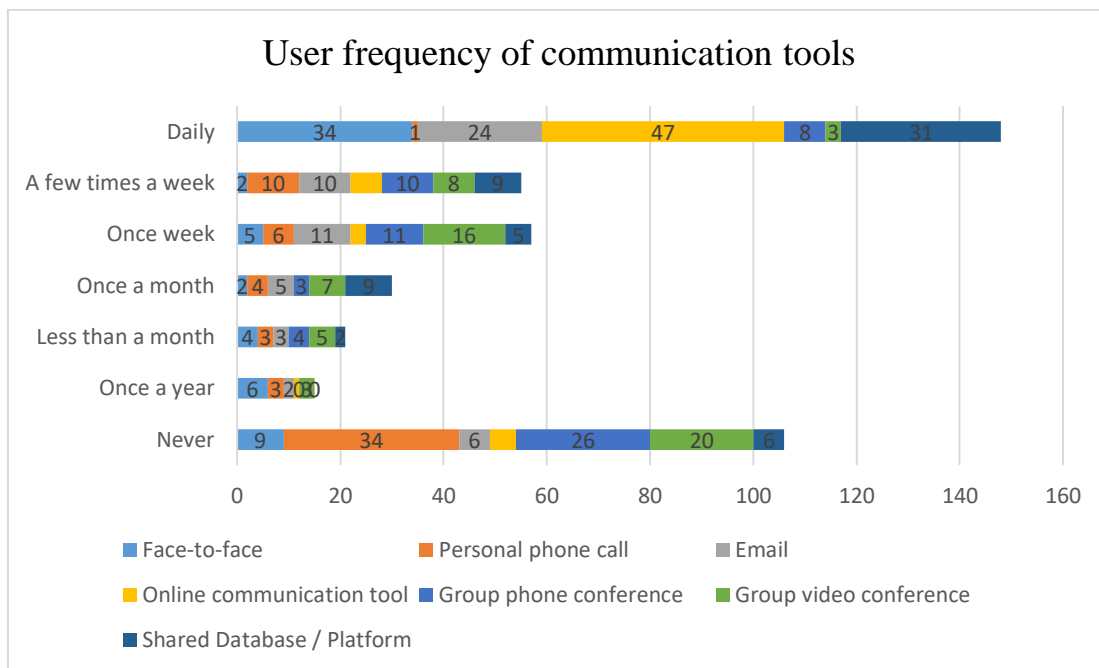


Figure 7. The frequency of usage of different communication tools  
Source: author’s calculations

### Comparing groups of variables

The statistically significant differences between the groups of dependent and independent variables are measured by using the One-Way Anova analysis post hoc test with both Tamhane and Bonferroni methods. Below are presented the findings of comparing the groups, if no statistically significant differences were found, no results are presented.

Team processes variable versus team member’s location independent variable is rated with a significant difference ( $F = 3,653$ ;  $p = 0,039$ ) between the group 1 ( $M = 3,05$ ; = “country A”) and group 2 ( $M = 3,43$ ; = “country B”). Group 2 rates the team processes considerably higher than the group 1.

Team relationship and trust variable versus team member's length of employment independent variable is rated with a significant difference in 3 instances: 1) significant difference ( $F = 4,401$ ;  $p = 0,040$ ) between the group 1 ( $M = 3,698$ ; = "have been working in the company less than 1 year") and group 2 ( $M = 3,16$ ; = "have been working in the company more than 1 year"); 2) significant difference ( $F = 4,401$ ;  $p = 0,010$ ) between the group 1 ( $M = 3,70$ ; = "have been working in the company less than 1 year") and group 3 ( $M = 2,94$ ; (= "have been working in the company more than 2 years"); 3) significant difference ( $F = 4,401$ ;  $p = 0,039$ ) between the group 1 ( $M = 3,70$ ; = "have been working in the company less than 1 year") and group 6 ( $M = 3,03$ ; (= "have been working in the company more than 6 years"). Group 1 rates considerably higher team relationship and trust than the group 2, group 1 rates considerably higher than the group 3, and group 1 rates considerably higher than the group 6.

Transformational leadership style variable versus team leader's location independent variable is rated with a significant difference ( $F = 3,555$ ;  $p = 0,040$ ) between the group 1 ( $M = 2,80$ ; = "team leader is located in the different location from the whole team") and group 2 ( $M = 3,52$ ; = "team leader is located in the different location with me, but in the same location with the rest of the team"). Group 2 perceives the transformational leadership considerably higher than the group 1.

Team member satisfaction variable versus team member's department independent variable is rated with a significant difference in 4 instances: 1) significant difference ( $F = 2,023$ ;  $p = 0,001$ ) between the group 4 ( $M = 3,52$ ; = "department D") and group 5 ( $M = 4,00$ ; = "department E"); 2) significant difference ( $F = 2,023$ ;  $p = 0,001$ ) between the group 4 ( $M = 3,52$ ; = "department D") and group 6 ( $M = 4,00$ ; = "department F"); 3) significant difference ( $F = 2,023$ ;  $p = 0,000$ ) between the group 5 ( $M = 4,00$ ; = "department E) and group 9 ( $M = 3,375$ ; = "department I"), 4) significant difference ( $F = 2,023$ ;  $p = 0,000$ ) between the group 6 ( $M = 4,00$ ; = "department F") and group 9 ( $M = 3,37$ ; = "department I"). Group 5 rates considerably higher team member satisfaction than the group 4, group 6 rates considerably higher than the group 4, group 5 rates considerably higher than the group 9, and group 6 rates considerably higher than the group 9.

### Correlation analysis

In the correlation analysis are tested four sets of correlations. First, the correlations between the dependent variable groups, secondly, the correlations between the dependent variable groups and

the independent variables, thirdly, the correlations between the independent variables, and fourthly, the correlations between question item variables and independent variables.

The two highest ascending linear relations are found between dependent variables: 1) team processes and team relationships and trust (correlation = .784;  $p = 0,000$ ); 2) transformational leadership style and transactional leadership style (correlation = .763;  $p = 0,000$ ). This indicates that the high scores on team processes and transformational leadership styles imply higher scores respectively on team relationship and trust, and transactional leadership style. The two highest linear descending relations are found between dependent variables: 1) *laissez-faire* leadership style and internal team leadership (correlation = -.450;  $p = 0,002$ ); 2) *laissez-faire* leadership style and team relationships and trust (correlation = -.411;  $p = 0,005$ ). This indicates that the high scores on *laissez-faire* leadership style imply lower scores on internal team leadership and team relationships and trust.

The two highest ascending linear relations are found between dependent and independent variables: 1) dependent variable team member satisfaction and independent variable remoteness (correlation = .302;  $p = 0,017$ ); 2) dependent variable team processes and independent variable remoteness (correlation = .288;  $p = 0,044$ ). This indicates that the high scores on team member satisfaction and team processes are highly correlated with the team member's remoteness. The two highest linear descending relations are found between dependent and independent variables: 1) dependent variable team relationships and trust and independent variable team member's length of employment (correlation = -.388;  $p = 0,004$ ); 2) dependent variable team performance and independent variable team member's length of employment (correlation = -.291;  $p = 0,023$ ). This indicates that the high scores on team relationships and trust, and team performance are highly correlated with team member's length of employment.

The highest ascending linear relation is found between independent variables: team member's department and team member's location (correlation = .398;  $p = 0,001$ ). This indicates that the high scores on both variable are highly correlated. The highest linear descending relation is found between independent variables: team leader's location and team member's remoteness (correlation = -.822;  $p = 0,000$ ). This indicates that the high scores on both variable are highly correlated.

The highest ascending linear relation is found between question item variable and independent variable: question "During these online conferences, time is dedicated to developing social



relations as well as addressing business issues.” and team member’s location (correlation = .384;  $p = 0,003$ ). This indicates that the high scores on question variable are highly correlated to the team member’s location. The highest linear descending relation is found between question ”In our team we aware of the risks of the virtual communication.” and team member’s gender variable (correlation = -.433;  $p = 0,000$ ). This indicates that the high scores on the question variable are highly correlated to the respondent’s gender variable.

The results of correlation analysis are presented in Appendices 9, 10 and 11 (except for the last correlation between question item variables and independent variables due to the heavy data load).

### Regression analysis

Regression analysis is used to understand which among the independent variables are related to the dependent variables by using the linear regression analysis with Stepwise method. The regression analysis helps to find which of the independent variables are related to team member satisfaction and team performance dependent variables. For testing it is used four sets of independent variables as predictors as follows: 1) remoteness and length of employment (team member remoteness, team leader’s location, team member’s length of employment), 2) internal group dynamics (team processes, team relationships and trust, internal team leadership), 3) external group mechanisms (executive leadership style, tools and technology, communication patterns) and 4) leadership style (transformational, transactional and *laissez-faire* leadership styles).

In the first set of regression analysis (Appendix 12), the dependent variable is team member satisfaction. In the model 1 there is only one independent variable – team member remoteness that describes 14,6% (adjusted  $R^2 = .146$ ) of the variability of team member satisfaction. In the model 2 is added independent variable team processes (internal group dynamics), it slightly decreases the significance of team member remoteness (model 1  $\beta = .423$ ;  $p = 0,028$  and model 2  $\beta = .333$ ,  $p = 0,057$ ), and the model 2 describes the 30,9% (adjusted  $R^2 = .309$ ) of the variability of team member satisfaction. In the model 3 is added independent variable communication process (external group mechanisms) that has no significant influence on team member remoteness (model 2  $\beta = .333$ ;  $p = 0,057$  and model 3  $\beta = .306$ ;  $p = 0,049$ ), and is strongly decreasing the significance of team processes (model 2  $\beta = .438$ ;  $p = 0,015$  and model 3  $\beta = -.051$ ;  $p = 0,824$ ). In the model 3 the predictors team processes and communications patterns influence the dependent variable team member satisfaction by describing the 46,1% (adjusted  $R^2 = .461$ ) of the variability

of team member satisfaction. The model 3 has high statistically significant difference ( $p = 0,010$ ) and communication patterns has very strong standardized beta value ( $\beta = .638$ ;  $p = 0,010$ ). This regression analysis is revealing that team member satisfaction is influenced by the team member's remoteness, but the significance is not really changing when other predictors are added to the model. Though, team processes are slightly decreasing the influence the team member's remoteness have on the team member satisfaction. That can interpret that well established team processes are more important for the team members' satisfaction than their remoteness toward their fellow team members. But, when the communication patterns variable is added to the model, it slightly decreases the importance of team member's remoteness and decreases the influence of team processes to be negative, and that can interpret that communication patterns is influencing the team member satisfaction very strongly – the higher satisfaction with the communication patterns, the less importance the team member's remoteness and especially team processes are for the team members.

In the second set of regression analysis (Appendix 13), the dependent variable is team performance. In the model 1 there is only one independent variable – team member's length of employment that describes 16,3% (adjusted  $R^2 = .163$ ) of the variability of team performance. In the model 2 is added independent variable team processes (internal group dynamics), it slightly increases the significance of team member's length of employment (model 1  $\beta = -.445$ ;  $p = 0,026$  and model 2  $\beta = -.330$ ,  $p = 0,045$ ), and the model 2 describes the 44,4% (adjusted  $R^2 = .444$ ) of the variability of team performance. In the model 3 is added independent variable transactional leadership style (leadership style) that has no significant influence on team member's length of employment (model 2  $\beta = -.330$ ;  $p = 0,045$  and model 3  $\beta = -.243$ ;  $p = 0,063$ ), and is strongly decreasing the significance of team processes (model 2  $\beta = .552$ ;  $p = 0,002$  and model 3  $\beta = .267$ ;  $p = 0,074$ ). In the model 3 the predictors team processes and transactional leadership style influence the dependent variable team performance by describing the 66,0% (adjusted  $R^2 = .660$ ) of the variability of team performance. The model 3 has high statistically significance difference ( $p = 0,001$ ) and transactional leadership style has strong standardized beta value ( $\beta = .558$ ;  $p = 0,001$ ). This regression analysis is revealing that team performance is influenced by the team member's length of employment only when other predictors (team processes and transactional leadership style) are added to the model. The significance of team member's length of employment changes from negative influence to positive, and team processes are influencing the team performance strongly when there are only two predictors in the model (team member's length of employment and team processes). After adding transactional leadership style predictor to the

model, it continues to increase the importance of team member's length of employment on team performance, but decreases strongly the importance of team processes. That can interpret that the shorter length of employment, the higher performance the team members have, and high team performance requires either strong team processes, or strong transactional leadership style. The transactional leadership style is overruling the importance of team processes, as the transactional leadership style is performance oriented in its nature.

#### Testing the model of predictor variables

In the study by Lurey and Raisinghani (2001, 528-529), the remote team effectiveness was tested by using team member satisfaction and team performance as criteria for team effectiveness. In the current research the model of predictor variable is modified by limiting the number of predictor variables (Figure 2). Regardless of the limitations, the results are partly comparable. The author tested the model to confirm the validity of the questionnaire used in the quantitative research. The results of current research are compared with the results from the initial study (*Ibid.*) in Appendix 14. The mean scores are very similar, there are a few differences in the reliability coefficient scores and some differences when testing Person's versus Spearman's correlations. Based on the findings, the questionnaire in the quantitative research is valid and reliable, and is usable for testing the effectiveness of remote leadership.

#### **2.4.3. Comparing the results of qualitative and quantitative researches**

One of the tasks of this thesis is to compare the results. The results of the qualitative and the quantitative researches are not directly comparable as there are no similar statistics or scales to compare. Therefore, the content of the researches is analysed, and to provide more detailed analyses and to match the structures of the two researches, a detailed analysis of quantitative research is executed on the levels of variable groups and questions, and is found in Appendix 15. The structure of the analysis follows the representation of the results as in qualitative research where the results are divided in six blocks according to the components of remote leadership (Appendix 1). The conclusions and discussion of the results in the next chapter are based on the results presented in this chapter, the results of qualitative research (Appendix 1) and on the detailed analysis of the quantitative research (Appendix 15).

### **3. CONCLUSIONS AND DISCUSSION**

The overall results of the analyses reveal that the remote leadership in the company is practiced as a combination of the transformational and transactional leaderships, most of the best practices that have been collected in the qualitative research (Appendix 1) are already established in the company and good routines are in use. Though, some areas would need improvement. The author concludes the results following the structure of the six components, summarizes with the discussion and makes suggestions for improvement.

#### **3.1. Remote leadership**

On the high level, the results from the quantitative research are fairly positive and the remote leadership is well practiced in the company. The transformational leadership style is considered as one of the most suitable for remote team work (Bass 1999). Though, the overview of the best practices of effective remote leadership promotes that both transformational and transactional leadership styles should be practiced in remote setting as both of the styles have good features to complement each other. (Avolio, Kahai 2002; Purvanova, Bono 2009) The results confirm that the leaders in the company practice both transformational and transactional leadership style, though with a bit stronger perception of the transformational leadership style, especially in the co-located teams.

That leads to the remoteness factor. The physical distance between the team and the leader is one of the greatest challenges the remote teams have. The scholars have suggested to overcome the physical distance barriers by compensating it by active and diversified use of ICT, and being supportive and motivating to the team (Snellman 2014). The company seems to be handling the remote factor rather well, the results did not show any significant differences in the results between the remote and co-located team members.

