

Ilya Prokofyev

**DEVELOPING E-LEADERSHIP
COMPETENCIES MODEL**
for effectively managing Global Virtual Teams

Master's thesis

Master of Business Administration

International Business Management

2023



South-Eastern Finland
University of Applied Sciences

Degree title	Master of Business Administration
Author	Ilya Prokofyev
Thesis title	Developing e-leadership competencies model for effectively managing Global Virtual Teams
Commissioned by	Ensto Finland Oy
Year	2023
Pages	92 pages, 2 pages of appendices
Supervisor(s)	Mikhail Nemilentsev

ABSTRACT

Nowadays, technological progress, digitalization, and internet-powered connectivity have greatly contributed to international business management. Modern global companies and public and private organizations gain great business potential and secure agile international operations by employing Global Virtual Teams (GVTs) and remote teams. Naturally, GVTs should not be considered as traditional co-located teams, therefore management will require more specific leadership skills and competencies for effectively managing GVTs.

The research study aimed to provide a better understanding of e-leadership competencies and the key leadership skills contributing to the GVTs' performance and well-being. The objective of the thesis was to develop a new e-leadership competencies model based on existing academic findings and leading managerial practices from the business world.

A case study approach is used to allow access to the GVT leader's and team members' past work experiences as well as personal and professional feedback. Qualitative methods were used to collect research data. Mainly, in-depth individual and group interviews were taken into use. Additionally, the author relies on five years of work experience in several virtual teams at Ensto, having access to internal documents and leadership training materials.

This research contributes to the e-leadership style approach, focusing on e-leader competencies best serving effective GVT management. The study results showed key competencies supported by the dynamics of team management skills, team collaboration, effective communication, virtual networking, team relations, social behavior, and cultural intelligence.

The research conclusions can benefit new and existing GVTs as well as improve the hiring process for future virtual leaders. Newly developed e-leadership competencies model is a source of team performance improvement and leadership development programs. Management can enhance leadership and increase effectiveness and performance. More importantly, employees will greatly benefit from feeling supported, engaging, safe and trusting work environment.

Keywords: e-leadership, e-leadership competencies, global virtual teams, remote teams, virtual leadership, virtual teams

CONTENTS

ABBREVIATIONS.....	5
1 INTRODUCTION.....	6
1.1 Background.....	6
1.2 Research aim, objective, research question.....	8
1.3 Case company.....	8
1.4 Research scope, methods, ethics and limitations.....	10
1.5 Conceptual framework.....	13
1.6 Structure of the study.....	14
2 E-LEADERSHIP AND MANAGEMENT DYNAMICS.....	16
2.1 Defining main concepts: GVT, VT and e-leadership.....	16
2.2 E-leadership and styles of leadership.....	18
2.3 Choosing the right e-leader.....	21
2.4 Managing GVT.....	23
2.5 Virtual team relations.....	26
2.6 GVT communication.....	28
2.7 Cultural and behavior awareness.....	31
3 DATA COLLECTION AND ANALYSIS.....	34
3.1 Data collection.....	35
3.2 Data analysis.....	40
4 RESULTS.....	44
4.1 Team management and leadership style.....	44
4.2 Building team relations and VT collaboration.....	52
4.3 Effective communication and virtual teamwork.....	58
4.4 Human behavior and cultural intelligence.....	67

5	SUMMARY AND CONCLUSIONS.....	74
5.1	Summary of the main findings	75
5.2	E-leadership competencies model.....	79
5.3	Managerial implications	80
5.4	Validity and reliability of the research	85
5.5	Suggestions for further research and development	87
	REFERENCES	89

APPENDICES

Appendix 1. TL and TM interview questions

ABBREVIATIONS

ERP	Enterprise Resource Planning
GVT	Global Virtual Team
HR	Human Resources
HRM	Human Resource Management
ICT	Information and Communications Technology
IQ	Intelligence Quotient
IT	Information Technology
R&D	Research and Development
TL	Team Leader
TM	Team Member
VT	Virtual Team

1 INTRODUCTION

The focus of this study is the phenomenon of e-leadership and virtual leadership competencies in managing Global Virtual Teams (GVTs). Virtual working environment has become a new normal for many organizations and therefore by identifying the key e-leader skills and competencies one can contribute to the effective management of a virtual team.

Virtual working settings are posing limitations and new rules for teamwork. Clearly, global virtual teams should not be considered as traditional co-located teams, and therefore team management will require a specific leadership approach and competencies.

1.1 Background

Living in the era of a digital revolution, modern leadership is experiencing constant changes in the way we do business and manage people. No wonder international remote teams and virtual work environments are becoming the new normal for companies operating locally and globally. The use of GVTs is rising, becoming a common practice for businesses to collaborate in teams across boundaries of distance, time, nations, and cultures. As a result, effective GVT management and engaging e-leadership are playing an important role in today's competitive global economy. (Saarinen 2016, 9.)

All across the globe, the COVID-19 crisis in 2020 has tremendously speeded up the working mode shift. Diverse companies and organizations were practically forced to move their employees to a remote working environment. According to the global survey carried out by Gartner (2020), 88% of organizations worldwide have encouraged or required their employees to work from home right after the COVID pandemic was announced. Also, as many as 97% of the organizations have canceled all business-related traveling, making it simply impossible to meet with international partners and colleagues for a long period of time (Gartner 2020).

Nevertheless, global remote work has been around long before the year 2020 events. Just in the U.S. remote work has risen by 173% between 2005 and 2018; and in a global context, working from home and remote locations has grown 159% since 2005 (Global Workplace Analytics 2020).

Following the same trend in Fortune 100 companies, it is estimated that 70 percent of managers do not colocate with the majority of their teams. According to the Project Management Institute, the number of projects run by virtual teams has doubled since 2001 and now accounts for over 80% of all projects. (DuFrene & Lehman 2015, 1-2.)

Nowadays, modern businesses and organizations can have as much as 50 percent of their employees working in virtual teams. According to DuFrene and Lehman (2015), organizations with multinational operations are more than twice as likely to use virtual teams as compared with local businesses having only U.S.-based operations.

In practice, global business is turning to virtual teams (VTs) in order to unify some organizational functions across boundaries and to save time and travel costs. Companies are using a global remote workforce as a strategy for recruiting and hunting for the best available skills and knowledge on the market. Furthermore, global VTs are useful for the integration process of the employees working in locations added as a result of mergers and acquisitions. (Cascio & Shurygailo 2003, 362.)

According to Ziek and Smulowitz (2014), the ability to overcome communication barriers has made virtual teams widespread in all types of businesses and organizations across the globe. Thus, the increased use of VT has driven attention to the dimensions of leadership within such dispersed teams, including studies related to the virtual leaders' competencies and their implications for team effectiveness (Ziek & Smulowitz 2014, 106-107).

1.2 Research aim, objective, research question

The aim of the study is to provide a better understanding of e-leadership competencies and key leadership skills critical for the best GVTs and VTs performance. The research is focused on the e-leadership perspective as a part of GVT management.

The objective of the study is to develop a new e-leadership competencies model based on existing academic findings in successful global VT leadership and best GVT management practices existing in the business world. A case study from Ensto company will provide ground to match the empirical evidence to the existing academic knowledge, aiming to identify discrepancies and potential future areas for the research work. Virtual leadership and e-leadership concepts are relatively new, therefore little or no academic data is available on leader-specific competence or skills necessary for GVTs' management practice.

The research question is: *what are the key e-leadership competencies required for successful global virtual team management?*

1.3 Case company

This research work was commissioned by Ensto company, a Finnish international technology company with headquarters in Porvoo. Ensto offers innovative and reliable, long life-cycle overhead lines, underground networks, network automation, and new smart technology products and solutions for distribution system operators. (Ensto 2023.)

Ensto company designs and provides smart electrical solutions to improve the safety, functionality, reliability and efficiency of smart grids, buildings, and transportation. Ensto, originated in 1958, is an international technology company and a family business. Currently, the company is locally present in 18 countries, operating world-class manufacturing in six countries, and providing sales for up to 100 countries (see Figure 1).

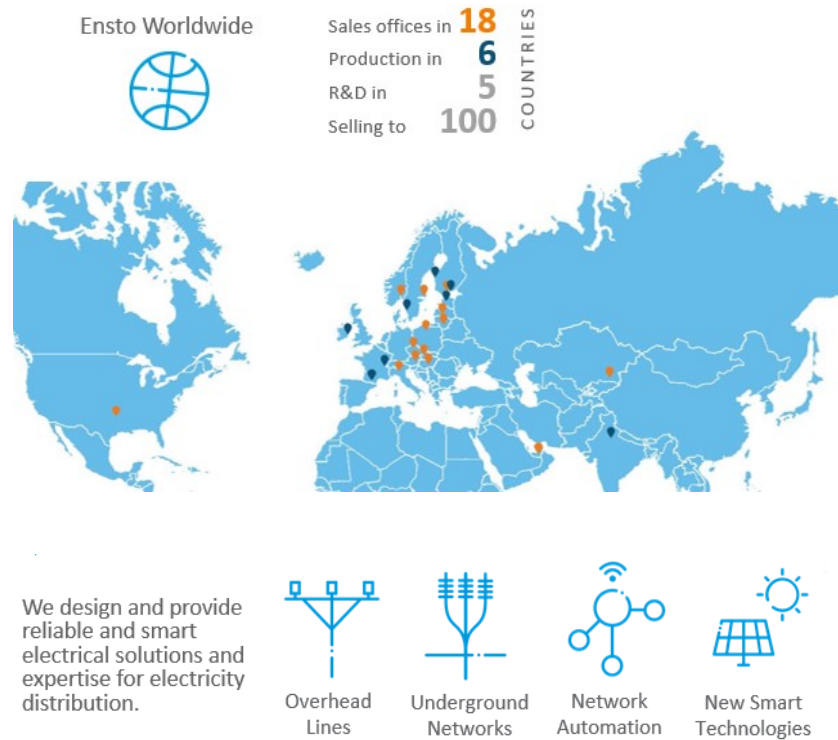


Figure 1. Ensto global business operations. (Ensto 2023.)

*"Ensto believes in a better life with electricity and a more sustainable tomorrow."
(Ensto 2023.)*

Ensto is strongly present in the European markets but also very actively developing business in India and in the USA. Company is doing business on a global scale, interacting with diverse international teams located in three continents: America, Europe, and Asia. Ensto sales offices' cooperation is supported by global business functions, connecting the best minds involved in the R&D, sales, HR, procurement, IT support, and customer care operations.

At Ensto, employees are treated as the greatest asset of the company. As a family business, management is dedicated to building a strong company culture with engaged people. Ensto leaders believe that competent, happy, and engaged employees are essential for creating and delivering customer value. (Ensto 2023.)

Nowadays, GVTs and remote work have gained greater popularity in service and technology-based companies. Growing globally, Ensto management built

competence in using remote teams, international project teams, and global virtual teams. GVTs, such as the R&D team and procurement team, greatly contribute to the company development and successful business operations internationally.

Also, Ensto has a good practice using international project teams, successfully implementing company development projects, and business integration initiatives. Consequently, in order to secure future business expansion and competitive global operations, Ensto management is actively exploring the best leadership practices contributing to the remote and global virtual teams' performance.

Obviously, from the business perspective, e-leadership and remote team management can greatly contribute to the employees' collaboration across different time zones, countries, and cultures. Therefore, newly emerging and currently applied e-leadership competencies should be carefully reviewed and analyzed for the company needs. The most effective GVTs' management practices and the most important virtual leadership competencies will be presented for the Ensto leaders of tomorrow.

The new e-leadership competencies model will help choose the right leaders with the best competencies for successful GVT management and effective team performance. Also, existing teams and TLs will benefit from using best e-leadership practices and developing new skills required for more efficient virtual team collaboration. In addition, a case study will help to identify new skills and competencies useful for the future leadership training programs arranged in Ensto company.

1.4 Research scope, methods, ethics and limitations

The research is conducted on the bases of a case company located in Finland and operating globally. The research data is obtained with the help of three global virtual teams working in different business functions.

Methodology

Based on the determined goal and objective for the research, there are two methods to consider: qualitative and quantitative research methods. As such, quantitative research developed from the philosophy of logical positivism and its methodology is built on the systematic use of quantified empirical information. Questionnaire survey, content analysis, secondary data analysis, experimental tests, or research – are typical quantitative research methods of data collection. In practice, a researcher will engage with statistics in order to analyze, categorize and summarize collected data. (Wang & Park 2016, 86.)

In contrast, qualitative research methodology evolved from the idea that interpretation is a key to understanding the social world. Our social reality is defined as a constructed reality and individuals experience it differently. (Wang & Park 2016, 86.)

According to Flick (2014, 11) academic interest in qualitative research has grown over the past decades, making it specifically relevant to the exploration of any type of social relations. Furthermore, qualitative research is focused on analyzing concrete cases in their temporal and local particularity. For instance, research may be oriented toward people's expressions and activities in a familiar context. (Flick 2014, 22.)

Qualitative methods offer an effective way of data collection for the purpose of the research question. Qualitative research provides a good foundation for a research strategy targeting to collect data about individual or team participants' own perceptions. As described by Wang and Park (2016, 116) the main benefit of qualitative data collection methods provided by the ability to access data representing participants' individual perspectives as well as the ability to rely on observations in neutral settings. Consequently, the study uses qualitative methodology with the aim of gaining insights into the e-leaders' managerial experiences and individual opinions.

In general, some of the most commonly used qualitative data collection strategies include in-depth individual interviews, group interviews, participant observations, ethnography, and focus groups (Wang & Park 2016, 86).

This research was conducted as a qualitative case study. According to Wang and Park (2016, 91), qualitative research methodology is highly effective in obtaining an in-depth understanding of a real-time event, social processes, and one's personal experience in regular settings. Also, qualitative research is focused on analyzing concrete cases in particularity, including people's expressions and activities in specific contexts (Flick 2014, 22). Therefore, the qualitative approach is used to allow access to the global leader's and team members' past experiences, personal challenges, and work-related feedback.

In practice, in-depth and group interviews were taken into use as the most effective ways of collecting qualitative data. Interviews are widely used by researchers aiming to obtain in-depth information and an understanding of individual experiences or practices (Wang & Park 2016, 91). Also, observation is used as a data source, the author was able to observe GVTs' and VTs' interactions and work practices for the past five years of employment at Ensto. Additionally, secondary data was accessed in the form of internal documents, instructions, and leadership training program materials.

Limitations

Despite the fact that the research framework covers the subject of global virtual team management and leadership approaches, a company case study is aimed at identifying key e-leadership competencies, personal and professional management skills. Also, the research is limited by the number of interviewees working strictly in global virtual teams in the same organization. Even though the case company is an international organization with headquarters in Finland, it may still be characterized as a strong Nordic business culture representative.

Another limitation is the variety and nature of GVTs, some are regular teams, and some are project-based teams, which may be cross-functional or even cross-organizational.

Research is limited to the dynamics of e-leader competencies, broadly picturing a set of qualities and skills described as the most important from the TL's and TM's viewpoint. Data collection methods and specified interview questions dictated a more general and superficial level of information gathering, mainly aiming at team dynamics.

The limitation has also affected the interviews' coding process, as some comments and answers could have more than one interpretation. Therefore coding results may differ through the course of data analysis.

Ethics

Speaking about ethics in relation to the triangulation approach, data collection and various information sources provided by different methods may intensify some issues of anonymity and context for the research participants. Therefore, it is important to justify the use of more than one method. It is ethical to share the research methodology approach well in advance in order to match participants' expectations. (Flick 2014, 190.)

In addition, team members' group interviews were conducted fully anonymously. Every team member participated in the interview session voluntarily, providing personal opinions and feedback. Privacy for the team members is secured by excluding the team leader from the discussion.

1.5 Conceptual framework

Figure 2 below presents the conceptual framework developed for the research. A framework is built upon the existing theory on leadership and global virtual team management. GVTs' management field is explored with the aim to identify and explain the most successful leadership styles and techniques contributing to the VT forming, leading, and performing. Global virtual team dynamics have

contributed to identifying and explaining some of the most studied VT characteristics, such as trust, relations, culture, values, emotions, safety, support, and communication.

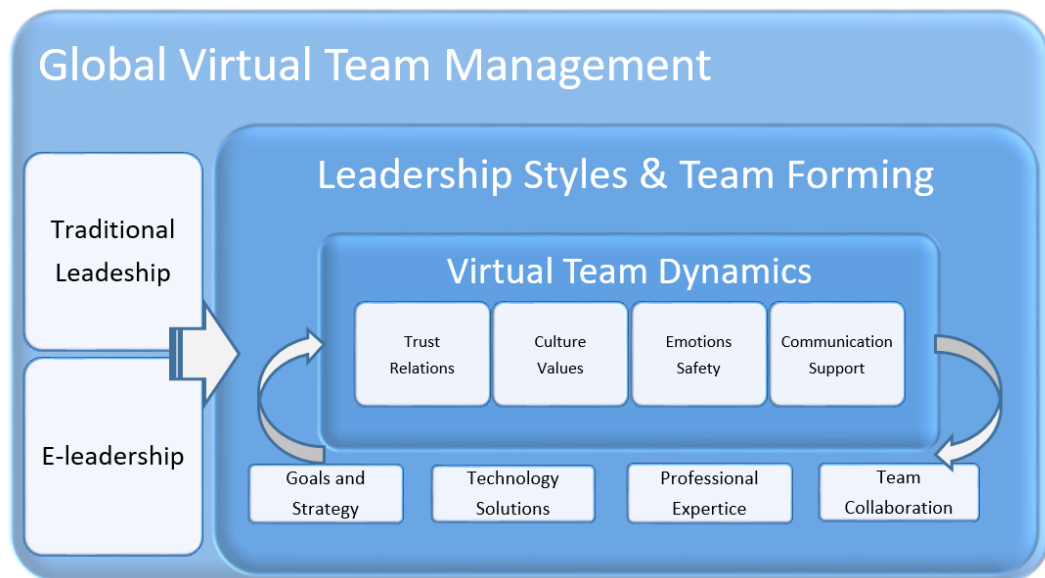


Figure 2. Conceptual framework for the research (Self-elaborated)

In general, GVT leadership is based on a clear strategy and goal setting, team collaboration, individuals' professional expertise, and being powered by IT solutions.

1.6 Structure of the study

The thesis consists of 5 main chapters (see Figure 3). The first chapter introduces the background of the study, aim, objective, and the research question. An introduction is followed by the study methodology, ethics, limitations, study structure, and conceptual framework.

The second chapter is presenting the theoretical background and academic literature review. The main concepts are introduced and leadership theory reviewed in relation to the management of the GVTs. The theory continues with the dynamics of the GVT relations, trust, communication, culture and behavior awareness.

