

Leadership and communication in virtual teams

Melissa Hyvönen

Ella Utoslahti



Author(s) Melissa Hyvönen & Ella Utoslahti	
Degree programme International Sales and Marketing	
Report/thesis title Leadership and communication in virtual teams	Number of pages and appendix pages 68+ (5)
<p>The purpose of the thesis was to find out how to excellence leadership, the benefits and the challenges when it comes to communicating with geographically dispersed teams. The thesis research was carried out by reviewing relevant existing literature. The study aimed to explore different variables and characteristics of leadership, communication and virtual teams in order to conclude where efforts are needed and what already works well. Furthermore, the thesis was inspired by the ongoing pandemic, as many in 2020 were forced to work remotely and quickly adapt into new working habits.</p> <p>From the theoretical aspect, the thesis explores various leadership and communication theories in virtual teams, the thesis is based on a three-part theoretical framework. The following principal subject matters are included and presented: the definition and characteristics of virtual teams, communication in virtual teams and virtual team leadership.</p> <p>The empirical part of this study uses quantitative research method. Moreover, the empirical study was based upon the framework. The primary data collection was collected on May 3rd, 2021. The target group of the survey were remote working individuals, either part time or full time. The total sample size consisted of 109 respondents who took part in the online survey conducted via Google Forms. The survey respondents participation was voluntarily and confidential. The respondents answered 13 survey questions. The results of the data were analyzed via Excel, further, the findings are presented in percentages and numerical figures. The desired outcome was to provide meaningful suggestions and recommendations based on the primary data collection.</p> <p>In conclusion, the findings proved that the biggest issues in virtual teams are the lack of receiving support within the team, cultural differences, communication problems with transparency and trust and the absence of feedback from the management. Based on these, the thesis suggests the following recommendations for virtual teams: transparency in communication, encouragement and individual feedback from team leaders and finding the right virtual applications to use towards better teamwork.</p>	
Keywords Leadership, Communication, Virtual Team, Virtual team management	

Table of contents

1	Introduction.....	1
1.1	Objectives and research questions.....	2
1.2	Method and structure.....	3
1.3	Key concepts.....	4
2	Definition and characteristics of virtual teams.....	6
2.1	Features of an effective virtual team.....	8
2.1.1	Being a successful virtual team member.....	10
2.1.2	Benefits of virtual teams.....	11
2.2	Challenges of virtual teams.....	12
2.3	Adaptability of virtual teams.....	14
2.4	Trust in virtual teams.....	14
3	Communication in virtual teams.....	17
3.1	Aspects of successful communication in virtual teams.....	19
3.2	Communication skills and key functions needed in an organization.....	20
3.3	Employee engagement as internal communication strategy.....	22
4	Virtual team leadership.....	25
4.1	Team leadership model.....	26
4.2	Face to face vs. virtual team.....	28
4.3	Team management.....	29
4.4	Benefits of virtual leadership.....	32
4.5	Challenges of virtual leadership.....	32
5	Conducting the study.....	35
5.1	Research method.....	35
5.2	Content of the survey.....	38
5.3	Data collection and analysis.....	43
5.4	Reliability and validity.....	45
6	Empirical analysis and findings.....	47
6.1	The challenges and benefits of virtual teams.....	51
6.2	Importance of communication skills in virtual teams.....	53
6.3	What are the leadership expectations for a successful virtual team?.....	59
7	Conclusion.....	62
7.1	Discussion.....	62
7.2	Recommendations.....	65
7.3	Recommendations for further research.....	66
7.4	Limitations and ethical considerations.....	67
7.5	Reflection.....	68
	References.....	69

Appendix 1. Empirical Study Survey77
Appendix 2. Survey introduction.....81

Table of figures

- Figure 1. Leadership and communication in virtual teams' theoretical framework
- Figure 2. Factors that impact virtual teams
- Figure 3. Bal & Gundry (1999) Model for effective virtual team working
- Figure 4. Advantages of virtual teams
- Figure 5. Challenges of virtual teams
- Figure 6. Correlation between a leader's effective use of communication, team members' trust in their leader, and virtual team performance
- Figure 7. Primary aspects studied in the field of virtual teams within the time frame of 2008-2018
- Figure 8. Proposed communication process in virtual teams
- Figure 9. Schematic diagram of the Shannon-Weaver model
- Figure 10. A conceptual model of service employee engagement
- Figure 11. A theoretical model of the antecedents and outcomes of employee engagement
- Figure 12. Multilevel model of leadership in virtual teams
- Figure 13. Virtual team expander model
- Figure 14. The need of trust in both virtual and face-to-face teams
- Figure 15. Understanding individual differences
- Figure 16. Example contributors that can lead to conflicts
- Figure 17. Crotty's (1998) research design elements
- Figure 18. Research framework process
- Figure 19. Respondents age
- Figure 20. Respondents gender
- Figure 21. Respondents current remote work hours
- Figure 22. Respondents industry where they are currently working in
- Figure 23. Respondents organization size where they are currently working in
- Figure 24. Respondents current work position
- Figure 25. The problems faced by the respondents while working in a virtual team
- Figure 26. Rate your experience as a member of a virtual team (Communication perspective)
- Figure 27. What are the things you wished that your management did better in your virtual team? (Communication perspective)
- Figure 28. What would make a good virtual teammate in your opinion?
- Figure 29. The number of virtual meetings held for the respondents
- Figure 30. The problems faced by the respondents while working in a virtual team
- Figure 31. What the respondents wish their management did better in their virtual teams

Table of Tables

Table 1. Overlay matrix

Table 2. Rate your experience as a member of a virtual team

Table 3. What differences did the respondents notice between virtual and face to face teams

Table 4. I receive feedback on my work regularly, based on the survey respondents' age.

Table 5. I receive help when needed, based on the survey respondents' age.

Table 6. Does your team have regular team meetings?

Table 7. Rate your experience as a member of a virtual team

Definitions

ICT = Information and communication technology

KSA = Knowledge, skills, and abilities

KPIS = Key performance Indicators

1 Introduction

The focus of this thesis was leadership and communication in virtual teams. Successful virtual teams require leadership and high-level communication skills. This thesis studies the benefits and challenges of virtual teams and how to excellence virtual leadership when employees and management are geographically dispersed.

The capacity to communicate and share data through online platforms (ICTs) has redefined organizations by giving the team members distant from each other the ability to participate and engage by working virtually (Smulowitz & Ziek 2014, 106). COVID-19 pandemic has forced organizations to rethink and adapt to new working habits and come up with virtual solutions (Deloitte 2020, 4-8). Regarding the new work environment, the pandemic offers an exceptional opportunity to learn, for an example using digital communication tools as many are forced to work remotely. If applied correctly it can be a win-win situation for both the organizations and the employees. (Zeuge, Weigel, Niehave2020).

Many works from home as it is necessary to follow COVID-19 restrictions given by the government, even though the team might not be separated geographically. Many organizations currently use the hybrid model. This approach gives the opportunity for the teams to be both present and work virtually. The big change from being present to working virtually is a process itself, and organizations and employees needed to adapt quickly to the new changes. Advanced digital technologies are an essential for virtual work environments, however, that does not mean that advanced technology makes a virtual group effective. By working fully remotely or by using the hybrid model there is concern of difficulties on how to successfully share knowledge, information and communicate with one and other efficiently. (Sandvik, Saouma, Seegert & Stanton 2021)

The shift from being present to working virtually is most likely to succeed if the managers and leaders set a good example and support the team as good as possible, e.g., interacting and communicating transparently and continuously participating and being involved with the rest of the team (Zeuge & al. 2020).

Further, the thesis also studies how the management in a company can reach its full potential success when it comes to guidance, when you are geographically in different locations. Leadership is usually defined as someone in a higher position guiding, assisting and facilitating groups or organizations or individual people (Kruse 2018). Managing virtual teams is easier said than done, hence, understanding and acknowledging the importance of communication and leadership skills within virtual teams are key.

1.1 Objectives and research questions

The theoretical framework investigated findings and other informative content from existing literature. The empirical part was made up from the conducted survey sent to respondents via Google Forms. The empirical research focused on different skills and approaches needed for a successful virtual team environment. How does leadership differ and does everyone mutually feel like they get support equally when the location for working changes?

The objective of the thesis was *‘To investigate the leadership and communication challenges of virtual teams for effectiveness’*.

Objective 1. Identify characteristics of good leadership in virtual teams.

Objective 2. Asses the current level of challenges in virtual teams.

Objective 3. Formulate recommendations of effective leadership and communication to managers.

The thesis was inspired by the current pandemic, that was ongoing during the time of conducting the study. Most companies in Finland have moved their employees to remote work and many are currently part of virtual teams. Additionally, the thesis was based on the authors own interest areas and needs towards personal future goals.

Research question

The main research question for the thesis: *‘What are the challenges of virtual teams and their leadership expectations?’* The investigative questions for the research went as following:

RQ1. What are the challenges and benefits of virtual teams?

RQ2. How important are communication skills in virtual teams?

RQ3. What are the leadership expectations for a successful virtual team?

The first research question (RQ1) intended to identify different views of challenges and benefits in terms of virtual teams working remotely. The second research question (RQ2) dealt with the importance of transparent communication in virtual teams. The third research question (RQ3) acquired answers from virtual team members and their aspects on what their leadership expectations are for a successful virtual team. The matrix overlay (table1) communicates the clear structure of the research questions connection to the theoretical framework and empirical study.

Table 1. Overlay matrix

Research Question	Investigative Questions	Theoretical framework	Measurement Questions	Results
What are the challenges of virtual teams and their leadership expectations?	What are the challenges and benefits of virtual teams?	2, 2.1, 2.1.1, 2.1.2., 2.2, 2.3, 2.4	7, 9, 12	6.1
	How important are communication skills in virtual teams?	3, 3.1, 3.2, 3.3	7, 8, 10, 11	6.2
	What are the leadership expectations for a successful virtual team?	4, 4.1, 4.2, 4.3, 4.4, 4.5	7, 8, 9,10	6.3

1.2 Method and structure

The research method for the thesis was quantitative. The data was collected via Google Forms on May 3rd, 2021. The conducted survey was a structured survey with one open-ended question. The total number of the respondents were 109 people. The survey questions supported the research question and its investigative questions. The respondents for the survey were remote working individuals. This way the results could be based more distinctively on how to give more precise recommendations for virtual leadership in the future, with opinions directly from remote working individuals. The authors analyzed and interpreted the collected data into relevant meaningful suggestions. The research method caused limitations to the study, as there was only a quantitative research performed. Further studies would be beneficial, hence, with a larger sample size and with a mixed method research.

The thesis is divided into seven separate chapters, starting with introduction. It introduces the reader to the background of the study, moreover, objectives and research questions and the key concepts. The second, third and fourth chapter explains the thesis theoretical framework (figure 1). The fifth chapter communicates the methodology used for conducting the quantitative research. Moreover, in the sixth chapter the research results are presented. Lastly, the authors presented the conclusion, discussion, recommendations, recommendations of future research, limitations and ethical considerations.

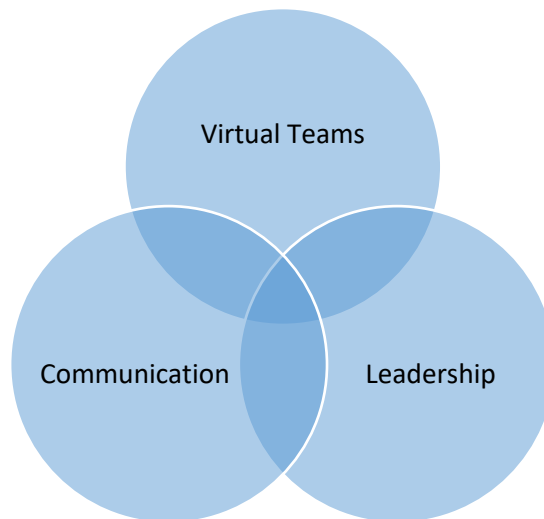


Figure 1. Leadership and communication in virtual teams' theoretical framework

The main resources used for the theoretical background are relevant existing literatures. References from journals, articles, internet and books were also implemented to the authors knowledge base. The theoretical framework was presented in three chapters, with the purpose of better understanding the research questions.

1.3 Key concepts

In this chapter the thesis main concepts, virtual team, communication and leadership are explained.

Virtual team

According to Lipnack and Stamps (2000, 18) a virtual team is *“a group of people who work interdependently with a shared purpose across space, time, and organization boundaries using technology.”* A virtual team consist of a group of employees or individuals who use digital tools to communicate. Virtual team members can be based in the same physical location. They can also be frequently dispersed or working from different locations e.g.,

city or country. There are many terms for virtual teams, such as “geographically dispersed teams” or “remote teams”. All these terms mean the same; individuals who collaborate or work without physically being together. The team members accomplish this by communicating and working via online tools such as different project management softwares. (Lopez 2020)

Communication

The word communication originated from Latin “Communes” meaning “something in common”. As a result, when we communicate, we are attempting to establish a shared set of thought or feelings with another person. To put it in another way, communication is the process of exchanging ideas and words, meaning moving a message from its source to its destination. A human being has natural desire to express feelings and ideas to others. The primary goal of communication is to influence and bring changes to the recipient behavior. In simple context, whenever information is passed from one location to another it is referred as communication. (Naveed 2012)

Leadership

David Day (2012, 5-6) states that leadership can be a challenging question to answer as it is a diverse and complex topic. Effective organizational and societal functioning requires strong leadership. Leadership, on the other hand, is often easy to spot in practice but difficult to define precisely. Leadership can be defined as *“an influencing process. and its resultant outcomes. that occurs between a leader and followers”* (Day 2012, 5-6). This can also mean influencing and motivating workers or colleagues towards achieving a common goal set. Moreover, the management structure of an organization can also be referred to as leadership. (Ward 2020)

2 Definition and characteristics of virtual teams

Virtual teams consist of geographically separated individuals, who work together towards a goal via information and communication technology. The primary instrument of communication used by virtual teams is electronic communication, coordinated either as synchronous or asynchronous. Virtual teams empower the possibilities of endless shared information without time limits and geographical obstacles. The knowledge era brings a modern appearance to work teams, in the form of virtuality, and it has resulted in new levels of opportunities and challenges. (Gignac 2005, 21) There are many factors that influence the performance of a virtual team (figure 2), in this chapter and its subchapters the key performance indicators (KPIs) are reviewed.

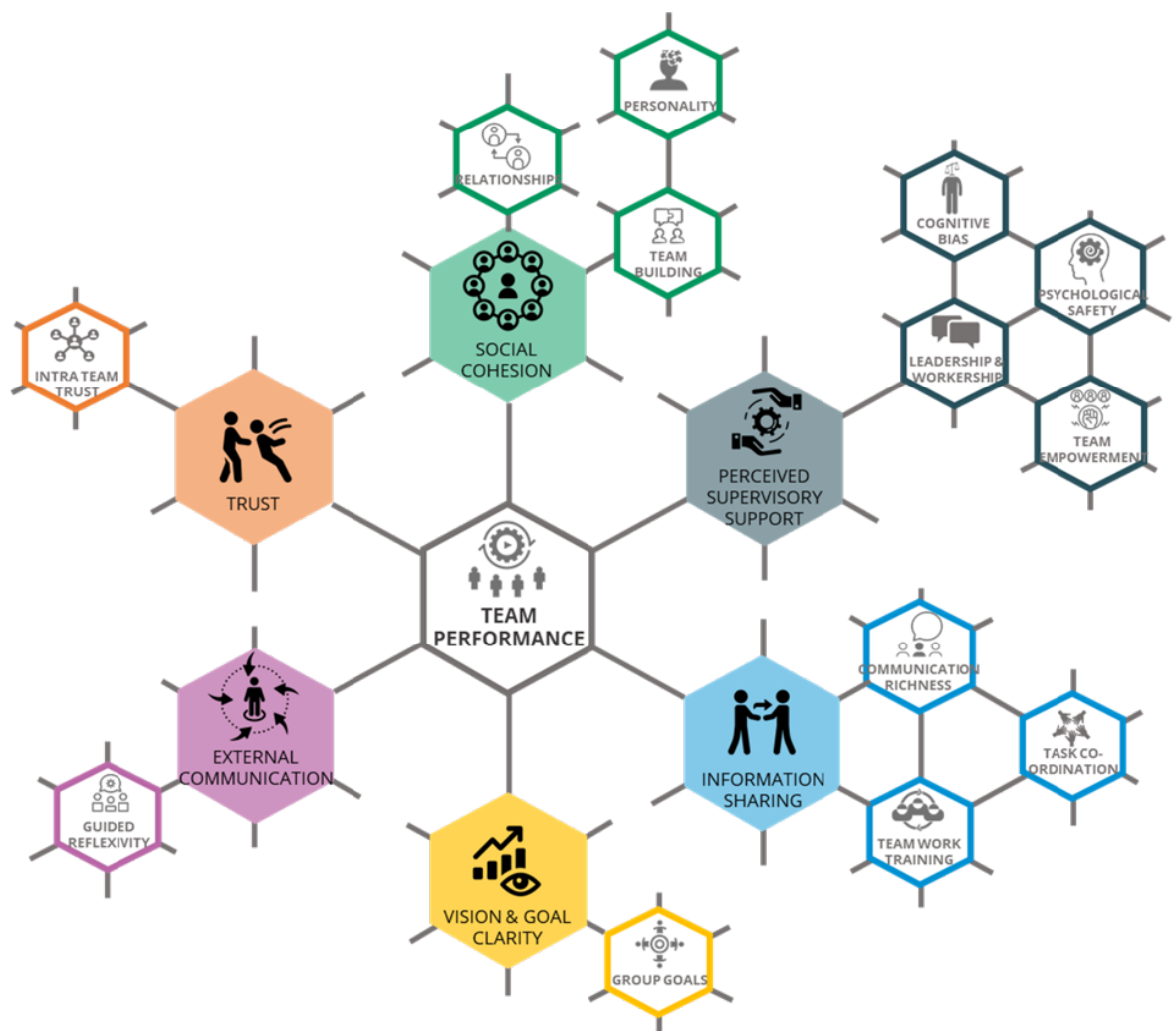


Figure 2. Factors that impact virtual teams (Mawson 2020)

Before the turn of the century, the industrial culture was concentrated on reinventing process engineering and resource planning. In the early 21st century, knowledge culture began

to evolve, hand in hand with the rising interest in the internet, customer relationship management and business-to-business mindset. Development in technology and culture around ICT has been necessary, considering constant changes in organizational and teamwork structures. Powell, Galvin & Piccoli (2006, 300) highlight scattered work environments as a result of the paradigm shift in information and communication technologies. The shift in ICT demands structural changes in technology, management and human resources, all within aspects of time, space, and culture (Powell & al. 2006, 300). (Gignac 2005, 2)

Technology, leadership and human resources are constantly developing to suit the new structures of the knowledge culture. Organizations are investing in all of the aspects. Studies show that virtual teams are already a key element in organizations' daily business operations (Hertel & Geyer 2014, 7). According to the study conducted by Hertel & Geyer (2014, 7), 70 % agree with the statement "*Virtual teamwork gives our company the possibility to provide solutions to challenges from all over the world*". As reported by Newman, Ford & Marshall (2020, 453), nearly half of the U.S. workforce works remotely. This said, geographical dispositioning is not a threat to the modern business world, on the contrary, it is an opportunity that comes with globalization. The demand of remote working and virtual teams is also resulting in increasing employment among virtual workers. (Newman & al. 2020, 453)

Martins, Gilson & Maynard (2004, 807) describe virtual teams as "*functioning teams that rely on technology-mediated communication while crossing several different boundaries*". The boundaries, that Martin & al. (2004, 807) mention are commonly seen as geography, time and organization. Gignac (2005, 21), likewise, sets three criteria on virtual teams: time, space, and culture. Both Gignac (2004, 21) and Martins & al. (2004, 807) refer time to synchronous and asynchronous time distribution. Members of virtual teams can be geographically distributed, which indicates different time zones. Asynchronous can also refer to different work hours and days. Space, meaning geographical location, refers to aspects of where team members work. It can be an issue of different departments or even countries. Lastly, culture and organization correlate with each other, and bring out diversity in how people work. Virtual teams can consist of members from different organizations and cultures, which influence adaptability and trust in the team. (Gignac 2005, 64)

Financial, temporal and geographical aspects stand in the center of many studies conducted about virtual teams. These aspects were considered when discussing different features of virtual teams in the following subchapters. Features of an effective virtual team was examined from perspectives such as management, communication and technology. Addi-

tionally, human resources and individual psychological aspects were taken into consideration when examining features of successful virtual team members. Additional subchapters discussed challenges and benefits of virtual teams. Lastly, trust and adaptability in virtual teams was addressed.

2.1 Features of an effective virtual team

A virtual team's efficiency and effectiveness prevails from both individual and team features. A key factor is technology, along with management, information distribution and human resources. The key factors (figure 3) are elementary for a well-functioning virtual team. However, how they are implemented are crucial to a virtual team's effectiveness, as well as efficiency.

Technology is the cornerstone in virtual communication; therefore, it has the most influence in the efficiency and effectiveness of a virtual team's performance. Media richness and type of technology, together with the quality of technology, is enhancing team efficiency and effectiveness. Additionally, expertise in technology promotes success in virtual teams. (Martins & al. 2004, 809).