#### **3.2. Team relationships and trust**

The feedback from the team members about relationships and trust in their teams is mostly positive. Team relationships is a topic the team leaders often do not focus on. Though, the results revealed that the team members perceive transformational leadership slightly higher in the

company. Transformational leadership supports more of the relationship-oriented leadership, though the distinguish between the transformational and transactional leadership styles is almost non-existing in the company and that shows the balanced leadership of practising both task- and relationship-oriented leadership in the company. The relationship-oriented leaders focus more on emphasizing their team members well-being, supporting them, etc (Kaiser *et al.* 2000; Liao 2017), and the task-oriented on initiating structure, focus on goals and task, etc. (Suchan, Hayzak 2001; Kaiser *et al.* 2000; Liao 2017).

Irrespective of the perception of the leadership style, the results also reveal that the importance of social relations is an area the team leaders still could be more proactive in the company, starting by enabling face-to-face interactions early on for the new team members, investing time for team building exercises, etc. (Zigurs 2003; Gibson, Cohen 2003, 413) Interestingly the team members who have been working in the company less than one year valued the team relationships and trust areas highest. This might mean that the newest colleagues are still working on building the relations by considering the topic important.

The rest of the feedback on the team relationships and trust is only positive. Safe environment encourages the team members to take risks for one another (Gibson, Cohen 2003, 9) and this is based on the trust among team members, the face-to-face interactions are promoted whenever possible (Siebdrat *et al.* 2009; Gibson, Cohen 2003, 413). And team members feel that they have open environment to encourage to discuss openly different subjects and team members have built their relationships and feel comfortable in sharing their ideas and thoughts (Staples, Webster 2007).

### **3.3. Team processes**

Team processes is a must for an effective remote leadership, and the correlation between the leadership and processes is not possible to underestimate (Ocker *et al.* 2011). The results of team processes were one of the lowest (when comparing to the rest of the components), and some room for improvement is detected, that again reflects to the leadership styles in the company. Although the transformational and transactional leaderships are perceived almost equally in the company, it seems to be weaker practice of transactional leadership in the company as the general results for the team processes were relatively low scored. The teams should have not only task-related processes in place, but also the social-emotional processes to support cohesion, informal

communication, to develop interpersonal bonds, etc. (Siebdrat *et al.* 2009; Gibson, Cohen 2003, 410-411) The social-emotional processes in the company should be improved, e.g. like improving processes regarding social factors in the team communication and agreeing common rules for celebrating the success, etc. The company should promote the importance of the social factor within the team work and introduce it even more strongly together with the team processes.

Appropriate team processes support the team leader and the team itself to manage, to organize and to perform. (Siebdrat *et al.* 2009; Cascio, Shurygailo 2003; Avolio, Kahai 2002) For example, the analysis revealed difference on how satisfied are the team members with the team processes, dependent on the difference in their location. Team members in the head office work closer together and the processes are perceived on better level than in the remote offices. Considering the importance of well-established team processes for a performance of a remote team, this is something for the company to analyse further.

### **3.4. Virtual communication**

Virtual communication is an area the company can be pleased with. The positive responses are partly correlated with the results of qualitative research where the scholars suggest that the key for successful communication are frequent communication (Hart, McLeod 2003; Kelley, Kelloway 2012) and regular feedback (Zigurs 2003). And to have effective communication like transfer ideas, share information, listen, etc. (Staples, Webster 2007) by provided appropriate tools and technology (Gibson, Cohen 2003, 414-415).

The only possible improvement area is again connected to the social factor where some team members have stated that they do not have social contact with their fellow team members. This indicates to be an overall issue across the company, and is covered already in the team relationships and trust block that the company should be more aware of the benefits of the social relations, and should promote it even more.

Within the virtual communication it was also studied the frequency of usage of different communication tools. The idea of usage of variation of tools is well supported also by scholars (Gibson, Cohen 2003, 414-415; Boule 2008), this gives team members opportunity to choose a tool that suits best for them personally, some tasks require specific tools (data sharing, video calls,

etc.).<sup>1</sup> Being an ICT company, the results of the virtual communication and tools are as expected. The tools are updated and adequate, the users know how to use them. The company provides them a good selection of different tools and the leaders set an example of good virtual communication.

The acknowledgement of the challenges of the distance and virtual communication (Armstrong, Cole 2002 referenced in Purvanova, Bono 2009, 346), is well acknowledged in the company. The team members are well aware of the challenges the remote team brings, and changing the challenges into opportunities is just matter of time.

And as a conclusion, Neufeld *et al.* (2010) also confirmed in the study that physical distance did not influence communication. This is also confirmed in the quantitative research – there are no correlations between the virtual communication and the actual remoteness or team member's location to influence the research results.

### **3.5. Team performance**

Regarding team performance, many scholars have emphasized that the team performance in a remote team should not be supervised severely as the team members are chosen for their expertise, competence and prior remote experience (Bell, Kozlowski 2002). Instead, the remote team should be able to self-regulate and self-manage, needing the team leader only to enable the support system, structure and processes (*Ibid.*), and set individual goals that are aligned with the company and team (Gibson, Cohen 2003, 413). The leaders in the company are leading the teams by supporting the teams to self-manage as much as possible. The team members feel they get the support they need to perform their tasks, but the team leaders are also good at delegating and giving more responsibilities to the team member to enable their development and growth. They know what are their goals and what is expected from them. Additionally, team members in this company have very good understanding how to effectively work together, and this is directly related to team performance (Rockmann, Nortcraft 2010).

There is one thing to point out regarding team performance – a number of team members have reported that they struggle with time to perform their tasks. This is something for the company to evaluate whether the tasks are too demanding, is there lack of resources or does it indicate lack of some skills within the team.

### **3.6. Team member satisfaction**

Team member satisfaction is highest rated variable in the survey. This indicates that the team members working in the company are proud to be part of this company and their team, and feel that they are valued there. It is important that the team leaders are aware of the level of satisfaction in the team (Boule 2008), and the leaders in the company seem to have good awareness of it. Satisfaction is directly linked to team performance, as the satisfaction indicates how effectively each individual feels the team is able to perform (Rockmann, Northcraft 2010).

Though, one factor that influences the satisfaction is the balance between work and home, and although the majority of the team members have it balanced, there is a number of team members who might be suffering on work overload, poor management of task distribution, etc. And looking at the overall satisfaction, there is significant difference in the perception of satisfaction between the departments – the departments E and F have rated their satisfaction level much higher than the departments D and I.

#### Discussion

Overall results confirmed that the remote factor and the location of the team members and leaders do not have any significant impact on the results. As stated by scholars, the remote teams can actually outperform groups that are co-located (Bell, Kozlowski 2002; Siebdrat *et al.* 2009), meaning dispersion is not a factor for poor performance, however lack of process can be negatively crucial for the performance. In order to improve the performance, there is some room for improvement regarding team processes in the company, especially for social-emotional processes, as the social factor is not that strongly acknowledged within the teams and their communication to one another.

One of the questions in the qualitative research was what style of leadership is dominant in the company and does it align with the best practices. Apparently, both the transformational and transactional leadership styles are in use simultaneously. As both of the styles have their positive characteristics, it is seem to be most beneficial for the team members that the team leaders can juggle both styles, dependent on the needs of the team and the factors that would need to be influenced. Transformational leaders affect positively team members' satisfaction and transactional leaders affect positively team performance. The leadership practices in the company



do align with the best practices of the effective remote leadership as studied in the qualitative research.

Team member satisfaction in the company is greatly affected by the team member remoteness, and indicates the importance of how good are the processes to support the communication, team performance, etc. Therefore, team processes are important for well-functioning team, and this can even be in case of poor communication. But with good communication, the importance of team processes is decreasing for the team members. Meaning that poor team processes can be exceeded with good communication. As stated, transformational leader is representing good communication and transactional leader good processes, therefore, the less influence of transactional leader, the greater is team satisfaction in the company. Team performance in the company is greatly affected by the team member's length of employment, but the importance of the length of employment is changing when team processes and transactional leadership styles are starting to influence the performance. Team processes is needed factor for the teams to perform, but with a strong transactional leader, the team processes factor decreases. High team performance requires either strong team processes, or strong transactional leadership style. Therefore, it can be concluded that the formula for team effectiveness in the company is a balanced mix of transformational leadership that helps to achieve high team member satisfaction, and transactional leadership that again helps to achieve high team performance, plus promoting the importance of social relations in the company.

### **3.7. Suggestions for improvement areas**

The author has identified a number of improvement areas in the company. The improvement areas together with possible solution suggestions to the issues are found in Appendix 16. Additionally, the author is strongly recommending the company also to study all the best practices of effective remote leadership as presented in Appendix 1.

### **3.8. Answers to the research questions**

The purpose of this thesis is achieved. Firstly, the best practices of effective remote leadership have been identified according to the scientific literature. Secondly, with the help of a research survey and analysis of it, it has been identified that the company's practices of remote leadership

are predominantly aligned with the theoretical best practices. Though, as there are some challenges and areas that need improvement, these have been identified and improvement suggestions have been proposed.

All the research questions of this thesis have been answered as follows (questions are found in Introduction):

- 1) As a result of the qualitative research, the author has compiled a list of the best practices of effective remote leadership that affect the team effectiveness, based on the research articles. The best practices are formulized as action points for the remote leaders by proposing solutions to the possible challenges the remote leadership brings.
- 2) The survey research was conducted in the ICT company with the sample group of 90 team members. The response rate was 70,0% that gives credibility of the results. In general, the survey results are positive and the remote leadership is rated highly by the team members. The results are revealing clearly that transformational and transactional leadership styles are being practiced in the company almost equally, with transformational leadership affecting the team member satisfaction and transactional leadership affecting team performance.
- 3) The results of the quantitative research revealed that the remote leadership in the ICT company is practiced with relatively good quality, most of the team members are satisfied with their team leaders and their support, the remote teams are well-functioning and no big differences are found in the feedback between remote and co-located teams. The majority of the best practices according to the qualitative research are already established in the company, or are partly practiced. Some improvement areas have been identified and improvement suggestions have been proposed.

### **3.9. Author's assessment, limitations and directions for future research**

The two conducted researches aim to fill a gap in the studies about the best practices of effective remote leadership as the author did not identify any similar study where the best practices from

the research articles would had been compared with the actual practices in a company. The author considers this task as completed.

The questionnaire of the quantitative research is tested in an actual company and the results show that the questionnaire is reliable and could be used for other similar surveys.

The limitations for the conducted researches are:

- The results of the qualitative research can be used for future researches about the best practices of effective remote leadership as the outcome is solely based on the research articles. For the future, the variety of the components of the remote leadership could be increased (e.g. adding team selection criteria and procedures, team development and training, reward system, etc.), and the search could be widened by using other search environments.
- In case the questionnaire would be used in any other survey, the questions would need to be reviewed and if required, adjusted for the purpose of the research as the current questionnaire is tailored specifically for the company.

## **SUMMARY**

Remote leadership is a challenge for most of the contemporary companies where the teams are spread across offices, cities or countries. The remote teams are dependent on their leaders, who's primary task is to support the teams with structure, processes, providing necessary resources and tools for teams' performance and satisfaction. The remote factor has its impact on the remote teams, though, according to the different scholars, the dispersion is not a factor for poor performance, and the remote teams can outperform the co-located teams, by having an effective remote leader.

The purpose of this thesis is to help to identify whether the remote leadership practices in the company are aligned with the best practices of effective remote leadership according to the scientific literature, to identify the possible challenges and improvement areas in the company, and suggest improvement solutions. And for achieving the purpose, the following research questions have been formulized:

- 1) What are the best practices of the effective remote leadership that affect the team effectiveness in the ICT field according to the scientific literature – what are the challenges and which are the proposals to overcome them?
- 2) Which practices of remote leadership that affect team effectiveness are practiced in the ICT company, based on the conducted research survey?
- 3) What are the conclusions of comparing the practices of remote leadership in the company to the best practices of effective remote leadership according to the research articles?

In the theoretical overview the author studied the six different components of remote team and remote leadership: remote leadership, team relationships and trust, team processes, virtual communication, team performance and team member satisfaction. Under each component is also pointed out the main advantages and challenges the components might bring to the remote teams. The main leadership theory regarding remote leadership (transformational and transactional leadership by Bass (1999, 10-11)) has been introduced, and is also used in the quantitative research as one of the outputs.

Two researches have been conducted in this thesis. Firstly, qualitative research for identifying the best practices of effective remote leadership that affect team effectiveness based on the 20 research articles. The outcome of the research is practical action points to the remote leaders. Secondly, a quantitative research survey was conducted in an ICT company to see how the team members perceive their leaders and remote leadership. The sample group was 90 team members with the response rate of 70,0%. The results of the quantitative research are compared to the results of the qualitative research.

The conclusions of the analyses are also divided in six blocks according to the components of remote leadership. In general, the results are fairly positive. Most of the best practices of effective remote leadership that affect team effectiveness are already practiced in the company and many of the good routines have been established. The remote leadership practices are well-suitable for the remote teams – both transformational and transactional leaderships are being practiced in the company. Overall results confirmed that the remote factor and the location of the team members and leaders do not have any significant impact on the results.

In the remote leadership block was studied what style of leadership is practiced in the company, and the results showed relatively equal practise of both transformational and transactional leadership style, with a slightly higher perception of transformational leadership style. In the team relationships and trust block was identified that the social relations are not enough valued in the company. The relationships are mostly only business oriented, though the social relations are a fundamental part of the successful teams. In the team processes block was identified that some improvements need to be made as the perception of the processes differed dependent on the team members' location, and some processes would need attention by the company. In the virtual communication block was identified only positive feedback. The team members are satisfied with the quality and level of the communication, they have adequate tools and are active users of online communication tools. In the team performance block was identified that perception of the team performance is rather high, though some team members struggle with time factor to complete their tasks. In the last block, team member satisfaction is perceived very highly in the company. Team members are proud of being members of their teams and have no negative feedback. The only item to be discussed is the balance between the work-life as some team members stated it as unbalanced.

Based on the results and findings, some suggestions for improvements were proposed for the company, according to the best practices of effective remote leadership. Though, it needs to be

repeated, the overall practice of remote leadership in the company is on fairly good level and team members are satisfied with their team leaders and teams.

The results of the two researches could be used in the future. The qualitative research can be used for any relevant study as an input for the best practices of effective remote leadership. The variety of the components of the best practices could be increased (e.g. adding team selection criteria and procedures, reward system, etc.), and wider base for the search environment could be used. The results of the quantitative research could be used for any similar study. The compiled questionnaire that was used in the quantitative research, should be reviewed and adjusted according to the needs for any future research survey.

# KOKKUVÕTE

## EFEKTIIVSE KAUGJUHTIMISE PARIMAD PRAKTIKAD ÜHE INFO- JA KOMMUNIKATSIOONITEHNOLOOGIA ETTEVÕTTE NÄITEL

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Käesoleva magistritöö probleemiks on kaugjuhtimise kvaliteet ühes IKT (info- ja kommunikatsioonitehnoloogia) valdkonna ettevõttes. Ettevõttes töötab kaugjuhitavates meeskondades 21,1% töötajatest ja töö eesmärgiks on uurida, kas ettevõtte kaugjuhtimise praktikad vastavad valdkonna parimatele praktikatele, lähtuvalt teaduskirjandusest.