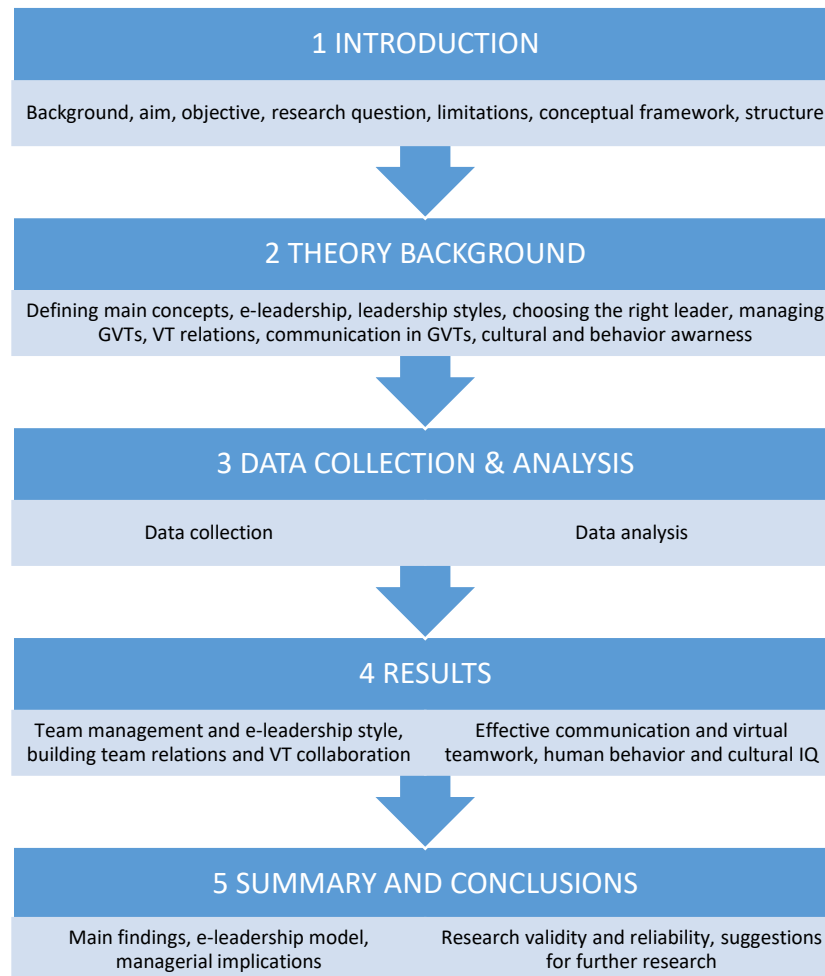


Figure 3. Ensto global business operations. (Self-elaborated)

Data collection and analysis are discussed in the third chapter. The methodological approach is explained in the introduction chapter. A qualitative approach is serving best for the purpose of this study. Furthermore, the data collection steps are described and the data analysis process is explained.

The fourth chapter presents data analysis and collected data categorization results. The main findings of the interviews were presented according to the main dynamics of e-leadership competencies identified during the research. The final chapter discusses and analyses the research findings in relation to the existing theory. The fifth chapter summarizes the main findings, comments on research limitations, and suggests further research development. Finally, the newly developed e-leadership competencies model is presented and recommendations for the commissioning company elaborated for the future managerial implications.

2 E-LEADERSHIP AND MANAGEMENT DYNAMICS

2.1 Defining main concepts: GVT, VT and e-leadership

"Successful virtual teams and their virtual leaders navigate between location, time zones, cultures, and teams to achieve their goals" (Mattiske 2020, 28).

Nowadays, global virtual teams (further abbreviated as GVTs) and virtual teams are relevant topics for many local and international companies of all sizes. In some cases, working in remote or virtual teams can be a source for saving money and cutting costs. On the other hand, modern businesses with a dispersed workforce are in need to use VTs in order to get quick and agile in operations. (Grober & Baumöl 2017, 297-298.)

Virtual teams, as generally defined, are groups of people who work across time, space, and organizational boundaries. Such working teams will interact mainly through electronic communications. As defined by Grober & Baumöl (2017, 300) virtual team is *"a group of geographically dispersed people working together in an organizational work environment using ICT."*

In particular, virtual teamwork is critical to the success of truly international organizations that establish and run strategic operations across the globe, constantly facing a rapidly changing competitive environment. For such companies, work in VTs appears to be advancing and can even be the dominant logic of work process organization. (Grober & Baumöl 2017, 297-298.)

Due to fast-evolving technologies and a constantly growing global business environment, virtual teams are constantly growing in use. In a modern working environment, company team members may never meet in person but work together with the aid of technology. While international business is growing and developing, more and more work is done by virtual teams reaching across geographical locations. VTs are typically empowered by online communication, e.g. e-mail and share points and group chats, used for knowledge sharing and documentation purposes. Also, media is accessible by the means of telephone

calls, online meetings, video conferencing, social networking, discussion boards, and virtual team walls. (DuFrene & Lehman, 2015; Saarinen, 2016.)

Similarly to traditional teams, VTs are considering dedication to teamwork and willingness to support teams' functioning as crucial assets. Challenges such as communication behavior in group discussions and respect for different positions are also applicable for the VTs. Required team support is provided by the means of technological solutions and by the contribution of each team member in order to secure well-functioning teamwork, operational standards, and routines. Nevertheless, in addition to training on technology use, traditional management skills will need improvements with respect to cultural and social intelligence. (Grober & Baumöl 2017, 297-298.)

Virtual working environments and GVTs are becoming the new normal for businesses expanding over national borders, not only aiming at economies of scale but also seeking broader talent pools. Enabled by advanced technology, an international virtual team offers business diverse advantages:

- Access to the best talents, regardless of location;
- Reaching economies of scale and cost savings;
- Utilizing local knowledge and market presence;
- International perspective for business solutions;
- Accelerating innovation and product development;
- Global productivity leverage by 24/7 work cycles. (Derven 2016, 1.)

In the research, the concept of a virtual team is referring to teams working in a virtual environment and consisting of members who are distributed in different locations and countries. When referring to global virtual teams (GVTs), it implies that a team of people is working on a global scale in a multinational organization, having members spread in various countries across different time zones. Also, e-leader concept is introduced as a synonym for a virtual leader or, in other words, a virtual team manager who is responsible for the GVT or VT performance and operations.

2.2 E-leadership and styles of leadership

"The biggest mistake you can make is to do everything the same way you did when managed a local team" (Mattiske 2020, 28).

Currently, international companies are shifting to virtual environments in different parts of the world. Management is engaging in new forms of digital collaboration, replacing traditional face-to-face interactions. Global business and leadership are facing new challenges when virtual leaders develop innovative styles of leadership. E-leadership is emerging as a new paradigm for management, representing new alternative ways of managing human capital. (Cordova-Buiza et al. 2022, 255.)

Earlier studies show that virtual team leadership is facing outstanding challenges due to geographic and time-zone distances. Cascio and Shurygailo (2003, 362-363) emphasize that there is no particular leadership style qualified as the best for a virtual team. More likely each leader will have to analyze the impact of virtual environment settings on personal leadership style in order to adapt accordingly. (Cascio and Shurygailo 2003, 362-363.)

E-leadership is defined as the main factor for successful GVTs. Lepsinger and DeRosa (2010, 152) underline that there is a statistically great correlation between leadership and high-performance VTs. Such effective team leaders are particularly sensitive to interpersonal communication facets and cultural factors helping to overcome remote teaming. Top-performing virtual leaders are more capable to balance execution-oriented and people-oriented responsibilities in managing VTs. (Lepsinger & DeRosa 2010, 25, 152.)

Also, according to the latest research by Torre and Sarti (2020), managers clearly understand the importance of e-leadership and look for support in technologies to develop more effective leadership. In relation to new competencies, leadership is looking for ways to combine traditional and innovative skills (Torre & Sarti 2020, 9).

The contemporary business world is defined by the growing use of virtual teams, putting more emphasis on **effective e-leadership**. Naturally, leadership effectiveness in a virtual environment is a critical necessity, as virtual teams differ from traditional ones. It is of particular importance that virtual leaders take steps to acknowledge specific leadership competencies that are unique to a virtual working environment and work their way to apply such competencies in achieving effective leadership. (Maduka et al. 2018, 709.)

According to DuFrene and Lehman (2015, 7), coordination of work in VTs is clearly more challenging and requires **exceptional leadership**. Effective leadership, efficient communication, and planning are crucial for a VT's success. An effective e-leader must be able to leverage individual talents, collaborate in teamwork, provide clear goals, share required information, promote trust, manage conflicts, and encourage discussions and human relations. Successful VTs are usually characterized by distributed leadership, as they rely on different team members taking leadership responsibilities in a proactive manner. (DuFrene & Lehman 2015, 7.)

In his latest research, Derven (2016) argues that an **inclusive leader** is the key to GVT's success. Such a leader is self-aware, curious, and committed to building team relations based on mutual respect by supporting a creative environment to explore and encourage new ideas.

An inclusive leader would focus on empowerment, accountability, courage, humility, emotional intelligence, and cross-cultural competencies. A leader of such type values and promotes the contributions of all team members, without relying on individuals who are more outspoken and extroverted among the group. (Derven 2016, 2-3.)

Derven (2016) emphasizes that an effective GVT leader must be particularly sensitive to both results and relationships, without balance teams will fail. E-leaders are great at translating the company's bigger vision into practical team goals, simultaneously acting as a provider of organizational changes and serving

as an advocate for the team. The inclusive leader is looking out for the team burnouts, respecting individual needs for free time, and promoting quality of life by example. (Derven 2016, 4.)

Another study carried out by Maduka et al. (2018, 709) illustrates that **transformational leadership** traits can be of great benefit when choosing the right VT leader. In particular, transformation leaders are proven to be helpful in achieving high performance in the team, consequently contributing to the project's success. Such types of e-leaders are self-reflective and set to change the beliefs and values of the team individuals for the benefit of the whole team. (Maduka et al. 2018, 709.)

In their recent research Mutha & Srivastava (2021) emphasized that a **positive leadership approach** and transformational leadership style play a significant role in virtual team management. Such leadership behavior helps to create a safe environment, trustful relations, a sense of belonging, and support for team engagement. Researchers highlighted that trust between team members influences work engagement and facilitates communication effectiveness for the virtual leader. (Mutha & Srivastava, 2021, 15.)

In conclusion, practiced in the late 20th century, the command-and-control management style is not a functional option for virtual work. It used to serve highly hierarchical organizations with routine and repetitive work, performed by unskilled and less knowledgeable workers. In contrast, dealing with virtual teams most leaders tend to rely on an **inclusive managerial approach**. Leadership is expecting virtual teams to contribute to the decision-making, sharing individual experience, skills, and knowledge for successful team performance. In VTs, a leader is supporting and motivates team members rather than supervising and controlling them. In some cases, virtual leaders describe it as facilitative leadership, servant leadership, or authentic leadership. (Pullan 2016, 29-30.)

2.3 Choosing the right e-leader

"Selection of a qualified leader is paramount to virtual team success, and leaders who excel in face-to-face settings may not prove successful in the virtual environment" (DuFrene & Lehman 2015, 26).

Nowadays, when organizations are facing vast changes in business operations, organizational structure, communications, strategies, and policies, there is an even greater need and demand for effective e-leadership (Maduka et al. 2018, 697).

Selecting the right VT leader can help organizations avoid a lot of problems associated with poor deliverables, low quality of work, bad team relationships, and misleading VT management. In order to avoid such problems, the company will need to equally consider prospects' professional skills and soft skills required for effectively leading a team in virtual settings. To be effective, an e-leader should bear the following interpersonal characteristics: communication and influencing skills; ability to motivate and build relationships; motivation to coach and develop others; and commitment to outcomes from start to finish. (Lepsinger & DeRosa 2010, 152.)

Global businesses are in critical need of leaders with excellent and specific skills for working in the virtual environment. For instance, strong communication skills and other types of leadership competencies need to be carefully defined when a business is recruiting or assessing managers best suitable for the GVTs. (Saarinen 2016, 18.)

Also, according to Mattiske (2020, 35), the best personal qualities and characteristics of e-leaders include:

- Accessible and communicative;
- Proactive and courageous;
- Action-based and self-motivated;
- Objective and trustworthy;
- Considerate and intuitive;
- Passionate and straightforward;
- Honest and fair-minded.

Choosing and assigning a qualified team leader is of critical importance to virtual team success and the level of team performance. Researchers DuFrene and Lehman (2015) emphasize that leaders proven excellence in face-to-face settings will not necessarily show the same results in the virtual environment. Therefore, some of the essential leaders' qualities and skills should be considered for evaluation. Table 1 presents a list of e-leader qualities and skills proposed by researchers DuFrene and Lehman (2015).

Table 1. E-leader qualities and skills. Adopted from DuFrene & Lehman 2015, 26-28.

<i>Leverage for team talent</i>	<ul style="list-style-type: none"> ▪ ability to choose or recommend on team member; ▪ motivation for commitment and team contribution.
<i>Supporting a feeling of engagement</i>	<ul style="list-style-type: none"> ▪ making team members feel appreciated in contribution to the team success; motivating to share opinions; ▪ giving opportunities to network and to build relationships.
<i>Sharing information in a timely manner</i>	<ul style="list-style-type: none"> ▪ determining and sharing information for the needed job; ▪ maintaining feeling of engagement; ▪ securing access to the information, ▪ using formal and informal channels.
<i>Building trust and supporting collaboration</i>	<ul style="list-style-type: none"> ▪ maintaining commitment to the team purposes, by shifting from individual perspectives; ▪ guiding team by replacing doubt, concerns and frustration with a shared feeling of team confidence and capability to succeed.
<i>Encouraging constructive discussions</i>	<ul style="list-style-type: none"> ▪ leader is able to remain unbiased; ▪ encouraging for sharing various opinions.
<i>Conflict management</i>	<ul style="list-style-type: none"> ▪ supporting discussions and aiming to reach for team acceptance; ▪ seeking for a consensus.
<i>Communicating via multiple media channels (oral and writing skills)</i>	<ul style="list-style-type: none"> ▪ clearly and consistently communicating team goals, targets and objectives; ▪ recording on team progress and ideas; ▪ sharing info and providing feedback by frequent use of group/individual e-mails, online platforms, calls, videoconferencing, social and other media channels; ▪ minimizing team members' feelings of isolation/ disengagement
<i>Showing sensitivity</i>	<ul style="list-style-type: none"> ▪ demonstration of cultural awareness and sensitivity in speech and actions, with regards to different communication styles; ▪ using and sharing knowledge of cultural differences.
<i>Developing team processes</i>	<ul style="list-style-type: none"> ▪ improve commitment and accountability; ▪ delegating tasks and supporting team members freedom to make decisions; ▪ monitoring work progress by means of formal processes; ▪ focus on productive independent work as well as team collaboration.
<i>Team support</i>	<ul style="list-style-type: none"> ▪ adequate resources for team support; ▪ resources for developing strong communication skills and effective virtual team work participation.

In addition, from the perspective of management attributes and skills, virtual leaders should focus on the following tasks:

- organization and scheduling tasks;
- time management and prioritization;
- leadership and goal setting;
- managing change;
- reporting progress and giving feedback;
- budgeting and finance. (Mattiske 2020, 37.)

For a new leader, it is critical to emphasize GVT's purpose and to clarify how it fits into a larger company mission and vision. A clear purpose definition will help e-leader drive team motivation and establish milestones for further progress and target fulfillment. Derven (2016, 3) defines global virtual team purpose as explicit, achievable, measurable, inspiring as a key driver, and adapting to changed circumstances.

E-leaders should keep in mind the importance of face-to-face meetings, normally arranged for key events. VT members should have a kick-off meeting before they even start working together in a team. Also, team building and professional training events require more significant treatment, as such meetings may be the only opportunity to see each other. (Cascio and Shurygailo 2003, 371.)

On the other hand, according to Cordova-Buiza et al. (2022), social networks greatly contribute to the implementation of virtual leadership. There is a potential for social networks to support other organizational goals, such as economic, communication, and business functions support. In fact, the use of social networks and their importance for different company functions is commonly recognized. (Cordova-Buiza et al. 2022, 254.)

2.4 Managing GVT

"Managing virtual teams should not be a hard management, but focus on supporting employees, giving the adequate feedback and coaching them"
(Saarinen 2016, 19).

Virtual teams have become commonplace and are on the rise all the time. VTs provide new opportunities and benefits for managers and organizations all around the globe. While business networks growing across borders and communication technology enables teams to work across time and space, effective management of GVTs is critical for the competitive position in a global economy. (Saarinen 2016, 9.)

Speaking about the benefits of using virtual teams, businesses can gain not only cost savings but also higher employee efficiencies and better decision-making. VTs can reduce organizational expenses, offer flexibility in work, and more business opportunities when overcoming geographic distances. Virtual working space is allowing organizations to attract a bigger number of talents spread throughout the workforce. Teams can enhance expertise unavailable at the individual level, engaging in a perfect environment for the synergy effect. Organization is getting more work efficiency, as virtual teams are eliminating layers of management and perform with no time losses to bureaucratic processes. In addition, VTs are a source of employee efficiency. Remote work possibilities are increasing employee satisfaction by providing more flexibility and better work and personal life balance. (DuFrene & Lehman 2015, 4.)

According to Saarinen (2016, 19-20), managerial work in GVTs is very demanding, intensive, and burdened with long working hours. Hence, organizations should support GVT through rational team sizes, inspiring role models, and reasonable expectations for the outcomes. Often place, mentoring programs may provide needed support for developing new e-leadership culture. Using more experienced people to provide guidance, share experiences, and give an opportunity to handle emotions in a safe setting. (Saarinen 2016, 20.)

Also, certain per-set organizational practices may contribute to the work of managing global virtual teams, for instance, avoiding VTs' work overloads, reducing the number of virtual meetings, promoting web platforms for information sharing and exchange. Additionally, VT meetings can be used for informal communication, helping to build personal relations and trust. Sharing proper

meeting guidelines can ease GVT management and contribute to the quality of work. Such guidelines can explain basic virtual meeting behavior, meeting preparation, use of communication channels, and proper collaboration technological solutions. (Saarinen 2016, 18-19.)

In research developed by Lepsinger and DeRosa (2010, 92) there are five main practices distinctively defining the most effective VT leaders: change management, team collaboration, communication skills, goal setting, and ability to empower (Figure 4).



Figure 4. Effective VT leader practices. Adopted from Lepsinger & DeRosa, 2010.

Working in a global context through different geographical zones makes it even more difficult to manage change and lead VT. E-leaders should develop a process to support team members throughout the change. It is important to involve VT members in decisions affecting everyone, therefore ensuring team commitment and quality in decision-making. More importantly, in order to get actively involved, team members must see change as necessary and feasible. VT leaders can provide VT support by emphasizing the urgent need for change, creating a coalition of supporters, and being proactive in resistance to change. (Lepsinger & DeRosa, 2010, 93-94.)