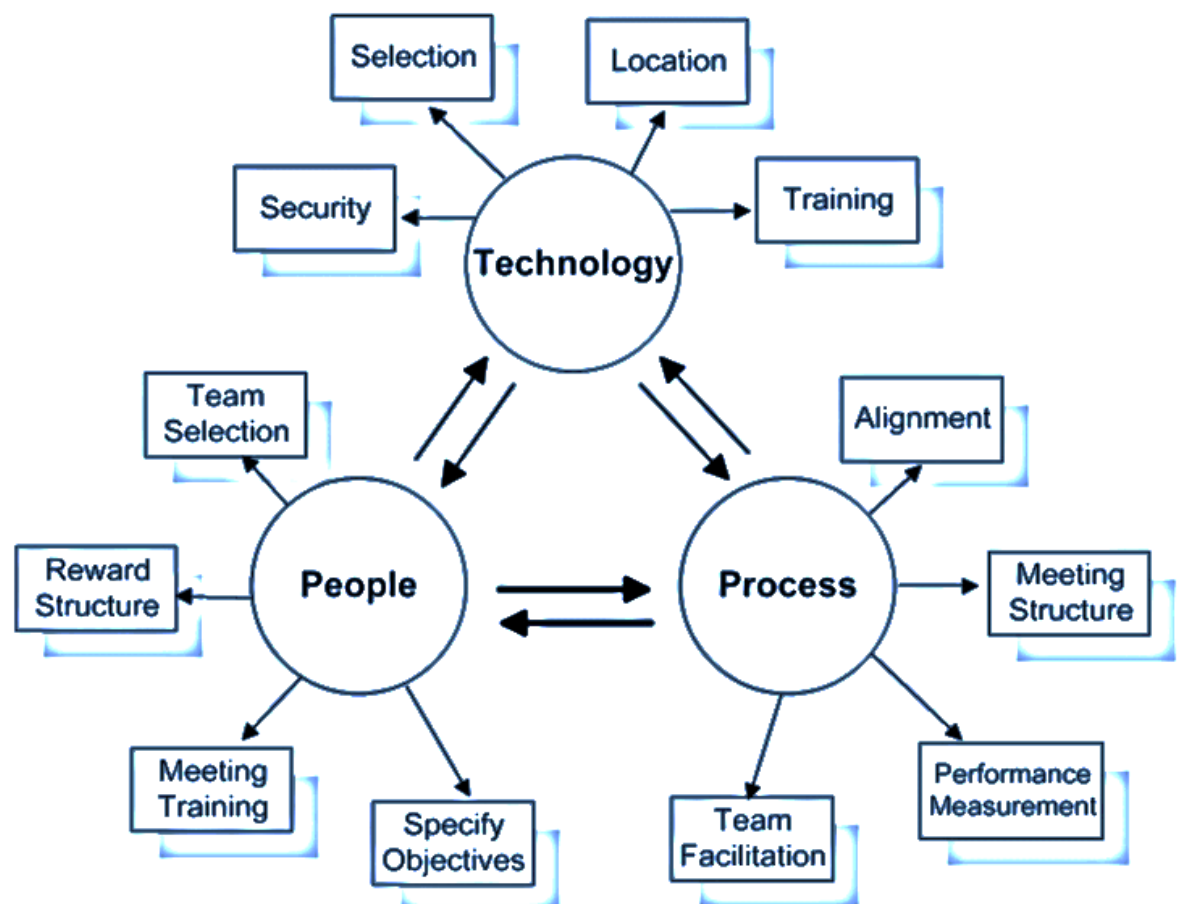


Figure 3. Bal & Gundry (1999) Model for effective virtual team working (Ale Ebrahim, Shamsuddin Ahmed, Abdul-Rashid & Taha 2012, 5)

While technology is the core of virtual teams, other factors, such as management, support, and information distribution, also contribute to a virtual team's success. An essential guide to a successful virtual team is to widen the focus to a wider scale. It is not only a change for an individual or for a group. It is a change for the entire organization and even more. Organizations recognize virtual teams as a strategic change and along with changes comes developments in all the aspects mentioned above. (Gignac 2005, 14)

Comprehensive development in an organizational structure demands shared leadership in form of an executive management team. It is not only a question of leadership in the highest positions of the organization, but also about lower-level management in the organizational hierarchy. A shared leadership provides support close for virtual teams which is needed for building trust in virtual teams, which in turn results in successful outcomes. (Gignac 2005, 179-181)

Gignac (2005, 98) continues confirming the above by explaining how executive management and sponsors positively influence virtual teams. The important aspects are to make resources accessible and to provide assistance along with the changes. Gignac (2005, 180) discusses commitment and implies that commitment consists of "*priority and visibility to the project at the corporate level*". (Gignac 2005, 180)

To conclude, executive management is about managing, supporting and implementing strategies on all levels of the organization. This specific form of management is a necessity for an efficient virtual team.

A support system for individuals results in enhancing attitudes and confidence in virtual teams. Management and technology correlate with the individuals need to feel committed to the virtual team. The individual must be confident in the change, so that the virtual team can be as efficient as possible. Individuals in organizations require education, support, functioning technology, for them to give an ideal output to the virtual team and organization. Additionally, a waying factor of efficiency and effectiveness in a virtual team is trust between team members. Studies show that trust is necessary when team members are geographically distributed (Martins & al. 2004, 815). The lack of geographic cohesion constructs a more psychological intimacy, or as Martins et al. (2004, 816) names it "*glue of the global workspace*". (Martins & et al. 2004, 816)

Martins & et al. (2004, 816) continues to argue that cohesiveness creates a shared group identity, which is said to have be critical regarding a highly effective virtual team. A shared group identity supports trust in team members, decision-making and collaboration. What comes to human resources and psychological aspects in individuals, as part of virtual teams, it is noteworthy to mention identification. Despite different geographical locations, members who strongly identify with their virtual team, are more likely to work harder and strengthen team identity. A strong team identity allows stronger identification for shared goals and strategies, which in turn generates team efficiency and effectiveness. Martins et al. (2004, 816) present cohesiveness, both regarding team members and team tasks, as a positive response to virtual teams, and state that a cohesive group is exchanging information effectively, which increases efficiency and quality of outcome in a virtual team. (Martins & al. 2004, 816)

As seen above, many of the key factors of an effective virtual team correlates with one another. Management goes hand in hand with individual needs and changes in strategies corresponding with cultural changes. Each one of the key factors must exist for the virtual team to successfully be committed to the organization.

2.1.1 Being a successful virtual team member

Teamwork is one of the core elements of an organization and it determines how well an organization performs. Teamwork is not only about how individuals work together, but also about how individuals correspond with the organization's goals and strategies. In other words, teams are bound to be organization's higher goals, strategies and achievements. (Powell & al. 2006, 300)

It is necessary to examine the different levels of individuality in a work team - commitment, identification and attachment - to understand how team members affect team results and organizational goals.

The individual in an organization seeks commitment both to the work team and to the organization. Powell & et al. (2006, 300) reflect on how the individuals psychological state influences work behavior and team outcomes, and they conclude that even the "lowest level of individuality" correlates with the highest levels in the organization.

The feeling of identification interacts with the feeling of attachment to the group, which in turn interacts with the organization's goals and strategies. An organization requires committed employees for the fact that it enhances positive behavior, which in turn enhances functional teamwork. The individual's commitment consists of a desire to remain, an obligation to stay and a recognition of the costs of leaving. These aspects have been found to

affect the efficiency of workers, which in turn is directly related to an organization's efficiency. (Powell & al. 2006, 300)

Martins & al. (2004, 816) debate whether geographical isolation weakens the individual's effort in virtual teams and reach to the conclusion that for a virtual team to be successful, members must see *"themselves as a significant part of the team rather than as individuals working on a part of the team project"*.

For a team member to see themselves as a part of the team, they must embrace the multicultural aspect of virtual teams. Team members of different ages, cultures, ethnicities and genders form a cross-cultural virtual team, and for a team to be successful, all team members must embrace the multiculturalism. (According to DuFrene and Lehman (2016, 13) *"understanding and appreciating such factors can improve communication between people of various generations"*. DuFrene and Lehman (2016, 13) continue with stating that a team mixed with different ages has an advantage on the market, but in order to have an edge, team members must accept and embrace the team diversity. (DuFrene & Lehman 2016, 13).

In conclusion, successful members in virtual teams retain qualities of acceptance, flexibility, and commitment. It is also important to mention, that qualities of a team member correlate strongly with qualities of leaders and management styles. Aspects of leadership in virtual teams will be discussed later, in the fourth chapter.

2.1.2 Benefits of virtual teams

Studies show that in all sizes of corporations the majority of employees are working in virtual teams (Hertel & Geyer 2014, 8), which suggests that virtual teams benefit organizations (figure 4). Therefore, it is important to examine what the benefits are and how they affect organization's outcomes. The benefits of virtual teams correspond with time, space, culture and financial aspects.

Knowledge, skills, and abilities (henceforth KSAs) are essential to teams and to successful organizations (Martins & al. 2004, 809). Virtual teams enable the possibility of internationally distributed information and KSAs (Martins & al. 2004, 809). Regardless of location, experts have the ability to collaborate, and organizations do not have to limit employment or education to a specific geographical region. These aspects enhance the knowledge culture and reinforces cross-cultural learning within organizations. The major benefits from this perspective, are savings in time and costs. Newman, Ford & Marshall (2020, 453) support the above by stating that virtual employees and virtual learning is appealing in means of cost structures. Virtual employees benefit corporations, by making it possible to cut down on office

space and travel costs, all while making lower labor costs more appealing. Additionally, Gignac (2005, 23) points out possibilities of reduction in traveling and living expenses, costs of searching information, training, and coordination. (Newman & al 2020, 453)

Temporal benefits of virtual teams correlate with financial benefits. Virtual teams reduce travel costs, which in temporal aspects mean that the need for travel has reduced. Team members are not required to travel to meet face-to-face with other team members. The time used for business trips can instead be put on remote working. Virtual working enables around the clock operations and without time boundaries employees are more engaged in teamwork due to temporal flexibility. Barnowska & Kozaryn (2018, 210) support the stated aspects above by describing geographical dispersion as a way of economizing time and suggest that time used for traveling can be now used as time for performing work tasks.

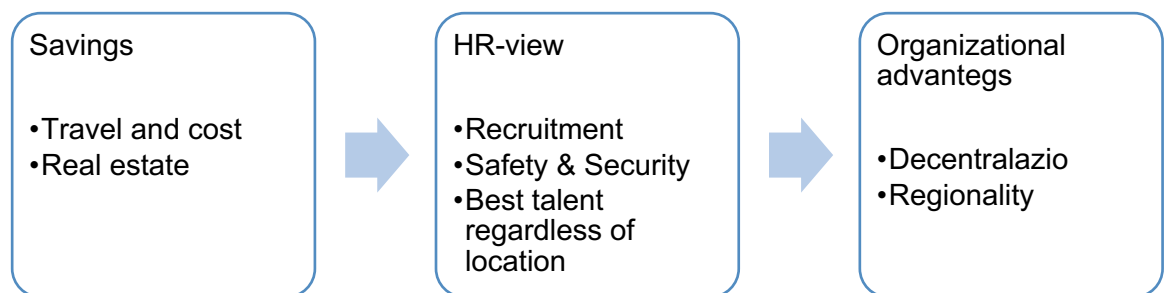


Figure 4. Advantages of virtual teams (adapted from Ale Ebrahim, Shamasuddin & Tahafir 2009, 2657)

Virtual teams can consist of members from different departments, organizations and even countries. Many fields of expertise, culture and knowledge come together in global virtual teams, which results in several benefits, such as cultural diversity, flexible time usage, and lower costs. (Newman & al. 2020, 453)

2.2 Challenges of virtual teams

In the subchapter above, benefits of virtual teams were discussed regarding temporal and locational aspects. The same aspects apply for challenges of virtual teams, however, with an opposite effect (figure 5).

Time, as a benefit, can be seen as synchronous, but on the other hand it can also be seen as asynchronous. Martins & al. (2004, 807) highlight geographical distribution as a challenge, due to different time zones, that team members may be located in. Global virtual teams, as Martin & al. (2004, 807) describe the circumstances, are limited by the ability to communicate synchronously and the solution appears as asynchronous communication media (e.g., e-mail).

Martins & al. (2004, 811) additionally argue that virtual teams do not accomplish tasks as quickly as face-to-face teams. Accomplishing tasks and reaching decisions takes more time for virtual teams than for face-to-face teams. Reasons for this may be that typing is slower than talking in person, and synchronicity makes communication challenging. (Martin & al.2004, 811)

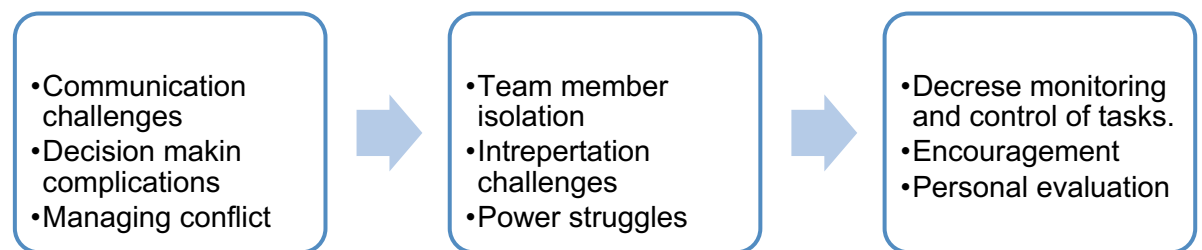


Figure 5. Challenges of virtual teams (adapted from Ale Ebrahim & al. 2009, 2657)

Martins & al. (2004, 808) discuss relational boundaries regarding virtual teams. Virtual teams enable individuals to form teams over departments and even organizations. Martins & al. (2004, 808) point out that *“individuals are more likely to look within their relational networks rather than across networks for team members”*. This can be seen as both an opportunity and as a challenge. Virtual teams set up opportunities for individuals to get to know and work with people across departments, organizations and countries. On the contrary, it can lead to distrust and uncertainty. Martin & al. (2004, 808) describes it as following; *“members have to work across differences in assumptions, motivations, knowledge bases ... “*. It is possible that these aspects weaken the trust in other team members, which highly affect the efficiency of a virtual team. (Martin & al. 2004, 808)

Vinaja (2003, 341) supports the above, by stating communication, culture, technology, and project management as four leading aspects in challenges of virtual teams. Time differences are highlighted and is shown to be a reason for inefficient teamwork. Vinaja (2003, 341) continues listing obstacles of virtual teams and names technology as one extensive

barrier for fluent virtual teamwork. Technology is unequally developed and implemented in different geographical areas. The difference in technology complicates collaboration and are seen in forms of incompatible networks and slow computers. Lastly, Cross-cultural differences occur as misunderstandings, stereotypical thinking and distrust. Different work ethics within virtual teams are likely to cause inefficiency in virtual teamwork. (Vinaja, 2003, 342)

2.3 Adaptability of virtual teams

Development and change are continuous in the current era of the knowledge culture. Successful changes in organizations and teams, require adaptability. Adaptability can be described as a capacity to understand and comprehend changes and as a willingness to being flexible and open-minded. (Marcos 2018, 16)

Marcos (2018, 16) highlights the importance of adaptability of team members in virtual teams, and states that adaptive team members form an adaptive virtual time, which in turn contributes to the organization's goals and outcomes. Team members, who show flexibility, calmness and an interest in learning are contributing to an adaptive team performance. (Marcos 2018, 17)

This shows that individual actions affect team outcomes, and vice versa.

Qureshi and Vogel (2001, 34) discuss technological, work, and social adaptation as key factors for virtual teams. Technological adaptation consists of different technological tools, that organizations provide. Qureshi and Vogel (2001, 34) specify that the technological tools, that organizations provide, must be flexible and meant to be used for problem solving, because technological tools are meant to reduce technological limitations and increase effortless communication. Work adaptation is a continuum of technological adaptation. Individuals implement the provided technological tools in their own work and simultaneously create own ways of working. The behavior, emerged from work adaptation is then furthermore implemented in social adaptation, by creating patterns of interaction. The right tools, own ways of working, and an open mindset enables information distribution and facilitates learning and collaboration. (Qureshi & Vogel 2001, 29)

According to Qureshi and Vogel (2001, 34) adaptation in technology, work and social environments result in successful adaptation of virtual teams, which in turn results in adaptation of organization.

2.4 Trust in virtual teams

Trust is seen as a statement of confidence and mirrors as a cooperative behavior (Nandhakumar & Baskerville 2006, 373). Gignac (2005, 62) describes trust as an action where people are in good faith to each other and where honesty replaces the act of taking advantage

of others. Trust in virtual teams, must be examined separately from trust in face-to-face interactions, due to lack of in-person interaction.

The lack of face-to-face interaction in virtual teams, interferes with building trust in other team members (Newman & al. 2020, 457). Studies show that trust is highly associated with leadership, which makes leadership in virtual teams a higher factor for successful outcomes (Newman & al. 2020, 454). A study, conducted by Newman et al. (2020, 457), shows a strong connection between leadership skills and trust. The study examined how lack of in-person interactions affect trust in teams. Results show that in order for a virtual team to be efficient and effective, lack of in-person interaction must be replaced by a leader's effectiveness and proper use of correct communication tools and techniques. (Newman et al. 2020, 457)

Newman & al. (2020, 457) continue to elaborate a counteract by stating that a lack of trust between team members results in a negative perception of the leader's capability of using correct communication tools and techniques. Nandhakumar & Baskerville (2006, 372) support the results mentioned above by stating that leadership, in addition to cultural and ethnic boundaries, stand strongly in relation to trust. Newman & al. (2020, 9) provide a figure (figure 6), showing the correlation between a leader's effective use of communication, team members' trust in their leader, and virtual team performance.

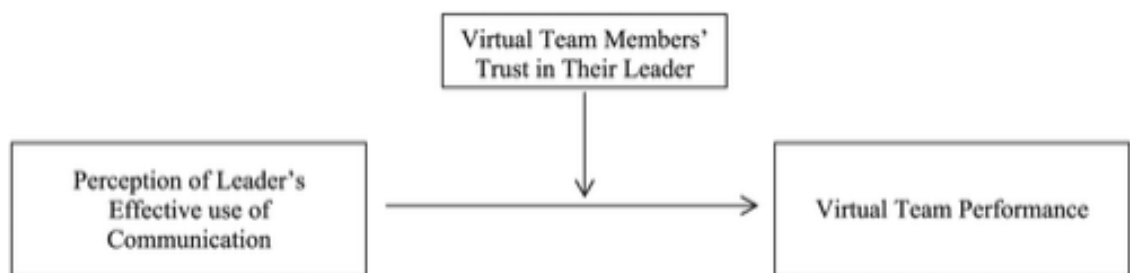


Figure 6. Correlation between a leader's effective use of communication, team members' trust in their leader, and virtual team performance (Newman & al. 2020, 9)

In addition to leadership, performance level and behavioral controls affect trust in virtual teams (Martins & al. 2004, 816). Studies show that team members, who are required to use behavioral controls, for instance weekly reports, are more likely to lack faith in the virtual team. Furthermore, studies show that highly performing virtual teams are more successful in maintaining high levels of trust. Team performance is also affected by the effectiveness of communication in virtual teams and studies show that a higher level in trust improves a team's performance (Newman & al. 2020, 452). Alsharo, Gregg and Ramirez (2017, 486) conducted a study, that argue against the effect of trust on performance in virtual teams.

Alsharo & al. (2017, 486) study shows that trust does not affect team performance. However, it shows that trust has an impact on collaboration which in turn affects team effectiveness and performance. (Martins & al. 2004, 816).

Alsharo, & al. (2017,486) continues to argue that *“sharing knowledge is crucial for virtual team members to collaborate, trust each other, and to be effective”*. Their study shows that sharing knowledge reflects on trust and collaboration in virtual teams. Furthermore, it is stated that collaboration is directly related to a virtual team’s effectiveness. (Alsharo & al. 2017, 486)

Trust in virtual teams derives from collaboration, communication and leadership. As seen above, trust is created when all three aspects – the individual, the virtual team, and the virtual team leader – are committed to their given tasks.

3 Communication in virtual teams

As discussed in the previous chapter, virtual teams communicate via ICT (e.g., email, web conferencing and telephone), due to geographical distribution and temporal asynchrony. Communication in virtual teams separate from communication in traditional teams, as a result of lack of in-person interaction (Gignac 2005, 71). This chapter contains aspects of communication in virtual teams and subchapters comparing communication methods in traditional organizations with virtual organizations. Additionally, employee engagement as an internal communication strategy is examined.

Firstly, different communication methods and tools used for communication in virtual teams are noteworthy to review. Virtual teams use modern technology to communicate and the tools in question are telephone, email, videoconferencing and instant messaging. The reasons for using only technology-based tools for communication are the previously mentioned obstacles – time and space. Both types of teams, virtual and traditional, have varying outcomes, depending on the success of communication. (Gignac 2005, 1-40)

aspects affect successful outcomes in a virtual team are discussed in the following subchapter.

Communication in virtual teams is essential for a functioning, effective, efficient and a successful virtual team, which can be stated due to high interest in studies made of behavior and communication in virtual teams (Sénquiz-Díaz & Ortiz-Soto 2019, 88). The figure below, (figure 7) demonstrates how behavior and communication in virtual teams are the leading topics of studies made in the field of virtual teams.

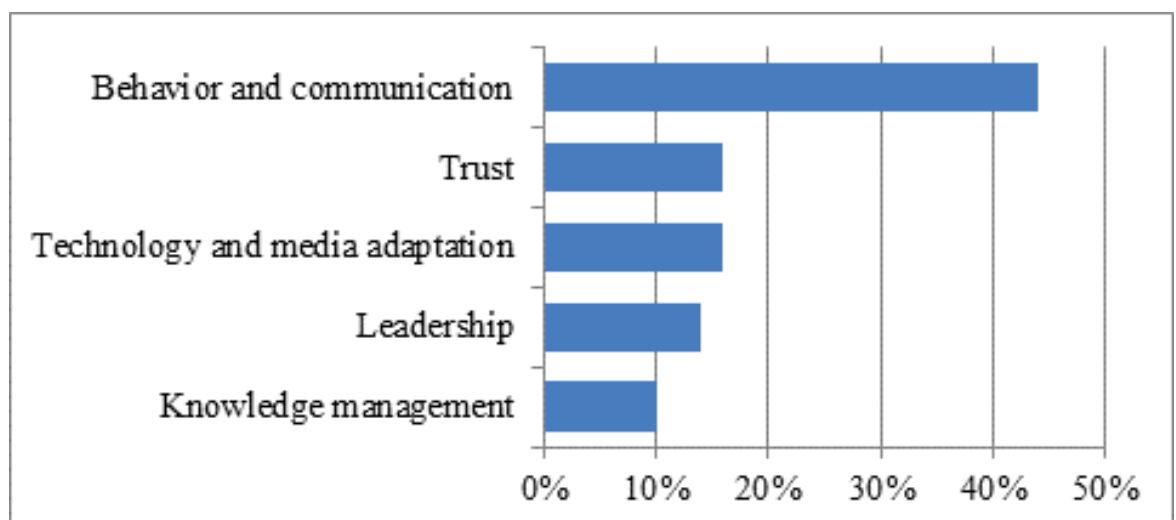


Figure 7. Primary aspects studied in the field of virtual teams within the time frame of 2008-2018. (Sénquiz-Díaz & Ortiz-Soto 2019, 88)

Horwitz, Bravington & Silvis (2006, 472) support the above, by presenting results of their study, regarding obstacles to virtual team effectiveness. Horwitz & al. (2006, 486) state that poor communication quality is the main problem in virtual teams and that most effort was put in improving communication, when trying to overcome obstacles in virtual teams. The study continues with assessing critical success factors of virtual teams, and results show that communication quality – in means of poor communication quality - is a primary reason for failure in virtual teams. All in all, the study shows that communication is the primary factor affecting team effectiveness.

The process of communication in virtual teams include various factors, however, communication is highlighted as the leading aspect, as shown in the figure below (figure 8). The initial factor is team diversity, which further elaborates to communication. Communication is not only one independent factor, but a combination of equally weighing factors: frequency, quality and content. As seen below, communication affects trust and cognition, which in its own turn influences outcomes - viability, performance, and satisfaction. Marlow, Lacerenza & Salas (2017, 577) follow up with arguing that virtual teams, who perform poorly in the first sector – communication – will eventually impair their outcomes, as levels of performance decreases in correlation with levels of communication.