Töös otsitakse vastuseid järgmistele uurimisküsimustele:

- 1) Millised on efektiivse kaugjuhtimise parimad praktikad, mis mõjutavad meeskonna efektiivsust ITK valdkonnas vastavalt teaduskirjandusele – milliseid väljakutseid need esitavad ja kuidas neid ületada?
- 2) Millised kaugjuhtimise praktikad on kasutuses ITK ettevõttes, mis mõjutavad meeskonna efektiivsust, vastavalt ettevõttes läbiviidud küsitlusuuringule?
- 3) Millised on järeldused, kui võrrelda ettevõtte kaugjuhtimise praktikaid teaduskirjanduse baasil kogutud kaugjuhtimise parimate praktikatega?

Töö on ehitatud ülesse mudelile, mis koosneb kuuest kaugjuhtimise komponendist, mis mõjutavad kaugjuhitava meeskonna efektiivsust. Nendeks komponentideks on kaugjuhtimine, meeskonna vahelised suhted ja usaldus, meeskonna protsessid, virtuaalne kommunikatsioon, meeskonna sooritus ja meeskonnaliikmete rahulolu. Antud mudel baseerub kohandatud kujul Lurey ja Raisinghani (2001) uuringule, ja selle põhjal on loodud ka kogu töö struktuur.

Teoreetilises ülevaates kirjutatakse eelpoolnimetatud kuuest komponendist, tuues välja ka iga komponendi eelised ja väljakutsed kaugjuhtimisele. Lisaks tutvustatakse juhtimisteooriaid, mida peetakse parimateks kaugjuhitavatele meeskondadele. Ümberkujundavat juhtimisstiili

(*transformational leadership style*) (Bass 1999, 11) peetakse sobivaimaks, kuid paljud teadlased on seisukohad, et parima tulemuse annab siiski ümberkujundava ja pragmaatilise (*transactional leadership style*) juhtimisstiili (Bass 1999, 10) ühitamine (Avolio, Kahai 2002; Purvanova, Bono 2009).

Töö eesmägi täitmiseks ja uuringuküsimustele vastuste leidmiseks viidi läbi kaks uuringut. Töö empiirilises osas on põhjendatud, miks antud töö raames on viidud läbi kaks uuringut ja kuidas need on omavahel seotud. Kvalitatiivse uuringuga sisuanalüüsi meetodil koguti 20 teadusartikli (see on ka uuringu valim) põhjal kokku kaugjuhtimise parimad praktikad, mis mõjutavad meeskonna efektiivsust, ja selle väljundiks on praktilised tegevusjuhised kaugjuhitavate meeskondade juhtidele. Lisaks on kvalitatiivse uuringu tulemused sisendiks kvantitatiivse uuringu tulemuste analüüsi järgseks järelduste tegemiseks. Kvantitatiivne uuring on viidud läbi küsitluse meetodil, instrumendiks on veebiküsitlus, mis viidi läbi IKT ettevõttes. Uuringu küsimustiku koostas autor, põhinedes peamiselt Lurey ja Raisinghani (2001) uuringus kasutatud küsimustikule. Uuringuga uuriti ettevõtte kaugjuhtimise praktikaid ja kuidas meeskonnaliikmed kogesid oma juhte ja kaugjuhtimist. Valimiks oli 90 meeskonnaliiget ja vastamismääraks kujunes 70,0%. Peale mõlema uuringu tulemuste analüüsi võrreldi kvantitatiivse uuringu tulemusi kvalitatiivse uuringu tulemustega ja selle põhjal tehti ka antud töö järeldused.

Järelduste osas lähtuti samuti kuue kaugjuhtimise komponendi struktuurist. IKT ettevõtte praktikate analüüsi tulemused võrreldi teadusartiklite põhjal kogutud kaugjuhtimise parimate praktikatega ja järeldused esitati vastavalt kuuele kaugjuhtimise komponendile. Üldplaanis on IKT ettevõttes kasutuses enamus teadusartiklite põhjal kogutud parimatest praktikatest, samuti on sisse viidud kaugjuhtimist toetavad head rutiinid ja protseduurid. Juhtimisstiili osas praktiseeritakse ettevõttes peaaegu võrdses mahus ümberkujundavat ja pragmaatilist juhtimisstiili, ning *laissez-faire* juhtimisstiil (juhtimise vältimine) (Bass 1999, 11) on ettevõttes peaaegu olematu. Lisaks kinnitasid analüüsi tulemused, et kauguse faktor ega meeskonnaliikmete ja juhtide asukoht ei mõjuta tulemusi ehk meeskonna efektiivsust.

Lisaks tuuakse järelduste osas välja iga komponendi oluliseim järeldus. Kaugjuhtimise osas näitasid tulemused, et ettevõttes praktiseeritakse peaaegu võrdses mahus nii ümberkujundavat kui pragmaatilist juhtimisstiili, millest ümberkujundav mõjutab meeskonnaliikmete rahulolu ja pragmaatiline meeskonna sooritust. Meeskonna suhete ja usalduse osas sai järeldada, et ettevõttes ei peeta väga oluliseks sotsiaalseid suhteid, ega teadvustata sotsiaalse faktori ulatust ja mõju



töölastele suhetele ja kommunikatsioonile. Meeskonna protsesside osas näitasid tulemused, et ettevõtte ülesast pole protsessid ega nende kvaliteet ühtlased. Virtuaalse kommunikatsiooni osas oli ainult positiivne tagasiside – üldine rahulolu nii kvaliteedi kui kommunikatsiooni tasemega, lisaks on kasutuses head tehnoloogilised vahendid. Meeskonna soorituse osas ollakse rahul, kuid tuleks uurida, miks osad meeskonnaliikmed on ajahädas oma tööülesannete täitmisel. Meeskonnaliikmete rahulolu on väga kõrge – ollakse uhked selle ettevõtte töötajateks olemise üle. Kuigi, väike osa meeskonnaliikmeid tunnistas, et nende töö- ja eraelu suhe pole kahjuks päris tasakaalus. Vastavalt tulemustele ja järeldustele identifitseeriti kaugjuhtimise komponentide parandamist vajavad probleemid ja pakuti ka võimalikud lahendused, lähtudes teadusartiklite põhjal kogitud kaugjuhtimise parimatest praktikatest

Antud töös kasutatud kvalitatiivse uuringu tulemusi ja kvantitatiivses uuringus välja töötatud küsimustikku koos tulemustega on võimalik kasutada ka tuleviku uuringutes. Edaspidi võiks vastavalt vajadusele kaaluda võimalust lisada kvalitatiivses uuringus uuritavatele kaugjuhtimise komponentidele ka teisi vajalikke komponente (nt värbamise kriteeriumid ja protseduurid, meeskonna arendus ja koolitus, tasusüsteemid jne) ja laiendada otsingukeskkondasid, kus uuringut läbi viia. Kvantitatiivse uuringu küsimustiku kasutamisel võiks küsimusi vastavalt tuleviku uuringu vajadustele kohandada, kuna käesoleva uuringu küsimused on kohandatud lähtuvalt IKT ettevõtte vajadustest.

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## APPENDICES

### **Appendix 1. The results of qualitative research – the best practices of effective remote leadership, based on the research articles presented in Appendix 2 (qualitative research)**

#### 1. The best practices – remote leadership

There are suggestions how to be the best remote leader and what skills should one have, what type of leadership is giving the best results, how to support and encourage the remote team by coaching them, how to inspire and motivate. The scholars have also proposed requirements for recruiting the most suitable candidates for a remote team, by pre-defining their skills and knowledge requirements. The self-managing teams are promoted.

- Select only qualified team members with sufficient task-related knowledge and skills (Lurey, Raisinghani 2001; Gibson, Cohen 2003, 10, 416) with excellent social, teamwork collaborative skills (Siebdrat *et al.* 2009; Gibson, Cohen 2003, 10, 416). Additionally, consider important skills such as the ability to organize effectively, good time management skills and adequate technical skills to use the ICT tools (Staples, Webster 2007).
- Start engaging the members from day one, e.g. effective recruitment and introduction programs, agree responsibilities, goals, etc. (Markos, Sridevi 2010).
- Coach and mentor members, be supportive and encouraging (Ocker *et al.* 2011; Boule 2008; Purvanova, Bono 2009), be understanding and empathizing toward the team (Kayworth, Leidner 2002).
- Promote self-leadership and self-facilitation in the team because the leader is less in a position to help, and support members to develop the skills necessary to work in remote setting. (Siebdrat *et al.* 2009; Nunamaker *et al.* 2009)
- Follow transformational leadership behaviour by providing sense of social context, structuring work, creating a sense of predictability and increasing team's productivity (Purvanova, Bono 2009).
- Follow transactional leadership by supporting the team to generate a greater number of ideas or solutions and to challenge team to think 'out of box' (Avolio, Kahai 2002).
- Inspire and motivate – show pride in the accomplishments of the team, be excited about new ideas and challenges (*Ibid.*).
- Delegate and facilitate – leader's needed skills are team management skills, particularly communication, conflict management, and administrative skills, and ability to trust team by assigning responsibilities to them. (Zaccaro, Bader 2003; Kayworth, Leidner 2002)
- Assert the leader's authority without being perceived as inflexible (Kayworth, Leidner 2002).
- Acknowledge difficulties posed by distance and virtual communication (Armstrong, Cole 2002 referenced in Purvanova, Bono 2009, 346), and challenge those challenges to become opportunities.
- Foster global culture and help members see themselves as part of an international network and have global mind-set (Siebdrat *et al.* 2009).

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- Turn diversity-related challenges into opportunities, handle them with right leadership actions and behaviours (Snellman 2014).

### 2. The best practices – team relationships and trust

There are suggestions how to build a well-functioning remote team from the beginning, what actions to be taken to ensure strong relationships among the team members that again leads to a strong performance of the team. The emphasis is on the social relations and the dedicated time for building those relations that again leads to trust. Another important element is openness and visibility starting from clear roles, understanding of team goals, etc. It is important for the remote leader to know the team, their personalities, their state of mind and level of satisfaction.

- Have face-to-face interaction at the beginning of a team's life to establish a basis for relationships, e.g. start with team-building exercises. (Zigurs 2003; Gibson, Cohen 2003, 413)
- Spend time in the beginning of the team work to get to know each other, and identify the participants, clarify their expectations and how they want to work together – that helps the team achieve high performance (Avolio, Kahai 2002), also consider their future goals and develop healthy and supportive environments (Lurey, Raisinghani 2001).
- Increase time spent with team members (Avolio, Kahai 2002), provide activities that cause people to get to know each other, e.g. ask members to share something personal or unexpected with others over virtual meeting, use of ice-breakers (Nunamaker *et al.* 2009).
- Provide regular face-to-face meetings – that can be particularly effective for initiating and maintaining key social processes that will encourage informal communication, team identification and cohesion, and to support team's informal interactions. (Siebdrat *et al.* 2009; Gibson, Cohen 2003, 413)
- Balance relationships with remote versus face-to-face team members, noting that no equal time is necessary as remote members might require more time investment (Avolio, Kahai 2002).
- Understand the emotional state of team members – leader must have high level of emotional intelligence (Zaccaro, Bader 2003).
- Have great awareness of remote team dynamics and greater skills in managing these dynamics over ICT channels (*Ibid.*).
- Put special and continuous emphasis on relational development (Zigurs 2003).
- Consider the importance of personal contact by establishing supportive member relationships – those relationships can become as critical for improving the success of teams, e.g. to create team-based reward systems (Lurey, Raisinghani 2001).
- Build relationships where the members are not afraid to openly discuss ideas and could be reached (Staples, Webster 2007).
- Build virtual presence – make everyone visible over ICT channels in the meetings, etc. (Nunamaker *et al.* 2009).
- Have strong feedback system (Markos, Sridevi 2010), and give positive feedback – direct feedback from the leader makes team more efficient, plus members feel appreciated (Sivunen 2006).
- Encourage members to support and encourage each other by empowering themselves and creating supportive space for discussion. (Boule 2008; Staples, Webster 2007)
- Be aware of the need of anonymous feedback when ideas or criticism need to be brought out, create environment for it. (Cascio, Shurygailo 2003; Nunamaker *et al.* 2009)

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- Discuss cultural differences and similarities openly to support understanding within the team (Gibson, Cohen 2003, 418).
- Build strong team culture that encourages hard work and keep success stories alive, to be a role model (Markos, Sridevi 2010).
- Make sure team membership changes occur with seamless continuity, e.g. members do change and that is not personal (Cascio, Shurygailo 2003).

### 2.1. The best practices – trust

- Set clear roles for each team member (*Cascio, Shurygailo 2003*).
- Show positive attitudes, eagerness, enthusiasm – well-integrated members achieve positive dynamics through joint efforts (*Ibid.*).
- Build and maintain mutual trust – safe environment encourages members' willingness to take risks with one another and show their vulnerabilities (Gibson, Cohen 2003, 9).
- Create visibility and openness in the team – visibility of members and their activities (Zigurs 2003).

### 3. The best practices – team processes

Processes are determined as the core element of an effective remote team. It is important that all members of the team acknowledge and follow the rules that support the team functioning and success. The successful remote team is excellent in sharing knowledge, have shared understanding, and common goals to achieve.

- Provide structure and formal processes to remote teams early in a team's formation and development – those are needed to perform their work (Lurey, Raisinghani 2001; Cascio, Shurygailo 2003), certain crucial team processes are key drivers of performance, e.g. help coordinating work and facilitate communication among members (Siebdrat *et al.* 2009).
- Have high level quality of task-related processes – this is to support high performance (*Ibid.*), i.e. find also new ways to focus attention on task, e.g. shared screens, etc. (Nunamaker *et al.* 2009).
- Have high level quality of social-emotional processes – this is to increase team cohesion, identification and informal communication to help to establish and maintain interpersonal bonds that enable a group to better cope with conflicts. (Siebdrat *et al.* 2009; Gibson, Cohen, 2003; 410-411)
- Agree social protocol for the remote team (Cascio, Shurygailo 2003).
- Establish and maintain certain norms, establish explicit processes (Cascio, Shurygailo 2003), agree on standards and common terminology (Nunamaker *et al.* 2009).
- Agree good practices within the team – good practices often become routines and will in positive manner support the team work by creating trustful environments, e.g. members know how often others check their emails, etc. (Boule 2008).
- Support the team to follow the procedures and have backup plans when conditions change, be ready to redefine the tasks, structure, policies, etc. (Gibson, Cohen 2003, 411-412, 418).
- Design tasks, provide support and resources that energize members and absorb them in their jobs (Markos, Sridevi 2010).
- Build team coherence by seamless group processes – link individuals' goals, create strategies for team tasks and link role expectations across team members (Kozlowski *et al.*, 1999) referenced in Bell, Kozlowski 2002, 27).
- Set shared understanding as a rule – make certain the team has common understanding of



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goals, to agree how to commonly achieve those goals, what are each members' tasks and value for the team (Gibson, Cohen, 2003, 8).

- Agree procedures for knowledge sharing – members need to be motivated to contribute their best knowledge to the team, and need to feel appreciated for that by receiving a fair share of rewards proportional to their contribution of knowledge (Jarvenpaa, Tanriverdi 2003).
- Support the team to adopt management processes and principals to ensure each member knows his/her objectives as member who knows what is expected to accomplish, is more engaged, and engagement leads to improved performance (Medlin, Green 2014).
- Take advantage of the diversity of the team and varied expertise – once task-related and social-emotional processes are in place, the dispersed knowledge can be integrated (Siebdrat *et al.* 2009).
- Use appropriate tools for structuring the team's processes, but leave some room for flexibility for the user to adapt individually (Zigurs 2003).
- Establish clear and proper boundaries between home and work (Cascio, Shurygailo 2003).