Managing teamwork, e-leaders are constantly looking for new means to compensate for a lack of human contact in a virtual environment. Effective VT leaders are focusing on the ability to encourage an atmosphere of collaboration and to maintain team spirit and trust. In overcoming challenging virtual settings, effective leaders need to focus on detecting and timely managing conflicts. In addition, when networking in teams, appropriate virtual tools and solutions can be used to support team collaboration in ways using informal types of communication and interaction. (Lepsinger & DeRosa, 2010, 96-97.)

Naturally, conflicts take place in GVTs as well as in traditional teams, though, conflicts and interpersonal encounters may get faster exposed in virtual teamwork dynamics. An e-leader should be ready to accept disagreements but work hard to avoid conflicts, as the damaging effect will influence all team members. Manager goal is a healthy collaboration environment where different opinions are accepted. E-leaders should balance viewpoints and once the decision is made, everyone will follow up according to the agreed actions. (Mattiske 2020, 117.)

2.5 Virtual team relations

"Ensuring engagement and commitment from all the members of the group, an e-leader has to build a positive relational climate and reciprocal trust in conditions where distance can make relationships even more difficult" (Torre & Sarti 2020, 9).

Global Virtual Teams are diverse by nature; therefore, a competent leader should be able to acknowledge differences and similarities as a source of innovation and new ideas. In order to do that, a virtual team should have the right mix of functional, technical, and cross-cultural skills. Such team diversity will include visible factors including age, gender, and ethnicity; and hidden elements, such as cultural background, education, sex identity, thinking styles, and values. (Derven 2016, 2.)

As the matter of fact, VT leaders are typically facing a lack of team members' understanding making it hard for the leader to influence subordinates to reach

team performance and success. Therefore, a manager needs to emphasize building and maintaining relations and trust in a team. (Saarinen 2016, 127.)

Naturally, creating social relationships in VTs is more challenging and time-consuming as opposed to face-to-face settings. A virtual working environment may not always be a preferable mode for operations, as team members can feel isolated or detached from the work creation process and colleagues. Therefore, not only VT leaders but also team members require a clear understanding of virtual team dynamics and individual skills. (DuFrene & Lehman 2015, 25.)

When building relationships, it is essential to create a foundation of trust between GVT members. Trust includes perceptions about members' intentions (everyone is on the same side), information shared (data accuracy and reliability), and interactions in a team (free communication). Building trust, the leader will ensure a good comfort level for the team members to explore different ideas. More importantly, trust proves to be an accelerant to conflict resolution. Behaviors, such as keeping commitments, listening respectfully, and freely sharing concerns, will help to build trust in global virtual teams. (Derven 2016, 4.)

According to Saarinen (2016, 74), VT's effectiveness and productivity on one side and the need for taking good care of the team members on the other side are causing major tension for the GVT managers. In an attempt to influence and manage team performance, managers are taking a number of extra actions to build commitment and trust.

Nevertheless, working in a demanding and fast-changing virtual world, team leaders do not always have adequate time to build trust, so there is a greater need for team commitment in daily work. As a result, virtual leaders tend to focus on task-oriented actions and share responsibilities instead of keeping people-focus, so important for the team members. (Saarinen 2016, 74-75.)

Constantly working in remote locations, virtual leaders tend to miss personal connections, daily chats, and coaching (sparring) sessions with co-workers.

Moreover, e-leaders with a high sense of duty can even feel frustrated and upset with work, as they are not able to reach the desired quality of teamwork and leadership. (Saarinen 2016, 75.)

Maintaining good VT relations does not guarantee an absence of conflicts. Unfortunately, conflicts may arise in virtual teams; hence, e-leaders are challenged to detect and deal with them in remote settings. Relationship conflicts are very unhelpful and even destructive by nature, as they are deeply rooted in interpersonal problems. A virtual leader should use extra efforts to plan for potential conflicts in advance, monitor the state of a team before the conflict, and interfere to break the tension when conflict arises. (Pullan 2016, 77.)

2.6 GVT communication

"Communication differs when team members from a varied background and culture meet, their style and group behavior varies" (Maduka et al. 2018, 701).

Speaking about effective VT management, communication has been repeatedly mentioned as the main skill required for success. In particular, competencies such as building relations and trust, focusing on results, and personal accountability are mentioned as top priorities. (Lepsinger & DeRosa 2010, 92.)

Virtual leaders should encourage frequent and efficient communication among team members. Continuous communication is critical for information exchange; therefore, an e-leader has to initiate and facilitate the communication process and collaboration base, guiding the ongoing interactions in a team. (Hunsaker & Hunsaker 2008, 96.)

Managing GVT, an e-leader is required to develop new communication channels for VT collaboration, ensuring engagement and commitment from team members. It is critical to build positive relations and a climate of mutual trust with regard to distance, time zones, misunderstanding, non-verbal communication, and other barriers (Torre & Sarti 2020, 10). Also, as described by Hunsaker and Hunsaker

(2008), cross-cultural communication differences can lead VTs to confusion, misinterpretations, and misunderstanding.

Thus, Cascio and Shurygailo (2003, 369) underline a greater VT reliance on indirect communication mechanisms, e.g. e-mails, voice messaging, info boards, and web platforms. Team members should learn to use it effectively, focusing on constant shifts and progress in such indirect contacts (Cascio and Shurygailo 2003, 369).

Moreover, GVT managers are using various tactics and strategies in a virtual working environment. According to Saarinen (2016, 126-127), e-leaders develop and use different practices when managing virtual teams: formal, informal, and ad hoc practices. *Formal* practices include team routines, work structures, schedules, follow-ups, and information sharing and exchange. In contrast, in *informal* practices, virtual leaders would communicate about daily issues, develop internal team connectivity and build relations. Finally, managers are getting involved with *ad hoc practices* only when facing unexpected and mostly urgent situations, demanding fast commitment and high attention from team members. (Saarinen 2016, 126-127.)

In a study carried out by Maduka et al. (2018, 709) researchers have clearly identified some competencies for great e-leaders in aspects of effective VT communication: constant feedback; trust; clear tasks and directions; reliability, and personal characteristics.

Speaking about challenges in remote work, a research survey from Buffer (2020) shows that collaboration and communication are on the list of main issues for employees to struggle with. A survey of 3500 remote workers from around the world clearly indicates it, as illustrated by Figure 5.

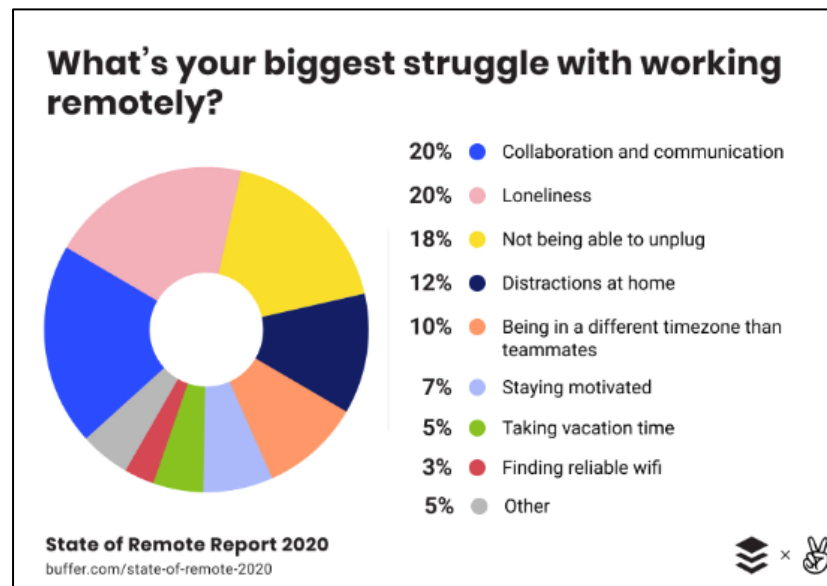


Figure 5. A survey of remote workers. (Buffer 2020)

Communication in GVTs is fairly different due to virtual collaboration, missing body language, technical issues, and even faster time flow, compared to offline meetings. Therefore, ABIS (2020) is suggesting to focus on the following virtual communication skills:

- "Plan and set" your stage; prepare for the meeting; plan for interaction and follow-up.
- "Be clear" in defining purpose of the meeting; focus on decision-making/reporting/sharing.
- "Keep it short" in order to be effective; respect for people's time; virtual meeting not longer than 1 hour.
- "Strive for value" and simplicity; less is more, delivering useful information;
- "Engage participants" and keep attention; use questions to ask for participation.
- "Fail forward", meaning that it should not be perfect; do not attach for the outcome.
- "Show up as a human being" and try to connect with people; be open, honest, and socially connected. (ABIS 2020, 3.)

Also, a publication by Forbes (2021) suggests that just replacing face-to-face interactions with video calls is not enough for successful VT communication. In fact, Forbes (2021) is offering a list of the most effective solutions businesses can use to support enhanced virtual communication in VTs:

- Find the right tools,
- Conduct daily check-ins,
- Getting together outside of work hours,

- Create a hybrid communications system (virtual and face-to-face),
- Make virtual communications interactive,
- Focus on understanding how employees are doing,
- Encourage employees to walk and talk (outdoors),
- Use recordable screen-share videos,
- Ask for feedback and insight,
- Keep meetings short and sweet,
- Use one-on-one meetings.

Speaking about communication in GVTs, the main focus is on technology solutions and team collaboration platforms. However, one of the main challenges in virtual collaboration is in engaging remote participants. In virtual meetings, it is easy for a remote team member to lose focus, start multitasking, or get distracted. So, several techniques can help to engage people by using visuals and graphics; communicating with faces; turning to stories and narrative forms. (Pullan 2016, 115.)

2.7 Cultural and behavior awareness

"The proper organization climate, carefully trained virtual leaders and members, and clear team processes are critical to building collaborative behaviors needed to solve complex issues" (DuFrene & Lehman, 2015, 29).

Due to the nature of virtual teams, it is hardly possible to get to know all the team members personally. Thus, such a low level of familiarity may limit the efforts to influence team members, minimizing the effects of the leader's tactical and strategic influence. Missing a personal connection to the team members, e-leaders are more challenged to motivate subordinates to inspirationally appeal to their emotions. Moreover, if a leader is missing personal knowledge, it will be more challenging to justify and prioritize tasks in a way that will interest team members and help to save commitment or to use interests. (Saarinen 2016, 128.)

Working in GVTs is challenging enough when considering high reliance on information and communication technologies, but more importantly, the team's cultural diversity and perceived cultural distinctions can directly influence work efficiency. Therefore, various training programs are introduced for organizations,

focusing on necessary intercultural knowledge, foreign values, and practices. GVT leaders should have a way to practice effective verbal and non-verbal behavior in various cultural contexts. (Presbitero 2020, 1100.)

For instance, Derven (2016) emphasizes that VT leaders should be sensitive to cultural backgrounds as diverse cultural norms affect our attitude towards assertiveness, hierarchy, conflicts, and even time. An effective leader should know how such prejudices could influence the level of participation of team members. (Derven 2016, 2-3.)

Also, leaders and team members of VTs are frequently faced with cultural barriers and even language barriers. It is advised for all team members to have a certain degree of fluency in the common language in order to ensure effective communication, e.g. avoiding slang, jargon, and acronyms. However, beyond basic language aspects, virtual team members must also recognize other challenges of cultural diversity and strive to adjust their behavior towards the goal to improve cross-cultural team interactions. (DuFrene & Lehman, 2015, 15.)

In a study carried out by Han and Beyerlein (2016, 368-371) four socioemotional process factors were identified for leaders to focus on when working in multinational VTs: overcoming cultural biases; building team relationships; developing trust, and promoting intercultural learning. Such challenges with a cultural mix in VT will also bring potential benefits such as knowledge diversity in the team and broader group task understanding. Researchers have emphasized that cultural diversity affects VT processes and tasks, therefore influencing team performance. As a result, a virtual leader will need to balance socioemotional factors with additional task-related process factors:

- task-related communication;
- team coordination;
- establishing expectations;
- sharing knowledge. (Han & Beyerlein 2016, 365-371.)

In addition, researchers have concluded that team effectiveness is dependent on intercultural learning and flexible knowledge sharing. Defined challenges can be

minimized by emphasizing team efforts on building trust, improving cultural awareness, sharing knowledge, and creating team norms. (Han & Beyerlein 2016, 372-374.)

Speaking about emotional intelligence, it is rather easy for managers to develop understanding and skills in some areas, e.g. recognition of facial expressions of emotions. However, developing real expertise in the emotional field would require more comprehensive practical exercise, feedback, and training. (Lopes 2016, 319.)

Emotional intelligence plays an important role in GVTs management. Along with many positive emotions, virtual leaders tend to feel frustrated, inadequate, or even express guilt in their daily work. Mainly due to the fact that leaders are constantly under pressure to meet various stakeholders' expectations being yet challenged in the global virtual context. Hence, most critical self-management skills are built on the ability to handle emotions, time, and stress. (Saarinen 2016, 181-184.)

In order to cope with growing expectations, VT leaders aim to structure and simplify work routines. Importantly, work pressure and overloads are facilitated not only by business targets and goals achievement but also by employees' needs for support, motivation, coaching, and development. Additionally, feeling the pressure of time, real-time responsiveness and online accessibility by team members are commonplace in a virtual environment. Hence, GVT leaders experience more often feelings of inadequacy, guilt, and loneliness in contrast with more balanced moods of joy, job satisfaction, and pride. (Saarinen 2016, 199-200.)

In practice, Lopes (2016, 319) is suggesting to increase awareness of emotional intelligence training by focusing on managing and expressing emotions. Leaders development trainings should be targeted to specific individual or team needs, focusing on knowledge and skills most relevant to current carrier goals, field of business, and challenges. Also, such training sessions may encourage VT

leaders to apply professionally developed analytical skills to emotionally challenging situations. For instance, leaders can actively practice emotional management and deal with emotional ups and downs by participating in new projects, dealing with resistance to change, or organizing new initiative support within the organization. (Lopes 2016, 319-320.)

Working in a virtual environment may result in stressful situations and frustration could lead to emotional reactions, anger, avoidance, or silence. As a virtual leader, it is crucial to maintain team cohesiveness, professionalism, open communication to secure team effectiveness and work productivity. (Mattice 2020, 48.)

In a rapidly changing working environment, psychological safety is a main contributor to adaptive and innovative performance in teams. De Smet et al. (2021, 3) emphasized that an authoritative leadership approach is detrimental to psychological safety, although consultative or supportive leadership behaviors have proven to promote safety feelings in a VT.

By creating an environment of psychological safety, a team leader may expect better engagement, increase in motivation, development opportunities, and better performance (Delizonna 2017, 5). In practice, effective leaders tend to secure team psychological safety by creating the right work climate, attitudes, and behaviors. For instance, a positive teamwork climate is developed by value for team contributors, care for the well-being of team members, and leader input into work performance. (De Smet et al. 2021, 1.)

3 DATA COLLECTION AND ANALYSIS

The purpose of this research is to explore the most effective key e-leadership competencies contributing to global virtual team performance and well-being. A case study approach is used to allow access to GVT leaders' and team members' past experiences, personal challenges, and work-related feedback.

3.1 Data collection

According to Wang and Park (2016, 91), interviews are one of the most effective ways of collecting qualitative data. It is widely used by researchers aiming to obtain in-depth information or understanding of individual experiences, attitudes, or life stories. Interviews can be unstructured, semi-structured, and structured defined by the nature of the question's flexibility.

For instance, unstructured interviews can be illustrated by someone's general life story interview; though, structured interviews suggest the use of prepared questions for all of the interviewees. In semi-structured interviews, a researcher will have the benefit of using predefined questions and interview schedules, as well as engaging in the new topics and clues arising in the conversation course. (Wang & Park 2016, 118.)

Also, there are many predesigned types of verbal data collection methods, including focused interviews, semi-standardized interviews, problem-centered interviews, expert interviews, narrative interviews, and group interviews. Each interview method differs by the field of application, its contribution to the general development of the interview, and problems in application or limitations in use. (Flick 2014, 200-201.)

A semi-standardized or semi-structured interview introduces topics and formulates questions based on scientific theories of a particular research field. In other words, such an interview is driven by theory-based and hypotheses-directed questions. Open questions and confrontational questions are used to get answers on the basis of the immediate knowledge of the interviewee. (Flick 2014, 217.)

Group interviews or focus group interviews are widely used in cases when a researcher is studying opinions and attitudes about taboo topics in the context of social group dynamics. Semi-structured and narrative interview approach is used with a small group of up to eight participants. As opposed to a single interview, a group interview is allowing to collect data in real-life interaction mode. In practice,

the interviewer is expected to collaborate, listen, and support group mediation between participants. The main interview target is to obtain answers from the whole group of participants by balancing opinions and covering focus questions as far as possible. Group interviews are rich in data, as they stimulate and encourage respondents to reach beyond the answers of a single interview. (Flick 2014, 242-243.)

The study research question underlines the necessity for in-depth interviews, which is known as the most common qualitative data collection method. A particular method is supporting the study foundation for the in-depth understanding of participants' individual experiences and social processes, attitudes, or life experiences (Wang & Park 2016, 91).

The case study research was conducted for the purposes of the global virtual teams supporting different Ensto operations, e.g. sales, ICT function, research and development (R&D) department, customer care, and procurement departments. As a result of preliminary research and evaluation, only 3 out of 5 teams have qualified for the case study research goal. The main difference is found between virtual teams working in an international context versus truly global teams working in several countries across different time zones. As a result, the international procurement team, IT project team, and R&D team have fulfilled the main criteria of the Global Virtual Team, discussed in detail previously in the theory background chapter (chapter 3).

Ensto case study GVTs can be described as:

- teams working on the regular basis, e.g. being a company department or operating as a long-term project team (over 1 year-long projects);
- team members located globally, in 3 or more different countries with local Ensto operations;
- team size is up to 10 members;
- virtual team members being in regular contact with the leader and partners;
- constantly collaborating unit sharing the same strategy, goals, and objectives.

GVTs' leaders and team members were interviewed to research virtual leader competencies, best managerial practices, and team performance improvement. With the intention to collect rich data about virtual leaders' experiences and professional expertise, individual semi-structured interviews have been conducted. Virtual interview sessions with the team leaders hold via Teams meetings and lasted from 1 to 1,5 hours. All GVTs' managers were asked the same set of questions (Appendix 1), allowing them to openly discuss team management practices, effective communication, virtual team relations, team building, and behavioral issues. Before the interview, a list of questions was shared with the interviewee with the purpose of following the interview course and getting familiar with the terms and definitions.

In addition to team leader interviews, group interviews were arranged only for the team members, excluding the team manager. Virtual group discussions aimed to get more detailed feedback and personal opinions on leadership and team dynamics in practice.

Table 2 provides detailed information on GVTs interviewed, corresponding business areas, and core functions.

Table 2. Case company GVTs and interviews' dates.