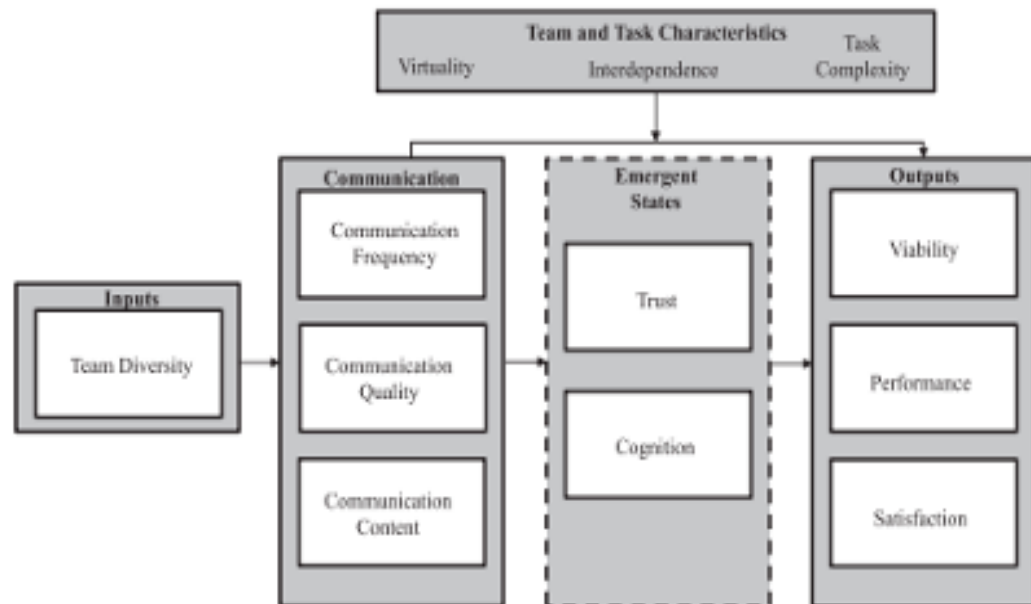


Figure 8. Proposed communication process in virtual teams (Marlow & al. 2017, 576)

In conclusion, communication is essential in virtual teams, due to many oppressing factors, such as geographical and temporal obstacles. Communication is also initial to a virtual team’s performance to such a degree that to understand a virtual team’s contrasting outcomes, it is important to understand the contrasting factors of communication. The following

subchapter elaborate factors, which enable successful communication and successful outcomes in virtual teams. Later, communication skills in traditional and virtual organizations are compared.

3.1 Aspects of successful communication in virtual teams

Successful communication is inevitable for a virtual team to be flexible and responsive, and it additionally allows teams and organizations to collaborate beyond space and time (Potter & Balthazard 2002, 423). In order to understand how communication affects a virtual team's performance and its outcomes, it is necessary to examine the various aspects of communication.

Technology, as a core element of virtual teams, influences quality of communication. According to Bartol and Hill (2018), the type and quality of technology is not the issue when discussing poor communication, but instead, the issue lies in the way members use the technology. To achieve success in communication and in team outcomes, members must choose the right type of technology separately for each task. Different tasks require different types of technology (telephone, email, videoconference) and the key factor is how they are used. (Bartol & Hill 2018)

The type of technology, that is wished to use to complete a task, can be determined via communication strategies. A virtual team's communication strategy is an assessment, where team members establish and review how effective and efficient their communication is (DuFrene & Lehman 2016, 26). This is an important aspect of successful communication, due to the fact that a communication strategy binds team members to a mutual understanding on how the team will work and how they can improve. Dufrene and Lehman (2016, 26) suggest key questions to ask when strategizing communication: *"Is the time and frequency of meetings satisfactory?"*, *"Is technological support for meetings adequate?"*, *"Is the team using e-mail, instant messaging, message boards, or other channels effectively?"*, and *"Is every member's voice being heard?"*.

Payne (2005, 63) points out communication competence as a relevant aspect to successful communication. Communication competence includes *"affective, cognitive, and behavioral elements"* (Payne 2005, 63) and is shown in individuals as an ability to understand the different levels of communication. Payne (2005, 64) continues to present communication competence as *"knowledge of communication and context and ability to obtain goals (skill)"*. As discussed in the previous chapter of features of an effective virtual team, members must see the team's and organization's goals as their own, in order to be an efficient and effective team member. Team members effort and compliance to mutual goals and strategies, strengthens the outcomes of both the virtual team and the organization.

(Payne, 2005, 64) All of these aspects link to communication via the fact that team members need to create a sense of belonging to the team. A sense of belonging strengthens the communication, which in turn empowers teamwork (Payne, 2005, 64).

In conclusion, communication is inevitable in virtual teams, however, it differs extensively from traditional teams' communication, and it faces many new challenges. The lack of in-person interaction, asynchrony, geographical distribution and technological challenges are the main issues when communicating in virtual environments. The obstacles are possible to overcome with flexible team members, who possess the ability to understand the technology that is used to complete tasks, and the ability to comprehend communication as both a competence and a skill. When these aspects are taken into consideration and processed, the outcomes of a virtual team are influenced positively.

3.2 Communication skills and key functions needed in an organization

This subchapter presents general communication skills needed in an organization and a review of communicational differences between traditional organizations and virtual organizations. Cenere (2015, Introduction, para. 2) defines communication skills as *"The ability to convey information effectively and efficiently through verbal and non-verbal communication"*. According to Cenere (2015), companies today are interested in employing people with skills in communication, teamwork, problem-solving, initiative, planning, organizing, self-management, learning and technology. The growing interest in these skills are correlating with the development and increase of virtual teams.

The ability to transmit information effectively and efficiently can be examined with the Shannon-Weaver model (Al-Fedaghi 2012, 2). The model (see figure X) consists of components, such as information source, transmitter, signal, receiver, and message. The meaning of the model is to describe the action of communication. In all simplicity, it describes how a message is sent from a sender to a receiver and who interprets the message. In a traditional organization, the signal that is sent, is often formatted as speech, language, or non-verbal signals (e.g., body language and facial expressions). In a virtual team, the transmitter, between sender and receiver, is some type of technology. This in turn means that the type of message can also be written or in any kind of virtual format. Despite these differences, communication operates in the straightforward manner regardless of if it is virtually or traditionally transmitted (Al-Fedaghi 2012, 2), as shown in the figure below (figure 9).

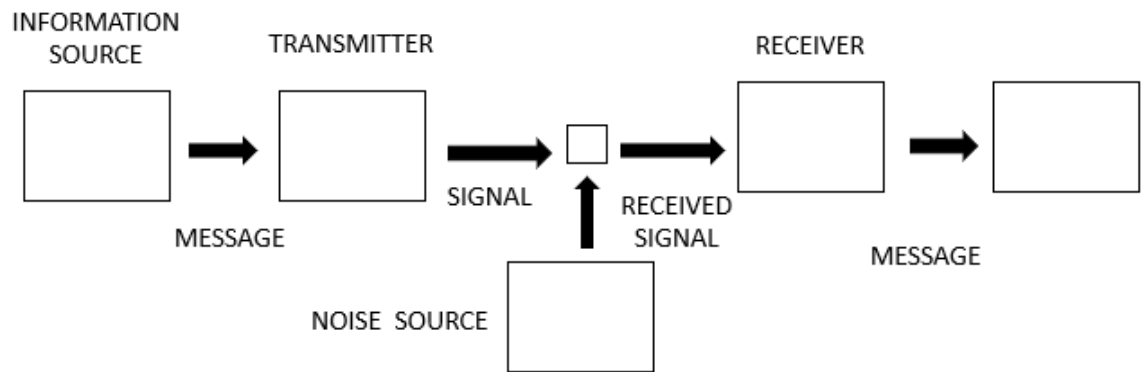


Figure 9. Schematic diagram of the Shannon-Weaver model (adapted from Al-Fedaghi 2012, 2)

Communication binds the several levels of an organization together and it acts as a tool for distributing information (Almaney, 1974, 35). The individuals, who are a part of an organization, are required to communicate, regardless of if they are a part of a traditional organization or a virtual organization. The basic skills of communication in an organization are, according to Van der Molen and Gramsbergen-Hoogland (2018, 7-17), divided in to regulating, listening, and sender skills. The regulating skills are opted to bring clarity in communication, the ability to know when and how to communicate falls into this skill (Van der Molen & Gramsbergen-Hoogland 2018, 7-17). Listening skills are primarily about non-verbal behavior (Van der Molen & Gramsbergen-Hoogland 2018, 7-17). Payne (2005, 63-74) lists listening as an important skill for successful organizational communication. The skill of acquiring information is directly related to being an attentive communicator (Payne 2005, 63-74). Sender skills are either initiative or reactive and consist of aspects on what to communicate (Van der Molen & Gramsbergen-Hoogland 2018, 7-17). The question of what to communicate also refers to the way a communicator uses his/her language, including articulation and expressiveness (Payne 2005, 63-74). These skills are essential in communication in organizations, regardless of the type of organization – virtual or traditional. The non-verbal communication skills are more relevant in traditional organizations.

Communication in virtual teams *lack “physical proximity, frequency of interaction, and breadth and depth of physical cues through non-verbal communication as compared to*

face-to-face teams” (Shikha 2013, 2). Virtual teams are required to use more hard communication skills, while co-located teams benefit more from soft communication skills (Zaugg & Davies 2013, 228-233). Zaugg and Davies (2013, 228-233) also discuss the use of non-verbal communication in teams and mention that face-to-face teams use more non-verbal communication. Body language, tone and facial expressions are an important part of face-to-face communication, while members of virtual teams must replace these aspects with attention on grammar and use of language. Zaugg and Davies (2013, 228-233) additionally mention that face-to-face teams build relationships with soft skills, but virtual teams must use hard skills – skills to use technology the correct way in order to send, receive and interpret messages accurately – to successfully build relationships with other team members. Shikha (2013, 1-4) supports this by stating that face-to-face teams benefit from non-verbal communication and teams are able interpret messages and feedback efficiently, due to the possibility to use both verbal and non-verbal communication. Shikha (2013, 1-4) further argues that virtual teams may encounter miscommunication and misinterpretation, due communication through cultural biases and lack of soft skills and non-verbal communication.

Communication skills needed in an organization are based on different types of communication: hard skills, soft skills, non-verbal and verbal communication, regulating skills, listening skills, and sender skills. All in all, communication is essential for a successful organization, because with communication an organization strategizes, distributes information, educates, and works towards mutual goals. The major differences between virtual and traditional teams are geographical distribution, asynchrony, culture and technology. Traditional teams communicate in person, and they communicate with speech and body language. Virtual teams, on the other hand, must build relationships through technology, which causes obstacles in traditional communication. Virtual teams communicate more in writing and uses more time in interpreting what the sender is aiming to message. In order to avoid misunderstandings and misinterpretations, virtual teams require communication skills, such as teamwork, self-management, flexibility and initiative. (Shikha 2013, 1-4, Zaugg & Davies 2013, 228-233)

3.3 Employee engagement as internal communication strategy

The development of the knowledge era has lifted human resources as an important aspect in organizations and in communication. Well-practiced human resources are studied to impact outcomes of an organization, hence the growing interest in the topic (Rana, Ardichvili & Tkachenko 2014, 249). One of many aspects of human resources is employee engagement and Rana & al. (2014, 249) argue that employee engagement influence “both individual employee outcomes and organizational level success and financial performance”.

Musgrove, Ellinger & Ellinger (2013, 153) support this by stating that “employee engagement favorably influences multiple work-related outcomes”. The study conducted by Musgrove & al. (2013, 152-171) presents a model (figure 10) for service employee engagement. The model is constructed by organizational factors, employee factors and outcome variables. It is clear, that organizational aspects influence job engagement and organizational engagement. Furthermore, employee engagement affects the outcomes of performance and the organizational outcomes. This theory is supported by Rana & al (2014, 249-266), which is presented in the following paragraph.

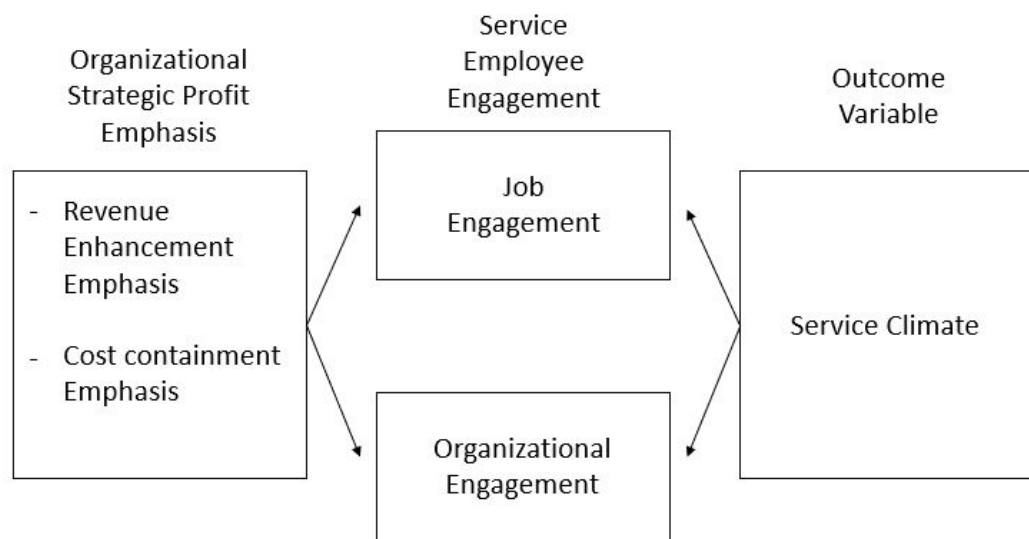


Figure 10. A conceptual model of service employee engagement (adapted from Musgrove & al. 2013152-171)

The attachment, that an employee feels towards their organization, correlates with their performance level and organizational behavior (Rana & al. 2014, 249-266). It is seen as employee engagement and it divides employees in to two types; the ones who are suffering from burnout and the ones who are feeling connected to their work tasks and feel successful doing their job (Rana & al. 2014, 249-266). Rana & al. (2014, 249-266) uses Dubin’s theory building method in their study about employee engagement and point out that this specific method is popular in the fields of leadership and human resources.

The figure (figure 11), presented by Rana & al. (2014, 525), shows various features of employee engagements and the possible outcomes of employee engagement. The four features, which influences employee engagement are job characteristics, management relationship, workplace environment and human resources development practices. Other two factors affecting employee engagement are different job demands and individual traits. All of these six features are studied to affect the employer both negatively and positively (Rana

& al. 2014, 525). A peer pressuring team, low self-esteem, meaningless work tasks and an unsupportive manager, are all factors that do not positively influence employee engagement.

In the center of the model is the content of employee engagement, cognitive state, emotional state, and physical state. Rana & al. (2014, 527) state that when all these three aspects are in line, it “translates into favorable outcomes such that when engaged, employees express themselves cognitively, emotionally, and behaviorally”.

The outcomes of employee engagement are also organizational outcomes. Job performance affects the amount of work an employee puts into the organization. Reduced turnover intention means an individual’s desire to quit their job and it is also highly affecting the organization. It is unlikely for an organization to reach successful outcomes if employees are quitting their jobs. Lastly, organizational citizenship behavior is referred to as a behavior that supplies the organization with effective functioning. (Rana & al. 2014, 249-266)

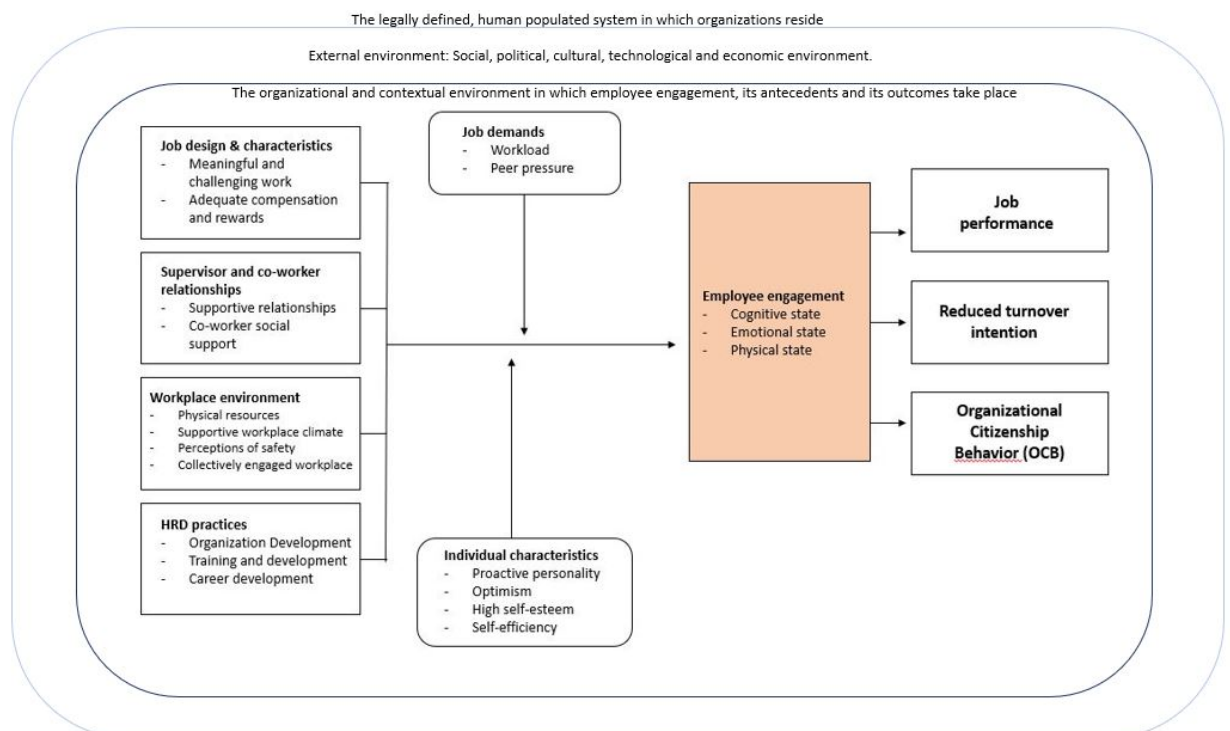


Figure 11. A theoretical model of the antecedents and outcomes of employee engagement (adapted from Rana & al. 2014, 252)

Despite the increasing interest in human resources and employee engagement, Rana & al. (2014, 251) mentions that “only 13 percent of employees around the globe are engaged on their job ...”. Musgrove & al. (2013, 152-171) conducted a study focusing on service employee engagement and the results show that organizational engagement has a stronger influence on employees than the individual job engagement. This said, the organizational structure, strategy, and environment highly affects employees, and it is equally as important as the individual characteristics.

4 Virtual team leadership

The previous chapters have viewed general features, benefits, challenges, and adaptability of virtual teams, likewise communication in virtual teams. As seen in previous chapters, virtual teams rely heavily on support and leadership. Hence it is important to address the essential aspects of virtual leaders. This chapter discusses leadership in virtual teams, by providing information about leadership models, as well as development, benefits, and challenges of virtual team leadership.

Firstly, to understand the concept of virtual leadership, it is necessary to examine what a leader is. A leader is a role model who provides support and management, while simultaneously influencing members to interact with other members (Zilkiqi & Tsolias 2020, 10-16). Leadership is usually defined as someone in a higher position guiding, assisting and facilitating groups or organizations or individual people (Kruse 2013). Virtual teams lack of in-person interaction, which makes leadership in virtual teams more demanding, therefore are other behaviors, such as communication, motivational skills and encouragement crucial in virtual leading (Zilkiqi & Tsolias 2020, 10-16).

Secondly, virtual leadership does not purely concern virtual teams and individuals, but also corporations and organizations. Virtual leadership in organizations must be seen as a structural change as it is becoming inevitable in all sizes of corporations (Hertel & Geyer 2014, 1-20). According to a survey, conducted by Hertel and Geyer (2014, 1-20), a clear majority of respondents believed virtual leadership is a significant topic in organizations at this moment and that virtual leaders are essential for organizations to successfully advance in the modern world.

Lastly, the desired competencies of virtual leaders in the era of the knowledge culture, are highly contrasting with competencies of traditional face-to-face leaders (Hertel & Geyer 2014, 14). Virtual leaders are required to invest in communication skills, independence, flexibility, planning skills, and delegation, to mention a few (Hertel & Geyer 2014, 14). These features are necessary for the leader, as well as for the organization, the team and the individual. The features listed above will be furthermore discussed in the following subchapters. The first subchapter examines leadership models and compares virtual leadership with non-virtual leadership. The second subchapter explores features of team management and different outcomes of virtual leadership characteristics, following with subchapters on development, benefits and challenges of virtual leadership.

4.1 Team leadership model

Virtual leadership differs from traditional face-to-face leadership, in the aspect that virtual leadership operates on several levels of team structures. Virtual leadership, as a multilevel phenomenon, concerns individuals in aspects of attitudes and behavior, while simultaneously affecting team processes and outcomes. The cross-level link between individual and team processes is presented in the following figure (figure 12). (Liao 2017, 648-659)

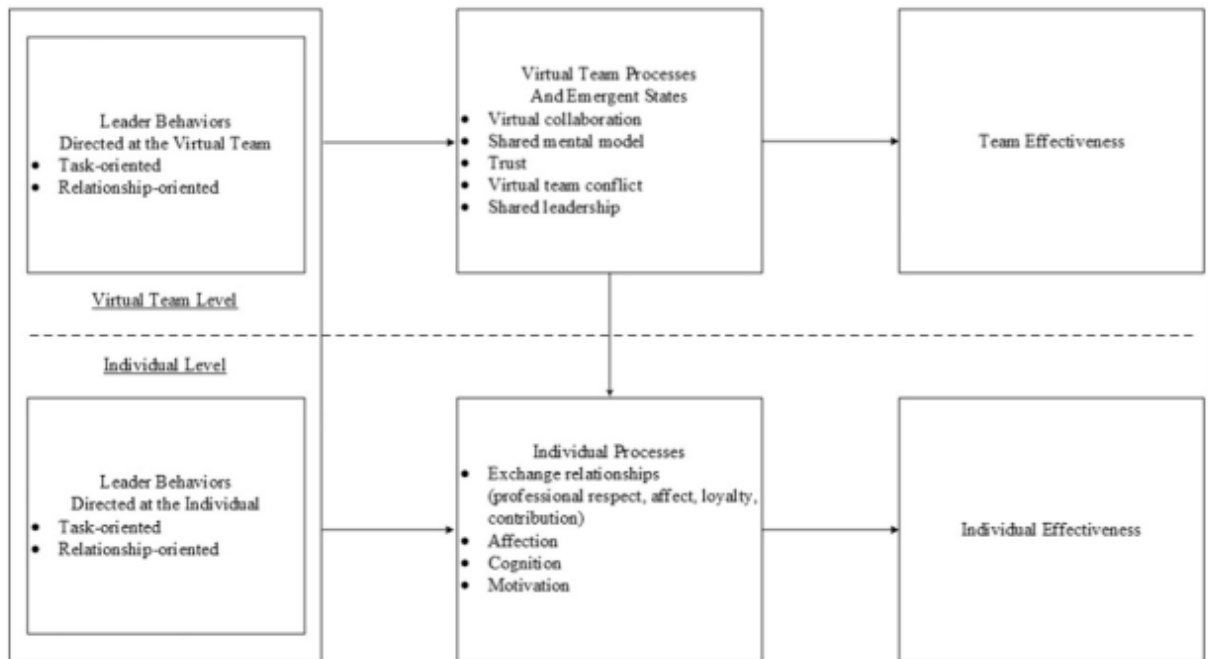


Figure 12. Multilevel model of leadership in virtual teams (Liao 2017,649)

According to Liao (2017, 649) leadership is a multilevel model, which begins with behavior and results in effectiveness. A leader's behavior directed at the virtual team has the same features as behavior directed at the individual: task-oriented and relationship-oriented. Behaviors affect the process, but in different aspects depending on levels. Liao (2017, 648-659) describes virtual team processes as collaboration, mental model, trust, conflict and shared leadership. On the individual level, processes emerge as relationship, affection, cognition and motivation. The process levels of individuals and teams stand in relation to one another and affects both outcomes. This model shows how virtual leadership is a multi-level shared leadership and demonstrates how a leader can and will affect both the individual and the team with their management, knowledge and behavior. (Liao 2017,649) Hertel and Geyer (2014, 1-20) support this model by discussing the effects of a leader's ability to evaluate individuals and state that a leader, who improperly evaluates their team

members emotions and health is likely to cause disturbance in the team productivity and in team outcomes.