#### 4. The best practices – virtual communication

The scholars are suggesting to agree common understanding and rules for the virtual communication in the remote team in order to make most out of the already limited communication channels, and to evaluate the best tools for the specific team and task. Also reminding the remote leader how to build a good respectful two-way communication to engage the remote members. The awareness of the risk of the virtual communication helps to overcome them.

- Have frequent communication and give feedback regularly (Zigurs 2003), but keep in mind the higher risk of misinterpretation of ICT by receiver (Avolio, Kahai 2002).
- Agree rules of engagement for communication within the team – rules that are taken for granted in traditional teams, may need to be made explicit for remote teams, e.g. greeting each other in the beginning of a meeting (Brandt *et al.* 2011).
- Keep lines of communication open with responsive attitude, respond to requests even it is just confirming that message is received and when the answer will be given (Staples, Webster 2007).
- Remember that effective communication involves transferring ideas, sharing information, listening to and internalizing the ideas of others, and to notify members of any problems or issues (*Ibid.*).
- Be explicit in the communication, and have relevant procedures to support it (Nunamaker *et al.* 2009).
- Enhance two-way communication and ensure the team members have all the resources required – involve team members and show respect to their input, share power (Markos, Sridevi 2010).
- Emphasizing the group as a whole and de-emphasize individual differences by using references to 'we' and 'us' in their electronic communications (Avolio, Kahai 2002).
- Be aware of the risks of virtual communication – impersonality, use of English as second language, less details, less emotionally attached, misinterpretation, less social rituals, less feedback for miscommunication, etc. (Gibson, Cohen 2003, 409-410).
- Be aware that communication via ICT is often asynchronous and delayed, and leader can act to the event reactively (Bell, Kozlowski 2002).
- Assure the team has adequate resources for appropriate technology and keep technologies

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updated (Gibson, Cohen 2003, 414-415).

- Utilize face-to-face interactional and other group communication technologies, e.g. group call, video conference, etc., to enhance personal connections between team members (Lurey, Raisinghani 2001).
- Use variety of tools simultaneously as not all tools work for every person, e.g. prefer phone call, email, and use appropriate tool for a task (Boule 2008).
- Remember that remote teams are dependent upon ICT to perform their routine tasks – therefore, make certain the ICT in use are appropriate and cater all the needs of the team (Gibson, Cohen 2003, 409), as enabler of interpersonal connections and collaboration between the remote members (Lurey, Raisinghani, 2001).
- Use ICT also for informal, relational communication (Sivunen 2006).
- Let the team experiment with the technologies – this makes the team more creative and discovery-seeking, they feel empowered and continue creating new ideas (Boule 2008).

### 5. The best practices – team performance

There are mainly reminders to the remote leader how to support the remote team to have excellent performance and how to evaluate it, and how to support the team to achieve its goals. The performance in a team is a collaboration where each member knows exactly what is his/her role, what are the roles of other members and how to achieve the common goals.

- Set individual goals, and align those with the across organizational objectives (Gibson, Cohen 2003, 413), bring out common goals and workings to create team identity (Sivunen 2006).
- Assure crystal-clear understanding of the teams' primary objectives, deliverables and goals, with no room for assumptions (Lurey, Raisinghani 2001; Brandt *et al.* 2011), and utilize technological tools for maintaining and assigning goals-related tasks (Boule 2008).
- Promote close cooperation among teams and members in order to integrate deliverables (Cascio & Shurygailo, 2003).
- Help team to manage their own performance, leader needs to provide them goals, structures and norms (Bell, Kozlowski 2002).
- Highlight the expertise of the team members and link how that expertise relates to team's goals (Brandt *et al.* 2011).
- Assess each team member individually, considering the different boundaries like functions, cultures, etc., do not use universal strategy for performance assessment (Bell, Kozlowski 2002).
- Evaluate and reward performance routinely, realign reward structures for remote teams (Nunamaker *et al.* 2009).
- Establish reward mechanisms – both financial and non-financial as pay, recognition and praise (Markos, Sridevi 2010).
- Find incentives for successful performance that consider the diversity of the team (Brandt *et al.* 2011), remember that universal fit does not suit for all.
- Develop strong performance management system that makes both leader and team members accountable to reduce member turnover and increase business performance (Markos, Sridevi 2010).
- Provide training of performance management software tools to enhance team performance (Cascio, Shurygailo 2003).
- Train and develop leaders to excel in remote leadership, provide training programs and structured supports to leaders (Bell, Kozlowski 2002).

## Appendix 1 sequel

### 6. The best practices – team member satisfaction

Team member satisfaction is achieved only when the other components are satisfying the team members.

- Be flexible in team members' working location, if possible, as it may facilitate the balance of team member's work and life (Liao 2017).
- Be aware of team's level of satisfaction to be able to support and encourage the team when needed (Boule, 2008).
- Keep the working atmosphere open and supportive within the team, leave room for discovery and creation (*Ibid.*).
- Follow previously stated best practices of other components of effective remote leadership.

Source: compiled by author

**Appendix 2. Literature overview with keywords of the research articles that are used for the qualitative research (sample group) (qualitative research)**

Source	Remote leadership	Team relationships and trust	Team processes	Virtual communication	Team performance
Armstrong, Cole 2002 referenced in Purvanova, Bono 2009	Challenges of remote team	–	–	–	–
Avolio, Kahai 2002	Transactional leadership	Social communication and team expectations	–	Team as ‘we’	–
	Inspiration and motivation	Time investment			
		Different needs for remote vs face-to-face team members			
Bell, Kozlowski 2002	–	–	–	Asynchronous and delayed communication	Leader’s support to team
					Individual assessment
					Training and developing leaders
Boule 2008	Coaching	Team satisfaction	Agreeing good practices	Variety of tools	Task management tools
		Supportive team member relationships			
		Empowering			
Brandt <i>et al.</i> 2011	–	–	–	Communication rules	Understanding team’s objectives and goals
					Team member expertise vs team goals
					Diverse incentives

## Appendix 2 sequel

Cascio, Shurygailo 2003	–	Anonymous feedback	Structure and formal processes	–	Integrating deliverables within team
		Team membership changes	Social protocol		
		Clear team member goals	Establishing norms		
		Positive team dynamics	Home-work boundaries		
Gibson, Cohen 2003	Team member selection criteria	Face-to-face interaction	Socio-emotional processes	Awareness of risks of virtual communication	Aligning individual goals
		Cultural awareness	Supporting team	Appropriate and updated technology	
		Mutual trust	Readiness to react on changes		
			Shared understanding		
Jarvenpaa, Tanriverdi 2003	–	–	Knowledge sharing	–	–
Kayworth, Leidner 2002	Empathy	–	–	–	–
	Delegation				
	Leader's skills				
	Leader's authority				
Kozlowski <i>et al.</i> 1999 referenced in Bell, Kozlowski 2002	–	–	Team coherence	–	–
Lurey, Raisinghani 2001	Team member selection criteria	Team goals and environment	Structure and formal processes	Enhancing personal connections between members	Understanding team's objectives and goals
		Supportive team member relationships		Tools for interpersonal connections and collaboration	

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Markos, Sridevi 2010	Engaging team members	Team culture	–	Two-way communication	Establishing reward mechanisms
		Feedback system			Developing performance management system
Medlin, Green 2014	–	–	Team adopting management processes	–	–
Nunamaker <i>et al.</i> 2009	Self-leadership	Social activities	Task-related processes	Explicit communication	Routine performance evaluation
		Virtual presence	Agreeing standards		
		Anonymous feedback			
Ocker <i>et al.</i> 2011	Coaching	–	–	–	–
Purvanova, Bono 2009	Coaching	–	–	–	–
	Transformational leadership				
Siebrat <i>et al.</i> 2009	Team member selection criteria	Face-o-face interaction	Key drivers for team performance	–	–
	Self-leadership		Task-related processes		
	Global culture		Socio- emotional processes		
Sivunen 2006	–	Positive feedback	–	Informal, relational communication	–
Snellman 2014	Diversity	–	–	–	–

## Appendix 2 sequel

Staples, Webster 2007	Team member selection criteria	Openness	–	Responsive communication	–
		Supportive team member relationships		Effective communication	
		Empowering			
Zaccaro, Bader 2003	Delegation	Leader's emotional intelligence	–	–	–
	Leader's skills	Remote team dynamics			
Zigurs 2003	–	Face-to-face interaction	Appropriate process tools	Frequent communication	–
		Relational development		Regular feedback	
		Openness and visibility			

Source: compiled by author

**Appendix 3. The results of the source search with reference to Figure 1 (qualitative research)**

	The results of source search with the pre-defined keywords from online environments of Google Scholar and Tallinn University of Technology Library e-resources	Sources (not) used in the theoretical overview or qualitative research
1	Alsharo, M., Gregg, D., & Ramirez, R. (2017). Virtual team effectiveness: The role of knowledge sharing and trust. <i>Information &amp; Management</i> , 54, 479-490.	S****
2	Antonakis, J., & Atwater, L. (2002). Leader distance: a review and a proposed theory. <i>The Leadership Quarterly</i> , 13, 673-704.	S****
3	Avolio, B. J., & Kahai, S. S. (2002). Adding the "E" to E-Leadership: How it May Impact Your Leadership. <i>Organizational Dynamics</i> , 31 (4), 325-338.	S*
4	Avolio, B. J., Kahai, S., & Dodge, G. E. (2001). E-Leadership: implications for theory, research, and practice. <i>Leadership Quarterly</i> , 11 (4), 615-668.	S**
5	Ayoko, O. B., Konrad, A. M., & Boyle, M. V. (2012). Online work: Managing conflict and emotions for performance in virtual teams. <i>European Management Journal</i> , 30, 156-174.	S****
6	Balthazard, P. A., Waldman, D. A., & E., W. J. (2009). Predictors of the emergence of transformational leadership in virtual decision teams. <i>The Leadership Quarterly</i> , 20, 651-663.	S****
7	Bell, B. S., & Kozlowski, S. W. (2002). A Typology of Virtual Teams. Implications for Effective Leadership. <i>Group &amp; Organization Management</i> , 27 (1), 14-49.	S*
8	Berry, G. R. (2011). Enhancing effectiveness on virtual teams - Understanding why traditional team skills are insufficient. <i>Journal of Business Communication</i> , 48 (2), 186-206.	S**
9	Boule, M. (2008, January 1). ALA TechSource Library Technology Reports. Retrieved July 4, 2018, from Chapter 5: Best Practices for Working in a Virtual Team Environment: <a href="https://journals.ala.org/index.php/ltr/article/view/4416/5123">https://journals.ala.org/index.php/ltr/article/view/4416/5123</a>	S*
10	Brandt, V., England, W., & Ward, S. (2011, November-December). Virtual Teams. <i>Research - Technology Management</i> , 62-63.	S*
11	Brunelle, E. (2013, September). Leadership and Mobile Working: The Impact of Distance on the Superior-Subordinate Relationship and the Moderating Effects of Leadership Style. <i>International Journal of Business and Social Science</i> , 4 (11), 1-14.	S****
12	Bryant, S. M., Albring, S. M., & Murthy, U. (2009). The effects of reward structure, media richness and gender on virtual teams. <i>International Journal of Accounting Information Systems</i> , 10, 190-213.	S****
13	Carte, T. A., Chidambaram, L., & Becker, A. (2006). Emergent Leadership in Self-Managed Virtual Teams. <i>Group Decision and Negotiation</i> , 15, 323-343.	S**
14	Cascio, W. F., & Shurygailo, S. (2003). E-Leadership and Virtual Teams. <i>Organizational Dynamics</i> , 31 (4), 362-376.	S*
15	Charlier, S. D., Stewart, G. L., Greco, L. M., & Reeves, C. J. (2016). Emergent leadership in virtual teams: A multilevel investigation of individual communication and team dispersion antecedents. <i>The Leadership Quarterly</i> , 27, 745-764.	S****
16	Cheng, X., Fu, S., Sun, J., Han, Y., Shen, J., & Zarifis, A. (2016). Investigating individual trust in semi-virtual collaboration of multicultural and unicultural teams. <i>Computers in Human Behavior</i> , 62, 267-276.	S****



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17	Christmann, P. (2000). Effect of "Best Practices" of Environmental Management on Cost Advantages: The Role of Complementary Assets. <i>The Academy of Management Journal</i> , 43 (4), 663-680 (665).	S**
18	Dulebohn, J. H., & Hoch, J. E. (2017). Virtual teams in organizations. <i>Human Resource Management</i> , 27, 569-574.	S**
19	Ford, R. C., Piccolo, R. F., & Ford, L. R. (2017). Strategies for building effective virtual teams: Trust is key. <i>Business Horizons</i> , 60, 25-34.	S***
20	Gibbs, J. I., Sivunen, A., & Boyraz, M. (2017). Investigating the impacts of team type and design on virtual team processes. <i>Human Resource Management Review</i> , 27, 590-603.	S***
21	Gibson, C. B., & Cohen, S. G. (2003). In the Beginning: Introduction and Framework. In C. B. Gibson, & S. G. Cohen, <i>Virtual Teams That Work: Creating Conditions for Virtual Team Effectiveness</i> (pp. 1-13, 403-420). San Francisco: Jossey-Bass A Wiley Imprint.	S*
22	Guinalú, M., & Jordán, P. (2016). Building trust in the leader of virtual work teams. <i>Spanish Journal of Marketing – ESIC</i> , 20, 58-70.	S**
23	Hart, R. K., & McLeod, P. L. (2003). Rethinking Team Building in Geographically Dispersed Teams: One Message at a Time. <i>Organizational Dynamics</i> , 31 (4), 352-361.	S**
24	Henderson, L. S., Stackman, R. W., & Lindekilde, R. (2016). The centrality of communication norm alignment, role clarity, and trust in global project teams. <i>International Journal of Project Management</i> , 34, 1717-1730.	S***
25	Hertel, G., Geister, S., & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. <i>Human Resource Management Review</i> , 15, 69-95.	S***
26	Hill, H. S., Bartol, K. M., Tesluk, P. E., & Langa, G. A. (2009). Organizational context and face-to-face interaction: Influences on the development of trust and collaborative behaviors in computer-mediated groups. <i>Organizational Behavior and Human Decision Processes</i> , 108, 187-201.	S***
27	Hoch, J. E., & Dulebohn, J. H. (2017). Team personality composition, emergent leadership and shared leadership in virtual teams: A theoretical framework. <i>Human Resource Management Review</i> , 27, 678-693.	S***
28	Howell, J. M., Neufeld, D. J., & Avolio, B. J. (2005). Examining the relationship of leadership and physical distance with business unit performance. <i>The Leadership Quarterly</i> , 16, 273-285.	S***
29	Jarvenpaa, S. L., & Tanriverdi, H. (2003). Leading Virtual Knowledge Networks. <i>Organizational Dynamics</i> , 31 (4), 403-412.	S*
30	Jurrens, G. K. (2005). Long Distance Leadership – A Compendium of Successful Remote Technology and Innovation Management Practices. <i>IEEE</i> , 705-709.	S***
31	Kaiser, P. R., Tullar, W. L., & McKowen, D. (2000, December 4). Student Team Projects by Internet. <i>Business Communication Quarterly</i> , 63( 4), 75-82.	S**
32	Kayworth, T. R., & Leidner, D. E. (2002, Winter). Leadership Effectiveness in Global Virtual Teams. <i>Journal of Management Information Systems</i> , 18 (3), 7-40.	S*
33	Kelley, E., & Kelloway, E. K. (2012). Context Matters: Testing a Model of Remote Leadership. <i>Journal of Leadership &amp; Organizational Studies</i> , 19 (4), 437-449.	S**
34	Kelloway, E. K., Barling, J., Kelley, E. C., & Gatien, B. (2003). Remote transformational leadership. <i>Leadership &amp; Organization Development Journal</i> , 24 (3), 163-171.	S***