<i>GVTs:</i>	<i>Type of Team</i>	<i>Core Functions</i>	<i>Interviews</i>
Global Procurement Team	Team members located in Europe and Russia. Business operations mainly in Europe and Asia.	Global sourcing operations, contacts with suppliers, procurement functions.	TL interview: 12 Feb 2021 Group interview with TMs: 12 Mar 2021
International IT Project Team	Main team members located in Northern Europe. Project team members joining from international offices across the globe.	ERP system installation across global subsidiaries. Long-term projects 3 months to 1-year period projects.	TL interview: 14 Apr 2021 Group interview with TMs: 28 Apr 2021
Global R&D Team	Product development team members located in Europe and India.	Global research and new product development operations. Own laboratory and product testing facilities.	TL interview: 9 Mar 2021 Group interview with TMs: 29 Mar 2021

Group interviews were less structured in content, taking 45 to 60 minutes in an online meeting format. Discussions served for the purpose of getting anonymous feedback, therefore providing an opportunity for the team members to share individual and more personal experiences related to the VT leader's competencies or skills. Individuals shared their expectations and practices on virtual team networking and virtual leadership based on current work experiences in Ensto company and other employment in the past.



Figure 6. Categorization of guiding interview questions. (Self-elaborated)

Notably, both individual and group interviews have followed the same categorization of questions presented in Figure 6. The interviewer followed up on each category though out the interview sessions. Virtual leaders and team members have openly shared opinions and experiences falling into each of the interrelated categories.

In addition to individual team leader interviews and group interviews, the author used case company internal documents, publications, instructions, and leadership training program materials as an additional source of data. Collected documents and their analysis served as a complementary strategy to the other methods of qualitative research type (Flick 2014, 353).

A triangulation strategy was used throughout the study, relying on a combination of several qualitative methods for data collection (Flick 2014, 30). In particular, individual interviews, group interviews, internal training materials, instructions, company documents, and observation were used to maximize reliability in data collection. The triangulation approach helped to establish links and relations on the level of the data sets (see Figure 7). Consequently, patterns were established in connection to all the different sources of data targeting to analyze and reveal similarities or inconsistencies in data sets. (Flick 2014, 188-189.)

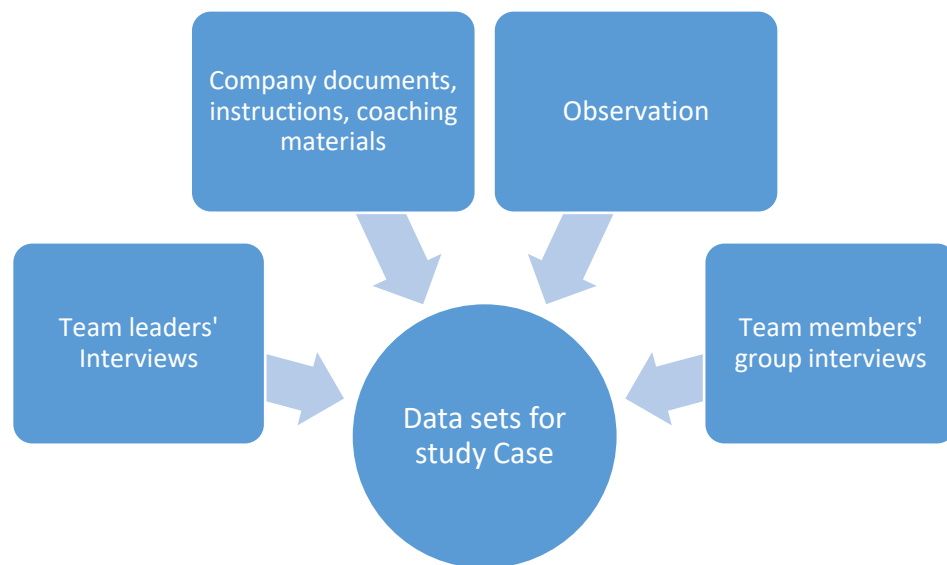


Figure 7. Levels of triangulation. Adopted from Flick 2014, 189.

In practice, the author is employed by Ensto company since the year 2017 and has utilized access to the company's internal documents, annual reports, strategic plans, and other educational or training materials. Also, observation is used as an additional source of data collection. The author has been a member of two intercultural VTs and a member of a project-based GVT from the year 2017 until 2023. Therefore, personal experience working in virtual teams and GVT allowed for a more detailed approach to data analysis and verification. Table 3 describes the author's engagement with the VTs and GVT at Ensto, shortly identifying the scope of observations.

Table 3. Virtual teams and scope of observations. (Self-elaborated)

<i>Teams & Job title</i>	<i>Team description</i>	<i>Scope of observations</i>	<i>Time period</i>
Internal supply chain team: Internal supply chain coordinator.	Internal order flow handling and components' supply for the sales companies. International team with a team leader in Estonia.	Team leader work, team relations, team collaboration, share of responsibilities, change management, new ERP introduction.	2017-2018
Customer care team: Front office coordinator.	Customer care functions and sales support. Team is responsible for domestic and export order handling. Virtual team with team members in Finland and Estonia.	Leadership and team management practices, collaboration in team, team building, developing trust in team, change in company organization, empowerment and delegation, team support and coaching, change of team leader.	2018-2023
Customer care "war room" (project team): Team member.	A part of Ensto lean program identifying and eliminating loss time. Working on improvement projects for Ensto operations. Project team includes members from 5 office locations in 4 countries.	International team collaboration, project-based teamwork, international communication, cross-department cooperation, team engagement, problem-solving, work process change, and improvements.	2017 - 2023

Research was emphasized on company requirements and standards for management and team members working in a virtual and remote environment. For instance, the author gained access to the latest management leadership training program executed by Ensto in the years 2020 and 2021. The global management training initiative presented an opportunity to learn about the latest strategic and tactical skill training provided for Ensto leaders working around the world.

3.2 Data analysis

In contrast with quantitative data analysis, qualitative data research, and analysis are built on a variety of creative techniques typically using open and flexible approaches. Qualitative data analysis is characterized as an inductive method, originating from actual and concrete data directing to extract more general

concepts. In other words, qualitative data analysis is used to develop and conceptualize some new theory. (Wang & Park 2016, 211-212.)

From a wider perspective, qualitative data analysis is perceived as an interpretation and following classification of the linguistic and visual materials. Such an approach is aiming to make statements about implicit and explicit dimensions and structures of meaning-making in the material, for instance, subjective or social meanings. (Flick 2014, 370.)

This research adopted thematic and qualitative content analysis methods. The selected methodology allows to organize and arrange data in an appropriate way, avoiding data loss as well as tracking important details. Thematic analysis aims at identifying, reporting, and analyzing patterns or themes out of collected material. In such an approach, coding will play a key role in the data review and further data management. Thematic analysis is defined as a strategy for combining with other approaches, such as deductive or inductive types of coding. (Flick 2014, 420-421.)

The coding process is a key element for qualitative content analysis. In general, coding describes a relative connection of research material to the categories used for the analysis. In other words, coding is a systematic way of defining concepts that will be used for labeling, sorting, and comparing data segments. For example, initial and focused coding types are usually used in grounded theory research. (Flick 2014, 373.)

Working with the coding procedures requires a flexible approach and movements across the materials (Flick 2014, 374). Similar comments, examples, or statements were identified in different individual and team interviews as well as in other research materials, such as internal instructions or coaching programs.

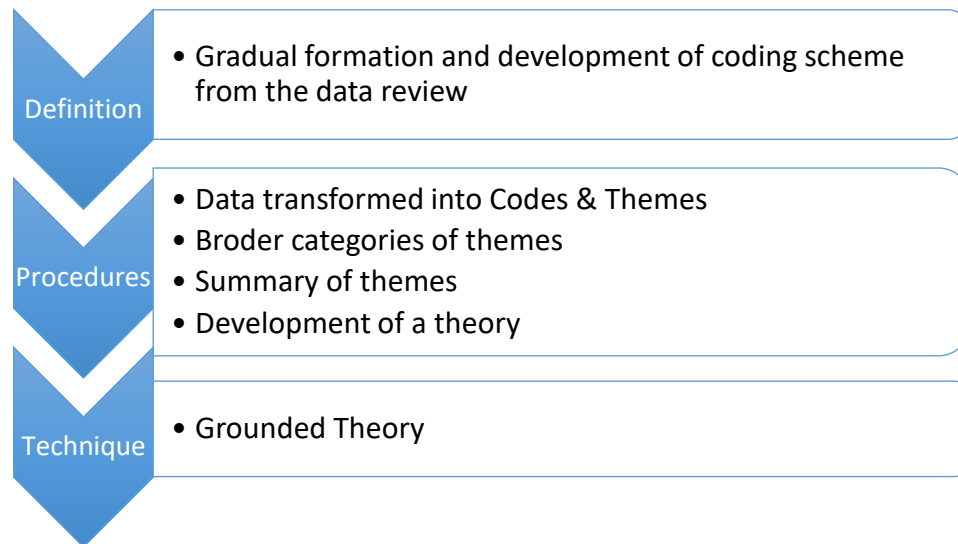


Figure 8. Inductive coding (bottom-up approach). Adopted from Flick 2014, 216.

There are various analytic techniques commonly used for qualitative data analysis. An inductive approach and grounded theory technique were used in the research. In data analysis, the inductive coding process served the best for systematic summary and meaningful interpretation of data patterns. According to Wang and Park (2016, 215), inductive coding or bottom-up research approach is the most commonly used for qualitative studies (see Figure 8).

Inductive coding allows to approach research data avoiding predetermined ideas or concepts, simultaneously paying attention to the newly emerging themes and concepts resulting in a new theory. Specifically in cases when research question is open-ended or at some extent broad, inductive approach will allow to generate a wider range of theoretical ideas from the available research data. (Wang & Park 2016, 215-216.)

In practice, all the research interviews were first transcribed and later analyzed in order to detect patterns of meanings. The thematic coding technique was used for further identification, analysis, and pattern reporting as illustrated by Figure 9 below. Such themes or patterns integrate the most important aspects of data in relation to the research question. The analysis process was inductive by nature and coding process was guided by the research question. For example, in the interviews, the main focus was on managerial aspects of leadership and practical

teamwork routines exercised by the TLs. An objective and open-minded approach and minimal pre-existing theory are used for the interview content or specific in-depth questions.

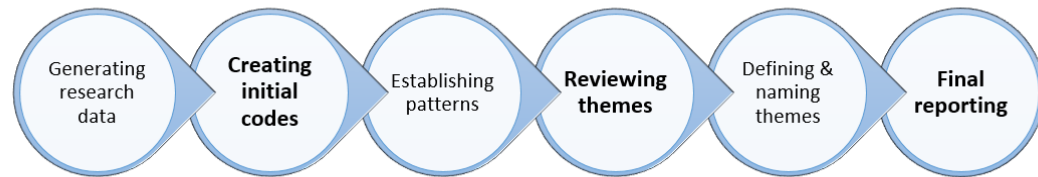


Figure 9. Thematic data analysis process. (Self-elaborated)

In the initial stages, as many as 8 main themes and 178 subsequent codes emerged. Working according to the analysis process, the final list of themes resulted in 4 main themes and 36 sub-codes. As illustrated in table 4, four major themes are: *team management and leadership*; *building team relations and collaboration*; *effective communication and teamwork*; *human behavior and cultural intelligence*.

Table 4. Main themes built on subsequent codes. (Self-elaborated)

Team Management & Leadership	Building Team Relations & Collaboration	Effective Communication & Teamwork	Human Behaviour & Cultural Intelligence
Empowerment	Building trust	Extensive communication	Body language
Team motivation	Transparency	Formal and informal channels	Decoding emotions and feelings
Leader confidence in communication	Self-organization competence	Best technology use	Individuality and human touch
Task management and roles	Creating reputation	IT solutions for workspace	Supportive leader
Facilitating collaboration	Team building	Compensate for virtual communication	Interpersonal skills
Knowledge management	Support for teamwork	One-on-one communication	Intercultural communication
Professional support	Individual support	Effective on-line collaboration	Cultural IQ
Supportive and participative leadership	Team engagement	Meeting engagement	Equal treatment
Recruiting skills	Conflict management	Parallel communication	Work-life balance

In the course of coding, main themes have mainly emerged around the main theory topics discussed in chapter 2. For example, aspects of virtual team management, motivation, and leadership styles were discussed by the interviewees under the *Team management and e-leadership* theme. Challenges in communication and practical ways of team working in the virtual environment are highlighted in another theme, labeled as *Effective communication and teamwork*.

Speaking of core themes, each final theme is developed based on 2 to 8 similar by meanings sub-codes. For instance, the main theme labeled as *Team building* developed from notions of subsequent codes *building and sharing team spirit, workshops and team coaching, visiting on sites, and help and support for the team*. Similarly, the theme *Supportive leader* includes the following sub-codes: *supervisor's ability to listen and understand, supportive and open leader, comfortable in speaking and sharing thoughts, and casual communication*.

4 RESULTS

In this chapter, the findings of the interviews are presented according to the main dynamics of e-leadership competencies identified during the research. As a result of the analysis of the collected data, a large list of codes was generated.

Subsequently, codes were grouped into main themes, and themes have been organized into four main competence groups. The main identified fields of competencies are as follows:

1. *Team Management & Leadership Style*
2. *Building Team Relations & Collaboration*
3. *Effective Communication & Virtual Teamwork*
4. *Human Behavior & Cultural Intelligence*.

The main competence groups were defined in order to structure discussed e-leadership practices and methods required for successful GVT management. Identified groups of competencies will be discussed in the chapter.

4.1 Team management and leadership style

After conducting the data analysis of the team leader's interviews, it became evident that managers have developed an adaptive leadership approach. GVT managers have defined their role as guiding and supportive leaders and mentors, emphasizing attention on VT's performance as well as a collaborative working environment.

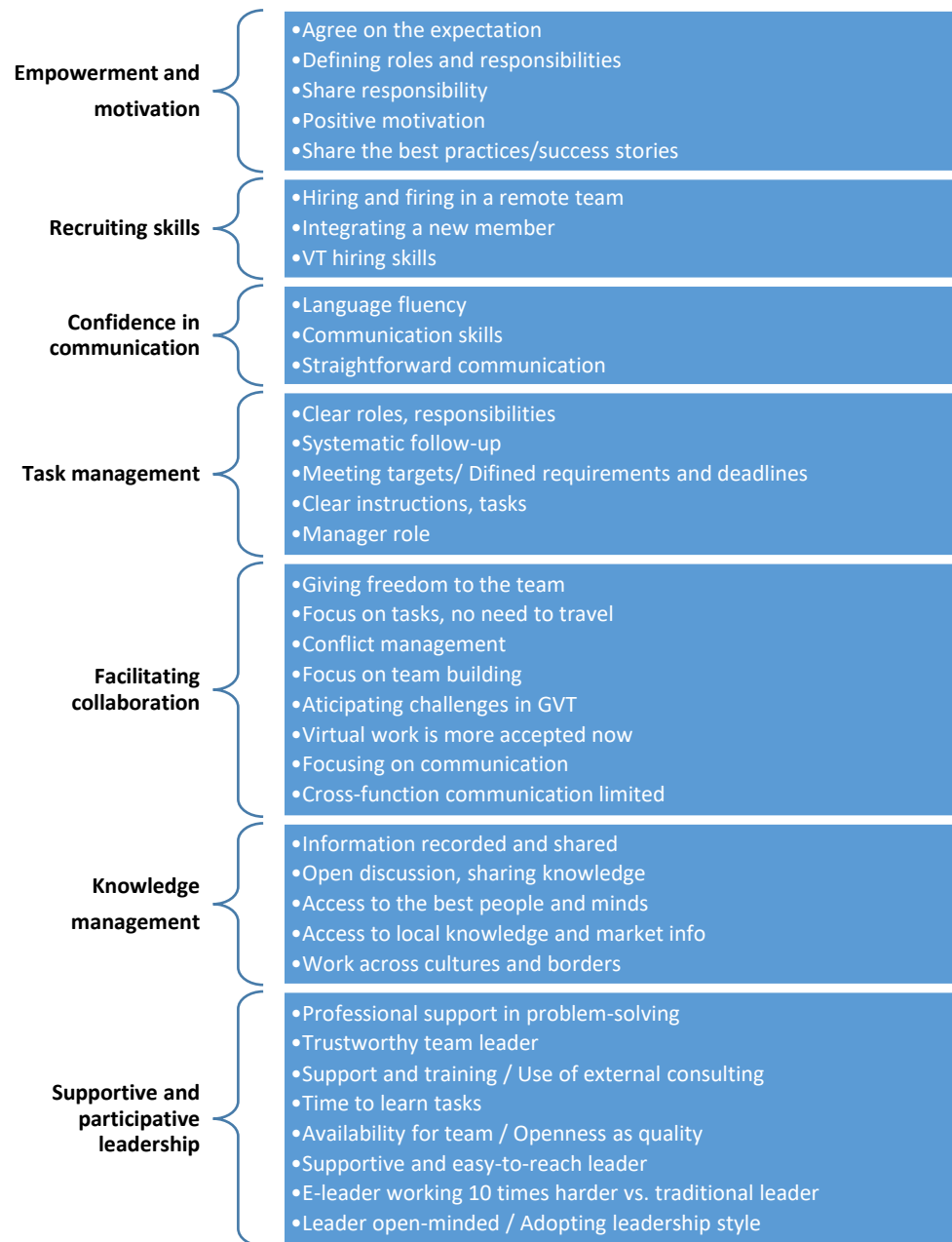


Figure 10. "Team Management and Leadership" competencies. (Self-elaborated)

As presented in Figure 10, the main e-leader competencies discussed in relation to team management practices include empowerment, ability to motivate, flexibility with leadership styles, task management skills, confidence in communication, support for collaboration, knowledge management, professional support, and recruiting skills.

Empowerment and Motivation

Initially, VT should agree on expectations and plan for the task or project execution. Virtual team members' empowerment and motivation for taking responsibility for daily tasks are mentioned as vital in management practices.

"One good thing for the motivation is transparency. Make it all transparent to everybody where you are. For example, where the projects are. Keep the traffic lights available that everybody can see if it is red, green, or yellow." (TL2)

All interviewed team leaders have underlined the importance of defining roles and sharing responsibilities. Also, **positive motivation** and shared team responsibility are equally important for successful team performance.

"In our team, we have shared responsibilities, each team member is responsible for some area... Some times we are doing adjustments, if team members see it beneficial." (TL3)

"Set the targets; follow up the targets and, of course through the positive approach. That's the best way." (TL2)

"Leaders and team need to be open-minded and need to adapt to the current situation. That's just one of the challenges we need to face." (TM)

Recruiting Skills

Speaking about new team members' integration and GVT establishment, a leader is expected to be able to hire the most qualified and suitable candidates. New team members not only have to be professionally skilled but also best fitted with personal characteristics and **interpersonal attributes**. TL1 explains:

"I look for people who are obviously open both culturally and language-wise and with their minds so that they look for solutions in different places. If you have good interpersonal skills in real life, you will most likely do it in skype and conferencing... I need people who can work across borders and across cultures." (TL1)

When hiring and **choosing the right team member**, team leaders emphasized attention to personal qualities like *interpersonal skills, open-mindedness, good communication skills, language fluency, and the ability to work across cultures and borders*. As an illustration, fluent English language skills will be very important and challenging to look for when hiring a team member in France. More importantly, TL3 identified that *independence in work and readiness to take responsibility for tasks* are the most important virtual team member qualities.