Virtual leadership turns out to be a multilevel model of management additionally between the different team members and their cultures. An important trait of a virtual leader highlights as recognition and acceptance of diversity. In order to actively support communication inside virtual teams, a virtual leader must embrace cultural diversity and understand individuals' different needs, schedules and ways of working. Even if virtual leadership holds technology as foundational aspect, it is important to understand that a successful virtual leader shares their perspective to 90% on people and 10% on technology, which successfully results in lucrative team and company outcomes (Vinaja 2003, 342).

Holmlund and Lundqvist (2015, 21) support the previous statements by describing virtual leading as a transformational leadership, which implies that leaders should delegate work tasks and focus on performance instead of details. Situational leadership is also one model of virtual leadership, which focuses on team members abilities and on ongoing situations (Holmlund & Lundqvist 2015, 21).

Lastly, Bell and Kozlowski (2002, 14-49) argue that virtual leadership can come across as several different models, depending on the team task complexity. A lower task complexity equals a more static way of management. A high task complexity indicates on an intensive team structure, with tight connections, and requires a dynamic leadership.

According to Clark (2011) to lead successful virtual teams it is extremely crucial for the management to trust the team and engage with them, moreover different individual leader-



Figure 13. Virtual team expander model (Clark 2011)

ship styles decide how productive a team can be. The figure below, (figure 13) demonstrated what is needed from a leader in order to successfully lead a virtual team and reach goals and good results. (Clark 2011)

As seen above, virtual leadership is shown as a multi-leveled model. A virtual leader beholds a strong influence on individuals and on teams. The fundamentals of virtual leadership have now been presented and the following subchapter will discuss these traits in the perspective of team management.

4.2 Face to face vs. virtual team

Virtual teams rarely meet one another except via online tools, such as video meetings, email or other contacting software. According to Mihhailova (2007) virtual teams are seen as slower in communication and feedback and there is a loss of emotional connection between team members. In more recent findings it is found contradictory that virtual teams share a deeper connection with their team members, since there are no forceful interactions. (Ciotti 2021)

In 2013 Yahoo's internal communications got leaked and it caused a media uproar. In this leaked memo Yahoo's then Chief Executive Marissa Mayer had informed that their employees are banned from working from home (Swisher 2013). The reason behind this email was that Mayer believed working side-by-side boosted creativity and gave workers the opportunity to hold impromptu meetings (Swisher 2013). A study by Edinger (2012) proved the contradictory to this by stating, that employees who were not in the same proximity to their managers and leaders ranked much higher in motivation and engagement. The reason found behind this is that managers who locate closer to their subordinates give factually less communication and feedback compared to when they are put in virtual environments. Additionally, this need of having to communicate in different forms than before has exceeded team leaders' use of different messaging tools. He also stated hearing that the only time these non-remote workers spend time with their team managers is at gatherings such as dinners and other activities. This then takes the focus off the actual meaning of the meeting. (Edinger 2012)

In the figure below (figure 14) Furumo, Pillis and Green (2009) have proven the need for and importance of individual factors that both end in satisfaction. Their study authenticates the need for trust in both working ways and how personality traits make up a big part of the end results. In virtual teams' trustworthy personality is more important than in face-to-face teams, because there must be sufficient trust that the person will do their work even when not monitored. (Furumo, Pillis & Green 2009)

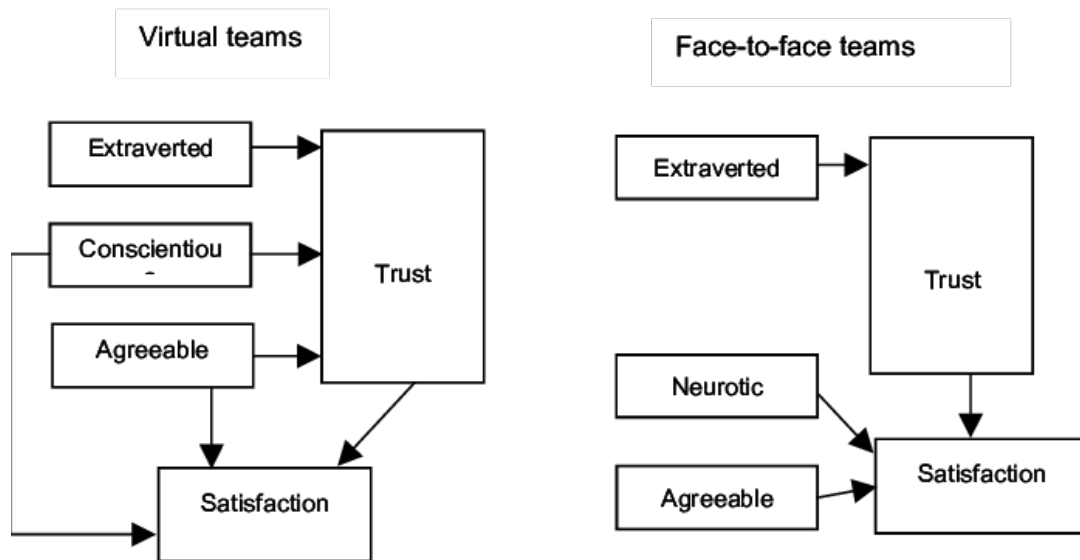


Figure 14. The need of trust in both virtual and face-to-face teams (Furumo, Pillis & Green 2009)

In conclusion it depends on personal preferences and the work that is done in the team on how well everyone will manage their tasks. There should be free choice on working remotely, as seen in the Yahoo case. Individuals do not like to be chained down to their workplace and some prefer and feel like their commitment excels when working remote (Edinger 2012).

4.3 Team management

Management and leadership have different requirements and demands, depending on the form of the team, that is being lead. Traditional face-to-face teams are said to be more easily managed (Liao 2017, 648-659), while virtual leaders must reassess traditional leadership and implement new strategies and skills, due to virtual communication. Team management implies how leaders use communication, strategies and tactics to successfully, in cooperation with team members, reach optimized outcomes. Virtual leadership is composed of many factors, such as knowledge, flexibility motivation, trust, conflict, and support, hence it is important to address the diverse aspects of virtual leadership to understand the contrasting outcomes of virtual teams. (Pauleen 2003, 227-256)

What a leader knows is as equally important as how the leader uses their knowledge. In virtual teams, technology stands in the center of all communication and leadership. A virtual leader is required to have knowledge in the technology used by the team, in order to successfully communicate with the team and lead the team towards mutual goals. Technology is exclusively the singular connection between a leader and their virtual team, hence knowledge in technology is a must. Without technology, communication is nearly impossible

in virtual teams. In addition to communication, knowledge also strongly correlates with support and motivation. (Bell & Kozlowski 2002, 14-49)

Firstly, it is necessary to examine demands on communication. According to Zilkiqi and Tsolias (2020, 44-48) communication is seen as a necessity in virtual teams and as a definite element for encouragement in team members. Zilkiqi and Tsolias (2020, 44-48) continue by stating that the quality of communication determines the quality of a virtual team's performance. Hoefling (2003) supports this by specifying that virtual leaders must be able to communicate through multiple media simultaneously, due to the fact that virtual leaders are the initial link between virtual teams and their organization.

Communication is additionally imperative for building coherence and motivation in virtual teams (Bell & Kozlowski 2002, 14-49). In addition to knowledge of technology, to a successful leader's characteristics belongs the ability to motivate (Zilkiqi & Tsolias 2020). According to Bell and Kozlowski (2002) a virtual leader must choose the correct communication technology, in order to develop team coherence, which in turn is essential for motivated team members. The time used for communication is a decisive factor on how strong the bond between team members is and how cohesive the team is (Zilkiqi & Tsolias 2020, 44-48). According to Zilkiqi and Tsolias (2020, 44-48) a higher feeling of cohesiveness promotes team identification, which in turn promotes motivation.

Motivation and support (figure 15) create a link between virtual leaders and their teams. A successful virtual leader influences their team, by providing support in multiple subjects, such as technology, strategy, emotions and conflicts (Zilkiqi & Tsolias 2020). Hoefling (2003) presents an obstacle by defining management in virtual teams as a task where the

leader must manage multiple environments and simultaneously offer support to team members in all of the diverse environments of virtuality. This demonstrates the model of multi-leveled leadership. Hoefling (2003) continues with assessing support as an essential factor for building commitment between team members and leaders. Commitment to the team, involves also commitment to the team's mutual goals and strategies, which in turn supports the virtual leader's work to build coherence and to provide needed support for the team (Bell & Kozlowski, 2002).

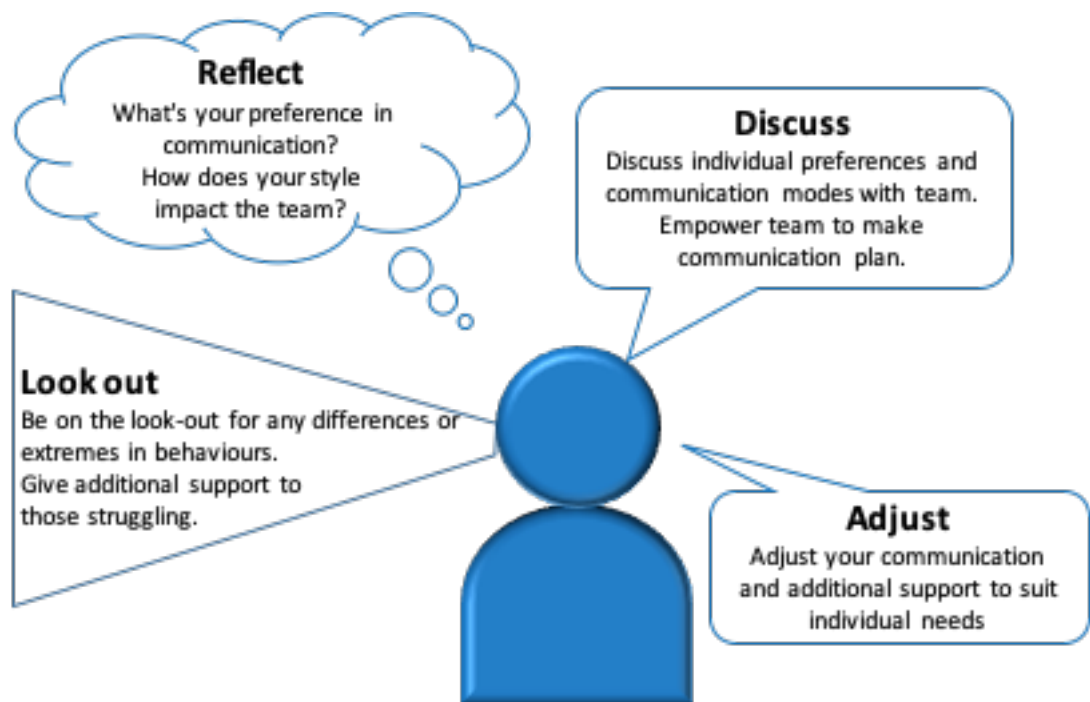


Figure 15. Understanding individual differences (Institute of Organisational Psychology NZ 2018)

Support in virtual environments is essential, due to everchanging situations. Virtual environments change frequently, due to the fact that team members are distributed, and situational awareness is low. In order to secure successful performances, a virtual leader must be flexible and monitor changes, likewise guide their team members through changes with a dynamic overview of task specifications, goals and deadlines. To succeed in this, a virtual leader must provide a clear direction of mutual goals, but simultaneously be specific in individual goals. (Bell & Kozlowski 2002, 14-49)

Geographical distribution among team members is challenging both for the team and for the leader, however, a virtual leader's responsibility is to influence team members to communicate with each other, in order to exchange information and to be more aware of circumstances and changes (Zilkiqi & Tsolias 2020, 44-48).

All things considered, virtual leadership is a multi-leveled model of management, that has its focal point on human resources. Virtual leaders must take many aspects in to consideration, but the underlying focus is on team members and their performances.

4.4 Benefits of virtual leadership

In previous chapters, benefits of virtual teams have been discussed from financial, special and cultural aspects. Most of the benefits of virtual teams, also apply for virtual leadership, but there are a few additional aspects to consider.

The primary factor for a successful virtual team is correct virtual management, virtual leadership, at its finest, influences positively an entire organization, all from economy to the environment (Snyder 2012). Kerfoot (2010, 114) states that “*successful virtual leaders learn how to cross time, space, and culture barriers to make improvements across small and large entities*”. The challenges that virtual environments face, can with the right virtual leadership, be overseen and it may even result in enhancing globalization.

Snyder (2012) assesses virtual leadership as an ongoing learning opportunity for leaders and argues that the more a leader reflects on the virtual environment, the more they learn about business impacts and collaboration. Virtual leadership enables extended aspects on workforce, company and society, which in turn enriches a leader’s knowledge and empower leadership. According to Snyder (2012) the benefits of leadership are located in the aspects of human resources and a greater value of human differences equals in a greater success for the organization. A virtual leader, who manages a multi-cultural team, has a greater ability to encourage collaboration and to incorporate expertise to achieve mutual goals. (Snyder 2012)

The evolution of virtual environments benefits many leaders in form of gaining knowledge, learning shared leadership and cultural differences, and most of all, learning a new way of management, which concentrates more on the individual, rather than blindly on the strategies, tasks and goals.

4.5 Challenges of virtual leadership

Virtual leadership is a relatively modern form of management. Due to the fact that virtual leadership is a somewhat new development in the knowledge era, it still faces many challenges and obstacles e.g., conflicts (figure 16). Geographical distribution and asynchrony are the leading challenges in a virtual environment. (Liao 2017, 648-659)

In the previous chapters, many challenges regarding location, time and technology have been discussed, hence this subchapter assesses what challenges virtual leaders face in conflict situations and how various literature suggest solving them.

Liao (2017, 653) strongly suggests that “in order to lead a virtual team and enhance its effectiveness, it is paramount for leaders to manage conflict”. Liao (2017, 648-659) continues by defining conflict as a perception of individual differences and incompatibilities. A virtual leader faces challenges in conflict situations, when firstly, assessing a possible conflict, secondly, determining the type of conflict. Conflicts can be related to relationship, task or process aspects. In order for the team to be functioning and effective, a leader is required to efficiently and effectively communicate, clarify responsibilities and coordinate task. (Liao 2017, 648-659)

Bell and Kozlowski (2002, 14-49) assess boundaries as the essential reason for conflicts and challenges. A virtual team consists of members from different areas, organizations, and cultures, which can result in many different boundaries. Leaders must determine what methods to use, and leaders must additionally be able to accommodate methods specifically to the individual level (Bell & Kozlowski 2002). To determine a method, that suits team members, a leader must communicate extensively with team members. Communication in virtual teams, is by itself challenging, due to geographical distribution and asynchrony, but a leader must be proactive, in order to give support and to regulate performance. (Bell & Kozlowski 2002)

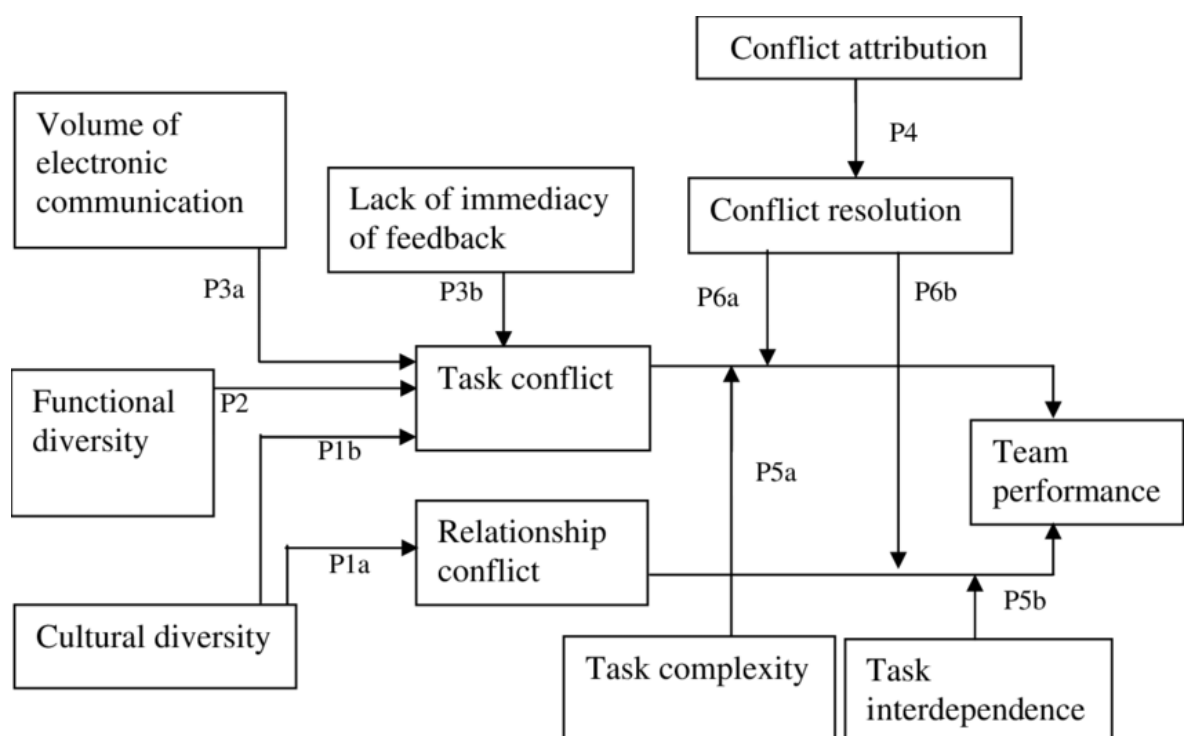


Figure 16. Example contributors that can lead to conflicts (Kankanhalli 2007)

In conclusion, to a virtual leader's tasks include mediation of task related conflicts and relational conflicts. Many challenges and difficulties of a virtual environment derives from differences in time, place and culture, but the key to successful mediation is to communicate and to develop interpersonal relations. (Pauleen 2013, 227-256)

As previously mentioned, in the subchapter of team leadership model, virtual leadership is almost fully about people and managing human resources, hence, challenges in virtual leadership assesses mainly relational boundaries and obstacles.

5 Conducting the study

In this chapter, the empirical study research method is introduced. Firstly, quantitative and qualitative research concepts are explained, followed by presenting the empirical research as well as how the data was gathered and analyzed. Moreover, in the last subchapter reliability and validity are discussed. In the previous chapters, the theoretical framework discussed different segments and aspects of leadership and communication in virtual teams, in order to support the empirical research. This empirical research focused on different skills and approaches needed for a successful virtual team environment.

5.1 Research method

There is two ways of conducting a research either quantitative research or qualitative research (Patel & Davidson 2011, 12-14). For this empirical study, quantitative research was chosen, because of the authors own preference.

Mixed method is a method where both qualitative and quantitative methods are used in the research. Mixed methods as a research have advanced significantly as a social research strategy in recent years. As a matter of fact, thanks to the methodologists' and researchers' efforts, there is now a good understanding of the variety of issues, such as the various ways quantitative and qualitative research can be combined. Bryman (2007, 8-22) states that the fundamental question of thoroughly mixed method researchers integrates their findings had not been discussed to a great extent. To put it in another way, to what extent do mixed methods researchers analyze interpret and then write the finding in such way that the quantitative and qualitative components complement each other? (Byrman 2007, 8-22) The authors concluded that using a mixed method was not an option, as they still have little research experience, and it can be stated to be more challenging.

According to Yilmaz (2013, 311-325) quantitative research can be defined as research that describes phenomena according to numerical data and is analyzed by means of mathematically based methods, particularly statistics. From a wider context, it can be defined as empirical research into social phenomenon or human problem that involves testing a theory made of different variables that are measured and analyzed with statistics to resolve if the theory answers or predicts the phenomena. (Yilmaz 2013, 311-325.)

The process of collecting and analyzing numerical data is known as quantitative research. By collecting numerical data, it can be used to look for certain patterns, averages also conclude predictions and test casual relationships and furthermore generalize the result to a larger population. It can be said that quantitative research is the opposite of qualitative

research, as the method entails gathering and analyzing non-numerical data. In both the natural and social sciences quantitative research is commonly used e.g., in economics, marketing, chemistry and much more.

Quantitative research methods can be used for a variety of purposes e.g.

1. Descriptive research = Overview/summary of the variables in the research
2. Correlational research = Explore relationships among variables in the research
3. Experimental research = Look for a cause-and-effect among the variables in a systematic way

Both correlational and experimental research can be used to use statistics to formally test hypotheses or predictions. Therefore, based on the sampling method used, the findings then can be generalized to a larger population. (Bhandari 2021)

Qualitative research can be rather difficult to define from its multifaceted nature as it is supported by various paradigms. Eriksson and Kovalainen (2016, 82-83) states that qualitative data refers to information that cannot be measured the same way as quantitative data. The term qualitative data can be referred to any spoken, audio or visual material that allow interoperation and it is not primarily concerned with measuring things (Eriksson & Kovalainen 2016. 82-83). Gay and Airasian (2000, 627) states that in simple definition qualitative research can be explained as *'the collection of extensive data on many variables over an extended period of time, in a naturalistic setting, in order to gain insights not possible using other types of research'*. (Yilmaz 2013, 311-325)

When discussing quantitative and qualitative research process, there are four essential elements that should be reflected on. The following elements are epistemology, theoretical perspectives, methodology and methods (figure 17), it can be said that the four elements are the general design of a research. Crotty (1998, 1-17) argues that researcher needs to take a structured but broad approach to the research in order to make sense of complex and large amount of data. Many researchers face this problem since there are so many different research approaches to choose from. Someone fairly novice to research can get confused and lost in the beginning and not know how to go on about it. Epistemology, theoretical perspective, methodology and methods are elements that are all dependent on one another; decision taken from one element has an impact on the other element, in other way they all inform each other. King and Horrocks (2010, 10) also support this statement and argue that they rely on each other and cannot be viewed in isolation. (Cotty 1998, 1-17)

- *Methods*: the techniques or procedures used to gather and analyse data related to some research question or hypothesis.
- *Methodology*: the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes.
- *Theoretical perspective*: the philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria.
- *Epistemology*: the theory of knowledge embedded in the theoretical perspective and thereby in the methodology.