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35	Kerber, K. W., & Buono, A. F. (2004, Autumn). Leadership Challenges in Global Virtual Teams: Lessons From the Field. <i>SAM Advanced Management Journal</i> , 4-10.	S***
36	Liao, C. (2017). Leadership in virtual teams: A multilevel perspective. <i>Human Resource Management Review</i> , 27, 648-659.	S**
37	Lurey, J. S., & Raisinighani, M. S. (2001). An empirical study of best practices in virtual teams. <i>Information &amp; Management</i> , 38, 523-544.	S*
38	Malhotra, A., & Majchrzak, A. (2004). Enabling knowledge creation in far-flung teams: best practices for IT support and knowledge sharing. <i>Journal of Knowledge Management</i> , 8 (4), 75-88.	S***
39	Markos, S., & Sridevi, M. (2010). Employee Engagement: The Key to Improving Performance. <i>International Journal of Business and Management</i> , 5 (12), 89-96.	S*
40	Marlow, S. L., Lacerenza, C. N., & Salas, E. (2017). Communication in virtual teams: a conceptual framework and research agenda. <i>Human Resource Management Review</i> , 27, 575-589.	S***
41	Medlin, B., & Green Jr., K. W. (2014). Impact of management basics on employee engagement. <i>Academy of Strategic Management Journal</i> , 13 (2), 21-35.	S*
42	Mesmer-Magnus, J. R., DeChurch, L. A., Jimenez-Rodriguez, M., Wildman, J., & Shuffler, M. (2011). A meta-analytic investigation of virtuality and information sharing in teams. <i>Organizational Behavior and Human Decision Processes</i> , 115, 214-225.	S***
43	Miles, S. J., & Mangold, G. (2002). The impact of team leader performance on team member satisfaction: the subordinate's perspective. <i>Team Performance Management: An International Journal</i> , 8 (5/6), 113-121.	S**
44	Mitchell, A. (2012). Interventions for effectively leading in a virtual setting. <i>Business Horizons</i> , 55, 431-439.	S***
45	Neufeld, D. J., Wan, Z., & Fang, Y. (2010). Remote Leadership, Communication Effectiveness and Leader Performance. <i>Group Decision and Negotiation</i> , 19, 227-246.	S**
46	Nunamaker Jr., J. F., Reinig, B. A., & Briggs, R. O. (2009, April). Principles for Effective Virtual Teamwork. <i>Communication of ACM</i> , 52 (4), 113-117.	S*
47	Ocker, R. J., Huang, H., Benbunan-Fich, R., Hiltz, & Roxanne, S. (2011). Leadership Dynamics in Partially Distributed Teams: an Exploratory Study of the Effects of Configuration and Distance. <i>Group Decision and Negotiation</i> , 20, 273-292.	S*
48	Penarroja, V. O., Zornoza, A., Sanchez, J., & Ripoll, P. (2015). How team feedback and team trust influence information processing and learning in virtual teams: A moderated mediation model. <i>Computers in Human Behavior</i> , 48, 9-16.	S***
49	Powell, A., Piccoli, G., & Ives, B. (2004, Winter). Virtual Teams: A Review of Current Literature and Directions for Future Research. <i>Advances in Information Systems</i> , 35 (1), 6-36.	S***
50	Purvanova, R. K., & Bono, J. E. (2009). Transformational leadership in context: Face-to-face and virtual teams. <i>The Leadership Quarterly</i> , 20, 343-357.	S*
51	Rockmann, K. W., & Northcraft, G. B. (2010). Expecting the Worst? The Dynamic Role of Competitive Expectations in Team Member Satisfaction and Team Performance. <i>Small Group Research</i> , 41 (3), 308-329.	S**
52	Rusman, E., van Bruggen, J., Cörvers, R., Sloep, P., & Koper, R. (2009). From pattern to practice: Evaluation of a design pattern fostering trust in virtual teams. <i>Computers in Human Behavior</i> , 25, 1010-1019.	S***

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53	Schiller, S. Z., Mennecke, B. E., Fui-Hoon Nah, F., & Luse, A. (2014). Institutional boundaries and trust of virtual teams in collaborative design: An experimental study in a virtual world environment. <i>Computers in Human Behavior</i> , 35, 565-577.	S***
54	Siebrat, F., Hoegl, M., & Ernst, H. (2009, Summer). How to Manage Virtual Teams. <i>MIT Sloan Management Review</i> , 50 (4), 62-68.	S*
55	Sivunen, A. (2006). Strengthening Identification with the Team in Virtual Teams: The Leader's Perspective. <i>Group Decision and Negotiation</i> , 15, 345-366.	S*
56	Snellman, C. L. (2014). Virtual teams: opportunities and challenges for e-leaders. <i>Procedia - Social and Behavioral Sciences</i> , 110, 1251-1261.	S*
57	Squicciarini, A. C., Paci, F., & Bertino, E. (2011). Trust establishment in the formation of Virtual Organizations. <i>Computer Standards &amp; Interfaces</i> , 33, 13-23.	S***
58	Staples, D. S., & Webster, J. (2007). Exploring Traditional and Virtual Team Members' "Best Practices". A Social Cognitive Theory Perspective. <i>Small Group Research</i> , 38 (1), 60-97.	S*
59	Suchan, J., & Hayzak, G. (2001, September 3). The Communication Characteristics of Virtual Teams: A Case Study. <i>IEEE Transactions on Professional Communication</i> , 44 (3), pp. 174-186.	S**
60	Van Wart, M., Roman, A., Wang, X., & Liu, C. (2017). Integrating ICT adoption issues into (e-)leadership theory. <i>Telematics and Informatics</i> , 34, 527-537.	S***
61	Verburg, R. M., Bosch-Sijtsema, P., & Vartiainen, M. (2013). Getting it done: Critical success factors for project managers in virtual work settings. <i>International Journal of Project Management</i> , 31, 68-70.	S***
62	Wageman, R. (2001). How Leaders Foster Self-Managing Team Effectiveness: Design Choices Versus Hands-on Coaching. <i>Organization Science</i> , 12, 559-577.	S**
63	Whitford, T., & Moss, S. A. (2009). Transformational Leadership in Distributed Work Groups: The Moderating Role of Follower Regulatory Focus and Goal Orientation. <i>Communication Research</i> , 36 (6), 810-837.	S***
64	Zaccaro, S. J., & Bader, P. (2003). E-Leadership and the Challenges of Leading E-Teams: Minimizing the Bad and Maximizing the Good. <i>Organizational Dynamics</i> , 31 (4), 377-387.	S*
65	Zander, L., Zetting, P., & Mäkela, K. (2013). Leading global virtual teams to success. <i>Organizational Dynamics</i> , 42, 228-237.	S**
66	Zigurs, I. (2003). Leadership in Virtual Teams: Oxymoron or Opportunity? <i>Organizational Dynamics</i> , 31 (4), 339-351.	S*
67	Zimmerman, P., Wit, A., & Gill, R. (n.d.). The Relative Importance of Leadership Behaviours in Virtual and Face-to-Face Communication Settings. <i>Leadership</i> , 4 (3), 321-337.	S***

\*sources used in theoretical overview and in the qualitative research (sample group)

\*\*sources used only in theoretical overview

\*\*\*sources that had match in the source search, but did not match the purpose of this research, not used in the research

Source: compiled by author

## **Appendix 4. Online survey introduction email and questionnaire to the company (quantitative research)**

*Introduction email to the company*

Hi!

My name is Pamela Saaron-Juhanson and I am studying Human Resources Management in Tallinn University of Technology. I am writing a master's thesis about the remote leadership and its challenges in your company.

I have joined your HR team temporarily to support them with Remote Leadership Survey, its analysis and improvement plan.

The purpose of this survey is to understand how you think and feel about the remote leadership and remote working in your company. Your feedback on how do you perceive your team's processes, team relationships and trust, virtual communication, performance, collaboration and your direct manager will help to identify the challenges and to address any areas of concern, of course, if any.

Therefore, I am asking for your input. In the survey you will find 6 background questions and 56 statement questions. The survey will take approximately 20 – 30 minutes to complete.

When answering, you note that some questions assume that you are working in a remote team. Please answer even if you are not, as your answer will be valuable to us in any case. The remote leadership is a critical part of your operations, and everyone's feedback is very valuable and appreciated.

Please note that your answers will be confidential. Your HR team will receive a report of the results from me, and they will share the results with you.

Should you have any questions about the survey and its questions, please contact me or HR team.

**Link to the survey:** <link>

Please click on **Submit** to record your response.

The survey link is **open from Wednesday, 17<sup>th</sup> October until next Friday, 26<sup>th</sup> October.**

Thank you in advance!

Pamela Saaron-Juhanson

## Appendix 4 sequel

*Online survey questionnaire to the company*

### REMOTE LEADERSHIP SURVEY

Please read the following questions and when answering, kindly note that most questions should be answered by using the added evaluation scale (Strongly agree – Agree – Disagree – Strongly disagree – Not applicable), and a few questions have drop down selections. The survey consists of 6 + 56 statement questions. Your feedback is highly appreciated.

To start with, please answer 6 background questions about yourself. This is needed only to be able to provide deeper analysis of the results.

After you have finished answering, please click on Submit to record your response. In case you do not have time to finish the survey, scroll to Submit and you can edit and finish it later.

#### *\*Mandatory questions*

- Are you working in a remote team (the remote team is considered when either yourself, your direct manager or anyone from your team is working remotely, i.e. is not located in the same location as yourself / rest of the team)?  
(Yes / No) \*
- My direct manager is located ...  
(in the same location with me and rest of the team. / in the same location with me, but not with the rest of the team. / in the different location with me, but in the same location with the rest of the team. / in the different location from the whole team.) \*
- Your location (please select):  
(Bulgaria / Estonia / Spain) \*
- Your department (please select):  
(list of departments) \*
- How long have you been working within the company?  
(Less than 1 year / More than 1 year / More than 2 years/ More than 3 years / More than 4 years / More than 5 years) \*
- Your gender (please select):  
(Female / Male) \*

#### I Team processes

This section asks you questions about the team processes in your team, and how these are managed.

## Appendix 4 sequel

1. New team members are quickly brought up to speed when they join our team by giving them access to critical information to learn about the team's processes and earlier work.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
2. Face-to-face team meetings are held whenever possible so we can discuss things together.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
3. We regularly use phone and/or online computer conferences to share ideas within our team.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
4. During these online conferences, time is dedicated to developing social relations as well as addressing business issues.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
5. Our team celebrates our successes.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
6. Team members have a shared understanding of what our team, i.e. each member individually, is supposed to do.  
(*Strongly Agree – Agree – Disagree – Strongly Disagree – Not Applicable*)
7. We are clear on how best to perform our work tasks.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
8. Our team has established norms to support our smooth operations.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
9. We keep our established norms updated within our team.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
10. In our team we have established clear boundaries between home and work.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)

### II Team relationships and trust

This section asks you questions about the team relationships and trust within your team.

11. I had opportunity to meet my fellow team members in person early on after I had joined the team.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
12. Our team has dedicated time to discuss our team's purpose and goals.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)

## Appendix 4 sequel

13. Our team is dedicating time to team building exercises such as meeting individual team members, creating effective team communication, discussing conflict resolution, etc.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
14. Members of our team trust one another and will consult each other if they need support.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
15. Members of our team feel that we share goals and objectives.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
16. Knowledge and information sharing is understood to be a group norm within our  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
17. In our team we support and encourage each other by empowering ourselves.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
18. When disagreements occur in our team, these are usually addressed promptly in order to solve them.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
19. I enjoy being member of this team.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
20. In our team we are not afraid to openly discuss different subjects.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)

### III Virtual communication and tools

This section asks you questions about the virtual communication and technological tools within your team.

21. I have access to all information I need to perform my work.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
22. Our team is equipped with the adequate tools and technologies to perform our tasks.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
23. Team members are in contact with one another on a regular basis in order to conduct routine business.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
24. Team members are in contact with one another on a regular basis for social, or non-business, purposes.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
25. Please indicate the frequency with which you use the following tools for exchanging business information with your closest remote colleagues.

## Appendix 4 sequel

Communication tool	Daily	A few times a week	Once a week	Once a month	Less than once a month	Once a year	Never / Not Applicable
Face-to-face interaction							
Personal Phone Call							
Email							
Online communication tool (Skype, etc.)							
Group Phone Conference							
Group Video Conference							
Shared Database / Platform (Confluence, Google Drive, etc.)							

26. The managers in our organization are competent with and serve as positive role models in the use of our virtual communication and information technologies.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
27. I am satisfied with the frequency of communication between myself and direct manager.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
28. I am satisfied with the quality of communication (the received information helps me to do my work) between myself and my direct manager.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
29. In our team we are aware of the risks of the virtual communication (e.g. impersonal, use of English as second language, less details shared, less emotionally attached, risks of misinterpretation, less social rituals, less feedback for miscommunication, etc).  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
30. In my opinion, we practise effective communication in our team (e.g. transfer ideas, share information, listen to each other, notify team members of any problems or issues, etc.).  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)

### IV Team's performance

This section asks you questions about the performance of your team and yourself.

31. My role on the team was clearly explained to me when I joined the team.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
32. My direct manager makes sure team members have clear goals to achieve.



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*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

33. My team is currently meeting its business objectives.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

34. I feel my input is valued by the members of the team.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

35. I feel that I have sufficient time to perform my responsibilities.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

36. My direct manager is good at evaluating my performance.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

37. My direct manager is good at following up the agreements we made during the performance reviews / quarterly goals meetings.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

### V Collaboration

This section asks you questions about the collaboration in your company, and how do you perceive it.

38. In our company it is encouraged that individuals take initiative and participate in important decisions.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

39. Our team is well supported by the company.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

40. In our team we are aware of the challenges of the remote teamwork (e.g. communication difficulties, lower team engagement, possible trust issues, issues with sharing responsibilities, risks of isolation, social distance between team members, etc.).

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

41. In our team we know how to effectively work together.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

42. Members of our team use their own judgement in solving problems.

*(Strongly agree – Agree – Disagree – Strongly disagree – Not applicable)*

### VI Leadership

This section asks you questions about your direct manager. Your feedback will help to understand how the leadership is practiced in your company.

## Appendix 4 sequel

43. My direct manager is often absent when needed.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
44. My direct manager fosters involvement and cooperation among team members.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
45. My direct manager avoids getting involved when important issues arise.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
46. My direct manager enables others to think about old problems in new way.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
47. My direct manager supports and encourages team members' development.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
48. My direct manager is good at anticipating work flow problems and avoid crises.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
49. My direct manager goes beyond self-interest for the good of the group.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
50. My direct manager is good at handling conflicts.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
51. My direct manager does not act until problems need attention.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
52. My direct manager is good at delegating by assigning responsibilities to us.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
53. My direct manager inspires associates to achieve the goals by extra effort.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
54. My direct manager gives positive feedback regularly.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
55. My direct manager stays informed of mistakes, complaints, and failures.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)
56. My direct manager makes clear what rewards one can expect to receive when performance goals are achieved.  
(*Strongly agree – Agree – Disagree – Strongly disagree – Not applicable*)

Thank you for your time and valuable feedback!