Also, TM commented that hiring online is more **challenging**:

"It requires more time for opening the person, e.g. introverts; you do not see the body language... so for me, it is a must to see a person before hiring." (TM)

In relation to the team member **introduction**, TL2 underlined that *it is important to get a first impression and first relations by meeting in person; that way it will be easier to continue via online tools*. Also, TMs emphasized:

"Motivation and independent work is critical; new member's personal characteristics need to match the team, to fit with the others" (TM)

"Core competence and self-organization as one of the key criteria. VT member has to be able to work independently and to dedicate time for work, overtime work. Flexibility is needed with working hours." (TM)

Talking about **personal qualities** critical for the GVT performance, LT3 comments:

"Independent person, that is very, very important for us. Person who can take the responsibility of the tasks." (TL3)

Confidence in Communication

As highlighted by the interviewees, an e-leader should support his/her **confidence** in communication through language fluency, very professional communication skills, and the ability to **straight forward** communication.

"You need to be firm if things are not working, thinking why things are not moving or what is the challenge there... If you notice that motivation is down and things are not happening; then it is the time to discuss that." (TL2)

"English may not be so fluent in some locations, and it will be harder for them to express themselves. In such cases, it may help working face-to-face." (TM)

In addition, TMs commented in regard to virtual leader qualities:

"The first is availability and to have the confidence to communicate easily - are the main criteria." (TM)

"Leader knows how to express themselves clearly. Leaders do not give any vague explanations, or pointers." (TM)

Task Management

All interviewed team leaders underlined that GVT management requires clear **goal setting**, commonly shared targets, regular follow-up on agreed actions, and good leadership support. In order to succeed in a virtual environment, business processes should be set in place to support task execution for all team members. Also, the importance of frequent and systematic follow-up was mentioned as one of the most critical parts of the GVT target achievement.

"Knowing our targets and goals along the process is a good way to support motivation. Transparency and regular follow-ups also play an important role. Keeping clear on requirements and deadlines is a key to success." (TL2)

"Generally, it is important to have common targets, agree on what is expected and I give a lot of freedom for people how to execute; and we try to have some tools and processes that support the execution of the targets." (TL1)

"Sometimes setting priorities has caused some topics or issues in the team. It should be discussed with the team members individually. If some tasks need to be handled in priority." (TL3)

Speaking about global **team working**, virtual leadership and team support are mentioned as the main factors for success. VT leader is expected to provide

professional support and required training for all team members. More importantly, team support is anticipated in problem-solving and conflict resolution.

"Generally we establish frequent follow-up meetings, meeting all team members once in two weeks... and we go through what's going on. Systematic follow-up, help, and support always offered from my side; if team needs help, brainstorming or sparrings." (TL1)

"The balance needs to be there, or tools or processes. So that you know, what needs to be done is done, and you know what people are doing, but it does not seem to be too much controlling." (TM)

"It needs to be clear about the role for a new team member... You cannot have wrong expectations joining the team. You need to know what is expected to do." (TM)

From a TM perspective, team leader support is at the essence:

"It is most important for a supervisor to be there, so you can ask for help or pass on the responsibility for some tough decision that you don't want to make yourself." (TM)

Facilitating Collaboration

A true virtual leader is supportive and motivating for **collaboration** within the GVT and with the other departments, external parties, or business associates. For instance, in the procurement function, it may be a regular visit to the supplier or other business partners.

"Usually my main task is to keep the schedule, and to be more like in the background to support when needed, and to keep an eye that we are proceeding... Between the different phases, I am more actively communicating." (TL3)

In case of virtual project management, **collaboration** is very crucial in the stage of project planning and discussion of the implementation in practice. The more **detailed plan** is, the easier it gets on the stage of problem-solving and solution-finding.

"Normally I try to meet people in person... we try once a year a meeting which is face-to-face with some activities. It is a mixture of frequent follow-up with some sort of team building when we at least once per year meet for reviewing and sharing best practices, success stories, and plan for the rest of the year." (TL1)

As also noted by the interviewees, more active communication is required between project stages when more team members and external parties are getting involved.

In general, as underlined by the team leaders, VTs and remote work are more **accepted now**. TL1 states that *it is been accepted now that virtual teams work; for many years companies didn't allow home office and virtual work; but it clearly works and people are happier*. TL1 continues saying that *all of my team members' job satisfaction has increased and results have not deteriorated by any way... so it is proved to be effective*.

"I see less conflicts in a virtual environment. E-mail is terrible; people are very easy kind of explode in e-mails. I think it is a terrible medium. People have no barrier in the way they create conflict in the e-mail, or look for conflict." (TL1)

On the other hand, it is much harder to **manage conflict** in virtual settings. As TL1 comments:

"If you make a conflict resolution, when you have to make a tough decision, it is relatively tough; and if you have to lay-off persons through skype – it is relatively brutal." (TL1)

VT conflicts require more time for resolution. As TL2 comments:

"Things usually settle when you put team together to discuss. There are often misunderstandings or not communicating, or things like that.. It requires a lot of discussion in teams." (TL2)

Knowledge Management

In GVTs, collaborating across different times, cultures, and online spaces, knowledge management, as well as information sharing, play a critical role in

successful team performance. As noted in the research data, business knowledge, and information need to be openly discussed, **recorded**, and **shared** in groups involved. Also, business-wise, GVTs provide access to the best people, minds, and market data.

"Respecting, meaning also sharing information within the team. Information sharing is not the best always. We are trying to improve it. Not only me, but also team members sharing information to each other." (TL3)

"One of the benefits for product development is the best people. Coming from different backgrounds, when we put things together we can be stronger, than coming from similar background... The results can be better in the end, and we can learn from each other more." (TM)

"For a company which is not only selling to one area, it is better to have people around from different cultures and areas, to get a better knowledge of customer needs." (TM)

Supportive and Participative Leadership

Speaking of leadership, interviewees have mainly described **supportive** and participative leadership styles. Such an e-leader is described as open-minded, adaptive in leadership approach, hard-working in communication, available for team members, supportive with work tasks, and **easy to reach**. As an illustration of supportive leadership, TL3 describes that *if something has been done well, then it needs to be noticed, said out; I'm sure that it is also important.*

"There is not too much difference between virtual leader and normal leader. May be more difficult to manage, but not much different. You can be the leader you are." (TM)

"One big deal for me, is that people who are far away from the team, they do not feel as a part of the team. I have a feeling that as leaders we have to work 10 times more just to maintain this. For example, 15 min meetings every day with the closest team." (TM)

"Good leader is easy to reach. You trust that you can ask anything at any time if you have a problem. The leader doesn't always have a solution, but leaders listen to you and try to help, explain, or offer a suggestion." (TM)

Also, a TM comments about virtual leader availability: "It is very demanding for the **leader availability**. You need to be available for your team. If you are expecting that team is available for you almost 24 hours, then you should also be available".

Various support actions are described from the leader's perspective. Open discussion in a team is important for sharing resources and help needed for team members. Mainly, help and support with tasks are shared on the team level, depending on the knowledge and expertise available in the team. In more complex issues, outside **specialist support** is arranged from external businesses. For instance, IT consulting, financial, and business process analysis support may be outsourced.

"Usually, question is placed to the team, if anyone knows about the topic. First line of support is within the team. If we cannot find the answer, sometimes we turn to the IFS team consultant." (TL3)

"A good leader needs to have your back, when you need him when you are in a tight spot and you need somebody to help out or speak out for you." (TM)

4.2 Building team relations and VT collaboration

Figure 11 illustrates the main e-leader competencies discovered in relation to GVT collaboration and the process of building team relations. The key competencies include trust building, self-organization, creating a reputation, team building, team engagement, work facilitation, and conflict management.

Building Trust

Trust perspective is clearly described as the main foundation for virtual team collaboration and fruitful cooperation. Both team leaders and virtual teams underlined the importance of trusting relations, team dedication, development of trust, and challenges for building trust via remote communication.

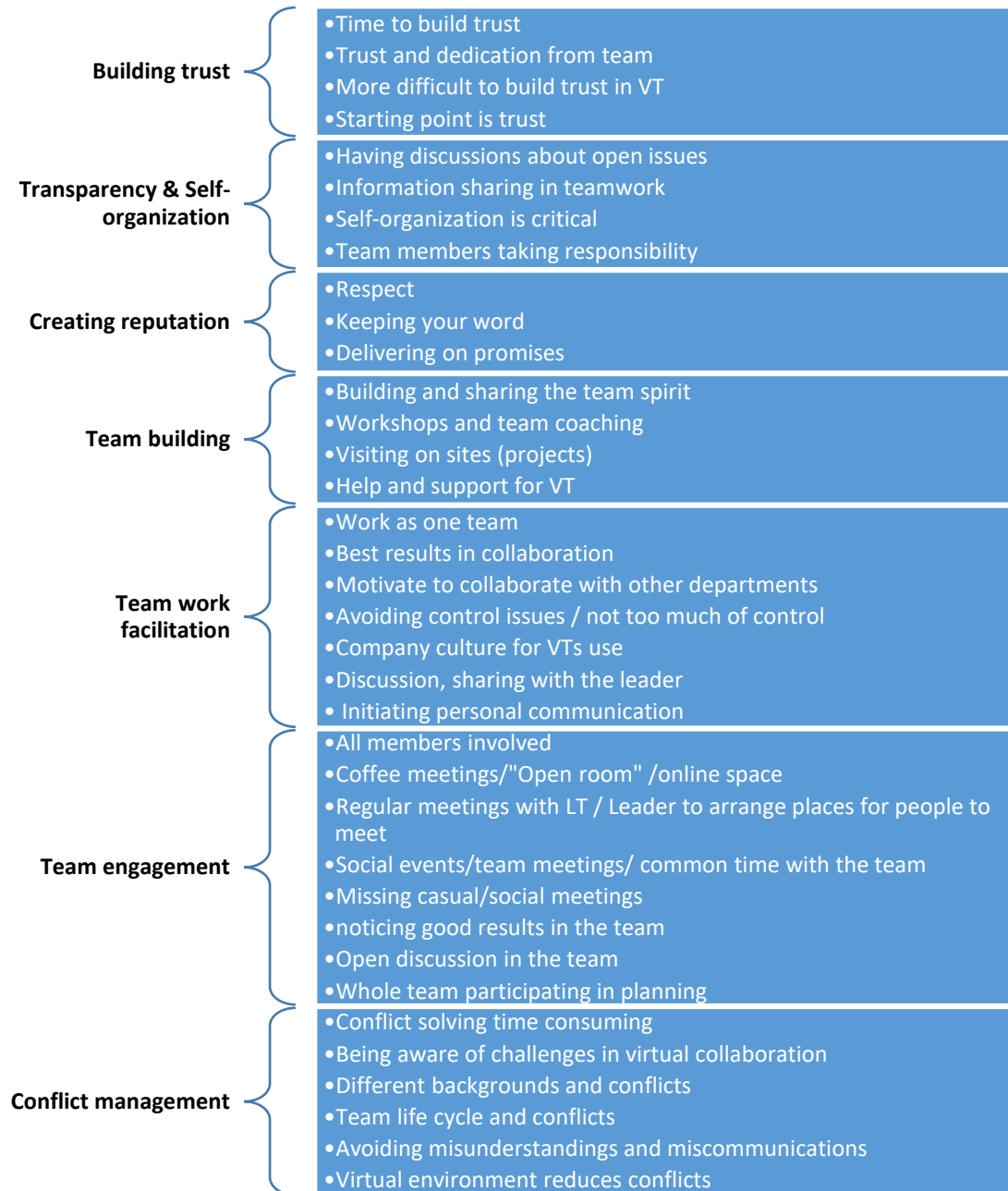


Figure 11. "Building Team Relations and Collaboration" competencies. (Self-elaborated)

"Teams should support Ensto's philosophy of trust capital. Being a virtual team leader, I am trusting my team members and I want them to take responsibility in their own area". (TL3)

"It is difficult to talk about it beforehand. Starting point – we trust and we are positive. In the process, we can lose trust when things go down. You need to prove that there is a trust.. to deliver on promises, to walk the talk." (TL2)

"Trust is priority number one. You have to trust team members. No one wants to be monitored and we need to be free with our responsibilities. We trust in the plan, tasks agreed, and targets to be met." (TL3)

Also, **trust capital** is a big part of ethics promoted by Ensto company. Trust capital is a key value that underlies everything that takes place in the organization. A big part of "LEAD" leadership training program is covering trust capital as the main part of a leadership foundation.

"Trust is the basis for everything we do, and it must be earned every day. Human centricity, openness and responsibility are visible in every action we take. We always keep our promises, which makes us a Trusted Partner." (Ensto 2023.)

In addition, TMs commented about trust effecting GVT performance:

"Trust is the main aspect for team success. Team leader is trusting me in my work and efforts; trusting on me investing my time and being dedicated for work." (TM)

"Trust is more about the mentality of a company. Not that you can trust or not trust, but what the company puts up as normal." (TM)

Transparency & Self-organization

Also, a supportive working environment and **transparency** in a team are mentioned in the context of the GVTs' collaboration.

"Even people are home you need to trust that things happen, and my experience is that people are really taking that responsibility. It is kind of proven that things work remotely as well." (TL2)

Virtual team needs to share internal information effectively and regularly participate in discussions on open issues and tasks:

"When people are working at home and remotely, then you are expecting that the person is self-driven that you don't need to manage every day, etc." (TL2)

"It is better to discuss about the open tasks and not to say directly what is more important; more like to have the team member to say it." (TL3)

Also, speaking about transparency, TL2 comments:

"In a virtual environment it is important to show the progress..It is good to keep status updated, for instance in Wiki pages.. then we know things are on track." (TL2)

Creating Reputation

Interestingly, a leader's reputation and respect from superiors are contributing to the foundation of **trusting** relationships with the team. In particular, a virtual leader is described as someone who is keeping their word and delivering on promises.

"Trust is about actions and keeping your word. It is not specially trained. Working long enough you will know if you can rely on a person." (T3)

Team Building

Interviewed team leaders have agreed on the importance of team **events** and team-building activities. It is proven by experience that remote teams need to **meet in person** at least once a year. Additionally, visits in person are advised during business trips and during other company occasions. According to the TL3:

"Time to communicate in person is really important; team leader needs to socialize with the team members." (TL3)

"Regularly visiting team members abroad in person is important... also it is important to set regular meetings on bi-monthly, quarterly bases." (TL2)

"It is the only way to keep them working together; else you can stay at home for weeks without talking to anybody... So I have to give them just to talk to each other. It is typical for Covid, but if we extend distant teams we have to find some tools like this, just to keep teams together, or at least together in their mind." (TM)

GVTs get to meet in different formats, groups, and in relation to different work assignments. Leaders turn to use group meetings, coaching sessions, one-on-one meetings, and free-to-join online occasions, such as coffee meetings.

"We start to use virtual coffee breaks, combining office coffee corner and virtual meeting to join. It is not every day happening, maybe several times per week, but it is quite nice actually." (TM)

Team Work

Successful GVT management is highly dependent on effective teamwork and team collaboration. According to the team leaders, a virtual team should work as one and the best results are achieved only in collaboration.

"You need to build trust to other people... you need to build trust in your stakeholders, without meetings, in virtual teams it is even more difficult. Maybe sometimes it is easier when you meet, you get a personal touch." (TL1)

Speaking about team **collaboration** and project implementation abroad, TL3 comments:

"We were on site quite a lot; we had a possibility to meet them to get acquainted and this way to get the trust also. It was really beneficial to be on site." (TL3)

Therefore, the leadership's responsibility is to **motivate** collaboration not only on a team level but also across other business functions and departments. On the side of the team leader, one should avoid over controlling in the team's operation, and rather develop a **culture** for open discussions and sharing of information. In general, company culture for virtual teams and **ethics** of virtual communication may contribute to the basics of team collaboration. Introducing and supporting teams' personal communication is fairly well contributing to the team's performance and the development of trust.

"Collaboration in distance might create challenges. If you put two locations together and tell them to collaborate with different history, different targets in the past, then it becomes tricky." (TL1)

"Really team building comes when you have some things in common; you are working on some process improvement... the respect grows there in common activities doing something together." (TL2)

Team Engagement

Virtual team engagement is one of the most commonly mentioned challenges. Clearly, in virtual working environment team members are missing social contacts, casual communication, and common time with the team.

"The COVID has helped me a lot. It helped to challenge ourselves; and apparently, VTs are quite good. We have to look that people are also performing good. They can be at home, it is easier to manage with kids, you don't waste time on traveling... you just need to focus on your task." (TL1)

"Team involvement, first of all in planning. Kind of long term planning: how we are going to do it, and who is going to be in charge of what modules. Usually we have these sessions each year."(TL3)

It is harder to arrange social and non-work-related events online. For instance, regular "coffee meetings" or free-to-join "open room" meetings are organized virtually in GVTs. It proves that management is actively putting efforts to compensate for **lost communication** and offers places or occasions for the team members to socialize.

"When we are in the office we have informal situations, like coffee breaks, and that's what we are totally missing... so we have set up virtual coffee breaks." (TL2)

"We try to invent some channels, like virtual coffee breaks just to keep communication alive." (TM)

Also, interviewed virtual team members highlighted the importance of **open discussions** and group participation for team planning and strategy development activities. To illustrate, TL3 comments:

"It is the best way if team is making the plan itself, setting the targets and then I can be sure they will stand behind this target." (TL3)

Additionally, teams need to rely on **regular meetings** and feedback from the team leader. According to the TMs comments:

"Team leader should give attention; have time for me, and it is a key... It doesn't matter virtual or face to face meeting." (TM)

"Weekly or biweekly meetings now agreed with the supervisor. Some guidelines agreed for communication, but when we need attention, leader should be available." (TM)

Conflict Management

Conflict management is a well-known competence required from managers working in regular and virtual working environments. Nevertheless, GVT leaders should be aware of **challenges** related to remote team collaboration. For instance, different team members' backgrounds, limited interactions, and more time-consuming conflict resolution. In online team networking one should be aware of **misunderstandings** and miscommunications taking place. Also, teams' life-cycle and individual experiences may influence the number of conflicting situations.

"Team members may not always be happy with each other working on joined projects, e.g. Finnish and India teams. That is a challenge, as there are often misunderstandings and miscommunications taking place in remote work versus same building location." (TL2)

"Conflict solving can be a bit more slower and time-consuming. Virtual communication is less productive vs. sitting in the open office together." (TL2)

4.3 Effective communication and virtual teamwork

Figure 12 illustrates the main virtual leader competencies required for effective GVT communication and virtual teamwork. It includes competencies like intensive communication, use of different communication channels, meeting collaboration, use of ICT tools, team engagement, and ability to compensate losses associated with virtual communication.