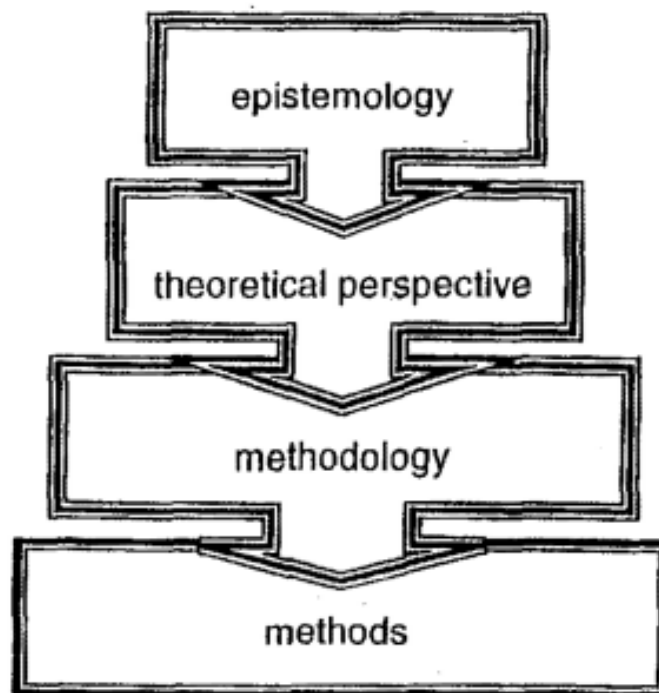


Figure 17. Crotty's (1998) research design elements (Jill Zhao 2014)

Generally speaking, a research strategy can be called a master plan that the researchers use or follows in order to complete it research project, the results obtained from the empirical research are concrete observations based off the research objectives. Quantitative research encompasses a wide range of scientific techniques, as it allows the researcher to use numbers to statistically describe and interprets the objectives of the research.

(Jyväskylän Yliopisto 2021)

The goal of the research was to identify different skills and approaches needed for a successful virtual team environment and to seek an answer to main research question "What are the challenges of virtual teams and their leadership expectations?". The authors were more comfortable analyzing numbers and statistics; therefore, a quantitative research was chosen.

5.2 Content of the survey

The quantitative survey data was collected via Google Forms on May 3rd, 2021. Some of the survey questions were adapted from existing surveys (appendix 1). Each survey question is shown separately below. This subchapter showcases the content of the survey.

The survey was published on the authors personal Instagram accounts and further reposted by a few of their friends. The survey received 109 (100,0%) responses from individuals working in virtual teams, the primarily goal was to reach 100 people. The authors thought about different approaches on how to get individuals to participate in the survey. The authors concluded that, by posting the survey on social media and asking people kindly to participate would be key (appendix 2).

The authors and their friends live in Uusimaa and in Varsinais Suomi, most of their followers on Instagram also live there. Therefore, it can be assumed that also the survey respondents live there. Furthermore, everyone who shared the survey on Instagram, including the authors are females in their 20's, that means it is rather obvious that most of the respondents also are females in their 20's.

The survey only demanded the respondents to be part of a virtual team, either full time or part time in order to participate in the survey. Further, the survey did not require the respondents to be in a certain age group. The red colored star footnote symbolized the that the question was compulsory to answer.

The survey consisted of 13 questions (appendix 1). The first six survey questions (1-6) focused on getting to know the participant, and their profiles. What is meant by this, is that before concluding further results it is important to know the respondents' starting point, to detect different patterns. The remaining questions (7-12) except the last question (13) asked the respondents questions in regards of leadership, communication, and virtual teams. The last survey question (13) asked the respondent to express any further reflections that they might have regarding leadership, communication or in virtual teams. By asking this, the respondent had the opportunity to add something they might have felt important to address, that the survey did not ask, the question was a voluntary question.

The survey can be found in full (appendix 1), in the matrix overlay (table1) it communicates the clear structure of the research questions connection to the theoretical framework and the empirical study. Each survey question is explained below.

Survey introduction (appendix 2)

Your views are important. Are you part of a virtual team? And maybe work fully remotely or even partly? Please answer the survey below.

We are third year International- and marketing students and are currently finishing up our thesis. The thesis investigates leadership and communication in virtual teams, moreover the thesis studies what are the benefits and challenges of virtual teams and how to excellence virtual leadership when employees and management are in different locations.

This empirical study (survey) was conducted to provide a comprehensive review on significant features of virtual teams. The main research question for the thesis was "What are the challenges of virtual teams and their leadership expectations?"

We realize how precious your time is. That is why we made sure that this survey will only take a few minutes. This survey is anonymous and confidential. Thank you for investing your time to provide us your individual views, we highly appreciate your effort!

Warm regards,

Melissa & Ella

Survey questions

1. Age *

 - 18-25
 - 26-35
 - 36-45
 - 46-55
 - 56 and over

The 1st question intended to ask the respondents age, in order to draw conclusions based off different age groups.

2. Gender *

 - Female
 - Male
 - Prefer not to say
 - Other

The 2nd question asked the respondent's gender. The authors found gender questions sensitive and aimed to gain insights from everyone, therefore, male, female, prefer not to say and other was concluded to be most suitable.

3. Please choose the option that describes your current remote work hours *

- Full time
- Part time

The 3rd question asked the respondent to describe their current remote work hours as it is necessary to separate and draw conclusions based on full time and part time employees

4. What industry are you currently working in? *

- Business
- Retail
- Information technology
- Telecommunication
- Education
- Pharmaceutical
- Food & Beverage
- Health care & Social services
- Public administration
- Hospitality
- Entertainment & Media
- Manufacturing
- Transport
- Real estate
- Aviation
- Public Administration
- Other

The 4th question asked the respondent in what industry or sector they are working in. The aim of the question was to categorize the respondents, as there could be clear patterns depending on in what sector they were working in.

5. Estimate the size of the organization you are currently working in *

- Less than 10
- 10-50

- 50-100
- 100-500
- 500-1000
- 1000-5000
- More than 5000

The 5th question asked the participant to estimate the corporate size. There might be differences regarding leadership and communication based on the corporate size. The question aimed to understand different needs in different sized corporations.

6. What is your current position? *

- Team leader
- Manager
- Regional Manager
- Intern
- Upper/executive management
- Volunteer
- Individual Contributor/ Employee

The in the 6th, the authors intended to draw conclusions based on the respondent's current employment status. (adapted from Maarit 2013, 57)

7. Rate your experience as a member of a virtual team *

- I am aware of my role in my team
- I know what is expected from me, while working virtually
- I receive feedback on my work regularly
- I receive help when needed

In the 7th question the respondent were able to answer on a scale of strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree to strongly agree to reflect on their awareness, feedback and expectations working in a virtual team. The questions aimed to find out and draw conclusions on how well communication is handled. (adapted from Solomon 2010, 13)

8. Does your team have regular virtual meetings? *

- No virtual meeting

- Less than once a month
- Few times in a month
- Once a week
- Few times in a week

The 8th question aimed to find out the importance on regular communication, more so if the respondents have meetings online and how often.

9. Which of these problems did you face while working in a virtual team? *

- Not enough support
- No commitment
- Culture differences and/or language problems
- Trouble because of distance
- Lack of trust
- Conflicts between the team
- Acknowledging the need for support
- Lack of clear objectives
- None of the above
- Other

The 9th question was the longest multiple-choice question in the survey. The respondent could answer more in-depth on the challenges they have faced in virtual teams. The question was asked to understand the challenges in virtual teams as all the options were discussed previously in the theoretical part.

10. What are some things you wish that your management did better in your virtual teams? *

- More feedback sessions
- Communicating better with management
- Communicating better with team leader
- Better use of online tools
- Effective meeting methods
-

The 10th question targeted the RQ3. It had clear correlation of solving on how to be a better leader.

11. What would make a good virtual teammate in your opinion? *

- Share information transparently
- Is proactively engaged
- is organized
- Is collaborative
- Has excellent social skills
- Provides useful feedback
- Offers assistance to others
- Identifies problems proactively inside the team
- Is transparent int their feedback
- Other

The 11th question was laid out to find out the respondents' opinions on what a good teammate is. With the answers the authors wished to find out suitable recommendations for virtual teamwork. (adapted from Solomon 2010, 10)

12. What differences do you notice between virtual and face to face teams? *

- Managing conflicts
- Making decisions
- Expressing opinions
- Delivering quality output
- Generating innovative ideas

The 12th question asked the respondent to answer on a scale of less challenging, no difference to more challenging on conflict management, decision making, expressing their opinions, delivering quality output and generating innovative ideas.

13. Do you have any additional reflections you would like to express regarding leadership, communication or virtual teams?

5.3 Data collection and analysis

This subchapter present some of the most common core competences of analyzing quantitative data as the research was carried out using a quantitative method. The data was collected via Google Forms on May 3rd, 2021. The authors contacted a few friends on social media and, who then posted the survey on their stories. The data was analyzed via excel; the data was easily extractable from Google Forms to Excel. The data analysis stages began the next day after the survey was closed. The authors intended to only have participants already part of a virtual teams, in order of the sampling to serve the best in

terms of the research. Firstly, the authors reviewed existing literature in order to understand the concept of leadership and communication in virtual teams, followed by conducting the empirical research and lastly, concluding finding and developed suggestions and recommendations (Figure 18).

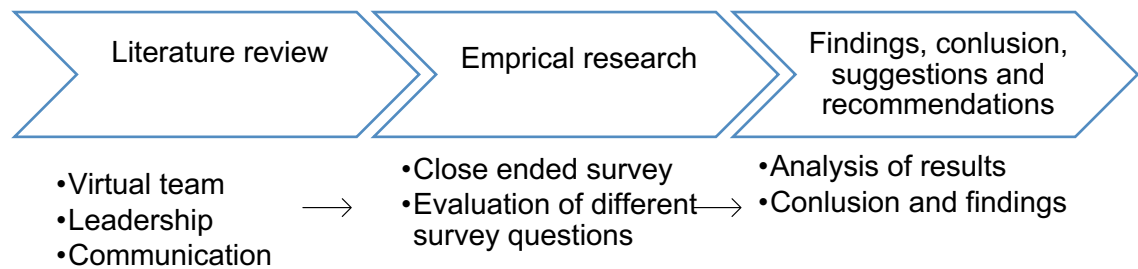


Figure 18. Research framework process

Data can be collected in different ways e.g., interviews, questionnaires, observation, diaries, documentary analysis, measuring and testing or using other numerical data (Tuomi & Sarajärvi 2009, 71).

When conducting quantitative research, the data will be tied to specific variables, and the data will be collected using standardized methods. The variables can then be expressed numerically, and the finding can be described using various tables, graphs or statistical measurements like averages, variances and correlations and analyzed using the techniques like analysis of variance, factor analysis or regression analysis. (Kaiser 2019)

Quantitative data tends to answer the questions what, who, where, when, how many/much, however it is not ideal to answer the question how and why. Quantitative data often needs a larger sample size to ensure that the result is representative of a larger population. The challenges might be putting together a list of respondents and ensuring that the sample represents a larger demographic or group. The findings can be generalized if the sample size is big enough, if the sample population is representative. (FreeOnlineSurveys 2021)

In quantitative studies, some type of response bias might occur when the researcher favors data that supports their beliefs or hypotheses. Moreover, this type of bias might go unnoticed by the researcher, as they might believe that their goal has already been achieved and therefore ignore or misinterpret the data finding. Qualitative surveys help put the participants responses into context e.g., " how likely" or "what are one thing..." the

researcher gives context, meaning the data is not only descriptive but also actionable. (Free Online Surveys 2021)

In the survey, two different measurement levels ratio –and nominal scale were used. Nominal scales were used in most of the survey to see which options from the multiple-choice questions were. On the other hand, ratio scale questions were brought into measure answers between values (Ndukwu 2020), as seen in survey question 11 (appendix 1). Once the main three research questions (mentioned in chapter 1.2) were agreed on, creating the survey questions became clear. Cross-tabulation was used when analyzing the survey results.

5.4 Reliability and validity

Reliability and validity are two concepts that are important to be addressed when conducting research. It should be clearly stated for the reader how accurate or valid the results are. To validate the research result, the author should have coherent and well-grounded links that correspond to the research findings and theories. Reliability and validity are concepts that evaluate the quality of a research. It can be described as a method, technique or test which particularly measures something. (Middleton 20219)

Validity recognizes the existence of multiple different realities e.g., the researcher personal experience and viewpoints that could have resulted in methodological bias. Validity refers to appropriateness and correctness. It can be claimed as valid when the research result corresponds to real life theories such as characteristics, variations in the physical or social world. (Middleton 2019)

Reliability relates to the “trustworthiness” meaning the decisions the researcher took “decision-tail” as it should be transparent and be comparable to findings. Reliability can be measured and referred to as consistency. In other words, test something repeatedly and receive similar results repeatedly. (Crossman 2019)

The authors collected the data via Microsoft Forms, the participants of the survey took part in it voluntarily and answered the questions (appendix 1) anonymously in order to maintain high quality results. Some of the survey questions can be considered sensitive, as the participants reflected on their own experiences working in different companies. The goal of the survey was to get the participants to answer and reflect both truthfully and openly. The participants found the topic relevant and therefore eagerly took part in it.

Furthermore, the authors ensured that the data collection is comparable and paid attention to possible bias, when reaching the conclusions. Also, understanding the concept reliability and validity was considered when making statements in the findings chapter. The results should always correspond to theories and various different concepts related to the chosen subject. Therefore, the authors believe the findings can be claimed as reliable.

6 Empirical analysis and findings

This chapter and its subchapters analyze the results of the survey conducted on May 3rd, 2021. Prior to the analyzing stage, the authors extracted the survey results from Google Forms to Microsoft Excel. The survey reached a total of 109 (100,0%) respondents, the primarily goal was to reach 100 respondents. The data was analyzed via different variables. The numbers were expressed in tables, graphs and statistical measurements. The data was further analyzed descriptively e.g., by averages, frequencies and cross-tabulation. Moreover, numerically, the values that are demonstrated are combinations of frequency and percentages.

The survey aimed to answer the main research question: "What are the challenges of virtual teams and their leadership expectations?" and the investigative questions below:

RQ1. What are the challenges and benefits of virtual teams?

RQ2. How important are communication skills in virtual teams?

RQ3. What are the leadership expectations for a successful virtual team?

The respondents and their profile are first presented, survey questions 1-6 (appendix1). Furthermore, the findings are presented in three subchapters from the following aspects: virtual team (6.1), communication (6.2) and virtual team leadership (6.3).

Respondents and their profile

Age (survey question 1) (appendix 1):

The figure below (figure 19) communicates the survey respondents age. By observing the table, the majority of the respondents were the age of 26-35 (53,2%), following by the age of 18-25(34,9%). The smallest groups of the respondents were the age of 36-45 (10,1%) and 46-55 (1,8%) moreover, 0 (0,0%) of the respondents were above 56 years old. The survey reached a total amount of 109 (100,0%) respondents.

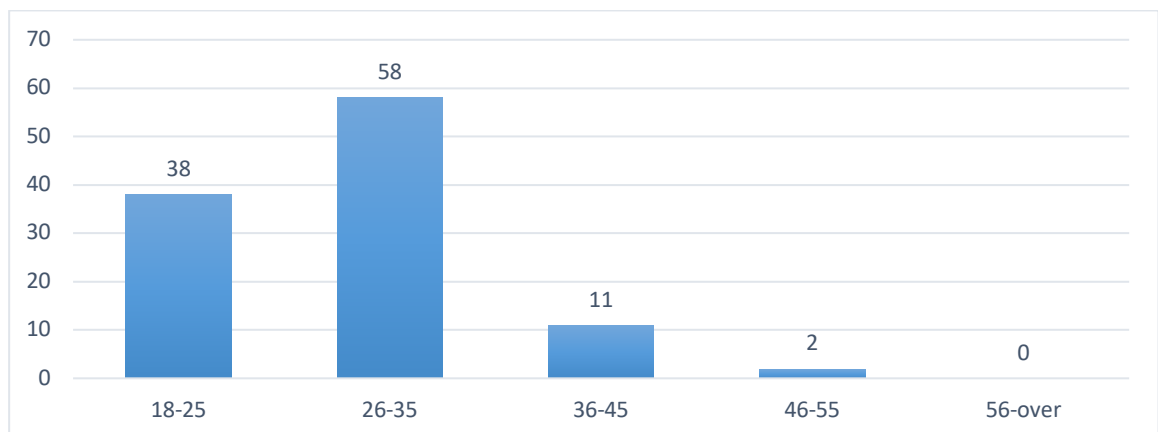


Figure 19. Respondents age

Gender (survey question 2) (appendix 1):

The figure below (figure 20) demonstrates the respondent's gender. The majority that took part in the survey were females 102 (93,6%), followed by males 6 (5,5%). Moreover, 1 (0,9) chose the option "prefer not to say".

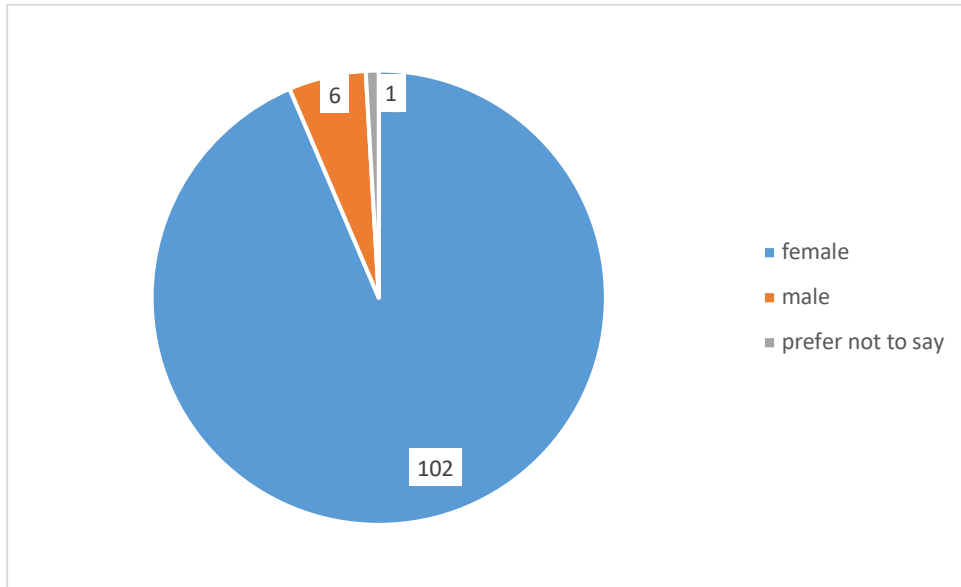


Figure 20. Respondents' gender

Remote work hours (survey question 3) (appendix 1):

The figure below (figure 21) demonstrates the respondents current remote work hours. Of the respondents 77 (70,6%) worked full time and, 32 (29,4%) worked part time. Based on the answers, most of the respondents worked full time.

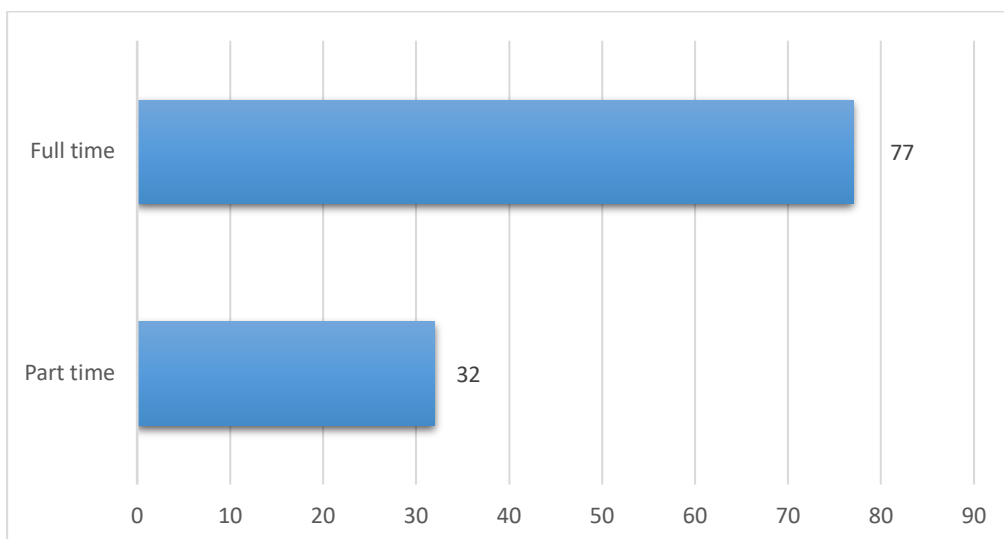


Figure 21. Respondents current work remote hours

Industry (survey question 4) (appendix 1):

The figure below (figure 22) demonstrates the respondent's current industry that they are working in. The clear majority who answered the survey worked in the business field 43 (39,5%). Followed by the health care & social services field 18 (16,5%) and the IT field 11 (10,1%). The entertainment & media 10 (9,2%) and the public administration field 9 (8,3%) had both the same amount. Of the respondent 6 (5,6%) worked in the manufacturing field. Furthermore, 3 (2,7%) worked in the pharmaceutical, legal administration 3 (2,7%) and telecommunication 3 (2,7%) field. The rest of the respondent's worked in the following industries: retail 1 (0,9%), food & beverages 1 (0,9%) and in hospitality 1 (0,9%). The clear majority of the survey responses are representatives of business and healthcare professionals 61 (56,0%).

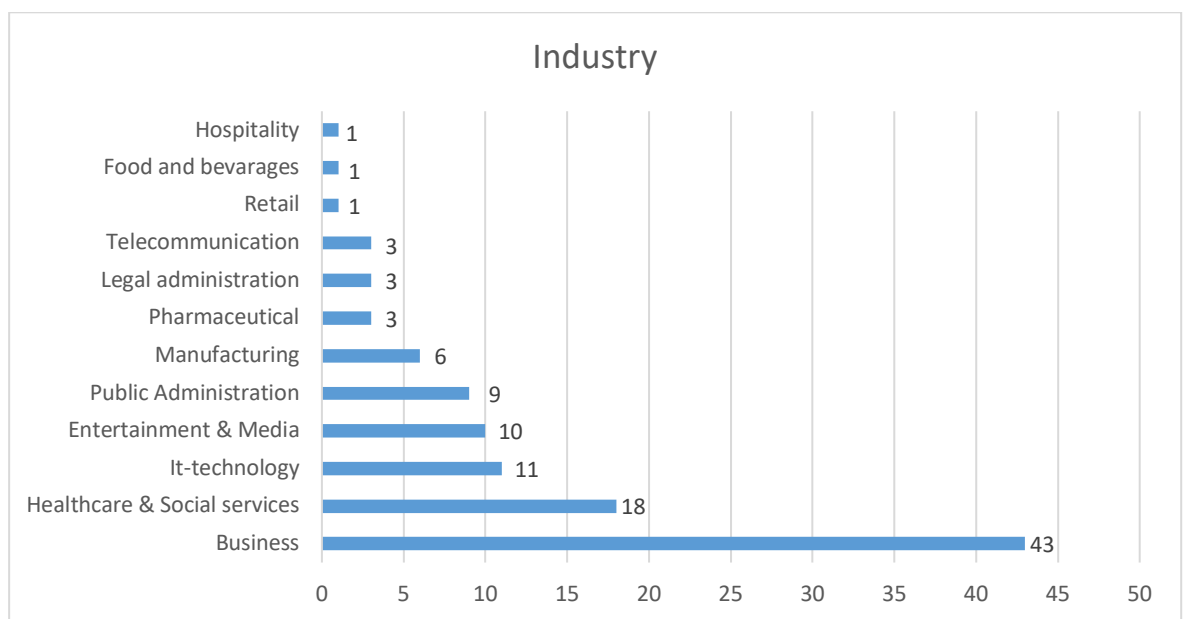


Figure 22. Respondents industry where they are currently working in

Organization size (survey question 5) (appendix1):

The respondents were asked to estimate the size of the organization where they are currently working in. Based on the results (figure 23), the respondents worked in all different sized organizations. The greatest number was 22 (20,2%) who worked in an organization with 100-500 members. Further, 18 (16,5%) answered "more than 5000" and 17 (15,6%) answered "1000-5000". Moreover, 15 (13,8%) answered "10-50" and 15 (13,8%) "50-100". Lastly, 14 (12,8%) answered "500-100 " and 8 (7,3%) answered in an organization with less than 10 members.