Source: compiled by author

## Appendix 5. The overview of the origin of the questions in the questionnaire instrument (quantitative research)

Original questionnaire (Lurey, Raisinghani 2001)				Current questionnaire used for quantitative research				
Blocks	No	Questions	Is the Q used in the current research? If yes, Q no refers to the current questionnaire's Q no	Blocks	No	Questions	Origin of the question	Variable group in the current quantitative research
I Design of virtual team: information about virtual team	1	I was invited to participate in the formation of this team.	Not applicable for current research	I Team processes	1	New team members are quickly brought up to speed when they join our team by giving them access to critical information to learn about the team's processes and earlier work.	Lurey, Raisinghani 2001	Team processes
	2	Team members were asked for their suggestions when the team was originally formed.	Not applicable for current research		2	Face-to-face team meetings are held whenever possible so we can discuss things together.	Lurey, Raisinghani 2001	Team processes
	3	Careful consideration was given to the team's objectives during the design of this team.	Not applicable for current research		3	We regularly use phone and/or online computer conferences to share ideas within our team.	Lurey, Raisinghani 2001	Team processes
	4	Those who designed the team considered the larger organization as well as the team itself.	Not applicable for current research		4	During these online conferences, time is dedicated to developing social relations as well as addressing business issues.	Lurey, Raisinghani 2001	Team processes
	5	I received sufficient information to understand the team's purpose when I was notified about being a member of this team.	Not applicable for current research		5	Our team celebrates our successes.	Lurey, Raisinghani 2001	Team processes
	6	My role on the team was clearly explained to me during the notification.	31		6	Team members have a shared understanding of what our team, i.e. each member individually, is supposed to do.	Lurey, Raisinghani 2001	Team processes
	7	New team members are quickly brought up to speed when they join the team.	1		7	We are clear on how best to perform our work tasks.	Lurey, Raisinghani	Team processes
	8	New team members can access critical information to learn about the team's history	Q merged with Q 1		8	Our team has established norms to support our smooth operations.	author	Team processes
	9	I was notified that I would be a member of this team through the following means. Please mark all that apply.	Not applicable for current research		9	We keep our established norms updated within our team	author	Team processes
I Design of virtual team: job characteristics and selection of team members	10	I gain intrinsic reward and satisfaction from my job.	Block not applicable for current research	II Team relationships and trust	10	In our team we have established clear boundaries between home and work	author	Team processes
	11	I find that I am challenged by my work.			11	I had opportunity to meet my fellow team members in person early on after I had joined the team.	Lurey, Raisinghani 2001	Team relationships and trust
	12	My job gives me the opportunities to develop my knowledge and skills.			12	Our team has dedicated time to discuss our team's purpose and goals.	Lurey, Raisinghani 2001	Team relationships and trust
	13	I am able to add value to the team's work.			13	Our team is dedicating time to team building exercises such as meeting individual team members, creating effective team communication, discussing conflict resolution,	Lurey, Raisinghani 2001	Team relationships and trust
	14	Team members were selected based on their individual talents and abilities to contribute to the team.			14	Members of our team trust one another and will consult each other if they need support.	Lurey, Raisinghani 2001	Team relationships and trust
	15	When selected, team members were technically competent with the tools we use to perform our work and interact with one			15	Members of our team feel that we share goals and objectives.	Lurey, Raisinghani 2001	Team relationships and trust
	16	Team members were selected simply because they were not otherwise committed and were available to work on this assignment.			16	Knowledge and information sharing is understood to be a group norm within our.	Lurey, Raisinghani 2001	Team relationships and trust

## Appendix 5 sequel

I Design of virtual team: team member relations	17	Team members were given the opportunity to meet each other in person early on in the team's development.	11		17	In our team we support and encourage each other by empowering ourselves.	author	Team relationships and trust
	18	During the team's first meeting, some time was dedicated to discussing the team's purpose and goals.	12		18	When disagreements occur in our team, these are usually addressed promptly in order to solve them.	Lurey, Raisinghani 2001	Team relationships and trust
	19	During the team's first meeting sometime was dedicated to team building exercises such as meeting individual team members, creating effective team communication, and/or	13		19	I enjoy being member of this team.	Lurey, Raisinghani 2001	Team member satisfaction
	20	I rely upon other team members to complete my assigned work.	Not applicable for current research		20	In our team we are not afraid to openly discuss different subjects.	author	Team relationships and trust
	21	Team members trust one another and will consult each other if they need support.	14	III Virtual communication and tools	21	I have access to all information I need to perform my work.	Lurey, Raisinghani 2001	Communication patterns
	22	Team members experience a sense of shared goals and objectives.	15		22	Our team is equipped with the adequate tools and technologies to perform our tasks.	Lurey, Raisinghani	Communication patterns
	23	Knowledge and information sharing is understood to be a group norm within my team.	16		23	Team members are in contact with one another on a regular basis in order to conduct routine business.	Lurey, Raisinghani 2001	Communication patterns
	24	Our team is very cohesive unit.	Q asked in Q 17 and 19		24	Team members are in contact with one another on a regular basis for social, or non-business, purposes.	Lurey, Raisinghani 2001	Communication patterns
25	When disagreements occur, they are usually addressed promptly in order to solve them.	18		25	Please indicate the frequency with which you use the following tools for exchanging business information with your closest remote colleagues.	Lurey, Raisinghani 2001	Tools and technologies	
I Design of virtual team: team's process	26	Face-to-face team meetings are held whenever possible so people can discuss things together.	2		26	The managers in our organization are competent with and serve as positive role models in the use of our virtual	Lurey, Raisinghani 2001	Executive leadership style
	27	Time is dedicated to developing social relations as well as addressing business issues during these face-to-face meetings.	4		27	I am satisfied with the frequency of communication between myself and direct manager.	author	Communication patterns
	28	Team members regularly use phone and/or online computer conferences to share ideas.	3		28	I am satisfied with the quality of communication (the received information helps me to do my work) between myself and	Kayworth, Leidner 2002	Communication patterns
	29	Time is dedicated to developing social relations as well as addressing business issues during these electronic conferences.	Q asked in Q 4 and 24		29	In our team we are aware of the risks of the virtual communication (e.g. impersonal, use of English as second language, less details shared, less emotionally attached, risks of misinterpretation, less social rituals, less	author	Internal team leadership
	30	The team established a trend of success early on.	Not applicable for current research		30	In my opinion, we practise effective communication in our team (e.g. transfer ideas, share information, listen to each other, notify team members of any problems or	author	Communication patterns
	31	The team celebrates its successes.	5	IV Team performance	31	My role on the team was clearly explained to me when I joined the team.	Lurey, Raisinghani	Team performance
	32	Team members were able to recognize our collective talents and utilize them from the beginning.	Not applicable for current research		32	My direct manager makes sure team members have clear goals to achieve.	Lurey, Raisinghani 2001	Team performance
	33	Team members have a shared understanding of what the team is supposed to do.	6		33	My team is currently meeting its business objectives.	Lurey, Raisinghani	Team performance
	34	We are clear on how best to perform our work tasks.	7		34	I feel my input is valued by the members of the team.	Lurey, Raisinghani 2001	Team member satisfaction
	35	Our team has an established process for making decisions.	Q asked in Q 8, 9 and 42		35	I feel that I have sufficient time to perform my responsibilities.	Kayworth, Leidner 2002	Team performance
	36	Team members use their own judgement in solving problems.	42		36	My direct manager is good at evaluating my performance.	Kayworth, Leidner 2002	Internal team leadership
	37	The team's leaders offer new ideas or approaches to do our jobs better.	46		37	My direct manager is good at following up the agreements we made during the performance reviews / quarterly goals meetings.	Kayworth, Leidner 2002	Internal team leadership
	38	The team's leaders are friendly and can be easily approached.	43	V Collaboration	38	In our company it is encouraged that individuals take initiative and participate in	Lurey, Raisinghani	Executive leadership style
39	Team members feel that the team's leaders are helpful and supportive.	47	39		Our team is well supported by the company.	Lurey, Raisinghani	Executive leadership style	
40	The team's leaders make sure team members have clear goals to achieve.	32	40		In our team we are aware of the challenges of the remote teamwork (e.g. communication difficulties, lower team engagement, possible trust issues, issues with sharing responsibilities, risks of isolation, social	author	Internal team leadership	
41	The team's leaders keep individuals working together as a team.	44	41		In our team we know how to effectively work together.	author	Team processes	

## Appendix 5 sequel

II Organizational support systems: organizational environment	42	The organization has a strong educational system.	Block not applicable for current research	VI Leadership	42	Members of our team use their own judgement in solving problems.	Lurey, Raisinghani 2001	Team processes
	43	I receive sufficient training from the organization to develop my core skills.			43	My direct manager is often absent when needed.	Lurey, Raisinghani	Laissez-faire leadership style
	44	Since the team's formation, team members have received training focused on becoming more effective in the virtual team setting.			44	My direct manager fosters involvement and cooperation among team members.	Lurey, Raisinghani 2001	Transformational leadership style
	45	Training is based on only technical skills such as using specific software applications or issues like product knowledge.			45	My direct manager avoids getting involved when important issues arise.	Avolio, Bass 1995	Laissez-faire leadership style
	46	Training seminars were developed specifically to help us communicate effectively with our fellow team members who work in dispersed			46	My direct manager enables others to think about old problems in new way.	Lurey, Raisinghani 2001	Transformational leadership style
	47	I am rewarded individually for my work efforts.	56		47	My direct manager supports and encourages team members' development.	Lurey, Raisinghani 2001	Transformational leadership style
	48	All team members are rewarded when the team reaches its goals.	Q asked in Q 56		48	My direct manager is good at anticipating work flow problems and avoid crises.	Kayworth, Leidner 2002	Transactional leadership style
	49	Our team is well supported by the organization.	39		49	My direct manager goes beyond self-interest for the good of the group.	Avolio, Bass 1995	Transformational leadership style
II Organizational support systems: organizational leadership	50	The organization's leaders have created a vision for the company.	Not applicable for current research	50	My direct manager is good at handling conflicts.	author	Transactional leadership style	
	51	This vision is articulated to all members of the organization.	Not applicable for current research	51	My direct manager does not act until problems need attention.	Avolio, Bass 1995	Laissez-faire leadership style	
	52	The management approach in our organization promotes initiative in team members.	Q merged with Q 38	52	My direct manager is good at delegating by assigning responsibilities to us.	author	Transactional leadership style	
	53	Individuals are encouraged to take initiative and participate in important decisions.	38	53	My direct manager inspires associates to achieve the goals by extra effort.	author	Transformational leadership style	
	54	The organization's leaders are competent with and serve as positive role models in the use of our communication technologies.	26	54	My direct manager gives positive feedback regularly.	author	Internal team leadership	
II Organizational support systems: communication tools and technology	55	Management encourages the use of electronic communication and information systems.	Q merged with Q 26	55	My direct manager stays informed of mistakes, complaints, and failures.	Avolio, Bass 1995	Transactional leadership style	
	56	I have access to all of the information I need to perform my work.	21	56	My direct manager makes clear what rewards one can expect to receive when performance goals are achieved.	Lurey, Raisinghani 2001	Transactional leadership style	
	57	The team is equipped with the adequate tools and technologies to perform our tasks.	22					
	58	Team members are in contact with one another on a regular basis in order to conduct	23					
	59	Team members are in contact with one another on a regular basis for social, or non-business, purposes.	24					
	60	The electronic methods we use to communicate with one another are effective.	Q asked in Q 30					
	61	Please indicate the frequency with which you use the following tools for exchanging routine business information with fellow team members.	25					

## Appendix 5 sequel

III Virtual team: team performance	62	In the past, the team has been effective in reaching its goals.	Not applicable for current research
	63	The team is currently meeting its business	33
	64	When the team completes its work, it is generally on time.	Not applicable for current research
	65	When the team completes its work, it is generally within the budget.	Not applicable for current research
	66	There is respect for individuals in the team.	Q merged with Q 14
	67	I feel my input is valued by the members of the team.	34
	68	Team member morale is high in the team.	Q merged with Q 19
	69	I enjoy being member of this team.	19
	70	In the future, I would be interested in participating in another virtual team.	Not applicable for current research
	III Virtual team: general information about team member, team and organization	71	Name of organization.
72		Your position in the organization. Please mark only one choice.	
73		In the last year, how many teams have you participated in where all team members were based in the same location?	
74		In the last year, how many teams have you participated in where some of the team members were dispersed across different	
75		Name of the virtual team you referred to in this survey.	
76		Total number of team members on this team.	
77		Your position in relationship to this team. Please mark only one choice.	
78		How long has this team been existence?	
79		How long have you been a member of this	
80		Have you been a member of this team since its inception?	
81		How would you describe this team? Please mark all that apply.	
82		Your name.	
III Virtual team: short answer questions	83	Based on your experiences, what is the greatest challenge for a virtual team?	Block not applicable for current research
	84	Based on your experience, what is the greatest challenge for effective communication between team members of a virtual team?	

Source: compiled by author

## Appendix 6. The response rates per respondents' profiles (quantitative research)

	No of invited respondents (N)	No of participated respondents (N)	Response rate (within the category) (%)	Response rate (total) (%)
Team member's remoteness				
remote team	...	33	...	52,4%
co-located team	...	30	...	47,6%
Team leader's location				
same with the majority of the team	...	46	...	73,0%
different from the majority of the team	...	17	...	27,0%
Team member's location				
country A	17	12	70,6%	19,0%
country B	71	45	63,4%	71,4%
country C	2	6	300,0%	9,5%
Team member's department				
department A	10	5	50,0%	7,9%
department B	3	2	66,7%	3,2%
department C	4	2	50,0%	3,2%
department D	34	24	70,6%	38,1%
department E	7	2	28,6%	3,2%
department F	2	2	100,0%	3,2%
department G	6	4	66,7%	6,3%
department H	1	2	200,0%	3,2%
department I	21	20	95,%	31,7%
department J	2	0	0,0%	0,0%
Team member's length of employment				
less than 1 year	13	8	6,5%	12,7%
more than 1 year	17	16	94,1%	25,4%
more than 2 years	15	10	66,7%	15,9%
more than 3 years	18	14	77,8%	22,2%
more than 4 years	15	7	46,7%	11,1%
more than 5 years	12	8	66,7%	12,7%
Team member's gender				
female	29	20	69,0%	31,7%
male	61	43	70,5%	68,3%
Total				
sample group	90	63	70,0%	70,0%

Source: author's calculations

**Appendix 7. The descriptive statistics and frequency of negative responses by variable groups (quantitative research)**

	Mean M	Standard Deviation SD	Frequency max N 63	Cumulative percent %
<i>Laissez-faire</i> leadership style	1,71	0,432	3	4,8%
Transactional leadership style	3,08	0,414	2	4,1%
Team processes	3,09	0,374	3	6,1%
Team performance	3,17	0,417	5	8,2%
Team relationships and trust	3,19	0,421	1	4,8%
Internal team leadership	3,19	0,392	2	3,9%
Executive leadership style	3,20	0,542	8	13,1%
Transformational leadership style	3,20	0,389	2	4,3%
Communication patterns	3,27	0,374	0	0,0%
Team member satisfaction	3,48	0,424	1	1,6%