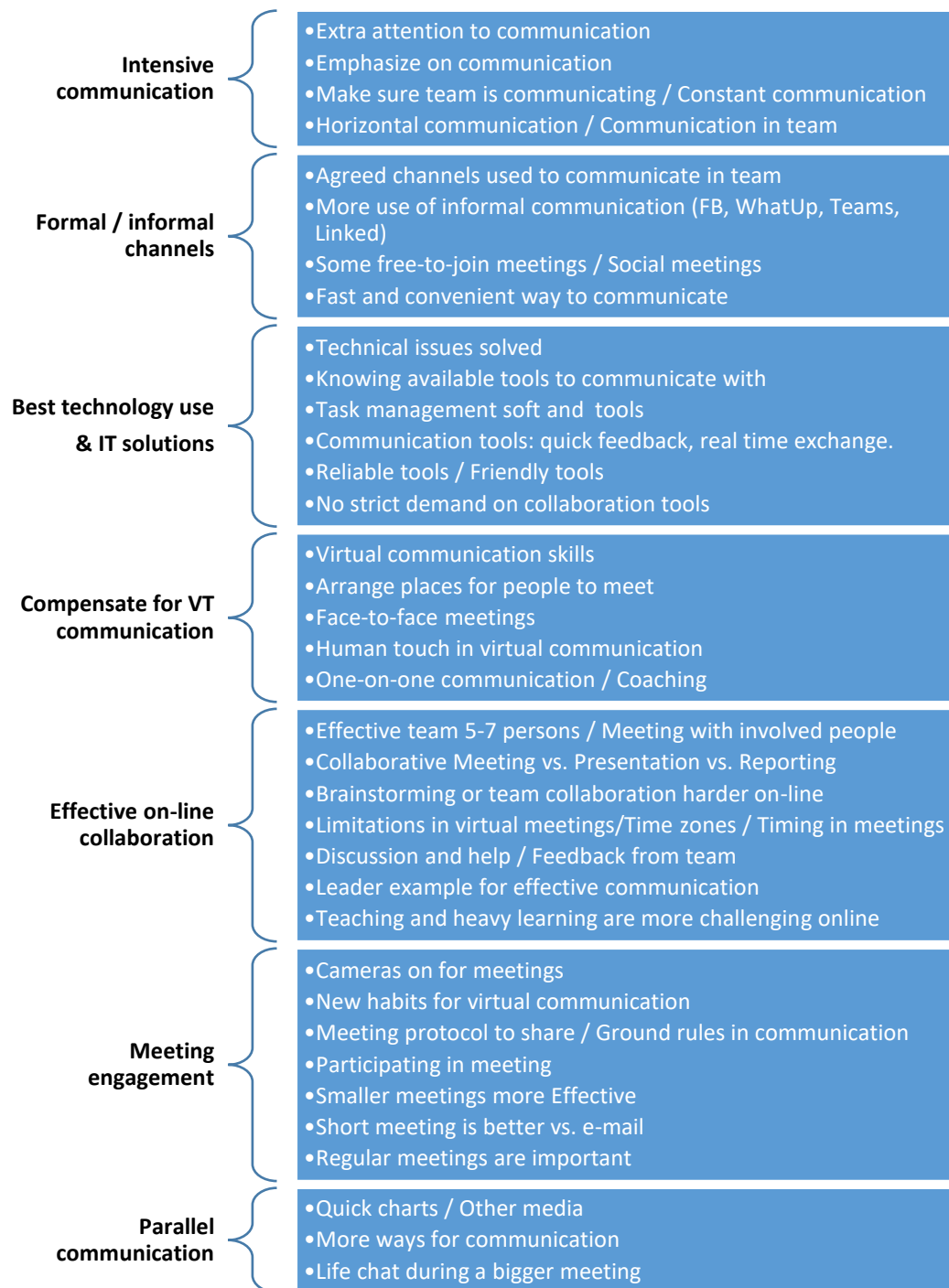


Figure 12. "Effective Communication and Teamwork" competencies. (Self-elaborated)

Intensive Communication

Communication is key for successful GVT management. Interviewees repeatedly underlined that virtual and remote work requires **extra attention** to communication.

"It is the most challenging, but you have to empower people to collaborate... People should have the courage to speak directly, not only through you but also in horizontal communication." (TM)

"Big meetings do not work... max. 7 persons can be; and if it is more than that it is a presentation - not a collaboration meeting" (TM)

"In VT you need to communicate with your team members regularly on the team level and on individual as well. To understand what's going on, it is especially critical in virtual teams." (TM)

It is critical to ensure constant communication in your own team and across other departments. Team leaders need to emphasize everyone's attention on communication flow. As commented by the TM:

"It is a great deal for people working virtually and remotely to feel as a part of the team. I have a feeling as leaders we have to work 10 times more to make it happen." (TM)

Formal and Informal Channels

As discussed with the interviewees, VT communication is commonly run by the means of **formal and informal** channels. Every team should agree on channels used to communicate formally and informally, keeping in mind the most efficient and convenient ways to reach each other.

"It is typical like in any meeting, the informal part, in the beginning, you are chatting the weather and how things are going; a couple of minutes and then you jump into the topic." (TL2)

"Virtual meeting is a tool to have a contact... and I expect that this tools is used actively; having meetings and topics to discuss. It is even better to have a short meeting, than e-mail. The workload is quite big, and I assume it is easier and faster to have a quick chat over virtual tool." (TM)

Also, some GVTs turn to use more **informal ways** to communicate on daily bases. For instance, messengers and online social networks are used: Facebook, WhatsApp, Microsoft Teams, and LinkedIn. As TM illustrated:

"We are communicating a huge amount of data through WhatsApp. For instance, passing over the documents for stakeholders and other groups is very convenient." (TM)

"It is quicker to keep in touch with the Teams chat, not necessary writing e-mails all the time." (TL2)

Additional ways to get in touch with the team and company colleagues are occasionally free-to-join meetings, online social events, training, and other **informal meetings**.

"Communication within the team is very good, though there is a sign that communication with other teams in the organization is missing. There is missing communication that we used to have when meeting people in the office or coffee place." (TM)

Best Technology Use and IT Solutions

GVT communication is strongly dependent on technical support, and appropriate up-to-date IT communication tools.

"Big group meeting is more challenging with the Teams, than doing it locally. It is doable, but it is more challenging... You just need to manage it and use that tool." (TL2)

"Technically, might be that somebody is cutting out. Connection problems are there ... and technical challenges wasting the time." (TL2)

Additionally, virtual teams have emphasized using **reliable** and **friendly tools**, providing quick feedback and real-time information exchange.

"Teams is a very user-friendly tool. We can see who is available or in the meeting. You can communicate by writing, sending messages, or by phone." (TM)

"It is crucial to have very good IT services so that it works properly. So that it works properly, and energy does not go to find a connection." (TM)

"You can make collaboration groups in Teams... That's fast and convenient, or otherwise you need to send e-mails and make team meeting. That is time-consuming." (TL2)

"Comparing to Skype, Teams is working better and it is more reliable... but maybe to get it more efficient and effective, we should get proper training on how to use it. Not only for meetings, but also for note and sharing data." (TM)

Virtual teams need to know available communication tools and **task management** solutions. Interviewees suggested the use of online platforms like Wiki, SharePoint, or task management software like Jira.

"Platform is good, as everybody can contribute easily on document creation. You can comment it, you can show thumbs up... so, that way it makes things more effective you don't need to send e-mail chain or do discussions via e-mail. It is real-time and makes it possible to make multi updates." (TL2)

"For virtual work, we used the task management software and it is working very well. You can see that people are working and you can see it from different locations. But you have to agree some rules." (TM)

"Task lists can be built into the Jira. We are using it only partially. We could use it much more." (TM)

As an example of the best technology application, interviewees described the possibility for external customers and global Ensto laboratories to join assembly or product testing meetings. For instance, the R&D team is using headset cameras (glasses with camera):

"In the laboratory, we practice the use of camera headsets for working with external customer and remote labs. This way, we can show real-time assembly and what we are doing. Teams meetings supporting such technology."(TM)

"They are virtually in the same room doing the installation. With modern cameras it is now possible...more specialist support, and you don't need to come there." (TL2)

Compensate for VT Communication

VTs and team leaders repeatedly underlined that virtual communication is limiting team interaction.

"With the bigger groups if it is supposed to be interactive, then it is more difficult. If you want really to make team discussion there or even brainstorming – it is more challenging with the Teams." (TL2)

In fact, online communication should be compensated with a **human touch** in virtual settings, virtual communication skills, and regular face-to-face meetings. GVTs looking for team days and in-person meetings on a regular base.

"Also before the Covid, we have had a lot of virtual meetings, not only internally but also with our suppliers. We have practiced it a long time, but what is missing nowadays is face-to-face meetings." (TM)

"The best way is to meet face-to-face from time to time. It is necessary to make sure people are collaborating in a team." (TM)

Also, one-on-one communication and coaching sessions contribute to **team connection** on a personal level:

"We should arrange places for people to meet, virtual events, open discussions, interaction between team members is helping." (TM)

"Open room on teams may be one option. Open space for team and company employees to join at any time, just to speak. Like virtual coffee rooms... such room can be limited by the number of participants." (TM)

Effective Online Collaboration

Virtual collaboration is dictating specific communication practices and the use of **ground rules** for the participants. As noted in the interviews, a virtual meeting

can be used for team collaboration, brainstorming, reporting, and presentations. Therefore, one should carefully consider team size and the participants involved.

"In virtual meetings, it is more difficult to maintain communication with a bigger team (5 and more persons). VT members can hide in virtual meeting easier versus situation when the whole team is being in the same meeting room. It is not easy to see body language used in virtual meetings. You don't have the same touch as compared to the normal team meetings." (TL2)

Also, as TM noticed in comparison to old meetings:

"Now people understand it is very important to share documents and information before the meeting, that meeting is more efficient." (TM)

In virtual settings, there are **challenges** related to technology use, remote locations, different time zones, and cultures. Hence, leadership help is required for steering discussions, supporting communication, receiving feedback, and overcoming limitations set by online communication. VT leaders should set an example for **effective communication** in a team. Also, virtual team coaching, training, and other learning sessions are more challenging online.

"If the training is a heavy teaching, then of course for the teacher the interaction might be a bit challenging." (TL2)

In virtual space, the idea of meeting in the corridors, having casual conversations, or even "doing business in sauna" is getting lost. As emphasized by one of the team leaders, the major difference in a virtual team is missing casual and **informal communication** with the team:

"If you meet people you can have a coffee together, you have a relaxing time and more relaxed conversations when you can actually learn and discuss things that are quite difficult to discuss in Skype or Teams .. virtual meetings are mostly focused on accomplishing specific tasks." (TL1)

In the context of effective communication and tools, team leaders have discussed the use of share file platforms, teams, skype, groups in teams, department-

specific applications, Jira tools and other task management tools. Interestingly, e-mailing is mentioned as not effective for virtual communications.

Speaking about virtual communication and **online tools**:

"Tools are not yet very good working for brainstorming... I strongly believe that it is totally okay to manage the team, but it is much more challenging on the brainstorming, sort of workshops type of events." (TL1)

Virtual team collaboration was discussed and compared to traditional team use:

"I don't think that extreme right now with the Covid, and we do not see each other at all - is in the long run good. In some sort of balance, I don't see a problem. Virtual teams can be as effective as office teams or even more.. and they can collaborate also as well and as successfully". (TL1)

"We haven't had any type of virtual meeting training... It could be one of the issues for the future, that we could use some common protocol for the meetings." (TM)

Meeting Engagement

Effective virtual meetings and team members' engagement are described as the main challenging aspects for the team working. Collaboration in the online field requires developing some new habits for virtual communication. As an example, GVT needs to apply the ground rule for communication and information exchange. In some cases, **meeting protocol** should be shared with participants and possible meeting guests.

Also, as commented by the team leader:

"I do not put any expectations on team; but I always have a camera on... I guess it depends, if the leaders shows himself, most people will show." (TL1)

Participation in meetings should be active for all team members, everyone is contributing by sharing their own ideas and **providing feedback**. The use of web cameras is essential unless there are technical limitations.

"Meeting memos made, but you cannot be 100 percent sure that how receivable the other person is on the other side; and what is the level of concentration... The worst case is a long presentation, when you just listen and do not need to concentrate all the time." (TM)

"It was a clear request from our team, if we are having a meeting let's switch on the cameras. It really helps actually... It is much better to really see and communicate." (TM)

"I promote to keep the cameras on, and usually if I keep the camera and others open also... It helps to keep the focus on the meeting" (TL2)

In general, GVTs rely on regular meetings, and smaller meetings prove to be more **effective**. Additionally, team leaders tend to use short meetings instead of e-mail messages.

"I encourage feedback - come and tell me what's up. I might not agree, but I want to listen and understand. So, of course, you have to reach out in a virtual environment." (TL1)

"I really want that everybody speaking and giving out ideas. Depending on the demand, we use order to speak or use a rising hand. But the main rule is that everybody need to get the word in the meeting; and of course using cameras." (TM)

As commented by the TM:

"Very patient person is good for working virtually. You should also have a good agenda and there is a possibility for everyone to speak in the meeting". (TM)

Parallel Communication

In a group discussion, team members mentioned the use of parallel communication in work. Multiple virtual **communication channels** are engaged by the team members.

"E-mail is good for sharing information; but as soon as I am expecting reply, I am thinking of other tools... Chat is quicker and instant for a reply. Communicating minutes of the meetings, I am using wiki pages, and people using it will have updates." (TL2)

For instance, live chat and other media are used during meetings to communicate one-on-one or in groups. Several **simultaneous communication** channels are used for communication, response, and feedback. According to the team member:

"We are having a parallel whatsapp chat with team, exchanging some comments during the supplier meeting."(TM)

4.4 Human behavior and cultural intelligence

The key virtual leader competencies associated with the cultural aspects and human behavior are demonstrated in Figure 13. Such competencies include emotional decoding, leader support, interpersonal skills, human touch, intercultural communication, equal treatment, and cultural IQ.

Decoding Emotions and Feelings

Clearly, a virtual environment creates challenges for human behavior understanding and **emotional decoding**. Even when using video communication, we are still missing body language and emotional reactions from the team members. Therefore, team leaders have repeatedly emphasized the importance of engagement for the participants, extra attention to communication, and efforts to keep discussions and ask questions. As highlighted by the TL3 *silence usually means some issues*.

"People are different. We are acting differently in different situations. For some people it is difficult to speak out or to say no to some changes." (TL3)

"Virtual settings will require double checking. You need to make sure everyone understands things in the same way. Leader needs to pay extra attention on it." (TL2)

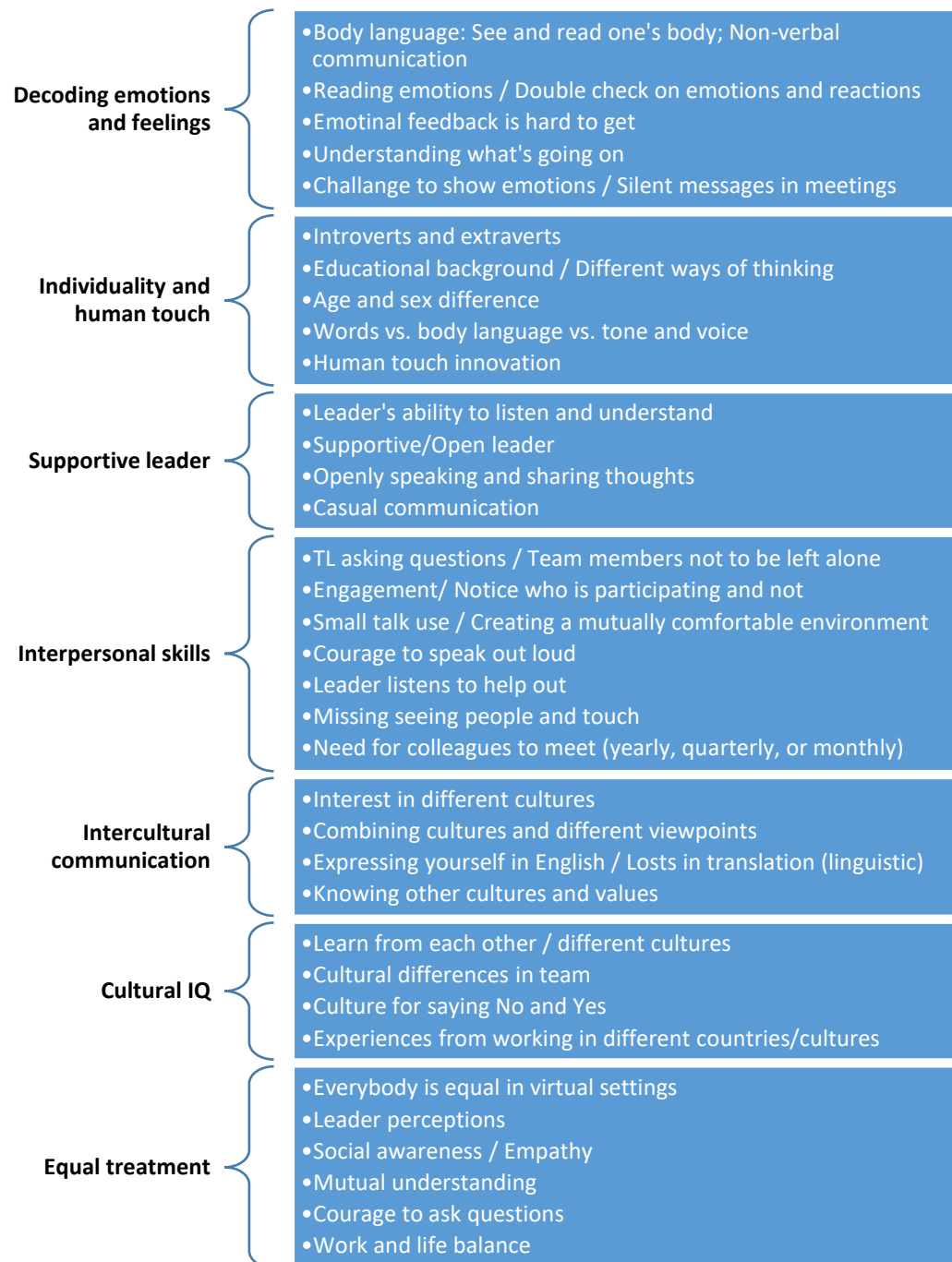


Figure 13. "Human Behavior and Cultural Intelligence" competencies. (Self-elaborated)

In a virtual environment, teams are limited to using non-verbal communication and **emotional feedback** is hard to interpret.

"It makes it easier if the person is kind of open. Rather talking too much than too little. Because when the person is really quiet, then you kind of start to think what he is now thinking, and it is a bit more difficult in virtual meetings." (TL2)

Some interviewees mentioned that they face additional challenges to show emotions or to understand **silent messages** from their teammates.

"There might be people who are not okay with the agreed actions, but they remain silent.