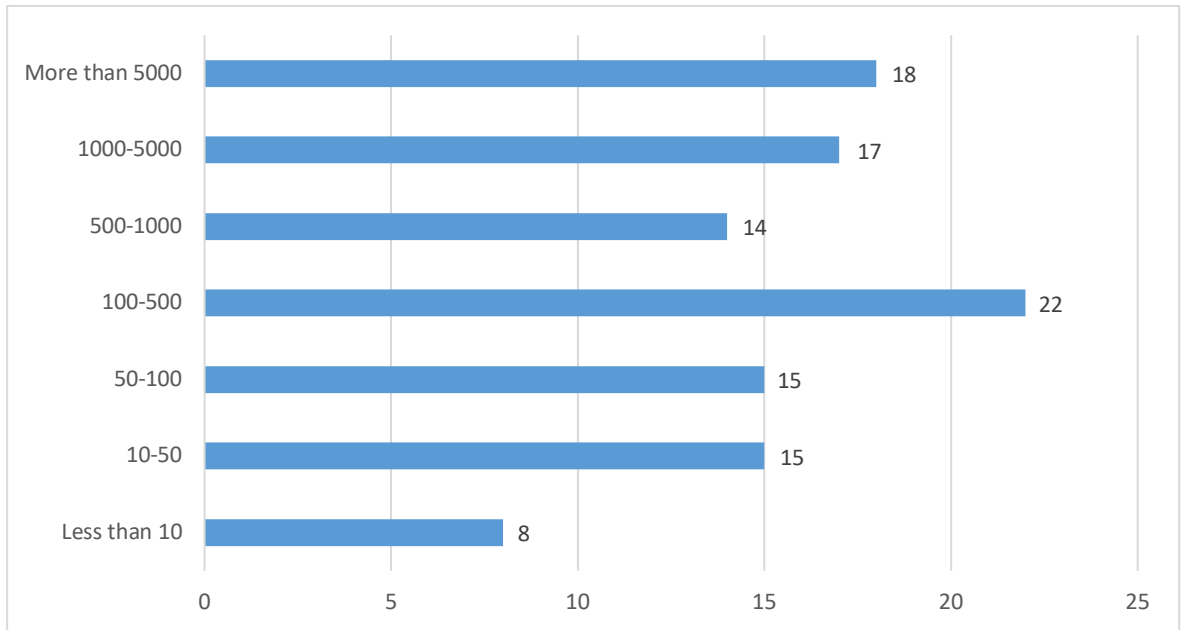


Figure 23. Respondents' organization size where they are currently working in

Work position (survey question 6) (appendix 1):

The figure below (figure 24) communicates the survey respondents current work position. The majority of the respondents were individual contributors/employees, 91 (83,6%), followed by team leaders 8 (7,3%), interns 8 (7,3%) and lastly 2 (1,8%) of the respondents were managers. Individuals working as, volunteers 0 (0,0%), upper/executive management 0 (0,0%) and regional managers 0 (0,0%) did not take part in the survey.

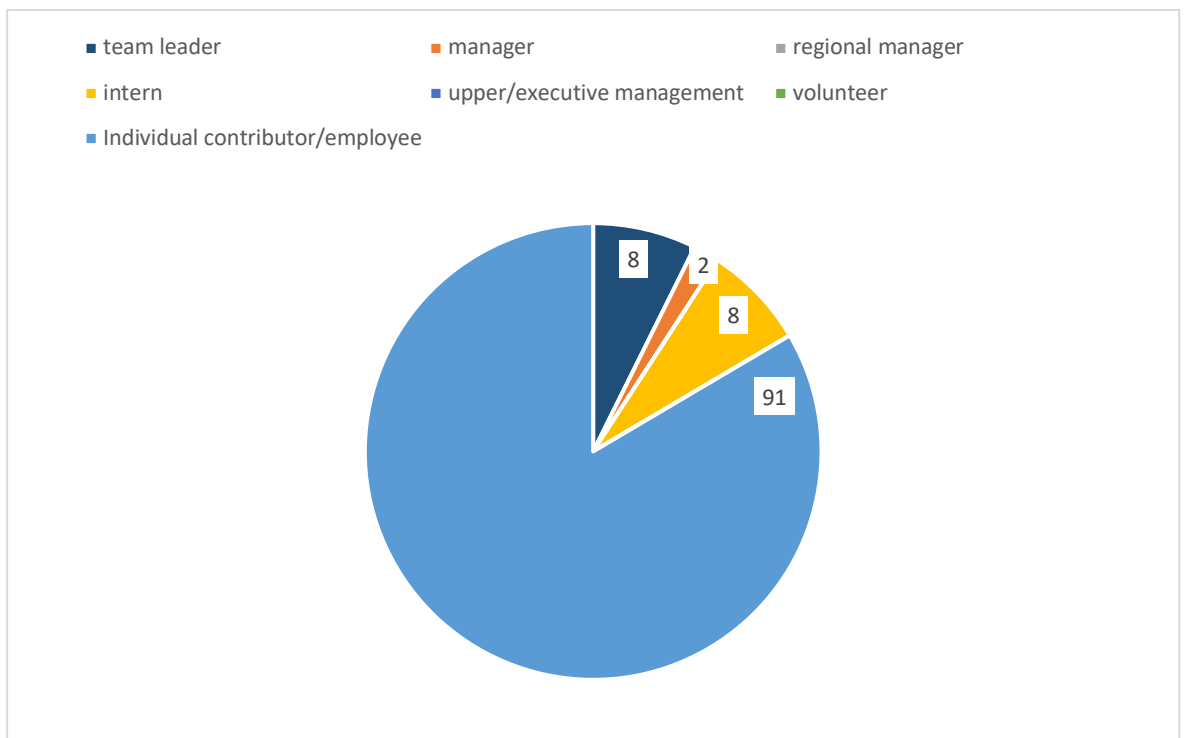


Figure 24. Respondents' current work position

6.1 The challenges and benefits of virtual teams

In this chapter the authors analyze the survey questions 7,9 and 12 (appendix 1) that are related to the RQ1 (chapter 1.1) (table 1). These answers can be interpreted in many ways depending on the topic they are brought into. Moreover, the tables and figures supports and gives visual understanding of the analyzed data additionally to the linear format.

Rate your experience as a member of a virtual team

(survey question 7) (appendix 1):

Biggest challenge found in the table (table 2) was that the respondents do not receive enough feedback on their work 19 (17,4%). This could possibly cause lack of motivation for the work done. On the contrast to this most of the respondents 66 (60,6%) agreed that they are aware of their role in the team and additionally, most of them know their roles in their work 66 (60,6%). The high majority of respondents agreed that they have received help when needed 60 (55,0%), which is a highly positive result.

Table 2. Rate your experience as a member of a virtual team

	Strongly disagree	Some-what disagree	Neither agree or disagree	Some-what agree	Strongly agree	Total
I am aware of my role in the team	6 5,5%	6 5,5%	3 2,7%	28 25,7%	66 60,6%	109 (100%)
I know what is expected of me while working virtually	6 5,5%	5 4,6%	2 1,8%	30 27,5%	66 60,6%	109 (100%)
I receive feedback on my work regularly	9 8,25%	19 17,4%	8 7,35%	39 35,8%	34 31,2%	109 (100%)
I receive help when needed	7 6,4%	6 5,5%	4 3,7%	32 29,4%	60 55,0%	109 (100%)

Which of these problems did you face while working in a virtual team?

(survey question 9) (appendix 1):

Along with not receiving enough feedback (table 2), the virtual team members felt like they stumble across difficulties due to the distance to other teammates 31 (28,4%). The focus points from the figure below (figure 25.) can be stated as following:

- 21 respondents (19,3%) are not satisfied with overall commitment in the virtual teams and the lack of it

- Most of the respondents 84 (77,0%) feel like the amount of general support from the team or from leaders is not up to their expectations
- Lack of clear objectives 9 (8,2%), lack of trust 4 (3,7%), conflicts between the team 5 (4,6%) and cultural differences and language issues were only noticed by a few 4 (3,7%)
- No commitment 21 (19,3%) and lack of leadership 22 (20,1%) were answers the respondents chose often
- Other points identified by the respondents were technical problems while working, lack of forced human interaction i.e., coffee breaks. Two respondents also mentioned feeling like the overall productivity and idealization is higher when working within the same space

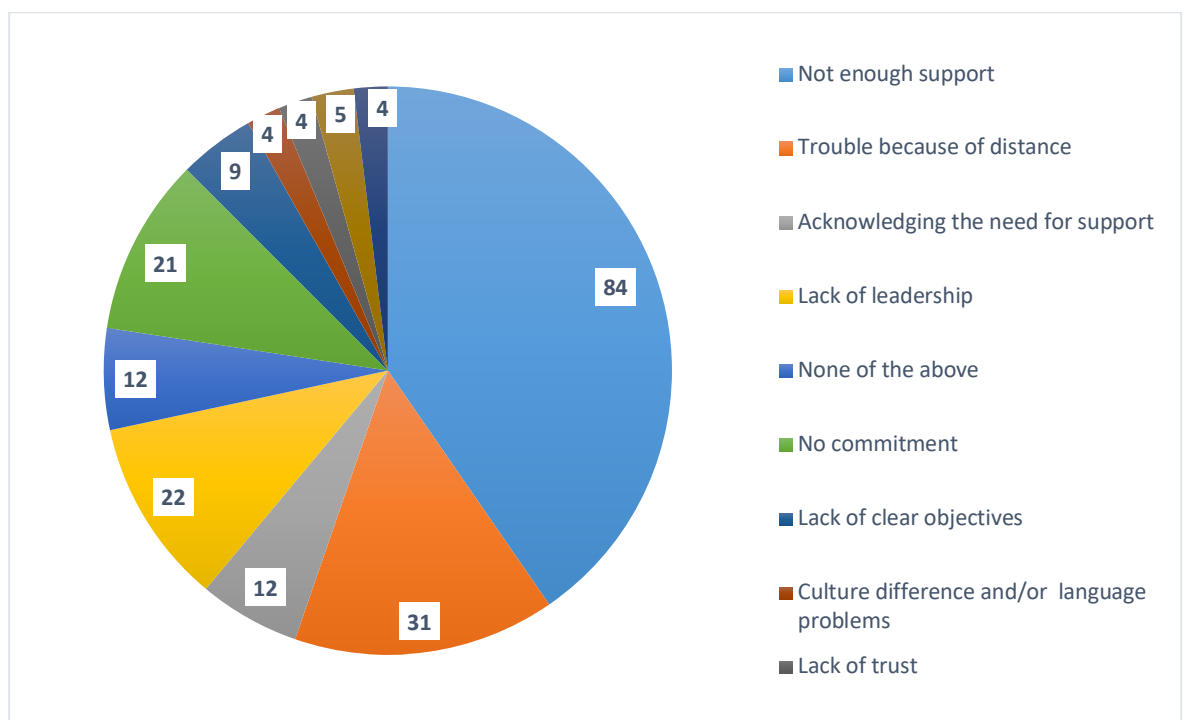


Figure 25. The problems faced by the respondents while working in a virtual team.

**What differences do you notice between virtual and face to face teams?
(survey question 12) (appendix 1):**

For the sake of finding out the benefits and challenges in more detail, a multiple-choice question (table 3) with a ratio from less challenging to more challenging was added.

Below the differences are demonstrated in more depth:

- Managing conflicts 56 (51,4%) was marked as more challenging compared to less or no difference 53 (48,6%)

- The majority of the respondents did not find decision making 64 (58,7%) to be significantly different in virtual teams compared to face-to-face teams
- More challenging expressing opinions in virtual teams 44 (40,3%) bares closer to no difference 45 (41,3%) to traditional face-to-face teams. Further, the minority believes it is less challenging 20 (18,4%)
- The respondents agreed strongly that delivering quality output stays the same no matter where they are geographical located 79 (72,5%)
- 44 (40,3%) virtual team members thought that generating new and innovative ideas is more challenging virtually and 48 (44%) of them marked no difference to be found. The minority of 17 (15,7%) found it less challenging

Table 3. What differences did the respondents notice between virtual and face to face teams

	Less challenging	No difference	More challenging	Total
Managing conflicts	13 11,9%	40 36,7%	56 51,4%	109 (100%)
Making decisions	12 11%	64 59%	33 30%	109 (100%)
Expressing opinions	20 18,4%	45 41,3%	44 40,3%	109 (100%)
Delivering quality output	8 7,3%	79 72,5%	22 20,2%	109 (100%)
Generating innovative ideas	17 15,7%	48 44%	44 40,3%	109 (100%)

6.2 Importance of communication skills in virtual teams

The authors concluded, that collecting information regarding communication would be crucial in order to better understand the virtual team's needs and to seek answers to the RQ2 (chapter 1.1) (table1). In this subchapter, the role of communication is presented. The survey questions related to communication were the following, 7,8,10 and 11 (appendix 1).

**Rate your experience as a member of a virtual team
(survey question 7) (appendix 1):**

The respondent was asked to rate them self as a virtual team member. The respondent was able to answer on a scale of strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree and strongly agree. The 7th survey question (appendix 1) was: "I receive feedback on my work regularly" and "I receive help when needed" (figure 26). Most of the respondents somewhat agreed 39 (35,8%) or strongly agreed 34 (31,2%), when asked if they receive feedback on their work regularly (figure 26). The rest of the respondents answered neither agree nor disagree 8 (7,3%), somewhat disagree 19 (17,4%) and strongly disagree 9 (8,3%).

The majority strongly agreed 60 (55,0%) when asked if they receive help when needed (figure 26), the second most popular answer were somewhat agreeing 32 (29,4%). Moreover, neither agree or disagree 4 (3,7%) and somewhat disagree 6 (5,5%) and strongly disagreed 7 (6,4%) with the statement, I receive help when needed.

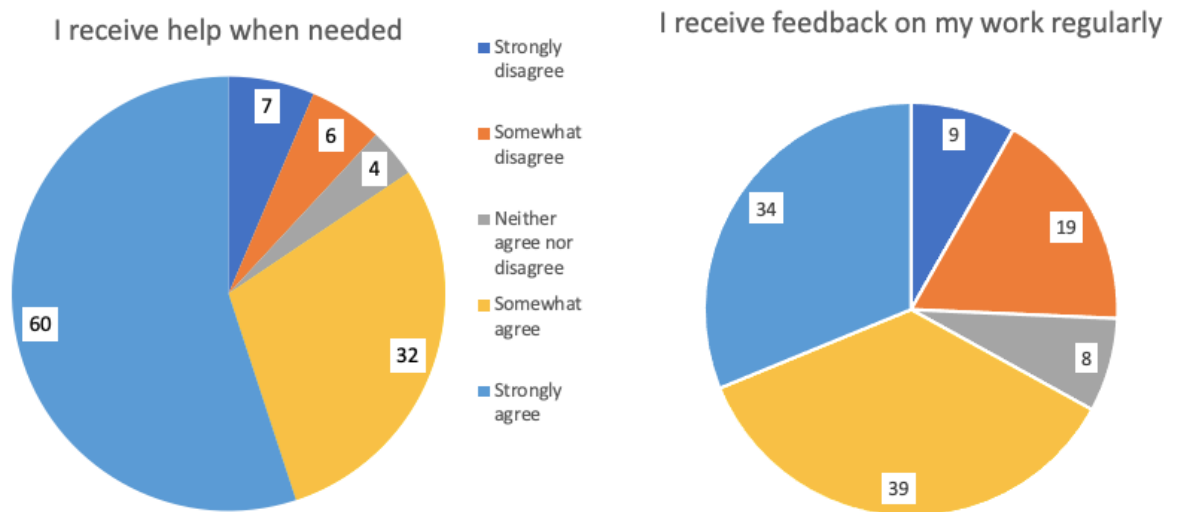


Figure 26. Rate your experience as a member of a virtual team (Communication perspective)

Below (table 4) demonstrates different age group's opinion on the statement " I receive feedback on my work regularly" and the table (table 5) demonstrates different age group's opinion on the statement " I receive help when needed".

Table 4. I receive feedback on my work regularly, based on the survey respondents' age.

Age	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree	Total

18-25	4	6	0	15	13	38 (34,9%)
26-35	4	11	7	16	20	58 (53,2%)
36-45	1	2	1	6	1	11 (10,1%)
46-55	0	0	0	2	0	2 (1,8%)
56 and over	0	0	0	0	0	0 (0,0%)
Total	9 (8,3%)	19 (17,4%)	8 (7,3%)	39 (35,8%)	34 (31,2%)	109 (100,0%)

Table 5. I receive help when needed, based on the survey respondents' age.

Age	Strongly disagree	Some-what disagree	Neither agree nor disagree	Some-what agree	Strongly agree	Total
18-25	4	4	1	10	19	38 (34,9%)
26-35	3	1	3	18	33	58 (53,2%)
36-45	0	1	0	4	6	11 (10,1%)
46-55	0	0	0	0	2	2 (1,8%)
56 and over	0	0	0	0	0	0 (0,0%)
Total	7 (6,4%)	6 (5,5%)	4 (3,7%)	32 (29,4)	60 (55,0)	109 (100,0%)

Does your team have regular virtual meetings (survey question 8) (appendix 1):

The 8th survey question (appendix 1) asked the respondents the question, "does your team have regular virtual team meetings". The options provided for the questing were the following: no virtual meeting, less than once a month, few times in a month, once a week and a few times in a week. The question aimed to find out the importance on regular communication, more so if the respondents have meetings online and how often (table 6). The

clear majority had virtual meetings a few times in a week 50 (45,9%), followed by once a week 33 (30,3%) and a few times in a month 15 (13,8%). The minority said that they had meetings less than once a month 6 (5,4%) and only 5 (4,6%) had no virtual meetings at all. It is unclear to the authors how the respondents who answered less than once a month and no virtual meetings communicate with the rest of their virtual team.

Table 6. Does your team have regular team meetings?

	Less than 10	10-50	50-100	100-500	500-1000	1000-5000	More than 5000	Total
Few times in a week	1	6	7	9	8	11	8	50 (45,9%)
Once a week	2	3	7	7	4	4	6	33 (30,3%)
Few times in a month	1	4	0	5	1	1	3	15 (13,8%)
Less than once a month	0	2	1	0	1	0	1	6 (5,4%)
No virtual meetings	4	0	0	1	0	0	0	5 (4,6%)
Total	8	15	15	22	14	17	18	109 (100,0%)

What are the things you wished that your management did better in your virtual team? (Survey question 10) (appendix 1):

The 10th survey question (appendix1) was a multiple-choice question. The multiple choice question allowed the respondents 109 (100,0%) to choose multiple answers based on the statement, “what are the things you wished that your management did better in your virtual team”. The respondents chose on an average of 1,74 answers, the total collected answer was 190 answers (100,0%) from 109 respondents (100,0%) (figure 27).

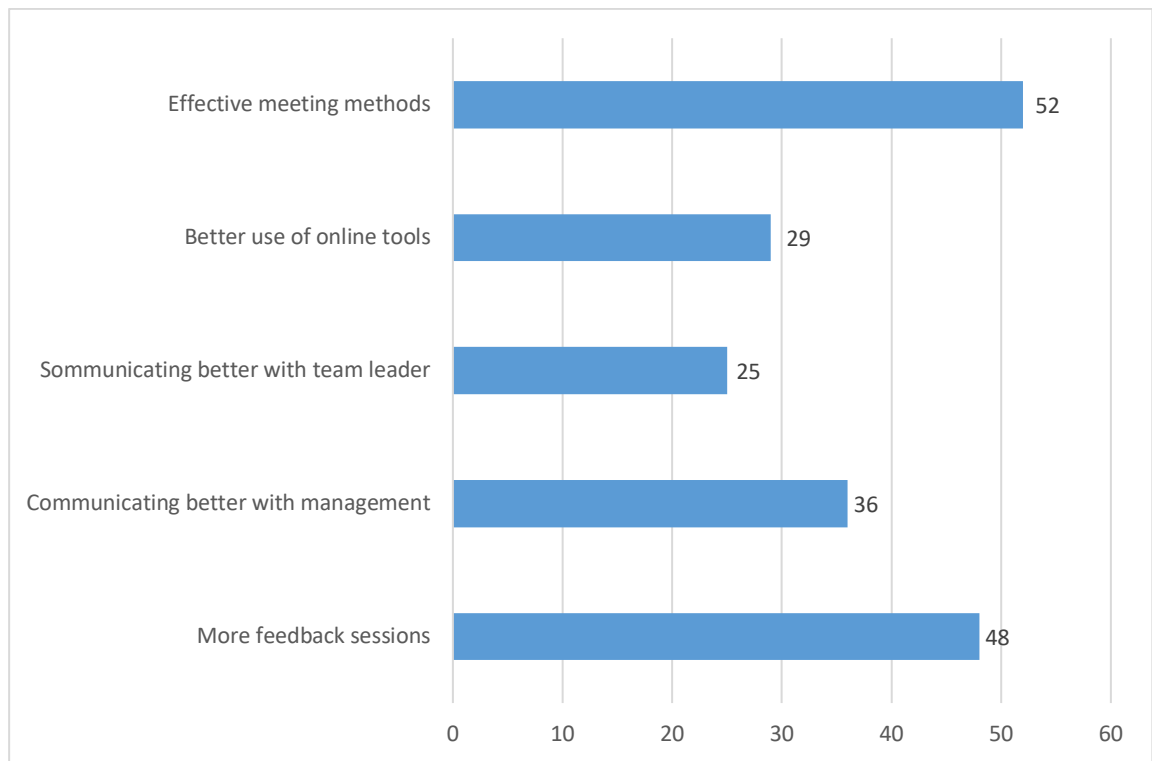


Figure 27. What are the things you wished that your management did better in your virtual team? (Communication perspective)

- The majority chose the option effective meeting methods 52 (27,4%)
- The second most popular option was more feedback sessions 48 (25,2%)
- Thirdly, the respondents agreed with the statement, that they wished for better communication with management 36 (18,9%) and the team leader 25 (13,2%)
- Better use of online tools was chosen 29 (15,3%) times

What would make a good virtual teammate in your opinion?

(Survey question 11) (appendix 1):

In the figure below (figure 28) the survey respondents answered the 11th survey question (appendix 1), "what would make a good virtual teammate in your opinion?". With the answers the authors wished to find out suitable recommendations for communication in virtual teamwork environments. The respondents 109 (100,0%) were able to choose multiple answerers. The question reached a total of 502 (100,0%) answers, the respondent answered on an average of 4,6 answers out of 9 available options.