Source: author's calculations



**Appendix 8. The descriptive statistics and frequency of negative responses by questions (quantitative research)**

	Mean M	Standard Deviation SD	Frequency total N 63	Cumulative percent %
1. New team members are quickly brought up to speed when they join our team by giving them access to critical information to learn about the team's processes and earlier work.	2,88	0,781	8	12,9%
2. Face-to-face team meetings are held whenever possible so we can discuss things together.	3,32	0,627	3	4,8%
3. We regularly use phone and/or online computer conferences to share ideas within our team.	3,04	0,735	9	15,8%
4. During these online conferences, time is dedicated to developing social relations as well as addressing business issues.	3,04	0,790	17	29,8%
5. Our team celebrates our successes.	2,84	0,800	17	28,3%
6. Team members have a shared understanding of what our team, i.e. each member individually, is supposed to do.	3,12	0,666	6	9,7%
7. We are clear on how best to perform our work tasks.	3,12	0,600	3	4,8%
8. Our team has established norms to support our smooth operations.	3,24	0,436	1	1,6%
9. We keep our established norms updated within our team.	3,08	0,572	5	7,9%
10. In our team we have established clear boundaries between home and work.	2,96	0,611	13	21,7%
11. I had opportunity to meet my fellow team members in person early on after I had joined the team.	3,28	0,843	10	16,4%
12. Our team has dedicated time to discuss our team's purpose and goals.	3,00	0,764	13	20,6%
13. Our team is dedicating time to team building exercises such as meeting individual team members, creating effective team communication, discussing conflict resolution, etc.	2,92	0,812	12	19,7%
14. Members of our team trust one another and will consult each other if they need support.	3,32	0,690	3	4,8%
15. Members of our team feel that we share goals and objectives.	3,16	0,624	6	9,7%
16. Knowledge and information sharing is understood to be a group norm within our team.	3,16	0,554	5	8,2%
17. In our team we support and encourage each other by empowering ourselves.	3,20	0,645	7	11,9%
18. When disagreements occur in our team, these are usually addressed promptly in order to solve them.	3,04	0,676	6	9,7%
19. I enjoy being member of this team.	<b>3,56</b>	0,507	<b>0</b>	<b>0,0%</b>
20. In our team we are not afraid to openly discuss different subjects.	3,40	0,645	4	6,3%

## Appendix 8 sequel

20. In our team we are not afraid to openly discuss different subjects.	3,40	0,645	4	6,3%
21. I have access to all information I need to perform my work.	3,32	0,627	4	6,5%
22. Our team is equipped with the adequate tools and technologies to perform our tasks.	3,24	0,523	3	4,8%
23. In our team we are in contact with one another on a regular basis in order to conduct routine business.	3,44	0,583	2	3,2%
24. In our team we are in contact with one another on a regular basis for social, or non-business, purposes.	2,88	0,833	19	31,1%
26. The managers in our company are competent with and serve as positive role models in the use of our virtual communication and information technologies.	3,20	0,577	4	6,3%
27. I am satisfied with the frequency of communication between myself and my direct manager.	3,36	0,638	2	3,2%
28. I am satisfied with the quality of communication (the received information helps me to do my work) between myself and my direct manager.	3,24	0,663	3	4,8%
29. In our team we are aware of the risks of the virtual communication (e.g. impersonal, use of English as second language, less details shared, less emotionally attached, risks of misinterpretation, less social rituals, less feedback for miscommunication, etc.).	3,12	0,666	4	6,7%
30. In my opinion, we practise effective communication in our team (e.g. transfer ideas, share information, listen to each other, notify team members of any problems or issues, etc.).	3,24	0,436	4	6,5%
31. My role on the team was clearly explained to me when I joined the team.	<b>3,56</b>	0,583	3	4,8%
32. My direct manager makes sure team members have clear goals to achieve.	3,08	0,640	6	9,5%
33. My team is currently meeting its business objectives.	2,96	0,611	7	11,5%
34. I feel my input is valued by the members of my team.	3,40	0,500	1	1,6%
35. I feel that I have sufficient time to perform my responsibilities.	3,08	0,702	9	14,3%
36. My direct manager is good at evaluating my performance.	3,28	0,542	3	5,2%
37. My direct manager is good at following up the agreements we make during the performance reviews / quarterly goals meetings.	3,24	0,831	5	8,5%
38. In our company it is encouraged that individuals take initiative and participate in important decisions.	3,08	0,759	10	16,1%
39. Our team is well supported by the company.	3,20	0,764	8	12,9%
40. In our team we are aware of the challenges of the remote teamwork (e.g. communication difficulties, lower team engagement, possible trust issues, issues with sharing responsibilities, risks of isolation, social distance between team members, etc.).	3,20	0,500	5	8,5%
41. In our team we know how to effectively work together.	3,12	0,666	4	6,3%
42. Members of our team use their own judgement in solving problems.	3,12	0,440	2	3,2%

## Appendix 8 sequel

43. My direct manager is often absent when needed.	1,76	0,779	54	90,0%
44. My direct manager fosters involvement and cooperation among team members.	3,28	0,542	4	6,7%
45. My direct manager avoids getting involved when important issues arise.	<b>1,44</b>	0,507	<b>60</b>	<b>98,4%</b>
46. My direct manager enables others to think about old problems in new way.	3,04	0,455	4	7,4%
47. My direct manager supports and encourages team members' development.	3,44	0,507	3	5,0%
48. My direct manager is good at anticipating work flow problems and avoid crises.	3,16	0,554	3	4,9%
49. My direct manager goes beyond self-interest for the good of the group.	3,32	0,627	4	6,8%
50. My direct manager is good at handling conflicts.	3,24	0,723	6	10,0%
51. My direct manager does not act until problems need attention.	2,08	0,493	51	86,4%
52. My direct manager is good at delegating by assigning responsibilities to us.	3,08	0,640	7	11,9%
53. My direct manager inspires associates to achieve the goals by extra effort.	3,08	0,759	6	10,9%
54. My direct manager gives positive feedback regularly.	3,20	0,577	8	13,1%
55. My direct manager stays informed of mistakes, complaints and failures.	3,16	0,554	3	4,9%
56. My direct manager makes clear what rewards one can expect to receive when performance goals are achieved.	2,64	0,757	18	32,7%

Source: author's calculations

## Appendix 9. The results of correlation analysis – correlations between dependent variables (quantitative research)

		TF	TA	LF	PR	R	C	T	E	I	PE	S
Transformational leadership style	Correlation Coefficient	1,000										
	Sig. (2-tailed)											
	N	47										
Transactional leadership style	Correlation Coefficient	<b>.763**</b>	1,000									
	Sig. (2-tailed)	0,000										
	N	39	49									
<i>Laissez-faire</i> leadership style	Correlation Coefficient	-.367*	-0,283	1,000								
	Sig. (2-tailed)	0,014	0,057									
	N	44	46	57								
Team processes	Correlation Coefficient	.547**	.448**	-.320*	1,000							
	Sig. (2-tailed)	0,000	0,004	0,036								
	N	39	39	43	49							
Team relationships and trust	Correlation Coefficient	.364*	.382*	<b>-.411**</b>	<b>.784**</b>	1,000						
	Sig. (2-tailed)	0,018	0,011	0,005	0,000							
	N	42	43	46	42	52						
Communication patterns	Correlation Coefficient	.570**	.496**	-.317*	.733**	.646**	1,000					
	Sig. (2-tailed)	0,000	0,001	0,021	0,000	0,000						
	N	45	45	53	45	50	58					
Tools and technology	Correlation Coefficient	0,006	0,152	0,050	.290*	0,216	.273*	1,000				
	Sig. (2-tailed)	0,971	0,314	0,721	0,048	0,131	0,040					
	N	45	46	54	47	50	57	60				
Executive leadership style	Correlation Coefficient	.605**	.499**	-0,109	.554**	.564**	.622**	0,168	1,000			
	Sig. (2-tailed)	0,000	0,000	0,425	0,000	0,000	0,000	0,207				
	N	47	49	56	48	50	56	58	61			
Internal team leadership	Correlation Coefficient	.689**	.635**	<b>-.450**</b>	.420**	.318*	.474**	0,154	.481**	1,000		
	Sig. (2-tailed)	0,000	0,000	0,002	0,005	0,040	0,001	0,297	0,000			
	N	40	43	47	43	42	46	48	50	51		
Team performance	Correlation Coefficient	.543**	.636**	-.278*	.552**	.562**	.590**	0,090	.435**	.420**	1,000	
	Sig. (2-tailed)	0,000	0,000	0,040	0,000	0,000	0,000	0,503	0,001	0,003		
	N	45	47	55	47	50	56	58	59	49	61	
Team member satisfaction	Correlation Coefficient	.533**	.402**	-.283*	.641**	.643**	.635**	.265*	.472**	.458**	.471**	1,000
	Sig. (2-tailed)	0,000	0,004	0,034	0,000	0,000	0,000	0,043	0,000	0,001	0,000	
	N	46	49	56	48	52	57	59	60	50	60	62

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Source: author's calculations

## Appendix 10. The results of correlation analysis – correlations between dependent and independent variables (quantitative research)

		Team member's remoteness	Team leader's location	Team member's location	Team member's department	Team member's length of employment	Team member's gender
Transformational leadership style	Correlation Coefficient	0,079	-0,029	0,164	0,272	-0,108	0,036
	Sig. (2-tailed)	0,599	0,848	0,272	0,064	0,468	0,810
	N	47	47	47	47	47	47
Transactional leadership style	Correlation Coefficient	-0,016	0,019	0,035	0,178	-0,230	-0,040
	Sig. (2-tailed)	0,911	0,898	0,811	0,220	0,112	0,784
	N	49	49	49	49	49	49
<i>Laissez-faire</i> leadership style	Correlation Coefficient	0,041	-0,061	.282*	0,181	0,046	0,075
	Sig. (2-tailed)	0,762	0,653	0,034	0,178	0,735	0,579
	N	57	57	57	57	57	57
Team processes	Correlation Coefficient	.288*	-0,191	0,273	0,001	-0,066	-0,279
	Sig. (2-tailed)	0,044	0,188	0,058	0,996	0,651	0,052
	N	49	49	49	49	49	49
Team relationships and trust	Correlation Coefficient	0,148	-0,039	0,017	-0,072	<b>-0,388**</b>	-0,162
	Sig. (2-tailed)	0,296	0,786	0,907	0,613	0,004	0,252
	N	52	52	52	52	52	52
Communication patterns	Correlation Coefficient	0,085	-0,048	0,175	0,008	-0,181	-0,145
	Sig. (2-tailed)	0,525	0,721	0,188	0,951	0,174	0,278
	N	58	58	58	58	58	58
Tools and technology	Correlation Coefficient	0,247	-0,204	0,135	-0,079	0,160	-0,156
	Sig. (2-tailed)	0,057	0,117	0,304	0,549	0,222	0,233
	N	60	60	60	60	60	60
Executive leadership style	Correlation Coefficient	0,185	-0,190	0,066	0,155	-0,265*	-0,082
	Sig. (2-tailed)	0,152	0,143	0,612	0,233	0,039	0,528
	N	61	61	61	61	61	61
Internal team leadership	Correlation Coefficient	0,218	-0,169	-0,188	0,042	-0,130	0,140
	Sig. (2-tailed)	0,125	0,236	0,187	0,769	0,361	0,327
	N	51	51	51	51	51	51
Team performance	Correlation Coefficient	0,159	0,000	0,138	0,177	<b>-0,291*</b>	0,097
	Sig. (2-tailed)	0,221	1,000	0,290	0,171	0,023	0,458
	N	61	61	61	61	61	61
Team member satisfaction	Correlation Coefficient	<b>.302*</b>	-0,203	0,062	0,032	-0,091	0,108
	Sig. (2-tailed)	0,017	0,114	0,630	0,804	0,480	0,406
	N	62	62	62	62	62	62

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Source: author's calculations

## Appendix 11. The results of correlation analysis – correlations between independent variables (quantitative research)

		Team member's remoteness	Team leader's location	Team member's location	Team member's department	Team member's length of employment	Team member's gender
Team member's remoteness	Correlation Coefficient	1,000					
	Sig. (2-tailed)						
	N	63					
Team leader's location	Correlation Coefficient	<b>-.822**</b>	1,000				
	Sig. (2-tailed)	0,000					
	N	63	63				
Team member's location	Correlation Coefficient	0,159	-0,156	1,000			
	Sig. (2-tailed)	0,214	0,222				
	N	63	63	63			
Team member's department	Correlation Coefficient	0,197	-.270*	<b>.398**</b>	1,000		
	Sig. (2-tailed)	0,122	0,032	0,001			
	N	63	63	63	63		
Team member's length of employment	Correlation Coefficient	0,057	-0,031	0,109	0,001	1,000	
	Sig. (2-tailed)	0,657	0,806	0,397	0,996		
	N	63	63	63	63	63	
Team member's gender	Correlation Coefficient	0,036	0,059	-0,188	<b>.331**</b>	0,058	1,000
	Sig. (2-tailed)	0,781	0,647	0,140	0,008	0,650	
	N	63	63	63	63	63	63

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Source: author's calculations

**Appendix 12. The results of regression analysis – dependent variable team member satisfaction (quantitative research)**

		Standardized Coefficient Beta	t	Sig.
Model 1	Team member remoteness	.423	2,331	0,028
Model 2	Team member remoteness	.333	2,001	0,057
	Team processes	.438	2,630	0,015
Model 3	Team member remoteness	.306	2,075	0,049
	Team processes	-.051	-0,225	0,824
	Communication patterns	.638	2,787	0,010

	Adjusted R Square	R Square Change	F Change	Sig. F Change
Model 1	0,146	0,179	5,434	0,028
Model 2	0,309	0,184	6,919	0,015
Model 3	0,461	0,161	7,770	0,010

Dependent variable: team member satisfaction  
 Source: author's calculations

**Appendix 13. The results of regression analysis – dependent variable team performance (quantitative research)**

		Standardized Coefficient Beta	t	Sig.
Model 1	Team member's length of employment	-.445	-2,383	0,026
Model 2	Team member's length of employment	-.330	-2,123	0,045
	Team processes	.552	3,550	0,002
Model 3	Team member's length of employment	-.243	-1,967	0,063
	Team processes	.267	1,879	0,074
	Transactional leadership style	.558	3,872	0,001

	Adjusted R Square	R Square Change	F Change	Sig. F Change
Model 1	0,163	0,198	5,680	0,026
Model 2	0,444	0,292	12,600	0,002
Model 3	0,660	0,212	14,991	0,001

Dependent variable: team performance  
Source: author's calculations



**Appendix 14. The results of comparing the models of predictor variables (quantitative research)**

		Mean scores		Reliability coefficient	
		Lurey and Raisinghani (2001) study	Quantitative research	Lurey and Raisinghani (2001) study	Quantitative research
Internal group dynamics	Internal team leadership	3,01	3,19	0,79	0,724
	Team relationships and trust	2,83	3,19	0,82	0,814
	Team processes	2,71	3,09	0,82	0,812
External support mechanisms	Executive leadership style	3,17	3,20	0,83	0,757
	Tools and technology	2,95	4,49	0,79	
	Communication patterns	2,53	3,27	0,60	0,718
Team effectiveness	Team performance	2,87	3,17	0,82	<b>0,588</b>
	Team member satisfaction	3,14	3,48	0,82	<b>0,593</b>

		Performance		Satisfaction	
		Lurey and Raisinghani (2001) study (Pearson correlation)	Quantitative research (Spearman correlation)	Lurey and Raisinghani (2001) study (Pearson correlation)	Quantitative research (Spearman correlation)
Internal group dynamics	Internal team leadership	0,51	0,42	0,45	0,458
	Team relationships and trust	0,62	0,56	0,73	0,643
	Team processes	0,68	0,55	0,64	0,641
External support mechanisms	Executive leadership style	0,53	0,44	0,46	0,472
	Tools and technology	0,26	<b>0,09</b>	0,42	<b>0,265</b>
	Communication patterns	0,48	0,59	0,37	<b>0,635</b>

Source: Lurey and Raisinghani (2001, 528-529) and author's calculations

## Appendix 15. Detailed analysis of the results of quantitative research

Quantitative research has scored relatively high on all the responses on single questions (positive responses range: 67,3% - 100,0%; M range: 2,64 – 3,56), except questions about *laissez-faire* leadership style (positive responses range: 1,6% – 13,6%; M range: 1,44 – 2,08). The highest scored variable group is team member satisfaction (positive responses: 98,2%; M = 3,48) (united with team performance variable in the below analysis).