They kind of silently accepting... but they do not say it out loud in the meeting." (TL2)

"Especially in Finnish culture people are not that open, so there are a lot of silent messages. So it is good to keep the camera open." (TM)

"Typically, when people are disagreeing they remain silent." (TL2)

Individuality and Human Touch

Virtual working environment is perceived differently by people with different social communication needs, such as introverts and extroverts. For instance, engineers are more known as **introverts** and team leaders 2 and 3 are expressing concerns if they can *communicate freely and openly to express feelings*. Virtual environment makes it even more challenging to **show emotions** via limited means of communication due to missing human touch.

"What will be difficult is a human touch and some sort of innovation... or brainstorming is needed for it. That needs to be included in the management and you can create good virtual teams." TL1

Also, the educational and linguistic background will have an effect on individual thinking and interpretations. Interviewees suggested that words, tone, voice, and body language greatly contribute to communication in VTs.

"There is a little bit more weight on the verbal communication because that's the channel with the team. You are talking, rather than showing emotions by body language. It is a little bit challenging even with the camera." (TL2)

On the other hand, age and sex were mentioned less in the context of VT interactions. TL1 and TL3 shared an interest in learning more about male and female perceptions in the context of GVT management.

"I think that interesting aspect here is male and female aspect. Because women I think stronger in communication, and I am more task oriented. For me VT is good, I have to deal less with the human aspect." (TL1)

"There are these kinds of differences... male persons do not understand females all the time. There is some difference between us." (TL3)

Also, as a team member noticed in the context of virtual meetings, it is hard to get information when in communication:

"We rely on 7 percent of words, 38 percent of body language, and 55 percent of the tone of the voice." (TM)

Supportive Leader

Team members have described leaders as open, supportive, and **willing to listen**.

"I try to make them feel secure. In a positive encouragement... I give time, even though I need results now, and I give room to fail; trying to make people feel comfortable with experimenting, testing, and failing." (TL1)

"Some people have difficulties to say out loud when they are overbooked; or not able to say no when there new requirements coming from the business. Such topics need to be discussed in person." (TL3)

"Ability to listen is the most important thing... just try to listen what the other person has to say, and listen till the end." (TM)

Also, interviewees suggested that good e-leaders are openly speaking and sharing thoughts. Such leaders tend to switch from a formal to a more casual communication style.

"Some emotional feedback is not possible to get through online settings. Not all team members will have the courage in a virtual meeting to say out loud own opinion. You need to confirm with team members, and try getting feedback if they are silent in a

group. You need to double-check when you are not able to see emotions and reactions clearly." (TL2)

Interpersonal Skills

As mentioned before, extra communication and effort are required when collaborating in GVT. When visual and emotional contacts are limited, it helps to double-check team members' opinions and viewpoints. Speaking about **emotional involvement**, a team leader comments:

"I would say if you respect and involve people – then they also feel comfortable. I think that it is the most important thing." (TL3)

Team engagement is critical for successful GVT management. All of the interviewees commented that team leaders need to ask questions, encourage team members to speak up and get everybody to participate. In other words, team members should not be left alone. In creating a mutually comfortable environment, a leader is seeking for ways to listen and offer help.

"Face-to-face communication is more critical for French, Italian and Spanish people. Remote work is not so usual and we need to adapt to the current situation. Talking together with our colleagues, make us more confident." (TM)

As suggested by the interviewees, continuous online work creates a feeling of being left out, missing the human touch and personal communication. Team members are missing small talk and casual communication. Hence, GVTs tend to arrange team events and meetings on yearly, quarterly, or monthly bases.

Intercultural Communication

As noted by the team leaders, a virtual environment strengthens **cultural differences**. Virtual teams deal with different viewpoints, cultural, and linguistic backgrounds.

"If I have a French person and he has to do something in Finland by definition, with time, he will become more confident working with Finnish guys, and vice versa... I kind of force them to work beyond their comfort zone." (TL1)

One should pay attention to losses in translation and different **perceptions** of culture and values. In a multicultural setting, a leader needs to share an interest in different cultures and backgrounds.

*"Virtual settings do not move away our cultural backgrounds. It doesn't make it easier in online settings. It is more difficult to understand cultural aspects, like when people are saying yes but not agreeing with you. So it is hard to see what is possible to do or not."
(TL2)*

"If someone worked with foreign people, it is easier... People are not thinking the same way. But we know that, it is just something we need to integrate." (TM)

Speaking about multicultural teams working together, TL comments:

"For me, it is better. I like it because there are different ideas and you learn new things... For me, it is super good because it is a breeding ground for new ideas." (TL1)

On the other hand, when an international team is facing challenges it will take **extra time** for solving issues.

"If there was some task to be performed but it was not done. You had to dig what was the issues. It needed some extra mile to have the understanding." (TL3)

"It is difficult when you have people from different cultures and different understanding. Some common rules are important... otherwise, there will be quite a lot of conflicts because you come from different backgrounds." (TM)

Some interviewees commented on cultural differences in their work experience in GVTs.

"Something I have noticed in guys working in Finland, you are not using much words for small talking." (TM)

"Working with Chinese we noticed that if you expect them to say yes and they mean it, it should be three times yes: yes I heard you, yes I understand you, and yes I agree." (TM)

"For Indians, if you want them to work properly, you have to explain exactly what to do... Even you believe they don't need to know everything, you have to spend time to give a big picture." (TM)

Cultural IQ

As mentioned in the group discussion, TL greatly benefits from prior work experience involved with different countries and cultures. Virtual leaders are expected to know different work **ethics**, foreign **cultures**, and **values**.

"It is your own ability whether you are able to work across distance and cultures; it is tough, there is a cultural aspect that you build trust to the other people" (TL1)

"It is always interesting to learn about different cultures, and how people are doing things." (TM)

On the other hand, VTs need to learn from each other, embracing different cultures and intercultural communication. For instance, knowing cultural differences in saying "Yes" and "No". According to TM experience:

"In India people are business oriented, and will not say no to a meeting invitation even it is a public holiday or late working hours. They do not reject meetings." (TM)

"Working together with Indians is a bit different than with people in Western countries. The culture is different... there is some issue that they cannot say no. They never say no, even if it will not work for them." (TL3)

"We are different and we have to know that..., and we have all difference and we have to work with this." (TM)

Speaking about challenges in GVTs, TM has describes culture as an obstacle and at the same time as the most interesting part of the job:

"I am not travelling a lot. I do not like planes. So it is the best way I can meet people all around the world and this is what I appreciate... I appreciate the cultures and the differences." (TM)

Equal Treatment

As underlined by the team leader, working in a GVT everybody is equal and working under the same conditions. GVTs were described as a group of co-workers who are mutually understanding and sharing **empathy**. Social relations are important to maintain in virtual settings.

"It is much more difficult for people to play politics through the virtual meetings because suddenly we all have the same access to the same people... It is now more equal because we are all far away." (TL1)

"Not everybody can concentrate on things, so staying home is not very common for all of people. So some are straggling, some are getting distractions from the kids. It is really hard to manage sometimes... Good that at Ensto we have respect for the personal life." (TM)

"You have to have people who understand that we are different, and there will be compromises on both sides." (TM)

In addition, VT members should share similar perceptions of leadership and TL who are openly communicating and asking questions.

"Everybody is working only in a virtual environment. It is a new game, everybody is equal now regardless of physical location." (TL1)

5 SUMMARY AND CONCLUSIONS

In the final chapter, the main research findings will be presented. The aim, objectives, and research question will be discussed and the findings reviewed. A new self-elaborated model of e-leadership competencies is presented.

Finally, key managerial implications are discussed. Suggestions for further research and development are shared.

5.1 Summary of the main findings

The research question was approached from a leader perspective and a virtual team member viewpoint, aiming to identify *the key e-leadership competencies required for successful global virtual team management*. Understanding the main competencies and skills necessary for e-leadership effectiveness is crucial for reaching team targets and overall business performance.

The interviewees have mainly complemented each other with regard to challenges and demands associated with GVT management. Clearly, TM has shared more interpersonal, cross-cultural, and emotional experiences related to a virtual working environment. Group discussions have given access to the **individual experience** associated with leadership support, communication practices, trust issues, remote collaboration, and teamwork. On contrary, GVTs' leaders have shared more details concerning **managerial practices**, leadership approach, and style proved to be most effective in a virtual environment.

Interviewees have emphasized the importance of strong leadership in a virtual environment, describing it as challenging and complex, thus even more important for globally dispersed teams. Transformational, **supportive**, or **adoptive leadership** styles are proven as the most useful and effective ones. TLs and TMs underlined the importance of a supportive environment, an open-minded leader approach, trusting relations, team motivation, and engagement in problem-solving. Leaders were described as professionals striving to facilitate team collaboration by managing tasks, developing teamwork, and sharing responsibilities in a team.

From an academic viewpoint, the transformational or **positive leadership** approach is described as the most effective for virtual team engagement, trust building, and communication support. Such a style is promoting healthy and trusting relationships in GVTs. (Maduka et al., 2018; Mutha and Srivastava, 2021; Saarinen, 2016.)

Also, an **inclusive leader** approach has been described as a foundation part of e-leader competencies. Such an approach is developed on an e-leader commitment to building trust in a team, maintaining collaborative networking, securing effective communication, and nourishing interpersonal relations in a cross-cultural team setting. GVT leader performance is heavily dependent on effective communication, constant feedback, shared team planning, task assignment, trust in a team, equal treatment, and other leader personal qualities, such as cultural IQ, and social and linguistic skills.

Similarly, as described by Derven (2016), an inclusive leader is not only focused on building team relations by encouraging accountability and empowerment but also dedicated to maintaining a creative environment, emotional intelligence, and cross-cultural competencies in a team. In practice, TMs interacting in a virtual environment tend to rely on **leader support** in team interactions, information sharing, systematic follow-up, and professional training. At the same time, GVT members are highly self-organized and appear to enjoy freedom in work planning and assigned task performance.

Evidently, leadership style and managerial approach in virtual settings differ from traditional management of co-located teams. In fact, TLs have underlined that problem-solving, task management, communication, and team engagement would have been much easier with the team member located in the same place. Therefore, a more balanced, **people-centric**, and **participative** leadership approach is required to manage and motivate GVTs. Using the same management techniques, or turning to authoritative and command-and-control leadership methods will guarantee poor performance when applied to virtual teams.

Speaking about GVT management, communication is underlined as essential and even vital for the GVTs' performance and well-being. Missing body language, human touch, and casual interpersonal social interactions, VTs tend to expect more **frequent communication**. It is the management's task to find ways of compensation for such social contacts, making sure that team members are

engaged and participative in team networking. Also, communication in virtual settings may require from e-leader more empathy, the ability to listen, intercultural communication expertise, and emotional intelligence.

As an example, TMs have given positive feedback about virtual coffee breaks, open meeting rooms, regular team meetings or company events, and social interactions in chats, social networks, or applications like WhatsApp. Team communication should be **efficient and effective**, meaning no losses are accepted due to IT tools failure or poor network quality. Group meetings need to be conducted with video cameras, following agreed ground rules for collaboration, and ensuring each team member's contribution.

In addition, e-leaders and TMs emphasized the importance of **team building** events and face-to-face team meetings on a regular basis, but not less than once per year. It is an important way for VTs and GVTs to compensate for the lack of interpersonal relations and communications. Also, there is no better way to build personal and trusting relations than to meet in person and share team quality time. The traits of trust repeatedly emphasized by the leadership as well as team members. Interviewees underlined that **trust and commitment** are harder to build in a virtual environment and requires harder work. Equally, management faced with the challenge to empower and trust their subordinates, who are physically and culturally distant.

Most of the respondents emphasized the importance of **communication effectiveness** and clarification. Getting team feedback, clarifying communication, and confirming actions agreed as critical. TLs suggest to double check on how everyone is engaged in the meeting, and follow-up to check how members feel right after it. It helps to proactively monitor team dynamics, avoiding conflicts and misunderstandings. Likewise, Mattiske (2020, 47) emphasized that in virtual settings the ability of the team to accomplish goals greatly depends on effective communication and interpersonal contacts.

Furthermore, as highlighted by the TMs, **leader availability** and support are of great importance. While, GVTs are highly organized consisting of competent and independent individuals, reliable and supportive leadership is a kind of glue keeping together such dispersed teams. VT members genuinely look for the leadership to be open-minded, trustworthy, carrying, participative, and easy to reach when help is needed. Open and regular communication with e-leader is considered important for both formal and informal types of interactions.

Team collaboration and virtual communication will also require new habits and practices. Networking and online meetings have to be set in accordance with the type of communication. It may be a team collaboration meeting, coaching session, or a bigger group meeting for presenting and reporting information. Thus, clear meeting arrangements are needed, and participants' roles are agreed upon in advance. Also, as emphasized by the interviewees, teaching, collaborating, and brainstorming are much harder in virtual settings. It may require additional time and more advanced preparation from the participants.

Moreover, team planning and **task management** in virtual teams involve higher competencies from management. Usually, it means more active team members' participation in planning and open discussion and communication in a team. Leadership needs to rely on clear roles and responsibilities, detailed instructions and tasks, as well as follow-up on requirements. E-leader should not over-control and micromanage open issues, but rather trust the process and focus on teamwork facilitation. Including supportive actions like:

- Information recording, monitoring, and sharing;
- Open discussions and knowledge sharing;
- Defining requirements and deadlines;
- Sharing responsibilities and providing professional support.

Managing GVTs e-leaders greatly rely on team collaboration and virtual works environment interactions. Thus, in virtual settings, team relations and every member's social and **interpersonal skills** gain crucial meaning. Some interviewees have emphasized challenges with reading and interpreting team members' emotions, missing body language, and some aspects of non-verbal

communication. Others have underlined the importance of noticing individual personality types, such as introverts and extroverts. It is also important to consider individual educational experience, cultural background, values, age, and sex.

All in all, **emotional intelligence** is a key contributor to virtual team well-being and individual work-life balance. It allows to enhance social skills, maintain motivation, share empathy, and encourage team members to speak openly, sharing thoughts and ideas. Correspondingly, as advised by Mattiske (2020, 48) group emotional intelligence should be well established in VTs, even though it is more challenging to develop norms and social relations when technology limits social interactions.

In addition, intercultural communication skills and overall good **cultural IQ** contribute to a mutually respectful and psychologically safe environment at work. Interestingly, e-leaders acknowledged know-how of different educational and cultural backgrounds as a benefit in business. As noticed by managers diverse cultural backgrounds provide an opportunity for a wide range of perspectives on problem-solving as well as new ways of doing things. For instance, a new product development team greatly benefits from using international teams and quality engineers across operations in several countries.

5.2 E-leadership competencies model

The model is derived from the main e-leadership competencies discussed in the results chapter. Based on the research study, four main e-leader competencies groups are defined:

1. *Behavior intelligence and Cultural IQ;*
2. *Effective communication and Team Engagement;*
3. *Supportive leadership and VT management;*
4. *Team networking and Collaboration (see Figure 14).*

Main competencies groups were defined in order to structure discussed e-leadership practices and skills required for successful GVT management. Each

identified group consists of several field-specific, and more practical e-leader skills and qualities.

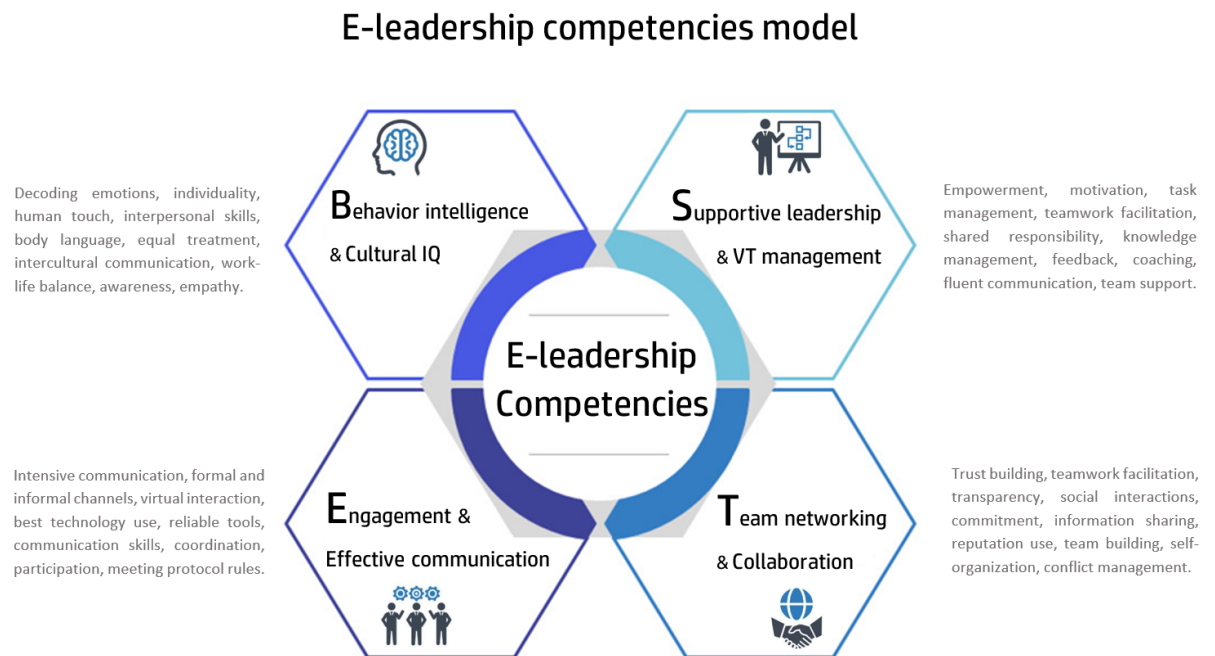


Figure 14. "B.E.S.T." e-leadership competencies model. (Developed by the author)

Each of the e-leadership competencies fields is discussed in detail in the results chapter (chapter 4). All of the four subchapters developed in the results are represented in the model. Correspondingly, starting with *Supportive leadership and VT management*, followed by *Team networking and collaboration*, *Engagement and effective communication*, and ending with *Behavior intelligence and cultural IQ*.

5.3 Managerial implications

Global business and international companies will continue using GVTs and remote work alternatives aiming to support new operations, get access to emerging markets, utilize the best talents, and reach market-specific knowledge. Therefore, current leaders and management will play a **central role** in supporting change and adopting business processes as well as sharing and cultivating company values and culture.

Strategically, adopting a new e-leadership approach and proactively taking action in developing international networking skills and management competencies will only serve well on the way to increasing efficiency and productivity in GVTs. Based on research findings, managerial implications could be developed in relation to GVTs and remote teams' managerial practices and team members' support. Also, **HR** department assistance and **ICT** department support play the main role in developing stronger e-leadership in place and in terms of organizational culture.

Considering that leadership does not come with a job title, both GVTs' and remote teams' managers can benefit from specially focused e-leadership training and coaching. Also, team members will greatly benefit from developing remote work-related skills and competencies, as virtual teams and online collaboration is gaining popularity in various department, teams, and international project teams. For instance, HR can benefit from a new **e-leadership program** aiming to support the management of GVTs and international VTs.