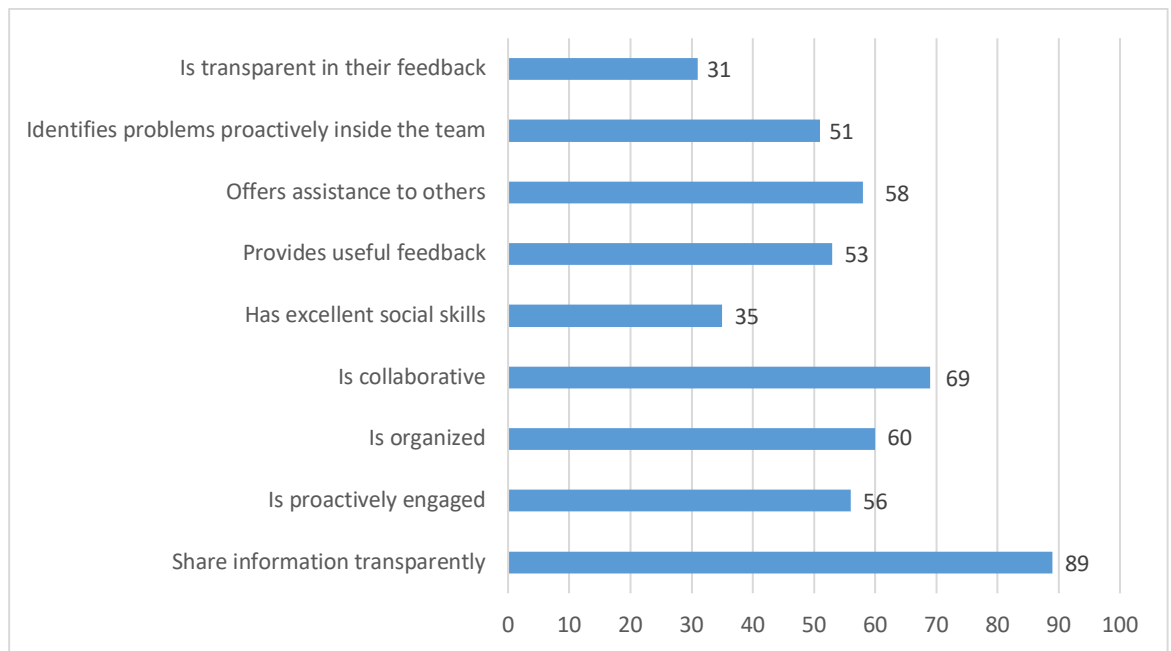


Figure 28. What would make a good virtual teammate in your opinion?

The key findings from the responses went as following:

- Share information transparently 89 (17,7%) was the most repeated choice
- 69 (13,7%) thought it is important to be collaborative as a good teammate
- An organized teammate 60 (11,9%) seemed to be fairly important to the respondents
- Offers assistance to others 58 (11,6%), Is proactively engaged 56 (11,1%) and provide useful feedback 53 (10,6%) was chosen 167 (33.3%) times out of 502 (100,0%)
- Identifies problems proactively inside the team 51 (10,2%) and excellent social skills were chosen a total of 35 (7,0%) times
- Lastly, is transparent in their feedback was the least popular option and was only chose 31 (6,2%) times

6.3 What are the leadership expectations for a successful virtual team?

Four questions 8, 9 and 10 in the survey (appendix 1) applied to finding out the leadership expectations for a successful virtual team RQ1 (chapter 1.1) (table 1). The following questions were asked: rate your experience as a member of virtual team (table 2), does your team have regular virtual meetings (table 6), which of these problems did you face while working in a virtual team (figure 30) and what are some things you wish that your management did better in your virtual teams (figure 31).

Does your team have regular virtual meetings? (Survey question 8) (appendix 1):

98 (90,0%) out of the 109 (100%) respondents admitted to having virtual team meetings once a month or more often. Out of these answers 50 (45,9%) have meetings more than once a week, which was also the most popular answer out of the five answer possibilities. It is unclear if this is the normal meeting cycle for the team or if during the survey phase they are heading towards the end of a certain project. In the table (figure 29) the second most popular answer choice following up was once a week with 33 (30,3%) respondents choosing this as their preferred option. Furthermore, a few respondents answered less than once a month 6 (5,4%) and 5 (4,6%) no virtual meetings at all. It is unknown how they communicate with the rest of the team.

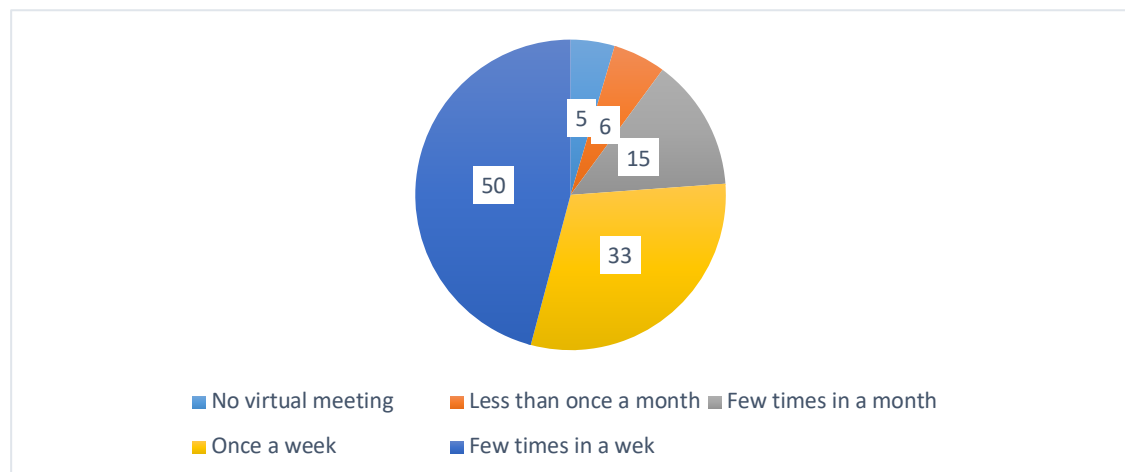


Figure 29. The number of virtual meetings held for the respondents.

Rate your experience as a member of a virtual team (survey 7) (appendix 1):

66 (60,6%) virtual team respondents strongly agreed that they are aware of their role in their virtual teams and that they know what is expected of them. Most respondents strongly agreed that they also receive help when needed. On the contrast to this it seemed that only one third of the respondents agreed that they receive feedback regularly

enough. This question brought the most divided answers in each measurement point. 19 (17,4%) of the respondents somewhat disagreed that they do not receive feedback. In a more positive manner, the table (table 7) shows that the amount of strongly disagreeing 9 (8,3%) respondents were low.

Table 7. Rate your experience as a member of a virtual team

	Strongly disagree	Some-what disagree	Neither agree or disagree	Some-what agree	Strongly agree	Total
I am aware of my role in the team	6 5,5%	6 5,5%	3 2,7%	28 25,7%	66 60,6%	109 (100%)
I know what is expected of me while working virtually	6 5,5%	5 4,6%	2 1,8%	30 27,5%	66 60,6%	109 (100%)
I receive feedback on my work regularly	9 8,3%	19 17,4%	8 7,3%	39 35,8%	34 31,2%	109 (100%)
I receive help when needed	7 6,4%	6 5,5%	4 3,7%	32 29,4%	60 55%	109 (100%)

The problems faced by the respondents while working in a virtual team (survey question 9) (appendix 1):

The lack of receiving support was the strongest choice for the respondents in the 9th survey question (appendix 1) with 84 (77,0%) agreeing (figure 30). 12 (11,0%) of the respondents additionally realized that they do not acknowledge when they are in need for support. This could explain why employees feel like they lack receiving feedback on their work (table 7). Other choices that scored high percentages in the 9th survey question were lack of trust between the workgroup 4 (3,7%), lack of leadership 22 (20,1%) and conflicts between the virtual working teams 5 (4,6%). The 9th survey question had an additional option, where the respondent could give their own opinions on what makes a good virtual team member. Two of these answers could be implied under this analysis. One respondent mentioned applying more in-detail know how usage of virtual equipment's. Additionally, one employee had commented on challenges in communication and getting urgent tasks done. This implies that the ideal person keeps up with deadlines and urgent tasks as expected, even when working remotely (figure 30).

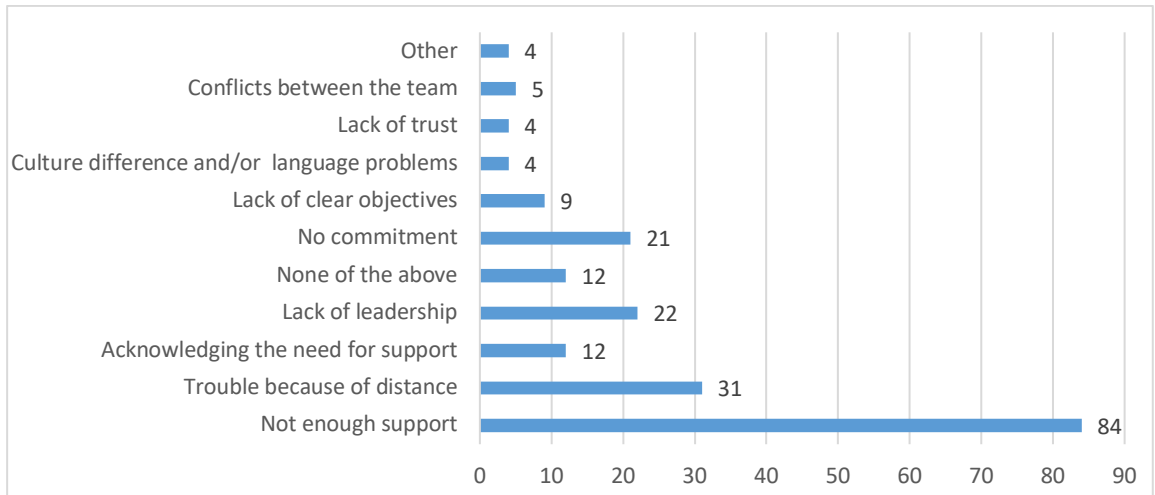


Figure 30. The problems faced by the respondents while working in a virtual team

What the respondents wish their management did better in their virtual teams (survey question 10) (appendix 1):

Almost half of the respondents 52 (27,4%) wish that more effective meeting methods were used in during the virtual meetings (figure 31). 25 (13,2%) out of 190 (100,0%) answered that need for more communication with the team leader, but rather would prefer more communication with the management level 36 (18,9%). Along with this, the respondents wished for more feedback sessions with 48 (25,2%). Better use of online tools 29 (15,3%) did not seem like important parts of leadership in virtual teams as the other available options to choose from.

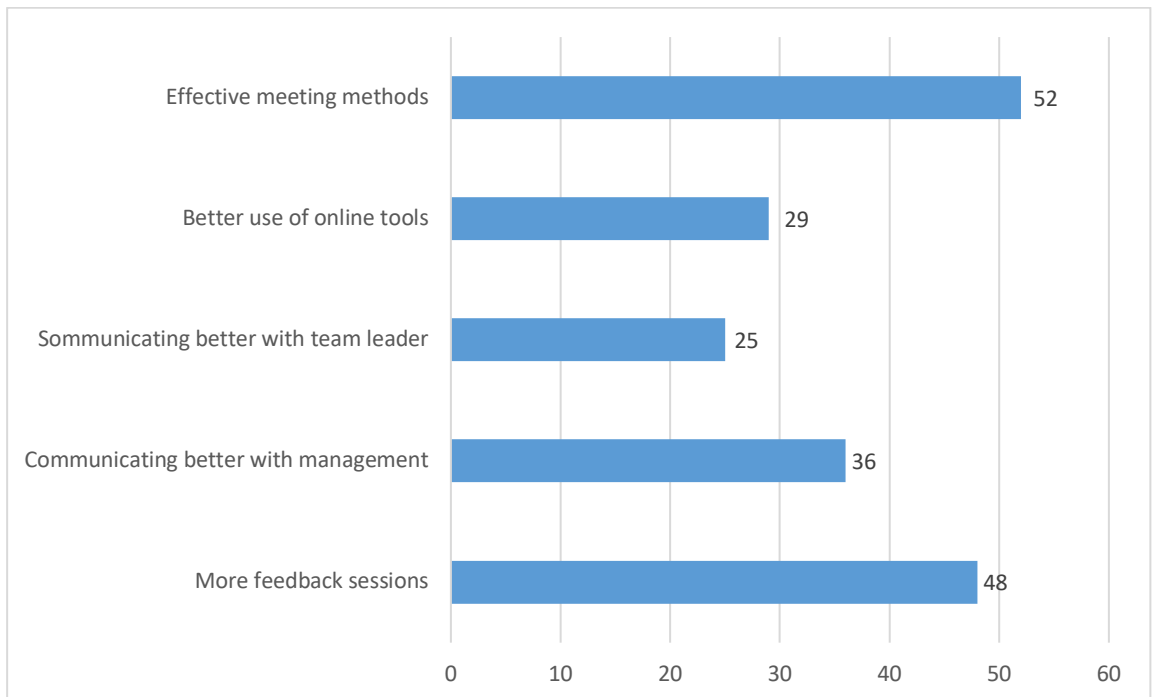


Figure 31. What the respondents wish their management did better in their virtual teams

7 Conclusion

This chapter discusses the research findings and the conclusion of this thesis. The topic of virtual teams, working remotely and Covid19 are a popular topic in everyone's present lifestyle. Therefore, the authors believed that this study is especially important, and the topic will be searched upon further for many years ahead. As mentioned by Zeuge & al. (2020) this new way of working gives companies and their employees a chance to learn present-day technology. While technology is a must factor for a virtual team, other aspects such as management, support and communication are crucial (Gignac 2005, 15).

When comparing prior research, the views on remote virtual working are divided. Traditional face-to-face teams have statistically been found easier to manage (Liao 2017, 648-659), but on the contrast most employees seem to be happier when working remotely (Ciotti 2021). In the current time there are already many virtual teams that have team members who have never seen each other in real life but still work towards the same projects. All of the theoretical frameworks chosen for this thesis were considered in order to support the research questions.

The study was based around the three investigative research questions:

- RQ 1. What are the challenges and benefits of virtual teams?
- RQ 2. How important are communication skills in virtual teams?
- RQ 3. What are the leadership expectations for a successful virtual team?

These questions were thought to represent the main research question, which was '*what are the challenges of virtual teams and their leadership expectations?*' The answers to the questions were concluded by conducting a study using a quantitative research survey approach. The survey consisted of 13 different questions (appendix 1) which are further explained more in-depth in the sub chapter 5.2 and its data-based results can be found in chapter 6.

7.1 Discussion

The three main research questions were answered from the data gathered from the survey (appendix 1). The discussion analysis is presented below.

1) What are the challenges and benefits of virtual teams?

These results go hand in hand with the RQ2 'How important are communication skills in

virtual teams?'. Identifying these challenges and benefits makes it easier to map out the ideal communicator in a virtual team.

Outstandingly biggest issue found in the study was that the respondents did not feel like they received enough feedback on their efforts. Along with this the overall support experience seemed lacking and not meeting the team's leadership expectations. At this point it would be meaningful to point out that there is no clear picture of what the respondents see as their expectations for leadership overall. Examples from the respondents would have been very valuable at this point, but this shall be added to the further research recommendations. Written feedback question nine (appendix 1) was included, with one respondent also mentioning issues with technical applications. Working in a virtual team means of course needing to master many new applications and systems on top of the normal working ways. Depending on the age differences and backgrounds of the virtual team members this can cause disruption in the work and slow others down.

This seen as normal human interaction was also missed while working with projects, with two respondents mentioning their need for face-to-face project work. The respondents mentioned this way of working would boost their productivity and idealization, online one can hence feel lonelier even while on the same call.

Different cultures and languages make virtual teams richer with different viewpoints and opinions but can cause difficulties when communicating and making decisions. As an example, strong accents are easier to interpret while working face-to-face because participants can also read body language. During virtual meetings this might be harder to explicate, which leaves space for miscommunications. Furthermore, respondents also felt like many of them were missing daily human interaction and felt like the exchange of words happened only when necessary.

2) How important are communication skills in virtual teams?

Communication in these modern virtual teams is crucial for the teams expected progress and individual workers sanity. Communication should aim to be consistent and centralized. Trust is one of the key factors when ranking communication skill importance in virtual teams. The reason behind this is, that the team, no matter which position, needs to trust each other to follow up with deadlines even though there is no face-to-face interaction and pressure by this.

A team member who is the most valuable for the rest of the virtual team is someone who

shares information transparently with the rest of the team and overall has excellent social skills. Additionally, engaged members who provide feedback that is constructive, transparent and useful are appreciated the most.

In the study done most of the respondents have meetings frequently in a month, but still some left out this option completely opting out with no meetings per month. This itself is fascinating, because there is no solution on how the communication is kept if not via meetings. With these, comes being proactive and organizational skills. When working remotely in a different location it can tend to be difficult to some extent, to keep yourself motivated when not surrounded by your peers and other innovative resources. A good communicator can express when they are feeling troubled with their work or with other personal issues.

3) What are the leadership expectations for a successful virtual team?

In this part the hierarchy and need for leadership is questioned and whether the lack of prompt leadership reduces the probability of a successful virtual team. For a virtual team to be successful it is all about its members and the suitable leader to get final decisions and deadlines flowing. Creating clear rules and schedule by leaders in virtual teams is important for everyone's mutual understanding and ability to work well with each other and meet deadlines. Managing schedules has a high point on making sure the teams meet up enough even when online and some of these meetings should consist of more feedback sessions. Perhaps open sessions where teammates can give feedback to each other, but also one-on-one meetings with the team leaders to assess learning and overall coping.

Most respondents knew what their overall role is in the team. This on the other hand could make leaders more distant if they feel like they do not need to give guidance when everything seems understood. An excellent way for team spirit building and strengthening the team's motivation are activities that would include all the above. Have team meetings where everyone must have their video on, get to know each other while in different locations and do not let the relations made in offices fade away because of distance and include feedback rounds with constructive to clear the air.

A team leader is expected to communicate the tasks given clearly and that everyone in the team mutually understands the current situation of the organization they are working in. These team leaders should always settle for building trust and adequate relationships inside the team; consequently, the other team would feel comfortable talking about any professional or personal issues. Another very important factor is, that an adept team

leader will never leave any of the team members feeling left out due to any possible given factors. With this, the authors of the study would especially like to point out, that discrimination of any kind is not a factor that any proficient team leader possesses.

7.2 Recommendations

This subchapter lists the recommendations based on the study's factual findings and the authors discussion summary. The recommendations can be judged as individual workers or team leader's perspective and can be used for new and former teams.

1. Make sure as a team leader and as a team member that everyone around you is clear of the tasks and company expectations.
2. Be transparent in your feedback as an individual member and address your needs for individual and group feedback.
3. As a team leader encourage your virtual team to communicate in a clear way in a manner that everyone feels comfortable speaking up.
4. Find useful tools on how to manage the virtual teams online, whether it be a shared calendar between the team or other applications that everyone gets proper user introduction to.

Most ideally virtual teams would have some face-to-face interaction to know your peers in a more personal manner. Team leaders should be trained to truly know their position or have prior team leading skills for the project work to run smoothly. Team leaders should be able to take control of the situation when it comes to instructing, aiding and supporting their peers. It is especially important for virtual work teams, since the team motivation can disappear even faster than for traditional work groups due to not being able to motivate each other in the same space and seeing each other frequently.

Working online is largely more independent and the trust factor for employees is high. Team leaders and employers must trust that their team will do the work even when not supervised. For this, regular online meetings are a must and should be held frequently. Not just for supervising the work, but also seeing everyone in a more individual manner. This leads up to the amount of support that should be given from everyone in the team, there should be no barrier for any of the teammates to ask for help. This might cause loneliness, since there is no coworker sitting next to you in an office you can pop a question for. For advancing the communication tools it is important to find ones that are clear to use, but also provide any of the needed services your team needs. Nowadays there are plenty of communication applications one can choose from.

7.3 Recommendations for further research

In this subchapter the authors recommend further research in regards of leadership and communication in virtual teams.

The empirical study was quantitative. The thesis aimed at addressing the leadership and communication challenges of virtual teams for effectiveness. Leadership, communication and virtual teams has made a tremendous progress in terms of how to successfully be a good leader and communicator.

Leadership is a broad concept and the possibilities for development and further investigations are almost endless. However, some areas that could be particularly interesting for further research emerged while analyzing the results.

The following further research recommendations are suggested:

- Future leadership and communication research with qualitative and mixed methods
- Research that studies leadership outcomes of virtual teams
- Research using evidence-based strategies to evaluate and develop leadership and communication in virtual teams
- Shared leadership in virtual team environments
- Theoretical research on well-being in virtual teams and its long term affects

Qualitative and mixed method (both qualitative and quantitative) research could be researched. To develop insights and a more extensive understandings from the virtual team members perspective.

Research that studies different leadership styles and its outcomes in virtual teams. Traditional face to face and virtual team environment has different need from its managers, therefore it important to understand what outcomes and how it effects the virtual team when managers lead virtual teams in different ways.

Evidence-based strategies to evaluate and develop leadership and communication in virtual teams, should involve research on a more advanced level. A researcher with broad knowledge and skills to conduct this kind of research, moreover, with a large sample size and a data collection from a longer period of time.

Shared leadership in virtual team environments, was something the authors did not consider as much, however, it was a term that constantly was addressed while reading different literature. Shared leadership might be key in a functioning virtual environment. Therefore, it should be research from different aspects.

Post Corona, there could be a research done regarding long-term effects of virtual teams in the aspects of leadership and communication, perhaps also regarding well-being in virtual environment. The increased new working habits worldwide, might have detrimental effect in the long run. Moreover, virtual teams will most likely be more common in the future as many adopted to new working habits quickly, therefore, it is something that clearly should be examined further.

7.4 Limitations and ethical considerations

The thesis aimed to investigate the leadership and communication challenges of virtual teams for effectiveness. The research question was "what are the challenges of virtual teams and their leadership expectations?". There are limitations and ethical considerations of the study that should be addressed and acknowledged.

The authors posted the survey (appendix 1) on their personal Instagram accounts and asked a few friends to repost it. Therefore, the reach of the post was limited and the reach of the post itself was also unknown. Both the authors and their friends were females in their 20's, moreover, the majority of the survey participants were also females in their 20's. The authors were successful to get 109 people to participate in the survey, which is very positive. However, the study, studied communication and leadership of virtual teams on a general level and the results are mainly opinions from females in their 20's. That means that the findings may not translate to the perspective of males and other age groups. The authors believe that the result would have been more comprehensive if there would have been more time. With the limited amount of time, the study did not cover specific details, such as gender, nationality, geographical areas nor a specific sector. Moreover, the thesis highlighted general understanding and basic understanding of leader's communication and leadership styles in virtual teams, there are more literature that could have been reviewed and linked to the thesis.

Further, when the data was collected, it was crucial to follow the safety of the respondents. The data collection via Google Forms, could not be uncovered without approved rights, all the answers were confidentially stored. The anonymity was emphasized during the data collection process, and there were no names collected, all the respondents participated anonymously and voluntarily. The survey did not use any use of offensive,

discriminatory or other unacceptable language. The authors respected the respondent privacy and the respondents rights to confidentiality. In conclusion, the authors did not cause anyone any harm.