### 1. Remote leadership

For the final results, five different variable groups are gathered under remote leadership components (transformational, transactional and *laissez-faire* leadership styles, executive leadership style and internal team leadership). In general, the results from the data analysis reveal strong leadership in the company – the low results in *laissez-faire* leadership style (M = 1,71; SD = 0,432) confirm strong and active leadership style, and when comparing the scores of transformational and transactional leadership styles (M = 3,20; SD = 0,389 and M = 3,08; SD = 0,414), it shows slightly stronger cognition of transformational leadership over transactional leadership style. It should be reminded that the reliability report scored low on *laissez-faire* leadership style ( $\alpha = 0,612$ ) and therefore the reliability of the results is questionable. The questions that asked about the executive leadership style (M = 3,20; SD = 0,542) and internal team leadership (M = 3,19; SD = 0,392) scored on the same level as the transformational and transactional leadership styles, confirming the consistency in the feedback on the leadership styles in the company. The frequency of negative responses is scoring highest in executive leadership style variable group (13,1% negative responses), but all other variable groups score rather equally (range: 3,9% - 4,8% negative responses).

The remote factor of team members' location has an impact on the perception of the transformational leadership style, dependent whether the team leader is located together with the team or in a different location from the whole team. The closer the team leader is located, the stronger is the perception of the transformational leadership style. This is something the company might want to analyse deeper in order to improve the transformational leadership also in remote teams.

Another factor that influences the perceived leadership style is whether the team members feel that they are encouraged to take initiative and participate in the important decisions. 16,1% (N = 10) of the respondents do not feel that this is what the company encourages, and interestingly these respondents are mainly located in a co-located teams, and together with their team leaders (N = 6 out of 10). This might be reasoned to the higher involvement the co-located team members might perceive with a correlation to higher demands from the team members. Exactly the same scores are revealed in the statement whether the team members feel that their team is well supported by the organization. The negative response rates are not high, but this indicates that there is still room for improvement to involve team members even more and to support and encourage their participation on the team and organization level.

Rather significant low score is given whether the team members receive positive feedback from their team leaders. 13,1% (N = 8) respondents state that they do not receive positive feedback from their team leaders, though, there is no correlation between the respondents' background.

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The reward system for achieved goals raises questions – 32,7% (N = 18) of the team members do not know what rewards could one expect for achieving performance goals. The majority of the negative responses are from one department (“department D”; N = 11 out of 18). The author lacks information about the reward system in the company. It might be that the specific department do not have reward system due higher salaries, or maybe the company do not have a performance based reward system at all. But, if that is the case, the information should be shared with the team members even when there is no specific reward system. This seems to be a clear leadership issue and might be caused by different reasons, but one third of the respondents seem to be missing the information about reward system.

The awareness of challenges working in remote team is scored high – 91,5% (N = 59) of the team members rated their awareness high, and the team members who did not agree with this statement, are members of both the remote and co-located teams.

Very good feedback is given in the below four areas of leadership of the team leaders in the company. Firstly, the team leaders are well informed about the bad news (mistakes, complaints, failures, etc.) (95,1%; N = 58). Secondly, the team leaders are good at anticipating work flow problems and avoid crises (95,1%; N = 58). Thirdly, the team leaders have scored well on being supportive and encouraging team members’ development (95,0%; N = 57). Fourthly, the team leaders do not avoid getting involved when important issues arise (98,4%; N = 60), confirming positive result of strong responsive leadership style in the company.

### 2. Team relationships and trust

Team relationships and trust variable group has scored as one of the lowest in the negative responses test (1,9%) and has mean rated on middle level (M = 3,19; SD = 0,421). That indicates relatively good feedback about relationships and trust in their teams.

When comparing the results between transformational (M = 3,20; 4,3% negative responses) and transactional leadership style (M = 3,08; 4,1% negative responses), it showed slightly higher perception of transformational leadership that supports more of the relationship-oriented leadership, though the distinguish between the transformational and transactional leadership styles is almost non-existing and that shows the balanced leadership of practising both task- and relationship-oriented leadership in the company.

Team relationships and trust component shows a strong correlation with the team member’s length of employment in the company. The test reveals that the newest team members tend to rate higher scores in the questions about team relationships and trust.

It is noteworthy to point out three questions with highest scores on negative responses. Firstly, the statement that asks about the team’s dedication on their common purpose and goals scored 20,6% with negative responses (N = 13). There are no similarities on the respondents’ profiles, and this shows overall some shortage in taking time in the team to discuss its purpose and goals. Secondly, 19,7% (N = 12) of the respondents have an opinion that no time is dedicated on team building exercises. There are no similarities on the respondents’ profiles, and this shows overall shortage in investing time in team building and social relations in the teams. Thirdly, many of the respondents (16,4%; N = 10) state that they did not have possibility to meet their fellow team members in person early on after joining the team. Again, no similarities in the respondents’ profiles, and there

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is clearly room for improvement to try to have new team members to meet their fellow team members face-to-face soonest possible.

On the positive side, by comparing the results of quantitative research to the best practices of remote leadership compiled in qualitative research, many of the best practices are already in use with positive feedback. For example, the team member trust is on a very good level (95,2%; N =60). Face-to-face interactions are promoted whenever possible (95,2%; N= 60). And team members are encouraged to discuss openly different subjects (93,7%; N = 59).

### 3. Team processes

Team processes variable group scored as one of the lowest (M = 3,09) and with relatively high rate of negative responses (6,1%) when compared to other variable groups.

Statistically significance difference is measured when the team processes variable group was compared to team member's location. The great difference showed that team members in country B are more satisfied with the level of team process than in the country C. Country B is the head office country where teams are working together and most of the team members are located in the same location with their team leaders. The same correlation is confirmed by the correlation analysis.

The questions that are asking about the social factor within the team processes connected to the communication and relationships within the team, are scored fairly low compared to other areas within the team processes questions. One of the shortages is that some remote teams use online conferences only for addressing business issues, and no time is dedicated to developing social relations (29,8% negative responses; N = 17). And phone / online conferences are not used for sharing ideas within the team (15,8% negative responses; N = 9). The fact that only 71,7% of the team members have responded positively that the teams are celebrating their successes, confirms the lower importance on the social-emotional processes in the company, whilst majority of the negatively responded (88,2%) team members are from head office (country B).

Another low scored item is the boundaries between work and home. Only 78,3% of the team members (N = 47) agree that their work-life balance is supported by their team norms. Though the percentage is not high, the 13 team members out of 60 is a remarkable amount of people who might be suffering on work overload, poor management of task distribution by the team leaders, etc.

On the positive side from the team processes perspective, most of the respondents think that their team has established norms to support their smooth operations (98,4%; N = 61). Team members feel they have autonomy in judging their own problems and solving them (96,8%; N = 61) and they know how to perform their tasks as a team (95,2%; N = 59).

### 4. Virtual communication

Virtual communication variable group is scored as one of the highest (M = 3,27). The scoring on negative responses on virtual communication is phenomenal with none (measure of negative responses counts in only the responses in a range: 1.00 – 2.50). Lowest scored mean rate starts from 2,71. This indicates very good feedback and satisfaction with the virtual communication from the team members in the company.

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No specific correlations are found regarding virtual communication and other variable groups. When analysing the single questions, one would need extra attention. About 68,9% of the team members confirm that they do have regular communication with their fellow team members for social purposes. This means that 31,1% (N = 19) team members are not communicating on social purposes. By looking at the respondents' profile, there is no profile that emerge.

But, the rest of the feedback in the virtual communication block is excellent and scored very highly. Although the social factor is rated fairly low, team members have frequent contact with one another on business purposes (96,8%), they have frequent contact with their team leader (96,8%), the contact they have with their team leader, is with a good quality and helps to perform their tasks (95,2%) and their communication tools and technologies are updated to perform their tasks (95,2%).

Within the virtual communication it was also studied the usage and the frequency of usage of the different communication tools. The results show that the team members in the company are using a variety of different communications tools, dependent on the user's personal preferences, communication specifics and the type of the tool. In the company, the most frequently used tool for contacting the closest remote colleagues is online communication tool (Skype, etc.), followed by face-to-face interaction (that is arguable, most likely respondents answered the general user frequency, not specifically with the closest remote colleague). The tools that are used either very seldom or never are personal phone call and group phone conference.

The leaders set an example of good virtual communication (93,7% rated positively).

### 5. Team performance

Team performance variable group scores middle level on mean score (M = 3,17; SD = 0,417) and the response rate on the negative responses is relatively high (8,2%) in team performance variable group. The reliability report reveals unacceptable reliability level for team performance ( $\alpha = 0,588$ ), therefore, the results need some reservation in interpreting them. Overall feedback from the team members that participated in quantitative research is positive.

The results show that the team members have been set the clear goals to achieve (90,5%; N = 57), and team members are overall satisfied how their role has been clearly explained to them when they joined the team (95,2%; N = 60). Though the team performance questions do not reveal significant differences in the results, one minor observation needs to be pointed out. Department D in country A seem to have poor leadership practice when it comes to introducing to the new team member his/her role in the new team (4,8% negative responses; N = 3; only country A). The negatively responded rate is very low, but it is worth to be pointed out due to the homogenous respondents' profile, with a possible reference to one team leader.

The two equally highest rated questions in the whole questionnaire belong to the team performance block. "I enjoy being a member of this team" (M = 3,56; SD = 0,507) measure how the team members perceive team member satisfaction, with majority of the highest positive responses are from the remote team members. This is an important feedback that the company is moving towards right direction when having that high satisfaction rate, especially from the remote teams. "My role on the team was clearly explained to me when I joined the team." (M = 3,56; SD = 0,583).

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### 6. Team member satisfaction

Team member satisfaction variable scores highest of all variables ( $M = 3,48$ ;  $SD = 0,424$ ). The response rate on the negative responses is very low (1,6%) in team member satisfaction group. The reliability report reveals unacceptable reliability level for both team member satisfaction ( $\alpha = 0,593$ ), therefore, the results need some reservation in interpreting them. Overall feedback from the team members that participated in quantitative research is positive.

Statistically significance difference is found in team member satisfaction, dependent on in which department the team members are working in. Department E and department F are scoring maximum scores on the satisfaction whilst department D and department I have a bit more discreet opinion about their satisfaction. Though, when looking at the details, the answers vary only between “agree” and “strongly agree” options, and have only one “disagree” in total.

The highest positive frequency in the whole questionnaire is revealed in question “I enjoy being member of this team” ( $N = 0$ ; cumulative % = 0,0%). That question is measuring the team member satisfaction variable, and confirms the overall high results on the team member satisfaction in the company.

Source: compiled by author

## Appendix 16. The proposed improvement suggestions for the identified improvement areas in the company (quantitative research)

Component of remote leadership	Identified improvement area in the company	Possible solution
Remote leadership	Remote teams perceive lower level of transformational and transactional leadership styles.	Promote both transformational and transactional leaderships styles also in remote teams, as currently the perception of it is considerably higher in the co-located teams. This could be achieved by overcoming the physical distance barriers by compensating it by active and diversified use of ICT, and being supportive and motivating to the team.
	Some members in co-located teams feel less encourages to take initiative and participate in important decisions.	To evaluate why some team members in the co-located teams feel less encouraged to take initiative and participate in important decisions. This could be achieved by talking to the respective co-located team members or by a short follow-up survey, in order to find out the reasons behind it, or perhaps there are different expectations for initiative and active participation in the company between remote and co-located teams.
	Some members of co-located teams feel less support from the organization.	To evaluate why some team members in the co-located teams feel less support to their team from the organization than in the remote teams. This could be achieved by talking to the respective co-located team members or by a short follow-up survey in order to find out the expectations the co-located teams have to the organization.
	Some team members state that they do not receive positive feedback from their team leaders.	To promote positive feedback culture – among the team leaders and fellow team members, as this helps to increase team efficiency and team member satisfaction. Team leaders should set an example.
	Some team members state that they do not have information about the reward system.	To evaluate the performance based reward system, and if that is not applicable, to evaluate the communication to the team members about the (lack of) reward system if that is the case. This helps to manage expectations and creates trust even if there is no reward system.

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Team relationships and trust	Some team members state that they do not know what is their common purpose and / or goals as a team.	To dedicate time on explaining the common purpose and the common goals to the team. This helps to create open and trustful environment where team members know what are the expectations to them as a team.
	The results concerning social relationships have scored relatively low, some team members state they do not have any social connections to their fellow team members.	To dedicate time on different team building exercises, both remotely and in face-to-face interaction, if possible. This helps to build and tighten social relations, team members learn to know each other and in a long term this helps to avoid conflicts and overcome issues.
	The teams do not have common onboarding procedures and not all new team members are onboarded and welcomed personally.	To accommodate face-to-face interaction between the new team members and rest of the team shortly after joining the team, whenever possible. This helps with smoother onboarding process and speeds up the performance of the new team member.
Team processes	Co-located and remote teams seem to have different levels of team processes, and missing procedures can affect team performance.	To evaluate whether the team processes both in the head office and in remote locations are similar, and do the teams receive sufficient support from the team leaders and organization for establishing their own team processes. This could be achieved by talking to the team leaders and team members, or by a short follow-up survey, and to map what processes are in use and what is missing and promote teams to be responsible for their own processes.
	Team processes are mainly only business-oriented, the importance of social factor in the process is underestimated.	To create a common understanding why the social relations are important between the team members, to promote and support in establishing the norms and standards of adding the social factor in the routine communication between team members. Team leaders should set an example.
	Teams do not celebrate their successes.	To promote celebrating any successes teams have. In case there are no common standards agreed yet, it is good idea to have them and to actually celebrate even smaller achievements. The small time investment now might pay off as a big success in the future. The company and team leaders to promote and organize.



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	1/5 of the team members suffer from unbalanced work-life boundaries.	To review the work routines within the teams and evaluate why 1/5 of the team members suffer from unbalanced work-life boundaries. This would need to be discussed between the human resources department, leaders and team members how to review it, and what could be the solution for balancing it. Perhaps to starts with reviewing work tasks, skills, routines, etc.
Virtual communication	The social factor is also missing from the routines of virtual communication.	To promote and explain the importance of the social factor also in the virtual communication. Team leaders should set an example.
Team performance	Some new team members did not get proper onboarding and their role and goals were not clearly explained.	To be reminded to dedicate time on new team members for onboarding them properly, to assure they know what is expected from their role. This can be achieved by reviewed procedures by human resources department and team leaders.
Team member satisfaction	Departments E and F have higher satisfaction rates than the departments D and I. õ	To evaluate why some of the departments have lower team member satisfaction than the other. This could be achieved by talking to the team leaders, team members, or to have a follow-up survey regarding this issue.

Source: compiled by author