From a technological perspective, **ICT support** is very important in enabling internet connectivity as well as maintaining required hardware and software tools. The ICT department can help with setting up the required infrastructure and software toolkits for team members working in remote and GVTs. As an example, results show that team members are in favor of more instant and multidimensional communication platforms, such as chats, shared workspaces, online conferencing, and video calls.

Speaking about the e-leadership competencies model, it not only provides a set of personal qualities and skills to focus on when hiring a new leader but also allows to develop a support network to improve current GVT's performance. Re-discovering new fields of e-leadership and corresponding competencies various organizations may introduce tailored improvement proposals and educational training programs. A virtual work environment requires some new remote work **habits** and e-leadership **culture**, promoted by the management.

The company management has the potential to gain growth and benefits from tackling GVT-related challenges. For instance, team conflicts may be mitigated and minimized with **proactive actions**, also some disadvantages can be turned into opportunities. As R&D team members have underlined, when involving foreign market engineers in product development, the business will gain access to market-specific **knowledge**, as well as different viewpoints on problem-solving. Different cultures and educational backgrounds greatly benefit new knowledge creation.

From a leadership perspective, GVTs' management could look for more ways to initiate **interpersonal communication** and networking not only within the team but also across different business functions. Such initiatives will help team members to socialize in remote settings, creating a new social environment online and helping to compensate for the "human touch" aspects of communication.

From Ensto's values perspective, TL3 underlined that *teams should support Ensto's philosophy of **trust capital**. Being a virtual team leader, I am trusting my team members and I want them to take responsibility in their area.*

As defined by Harisalo and Miettinen (2002, 10) *trust capital is defined as a conviction on how individuals relate to one another and create human interactions in close circles and society.* Therefore, without human interaction, there is no trust capital. Consequently, dealing with GVTs' and VTs' number of interactions plays an even more critical role. Online interactions and contacts should be increased and intensified to provide for the team members' needs.

Management should also plan proper **budgets** for GVTs and VTs, taking into account the importance of face-to-face meetings, team-building events, and other social occasions. It is critically important for GVTs and remote teams to meet in person at least once per year, sharing work-related activities and, more importantly, **social interactions**. Such time and money investment clearly pays

off with increased team connectivity, trust increase, better collaboration, and overall higher performance at tasks.

In order to deal effectively with the challenges associated with foreign cultures and intercultural communication, e-leaders should support and develop **cultural intelligence** in teams. In fact, learning more about different cultures and values will increase individual and team levels of cultural awareness. It helps to ease communication in the team, improve mutual understanding, and deeper knowledge of cultural and educational backgrounds, as well as avoid cultural stereotypes and miscommunication in teamwork.

International remote teams may require a higher level of working **language proficiency**. As mentioned by the interviewees, a team leader is expected to be fluent in English, and demonstrate clear straightforward communication. Also, team members will benefit from mastering their knowledge of the working language, especially in multicultural teams. Furthermore, it may also be a good initiative to offer team management and members the possibility to learn a new foreign language. For instance, some interviewed team members have shown interest in acquiring new language skills, to speak teammates' native language.

Speaking about challenges, management of GVTs and remote teams is demanding due to limitations associated with distance, communication, and cultural and language barriers. Companies and management should acknowledge that and keep it in mind when **setting business goals** and planning for target execution. For instance, e-leadership training programs and coaching sessions may be included as sub-targets aiming to support leadership development and change processes.

Consequently, some management **competence assessment tools** can be added or modified to include aspects of virtual leadership competencies. For instance, Saarinen (2016, 190) suggests that *leading a virtual team requires specific competencies such as excellent communication skills (via different*

channels), cultural understanding, and engagement skills for collaboration in a virtual environment.

Strategically, new leadership **support programs** and participatory training can introduce emerging e-leadership traits that will help team members to thrive, better perform at work, reach psychological safety, and feel a sustainable work-life balance. Interestingly, as highlighted by De Smet et al. (2021, 9) companies investing in leadership skills development and providing a positive work environment that helps create psychological safety *can gain great benefits from improved innovation, business agility, and better organizational health and performance.*

From the HRM perspective, focusing on e-leadership competencies will help in the **recruitment** process. Choosing the right GVT manager or team member will help to integrate new employees into existing teams or support management in establishing new project teams. For instance, the research findings suggest that competencies like emotional intelligence and social and interpersonal skills will help in new recruiting and with the selection of internal applicants.

Also, GVT leaders in collaboration with HR may introduce new **routine surveys** for the virtual teams, getting feedback on team dynamics such as employee engagement, working environment, and psychological safety. For instance, according to Delizonna (2017) *virtual teams from Google measure psychological safety periodically, asking teams about how safe they feel and what could enhance their feeling of safety.*

Lastly, by offering mentoring and training programs, the organization should aim at developing employees' ability to see things from different viewpoints and cultural perspectives. According to Presbitero (2020, 1100), learning activities should focus on *the development of metacognition particularly on how to become mindful and suspend immediate judgment during cross-cultural interactions.* Such mentoring and support can significantly develop **cultural intelligence** for GVT

leaders providing positive and desirable results for the individuals and virtual teams.

5.4 Validity and reliability of the research

In qualitative methodology the researcher summarizes, interprets, and analyses primarily non-numerical data aiming to establish patterns and relations between themes (Wang & Park 2016, 116). Therefore, the research question was approached from different perspectives to gain a deeper understanding of e-leadership competencies crucial for managing GVTs. Using TL interviews, group discussions, internal company documents, and observations a clear pattern of virtual leader competencies was established.

Qualitative research is evaluated based on **meaningfulness** or, in other words, the **validity** of the research. Qualitative methods provide means to ensure a connection between the data and what people do and say in reality.

Consequently, when observing people in everyday life, listening to them talk, and looking at the documents they follow or develop, the researcher gains access to first-hand knowledge of social life. Qualitative research is a craft, and we need guidelines to follow, but never rules are applied. Therefore, it is considered important to examine data in the context of how it was collected. (Taylor et al. 2015, 20-21.)

In practice, reliable research needs to be well documented, so that applied methods and steps can be repeated by other researchers. For that reason, the author included methodology, data collection, and analysis chapters, giving a detailed description of how research is carried out. On the other hand, according to Taylor et al. (2015), if the researcher is aiming to produce meaningful studies of the real world, it is not possible to reach perfect reliability. Consequently, research may show somewhat different emphasis and aspects of the outcomes even if the research approach is repeated by another scholar.

According to Taylor (2013, 3) inferences, interpretations, and conclusions are not objects of matter, and appear to be substantial as air; therefore, claims can be questioned, challenged, and put to test by other researchers. **Transferability** is similar to external validation and aims to ask whether the results of the research can be generalized enough outside of the situation in which the study was conducted (Taylor 2013, 10). The purpose of this research was to develop a theory with respect to the current work circumstances existing in GVTs. Such theory can be generalized with the respect to the current level of technological development existing. Also, results may not be universal for the cross-industry application, as this case study company operates in a technology-driven business field.

The triangulation approach is used to secure research **credibility**. By combining multiple sources of data, the author was able to reduce individual biases on the virtual leadership phenomenon. **Triangulation** was used throughout the study, using a combination of several qualitative methods for data collection, consequently allowing to establish relations between the data sets (Flick 2014, 30).

In conducting the interviews, it was important that all managers followed the same set of questions in order to increase the **validity** and reliability of the interview results. In addition, group interviews and discussions were conducted by using the same set of questions. It was therefore important to reveal team members' opinions and comments on the same virtual teamwork dynamics and leadership practices.

Understandably, interviewing leaders and team members from various organizations could increase the **validity** and broaden the research approach. However, a case study approach served the purpose of in-depth research of such complex concepts as leadership and management competencies. Qualitative case study research allowed for exploring the relationship between study phenomena, people, and context.

To conclude, case study research is known as challenging to generalize findings. Nevertheless, the author does not claim current study results as the only source of truth, and therefore further studies need to be completed for increased **verification**.

5.5 Suggestions for further research and development

Since e-leadership and virtual leadership concepts have gained popularity in the past year, there is a clear demand for further academic research on that subject. VTs, international and global virtual teams working for global corporations, international companies, government, and educational organizations may approach e-leadership perspectives and value different leadership competencies from fairly different viewpoints. It may be interesting to conduct comparison research with regard to e-leadership competencies and managerial approaches in different organizations.

Also, speaking about different leadership styles, one may research leadership dynamics associated with different cultures. Since GVTs operate across countries and cultures, the virtual leadership approach may differ in the context of team members' cultural attributes. Also, emerging GVT management challenges may be researched in relation to different leadership styles, as any particular style has pros and cons by its nature.

From an e-leadership perspective, it may be interesting to study more about GVT management emotions and individual coping mechanisms associated with work in a virtual environment. In the field of academic research, there is limited knowledge on the subject of virtual team leader emotions.

In current study, one may take a closer look at specific leadership competencies concerning gender, culture, and age variables. The future business environment will thrive by the means of technology development, instant information access, and internet connectivity. Fair to say, GVTs and virtual working environments may be perceived differently by company employees representing the "boomers",

"millennials", and "generation z" groups, as it appears that millennials were born into a virtual networking environment.

Further and more focused research can be done on GVT members' support from within the organization planning to advance the use of VTs and GVTs. *What can ICT departments contribute to VTs' connectivity and virtual collaboration? Or how can HR professionals support team members experiencing challenges working with remote team members or virtual leaders?*

Speaking about research methodology, a future researcher may benefit from developing the current research approach by introducing a quantitative method as a source of data collection. For instance, introducing surveys to get access to a pool of respondents such as GVT managers or team members.

Also, a larger number of GVTs from different departments could have allowed a broader understanding of effective and efficient management practices at Ensto company. It may be interesting to study in more detail how different leadership approach is correlated with GVT performance.

In conclusion, replicating the same research at Ensto company or a similar international technology company, using the same approach, or applying a quantitative methodology could result in further findings and conclusions contributing to the validation of the results in this study.

REFERENCES

ABIS. 2020. Toolkit for effective virtual communication. WWW-document. Available at: <https://www.abis-global.org/content/documents/2020/toolkit-for-effective-virtual-communication.pdf> [Accessed 28 January 2023].

Buffer. 2020. State of remote work 2020. WWW-document. Available at: <https://buffer.com/state-of-remote-work/2020> [Accessed 28 January 2023].

Cascio, W. F. & Shurygailo, S. 2003. E-leadership and virtual teams. *Organizational Dynamics*. Vol. 31 (4), 362-376. Available at: https://www.researchgate.net/publication/3229600_E-Leadership_and_Virtual_Teams [Accessed 2 September 2020].

Cordova-Buiza, F., Aguirre-Parra, P., Garcia-Jimenez, M. G. and Martinez-Torres, D. C., 2022. Virtual leadership as a development opportunity in business context. *Problems and Perspectives in Management*, 20(2), 248-259. Available at: https://www.researchgate.net/publication/360552740_Virtual_leadership_as_a_development_opportunity_in_business_context [Accessed 27 January 2023].

De Smet, A., Rubenstein, K., Schrah, G., Vierow, M., Edmondson, A., 2021. Psychological safety and the critical role of leadership development. McKinsey & Company. Survey. Available at: <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/psychological-safety-and-the-critical-role-of-leadership-development> [Accessed 20 April 2022].

Delizonna, L. 2017. High-performing teams need psychological safety: here's how to create it. *Harvard Business Review*. Article. Up-dated: 24 August, 2017. Available at: <https://hbr.org/2017/08/high-performing-teams-need-psychological-safety-heres-how-to-create-it> [Accessed 20 April 2022].

Derven, M. 2016. Four drivers to enhance global virtual teams. *Industrial and Commercial Training*. Vol. 48 (1), 1-8. Available at: <https://www.emerald.com> [Accessed 10 September 2020].

DuFrene, D. D. & Lehman, C. M. 2015. *Managing virtual teams*. 2nd edition. E-book. New York: Business Expert Press LLC, Available at: <https://ebookcentral.proquest.com/lib/xamk-ebooks/detail.action?docID=4388939> [Accessed 2 September 2020].

Ensto. 2023. Electricity distribution networks. WWW-document. Available at: <https://www.ensto.com/electricity-distribution-networks/about-us/> [Accessed 16 January 2023].

Flick, U. 2014. An introduction to qualitative research. 5th edition. SAGE Publications Ltd, London, England.

Forbes. 2021. 11 effective ways to support enhanced virtual communication. WWW-document. Available at: <https://www.forbes.com/sites/forbesbusinesscouncil/2021/10/20/11-effective-ways-to-support-enhanced-virtual-communication/?sh=374d4b686e5e> [Accessed 2 September 2020].

Gartner. 2020. Gartner HR survey reveals 88% of organizations have encouraged or required employees to work from home due to coronavirus. Press Release. Updated 19 March 2020. Available at: <https://www.gartner.com/en/newsroom/press-releases/2020-03-19-gartner-hr-survey-reveals-88--of-organizations-have-e> [Accessed on 19.02.2021].

Global Workplace Analytics. 2020. Latest work-at-home/telecommuting/mobile work/remote work statistics. WWW document. Updated 13 March 2020. Available at: <https://globalworkplaceanalytics.com/telecommuting-statistics> [Accessed on 19.02.2021].

Grober, B. & Baumöl, U. 2017. Why virtual teams work – state of the art. *Procedia Computer Science*. Vol. 121, 297-305. Available at: <https://www.sciencedirect.com> [Accessed 11 October 2020].

Han, S. J. & Beyerlein, M. 2016. Framing the effects of multinational cultural diversity on virtual team processes. *Small Group Research*. Vol. 47 (4), 351-383. Available at: <https://sgr.sagepub.com> [Accessed 15 October 2020].

Harisalo, R. & Miettinen, E. 2002. Trust capital: the third force of entrepreneurship. 5th edition. Juvenes Print, Tampere, Finland.

Hunsaker, P. L. & Hunsaker J. S. 2008. Virtual teams: a leader's guide. *Team Performance Management*. Vol. 14 (1/2), 86-101. Available at: www.emeraldinsight.com/1352-7592.htm [Accessed 9 September 2020]

Lepsinger, R. & DeRosa, D. 2010. *Virtual Team Success: A Practical Guide for Working and Leading from a Distance*. E-book. San Francisco: Jossey-Bass. Available at: <https://ebookcentral.proquest.com/lib/xamk-ebooks/detail.action?docID=589145> [Accessed 18 October 2020].

Lopes, P. N. 2016. Emotional intelligence in organizations: bridging research and practice. *Emotion Review*. Vol. 8 (4), 316-32. Available at: <https://sgr.sagepub.com> [Accessed 15 October 2020].

Maduka, N., Edwards, H. & Greenwood, D. 2018. Analysis of competencies for effective virtual team leadership in building successful organizations. *Benchmarking: An International Journal*. Vol. 25 (2), 696-712. Available at: <https://www-emerald-com.ezproxy.xamk.fi/insight/content/doi/10.1108/BIJ-08-2016-0124/full/html> [Accessed 11 September 2020].

Mattiske, C. 2020. Leading virtual teams: managing from a distance during the coronavirus. TPC – The Performance Company Pty Ltd, Sydney, Australia.

Mutha, P. & Srivastava, M. 2021. Decoding leadership to leverage employee engagement in virtual teams. *International Journal of Organizational Analysis*. Available at: <https://www.emerald.com/insight/1934-8835.htm> [Accessed 11 April 2022].

Presbitero, A. 2020. Task performance in global virtual team. *Personnel Review*. Vol. 49 (5), 1091-1105. Available at: <https://doi-org.ezproxy.xamk.fi/10.1108/PR-10-2018-0415> [Accessed 9 September 2020].

Pullan, P. 2016. *Virtual leadership: practical strategies for getting the best out of virtual work and virtual teams*. London: Kogan Page Limited.

Saarinen, J. 2016. *Managing global virtual teams*. Doctoral Dissertations 184/2016. Helsinki: Aalto University publication series. Available at: <https://aaltodoc.aalto.fi> [Accessed 3 March 2020].

Taylor, C. 2013. *Validity and validation*. E-book. New York: Oxford University Press. Available at: <https://ebookcentral.proquest.com> [Accessed 18 February 2023].

Taylor, S. J., Bogdan, R. & DeVault, M. 2015. *Introduction to qualitative research methods: a guidebook and resource*. E-book. Hoboken: John Wiley & Sons, Inc. Available at: <https://ebookcentral.proquest.com> [Accessed 20 February 2023].

Torre, T. & Sarti, D. 2020. The “way” toward e-leadership: some evidence from the field. *Frontiers in Psychology Journal*. Volume 11. Article 554253. Available at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.554253/full> [Accessed 27 January 2023].

Wang, G. T. & Park, K. 2016. Student research and report writing: from topic selection to the complete paper. John Wiley & Sons Ltd, Chichester, England.

Ziek, P. & Smulowitz, S. 2012. The impact of emergent virtual leadership competencies on team effectiveness. *Leadership & Organization Development Journal*. Vol. 35 (2), 106-120. Available at: www.emeraldinsight.com/0143-7739.htm [Accessed 9 September 2020].

APPENDICES

Appendix 1. TL and TM interview questions

Team Management / Team Networking

What type of leadership approach has proven best in your Team / teams?

What leadership styles/ methods do you apply in your team management?

As a leader, could you share some of your practices for the team support?

How do you perceive shared leadership and team member's empowerment in your work?

What are the best ways to motivate team members for taking more responsibility?

How do you support collaboration and team spirit in your VT?

Building Team and Developing Relations

What is the most important criteria for choosing team members? How are you getting involved with team building in practice? Could you give some examples for developing team relations?

Do you consider trust issues in GVT work? What are your typical practices for team trust building?
How to develop trust in virtual work environment?

What professional or inter personal skills do you consider important for work in VT? How do you provide support and training for developing such skills?

How do you manage conflicts related to work and arguments taking place between team members?

Effective Communication in VTs

How do you usually communicate with your team members? What are most preferable ways for formal and informal communication?

What kind of IT tools, solutions would you recommend for effective VT communication? What are the best tech solutions to help overcome virtual workspace limitations?

What do you suggest for a more personal connection / touch in communication with team members?

What are your main ways for task related communication in team? How much do you rely on indirect communication with your team? (e-mails, web platforms, PM tools, etc.)

Behavior related focus in VTs

What challenges do you see in multicultural teamwork?

How important is cultural background and cultural knowledge for working in VTs? (for you personally and for your team members)

Have you ever been puzzled with understanding /de-coding of the emotional behavior of your team member? How confident are you with your current ability to monitor and understand emotions? (Your own emotions and team member's emotions.)

What challenges do you face in your virtual group dynamics? , e.g. decision-making behavior, members ability to contribute, feeling of belonging to the team, etc.

How do you support psychological safety feelings for your team? Do you think your team members are feeling accepted and respected?

What are the challenges working with team in remote environment compare to face-to-face meetings? How important to you non-verbal aspects of communication?