7.5 Reflection

The final project of the bachelor's degree program consisted of writing the thesis. Both authors concluded that, they wanted to conduct the thesis together as they had been studying together and knew each other well. Communication and human research were an interesting topic in their opinion and therefore, they decided to pair up and write about communication and leadership in virtual teams. Also, the ongoing pandemic was an inspiring factor as both had been studying online and been part of virtual teams the past year.

The thesis has been a positive learning experience and the authors will take the learning with them into future work as professionals. It was important for the author to first read literature and theory from previous studies in order to be able to form an opinion and conduct a study and lastly successfully complete the thesis.

The thesis brought an extensive amount of knowledge. After conducting the study and analyzing the result, the authors believes that communication is one of the most important aspects of leading successfully. Further, if communication works, many things can be avoided when there is clear communication within the organization. Leadership brings challenges and especially in virtual teams as they can be more challenging than in traditional face-to-face teams, therefore, it is extremely important to support, trust, listen and communicate often and transparently in order to understand everyone. With good communication and leadership skills, a virtual team can be as successful as a traditional face-to-face and reach all the goals and be a well-being functional team.

In conclusion, even if the study could have been developed further and deepened, it still works excellent as a guide for organizations interested in communication and leadership in virtual teams. "Just think about your own and your organization's communication and leadership, it is the first step that can lead to big changes". The authors hoped that the study could contribute to just that, by taking the first step and asking yourself if there is anything to improve, because there always is.

References

- Al-Fedaghi, S. 2012. A Conceptual Foundation for the Shannon-Weaver Model of Communication. *International Journal of Soft Computing*, 7, pp. 12–19. URL: <https://doi.org/10.3923/ijscmp.2012.12.197>, pp. 12–19. Accessed: 13 March 2021.
- Ale Ebrahim, N., Ahmed, S. & Taha, Z. 2009. Virtual Teams: a Literature Review. *Australian Journal of Basic and Applied Sciences*, 3, 3, pp. 2653-2669. URL: <http://cogprints.org/7814/1/2653-2669.pdf> Accessed: 12 April 2021.
- Ale Ebrahim, N., Ahmed, S., Abdul-Rashid, S. & Taha, Z. 2012. Effective Virtual Teams for New Product Development. URL: <https://hal.archives-ouvertes.fr/hal-00709109/document>. Accessed on 10 March 2021.
- Almaney, A. 1974. Communication and the Systems Theory of Organization. *The Journal of Business Communication*, 12, 1, pp. 35–43. URL: <https://doi.org/10.1177/002194367401200106> Accessed: 12 March 2021.
- Alsharo, M., Gregg, D., & Ramirez, R. 2017. Virtual team effectiveness: The role of knowledge sharing and trust. *Information & Management*, 54, 4, pp. 479–490. URL: <https://doi.org/10.1016/j.im.2016.10.005> Accessed: 13 March 2021.
- Bardy, R. 2018. A human centered approach to management ethics, Rethinking Leadership. Introduction.
- Barnowska, B., & Kozaryn, M. 2018. Benefits from the implementation of project tasks with the use of virtual team. *Management*, 22, 2, pp. 204-216 URL: <https://doi.org/10.2478/manment-2018-0032> Accessed: 1 April 2021.
- Bartol, K., & Hill, S. 2018. Five Ways to Improve Communication in Virtual Teams. MIT Sloan Management Review. URL: <https://sloanreview.mit.edu/article/five-ways-to-improve-communication-in-virtual-teams/> Accessed: 1 April 2021.
- Bell, B. S., & Kozlowski, S. W. J. 2002. A Typology of Virtual Teams: Implications for Effective Leadership. *Group & Organization Management*, 27, 1, pp. 14–49. URL: <https://doi.org/10.1177/1059601102027001003> Accessed: 4 April 2021.

- Bhandari, P. 2021. An introduction to quantitative research. URL: <https://www.scribbr.com/methodology/quantitative-research/>. Accessed: 4 March 2021.
- Bryman, A. 2007. Barriers to integrating quantitative and qualitative research. *Journal of mixed methods research*. Accessed: March 2021.
- Genere, P. 2015. *Communication skills for business professionals*. Cambridge University Press. Port Melbourne. URL: <https://www-cambridge-org.ezproxy.vasa.abo.fi/highereducation/books/communication-skills-for-business-professionals/38AC1E55935DF511F15B2C2F5F5C5F2C#overview> Accessed: 1 May 13 March 2021.
- Clark, N. 2011. Leadership Dynamics. Leading virtual teams: are you an expander or a diminisher? URL: <http://www.leaders-inc.com/2011/04/leading-virtual-teams-are-you-an-expander-or-a-diminisher/> Accessed: 2 March 2021.
- Ciotti, G. 2021. HelpScout. How remote teams are becoming the future of work. URL: <https://www.helpscout.com/blog/virtual-teams/>. Accessed: 2 May 2021.
- Crossman, A. 2019. The Meaning of Reliability in Sociology URL: <https://www.thoughtco.com/reliability-definition-3026520> Accessed: May 2021.
- Crotty, M. 1998. The foundations of social research. URL: <https://seminariodemetodologiadelainvestigacion.files.wordpress.com/2012/03/the-foundations-of-social-research-meaning-and-perspective-in-the-research-process-michael-crotty.pdf> Accessed: 17 April 2021.
- Day, D. V. 2012. The nature of leadership. URL: https://serval.unil.ch/resource/serval:BIB_E24FFBFEBE58.P001/REF.pdf Accessed: 4 March 2021.
- Deloitte. 2020. Workforce strategies for post-covid recovery. URL: <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/about-deloitte/workforce-strategies-for-post-covid-19-recovery.pdf>. Accessed 17 February 2021.
- ed. Pearson Education. Harlow. Accessed: 5 March 2021.
- DuFrene, D. & Lehman, C. 2016. *Managing Virtual Teams*, Second ed. Business Expert Press. URL: <http://ebookcentral.proquest.com/lib/abo-ebooks/detail.action?docID=4388939> Accessed: 5 March 2021.

Edinger, S. 2012. Harvard Business Review. Why Remote Workers Are More (Yes, More) Engaged. URL: <https://hbr.org/2012/08/are-you-taking-your-people-for>. Accessed: 3 May 2021.

Eriksson, P. Kovalainen, A. 2016. Qualitative Approach in Business Research. 2nd edition. SAGE Publications, Inc. Thousand Oaks, California. Accessed: 2 April 2020.

Furumo K., Pillis E. & Green, D. 2009. Int. J. Human Resources Development and Management, Vol. 9, No. 1, 2009. Personality influences trust differently in virtual face-to-face teams. Accessed: 3 April 2021.

Ghauri, P. & Grønhaug, K. 2010. Research methods in business studies. 4th edition.

Gignac, F. 2005. Building Successful Virtual Teams. Artech House. URL: <http://ebookcentral.proquest.com/lib/abo-ebooks/detail.action?docID=227697> Accessed: 3 April 2021.

Hertel, J. & Geyer, P. 2014. Virtual Leadership and Team Work. Technische Hochschule Ingolstadt. URL: https://www.mercuriurval.com/globalassets/articles/virtual-leadership--team-work_press.pdf Accessed: 2 March 2021.

Hoefling, T. 2003. Working Virtually Managing People for Successful Virtual Teams and Organizations. Stylus Publishing. Sterling. URL: <https://ebookcentral-proquest-com.ezproxy.vasa.abo.fi/lib/abo-ebooks/detail.action?docID=911909> Accessed: 3 April 2021.

Holmlund, T. & Lindqvist, O. 2015. Virtual Team Management & Organisational Identification—A Mixed Method Study. Umeå School of Business and economics. URL: <https://www.diva-portal.org/smash/get/diva2:828100/FULLTEXT01.pdf> Accessed: 3 April 2021.

Horwitz, F., Bravington, D. & Silvis, U. 2006. The promise of virtual teams: Identifying key factors in effectiveness and failure. Journal of European Industrial Training, 30, 6, pp. 472–494. <https://doi.org/10.1108/03090590610688843> Accessed: 5 April 2021.

Institute of Organisational Psychology NZ. 2018. Communication in virtual teams: Understanding individual differences. URL: <https://organisationalpsychology.nz/communication-in-virtual-teams-understanding-individual-differences/>. Accessed on 2 April 2020.

- Jyväskylän yliopisto. 2021. Quantitative Research. URL: <https://koppa.jyu.fi/avoimet/hum/menetelmapolkuja/en/methodmap/strategies/quantitative-research> Accessed: 28 April 2021.
- Kaiser, M. 2019. Research Ethics Committees. Quantitative methods'. URL: <https://www.forskningsetikk.no/en/resources/the-research-ethics-library/methods/quantitative-methods/>. Accessed: 3 April 2021.
- Kaiser, M. 2019. Quantitative methods. URL: https://www.researchgate.net/figure/Model-for-effective-virtual-team-working-Source-Bal-Gundry-1999_fig1_308949761. Accessed: 2 March 2020.
- Kankanhalli, A. 2007. Perposed Model of Conflic and Performance in GVT. URL: https://www.researchgate.net/figure/Proposed-Model-of-Conflict-and-Performance-in-GVT_fig1_220591092. Accessed: 2 March 2020.
- Kerfoot, K. 2010. Listening to see: The key to virtual leadership. *Nursing Economic\$,* 28, 2, pp. 114–118. URL: https://www.researchgate.net/publication/44576902_Listening_to_See_The_Key_to_Virtual_Leadership Accessed: 21 March 2021.
- King, N. & Horrocks, C. 2010. *Interviews in qualitative research*, 245. London: SAGE Publications Limited. Accessed: 1 May 2021.
- Kruse, K. 2013. Forbes. What is leadership? URL: <https://www.forbes.com/sites/kevinkruse/2013/04/09/what-is-leadership/?sh=5c5afdeb5b90>. Accessed: 1 March 2021.
- Liao, C. 2017. Leadership in virtual teams: A multilevel perspective. *Human Resource Management Review*, 27, 4, 648–659. URL: <https://doi.org/10.1016/j.hrmr.2016.12.010> Accessed: 30 April 2021.
- Lipnack, J & Stamps, J. 2000. *Virtual Teams: People Working Across Boundaries with Technology*. 2nd edition. New York, NY: John Wiley & Sons; 2000, pp 8.
- Lopez, A. 2020. What is a virtual team? URL: <https://www.projectmanager.com/blog/what-is-a-virtual-team>. Accessed: 4 March 2021.

- Maarit, S. 2013. Thesis: Leadership in multicultural virtual team. pp. 57. URL: https://www.theseus.fi/bitstream/handle/10024/69069/Salla_Maarit.pdf?sequence=1&isAllowed=y. Accessed 4 February 2021.
- Marcos, M. 2018. The Effect of Trust on the adaptability of virtual teams. The Mediator Role of Transition Processes. Universidade Católica Portuguesa. URL: https://repositorio.ucp.pt/bitstream/10400.14/25425/1/The%20entire%20dissertation%20in%20PDF_A%20format.pdf Accessed: 13 March 2021.
- Marlow, S., Lacerenza, C. & Salas, E. 2017. Communication in virtual teams: A conceptual framework and research agenda. *Human Resource Management Review*, 27, 4, pp. 575–589. URL: <https://doi.org/10.1016/j.hrmr.2016.12.005> Accessed: 21 March 2021.
- Martins, L., Gilson, L. & Maynard, M. 2004. Virtual Teams: What Do We Know and Where Do We Go From Here? *Journal of Management*, 30, 6, pp. 805–835. URL: <https://doi.org/10.1016/j.jm.2004.05.002> Accessed: 12 March 2021.
- Mawson, A. 2020. The science behind managing virtual teams. URL: <https://www.forbes.com/sites/amawson/2020/06/17/the-science-behind-managing-virtual-teams/?sh=37604a162023>. Accessed: 4 March 2021.
- Middleton, F. 2019. Reliability vs validity: what's the difference? URL: <https://www.scribbr.com/methodology/reliability-vs-validity/>. Accessed: 1 May 2021.
- Musgrove, C., Ellinger, A. & Ellinger Andrea. 2013. Examining the influence of strategic profit emphases on employee engagement and service climate. *Journal of Workplace Learning*, 26, 3/4, pp. 152–171. URL: https://www.researchgate.net/publication/280181134_Examining_the_influence_of_strategic_profit_emphases_on_employee_engagement_and_service_climate Accessed: 4 March 2021.
- Nandhakumar, J. & Baskerville, R. 2006. Durability of online teamworking: Patterns of trust. *Information Technology & People*, 19, 4, pp. 371–389. URL: <https://www-emerald-com.ezproxy.vasa.abo.fi/insight/content/doi/10.1108/09593840610718045/full/html> Accessed: 20 April 2021.
- Naveed, F. 2012. Define communication. Elaborate different elements of communication? - Mass Communication Talk. URL: <https://www.masscommunicationtalk.com/define-communication-elaborate-different-elements-of-communication.html>. Accessed: 4 April 2021.

Ndukwu, D. 2020. Kyleads. Levels of Measurements: nominal, ordinal, interval and ratio scales. URL: <https://www.kyleads.com/blog/nominal-ordinal-interval-ratio-scales/>. Accessed: 3 May 2021.

Newman, S., Ford, R. & Marshall, G. 2020. Virtual Team Leader Communication: Employee Perception and Organizational Reality. *International Journal of Business Communication*, 57, 4, pp. 452–473. URL: <https://doi.org/10.1177/2329488419829895> Accessed: 21 April 2021.

Patel, R. & Davidson, B. 2011. *Forskningsmetodikens grunder: att planera, genomföra och rapportera en undersökning*.

Pauleen, D. 2003. An Inductively Derived Model of Leader-Initiated Relationship Building with Virtual Team Members. *Journal of Management Information Systems*, 20, 3, pp. 227–256. URL: <https://doi.org/10.1080/07421222.2003.11045771> Accessed: 22 April 2021.

Payne, H. J. 2005. Reconceptualizing Social Skills in Organizations: Exploring the Relationship between Communication Competence, Job Performance, and Supervisory Roles. *Journal of Leadership & Organizational Studies*, 11, 2, pp. 63–77. URL: <https://doi.org/10.1177/107179190501100207> Accessed: 25 April 2021.

Potter, R. & Balthazard, P. 2002. Virtual team interaction styles: Assessment and effects. *International Journal of Human-Computer Studies*, 56, 4, pp. 423–443. URL: <https://doi.org/10.1006/ijhc.2002.1001> Accessed: 4 March 2021.

Powell, A., Galvin, J. & Piccoli, G. 2006. Antecedents to team member commitment from near and far. *Information Technology & People*, 19, 4, pp. 299–322. URL: https://www.researchgate.net/publication/220437091_Antecedents_to_team_member_commitment_from_near_and_far_A_comparison_between_collocated_and_virtual_teams Accessed: 5 March 2021.

Quantitative Data Collection and Analysis - FreeOnlineSurveys. 2021. URL: https://freeonlinesurveys.com/survey-research/quantitative-data-collection_ Accessed: 4 March 2021.

Qureshi, S. & Vogel, D. 2001. Adaptiveness in Virtual Teams: Organisational Challenges and Research Directions. *Group Decision and Negotiation*, 10, 1, pp. 27–46. URL: <https://doi.org/10.1023/A:1008756811139> Accessed: 14 April 2021.

Rana, S., Ardichivili, A. & Tkachenko, O. 2014. A theoretical model of the antecedents and outcomes of employee engagement. *Journal of Workplace Learning*, 26, 3/4, pp. 249–266. URL: <https://www-emerald-com.ezproxy.vasa.abo.fi/insight/content/doi/10.1108/JWL-09-2013-0063/full/html> Accessed: 29 April 2021.

Sandvik, J., Saouma, R., Seegert, N. & Stanton, C. 2021. Research: How Virtual Teams Can Better Share Knowledge. URL: <https://hbr.org/2020/11/research-how-virtual-teams-can-better-share-knowledge>. Accessed: 20 February 2021.

Sénquiz-Díaz, C. & Ortiz-Soto, M. 2019. A Multifold Perspective of Knowledge Sharing and Virtual Teams: The Development of An IMOI Model. *Journal of Technology Management & Innovation*, 14, 2, pp. 88–96. URL: <https://doi.org/10.4067/S0718-27242019000200088> Accessed: 30 April 2021.

Shikha, G. 2013. Virtual teams versus face to face teams: A review of literature. *IOSR Journal of Business and Management*, 11, 2, pp. 1–4. URL: <http://www.iosrjournals.org/iosr-jbm/papers/Vol11-issue2/A01120104.pdf> Accessed: 30 April 2021.

Smulowitz, S. & Ziek, P. 2014. The impact of emergent virtual leadership competencies on team effectiveness, *Leadership & Organization Development Journal*, Vol. 35 Issue: 2, 106-120 URL: <https://doi.org/10.1108/LODJ-03-2012-0043>. Accessed: 19 February 2021.

Snyder, K. 2012. Enhancing Telework: A Guide to Virtual Leadership: How Can Federal Leaders Manage What They Can't See? Six. *The Public Manager*. URL: <https://img.en25.com/Web/AchieveGlobalInc/Enhancing%20Telework.pdf> Accessed: 18 April 2021.

Solomon, C. 2010. Virtual teams survey report -2010, The Challenges of Working in virtual teams, pp. 10-13. URL: http://www.communicationcache.com/uploads/1/0/8/8/10887248/the_challenges_of_working_in_virtual_teams.pdf. Accessed 5 February 2021.

Swisher, K. 2013. AllThingsD. “Physically Together”: Here’s the Internal Yahoo No-Work-From-Home Memo for Remote Workers and Maybe More. URL: <http://allthingsd.com/20130222/physically-together-heres-the-internal-yahoo-no-work-from-home-memo-which-extends-beyond-remote-workers/>. Accessed: 3 April 2021.

- Tuomi, J. & Sarajärvi, A. 2009. Laadullinen tutkimus ja sisällönanalyysi. Kustannusosakeyhtiö Tammi. Korkeavuorenkatu, Helsinki, 71. Accessed: 4 March 2021.
- Van der Molen, H. & Gramsbergen-Hoogland, Y. 2018. Communication in Organizations: Basic Skills and Conversation Models. Routledge. URL: <https://www.routledge.com/Communication-in-Organizations-Basic-Skills-and-Conversation-Models/Molen-Gramsbergen-Hoogland/p/book/9781138552128#> Accessed: 1 May 2021.
- Vinaja, R. 2003. Major Challenges in Multi-Cultural Virtual Teams. University of Texas-Pan American. URL: https://www.researchgate.net/publication/237377856_Major_challenges_in_multi-cultural_virtual_teams Accessed: 11 April 2021.
- Ward, S. 2020. What is leadership? URL: <https://www.thebalancesmb.com/leadership-definition-2948275>. Accessed: 4 March 2021.
- Yilmaz, K. 2013. Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European journal of education*, 48(2), 311-325. Accessed: 18 February 2021.
- Zaugg, H. & Davies, R. S. 2013. Communication skills to develop trusting relationships on global virtual engineering capstone teams. *European Journal of Engineering Education*, 38, 2, pp. 228–233. URL: <https://doi.org/10.1080/03043797.2013.766678> Accessed: 27 March 2021.
- Zeuge, A., Weigel, A., Niehaves, B., Oschinsky, F. & Schlechtinger, M. 2020. Leading Virtual Teams - A Literature Review. URL: https://www.researchgate.net/publication/343473371_Leading_Virtual_Teams_-_A_Literature_Review. Accessed: 18 February 2021.
- Zhao, J. 2014. Applying Grounded Theory Methodology with Mixed Methods in Occupant Energy Behaviour Research. URL: https://www.researchgate.net/figure/Four-elements-of-research-design-Source-Crotty-1998_fig2_273122043 Accessed: 5 April 2021.
- Zilkijqi, A. & Tsolias, P. 2020. Leaders Perception of Virtual communication—Leadership and communication mediated through technology. Linnaeus University. URL: <https://www.diva-portal.org/smash/get/diva2:1441379/FULLTEXT01.pdf> Accessed: 16 April 2021.

Appendices

Appendix 1. Empirical Study Survey

1. Age *
 - 18-25
 - 26-35
 - 36-45
 - 46-55
 - 56 and over

2. Gender *
 - Female
 - Male
 - Prefer not to say
 - Other

3. Please choose the option that describes your current remote work hours. *
 - Full time
 - Part time

4. What industry are you currently working in? *
 - Business
 - Retail
 - Information technology
 - Telecommunication
 - Education
 - Pharmaceutical
 - Food & Beverage
 - Health care & Social services
 - Public administration
 - Hospitality
 - Entertainment & Media
 - Manufacturing
 - Transport
 - Real estate

- Aviation
- Public Administration
- Other

5. Estimate the size of the organization you are currently working in*

- Less than 10
- 10-50
- 50-100
- 100-500
- 500-1000
- 1000-5000
- More than 5000

6. What is your current position? *

- Team leader
- Manager
- Regional Manager
- Intern
- Upper/executive management
- Volunteer
- Individual Contributor/ Employee

7. Rate your experience as a member of a virtual team*

Strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, strongly agree (scale)

- I am aware of my role in my team
- I know what is expected from me, while working virtually
- I receive feedback on my work regularly
- I receive help when needed

8. Does your team have regular virtual meetings? *

- No virtual meeting
- Less than once a month
- Few times in a month
- Once a week

- Few times in a week

9. Which of these problems did you face while working in a virtual team? *

Multiple choice

- Not enough support
- No commitment
- Culture differences and/or language problems
- Trouble because of distance
- Lack of trust
- Conflicts between the team
- Acknowledging the need for support
- Lack of clear objectives
- None of the above
- Other

10. What are some things you wish that your management did better in your virtual teams? *

Multiple choice

- More feedback sessions
- Communicating better with management
- Communicating better with team leader
- Better use of online tools
- Effective meeting methods
- Other

11. What would make a good virtual teammate in your opinion? *

Multiple choice

- Share information transparently
- Is proactively engaged
- is organized
- Is collaborative
- Has excellent social skills
- Provides useful feedback
- Offers assistance to others
- Identifies problems proactively inside the team

- Is transparent in their feedback
- Other

12. What differences do you notice between virtual and face to face teams? *

Less challenging, no difference, more challenging (scale)

- Managing conflicts
- Making decisions
- Expressing opinions
- Delivering quality output
- Generating innovative ideas

13. Do you have any additional reflections you would like to express regarding leadership, communication or virtual teams?

Open question (optional)

Appendix 2. Survey introduction

Your views are important. Are you part of a virtual team? And maybe work fully remotely or even partly? Please answer the survey below.

We are third year International- and marketing students and are currently finishing up our thesis. The thesis investigates leadership and communication in virtual teams, moreover the thesis studies what are the benefits and challenges of virtual teams and how to excel virtual leadership when employees and management are in different locations.

This empirical study (survey) was conducted to provide a comprehensive review on significant features of virtual teams. The main research question for the thesis was "What are the challenges of virtual teams and their leadership expectations?"

We realize how precious your time is. That is why we made sure that this survey will only take a few minutes. This survey is anonymous and confidential. Thank you for investing your time to provide us your individual views, we highly appreciate your effort!

Warm regards,
Melissa & Ella