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**Goal Setting Theory and Leading Virtual Teams:
What Should Leaders Understand of Goal Setting in
Virtual Environment?**

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Tutkimuksessa pyrittiin selvittämään, tulisiko tiimien johtajien pyrkiä painottamaan tiettyjä päämääräteorian osa-alueita johtaessaan tiimejä virtuaalisessa työympäristössä. Tutkimus keskittyi erityisesti määrittelemään päämääräteorian mekanismeja, ymmärtämään mitkä tekijät vaikuttavat virtuaalisten tiimien tehokkuuteen, sekä ymmärtämään mitä haasteita tiimien johtajat saattavat kohdata virtuaalisessa työympäristössä.

Empiirisen tutkimuksen aineisto kerättiin teemahaastatteluina, jotka perustuivat kuuteen ennalta-määritellyyn teemaan. Tutkimuksen aineisto analysoitiin sisällönanalyysina. Tutkimuksen kohderyhmä muodostui yksityisomisteisten yritysten toimistotyöntekijöistä (N=14), jotka olivat kansalaisuudeltaan suomalaisia ja joiden ikä vaihteli 18–35-vuotiaan välillä.

Tutkimuksen tulokset osoittivat, kuinka yksilöiden kokemukset virtuaalisessa työympäristössä työskentelemisestä vaihtelivat. Palautteen saamisessa koettiin olevan haasteita, joiden nähtiin johtuvan virtuaalisen työympäristön erilaisista kommunikaatio tavoista. Henkilökohtaisten- ja tiimin päämäärien yhdentäminen koettiin suhteellisen helppona, jota perusteltiin hyvin määritellyillä päämäärillä ja tavoitteilla. Tiimin vastuun- ja johtajuuden jakaminen koettiin pitkälti vaivattomana, jonka syyt vaihtelivat. Ympäristötekijöiden riittävydessä ja tarvittavan tuen saamisessa koettiin olevan haasteita, joiden nähtiin johtuvan etenkin kommunikaation ja tiedonvälityksen haasteista. Virallisten rakenteiden hyödyllisyys koettiin merkittävänä, ja tämän nähtiin helpottavan työskentelyä virtuaalisessa työympäristössä. Yhtenäisyyden tunteita koettiin virtuaalisessa työympäristössä harvoin, jonka nähtiin johtuvan etenkin virtuaalisten kommunikointitapojen erilaisuudesta. Haastatteluun vastanneiden yksilöiden arvioitiin olevan keskimäärin melko tyytyväisiä työskentelyyn virtuaalisessa työympäristössä. Yksilöiden tilanteiden (mm. pidempi kokemus etätyöskentelystä) ja luonteiden (mm. palautteen saamisen tarve) väliset erot nähtiin eräinä selittävinä tekijöinä vastausten vaihtelevuudelle.

Tutkimuksen johtopäätelmänä esitettiin alustavaa virtuaaliseen työympäristöön mukautettua päämääräteorian mallia. Mukautetussa päämääräteorian mallissa neljän osa-alueen merkityksen nähdään korostuvan virtuaalisessa työympäristössä: päämäärien tarkkuuden, palautteen antamisen, tarvittavan tietotaidon omaamisen, sekä ympäristötekijöiden huomioimisen. Merkittävimpänä jatkokutkimus-aiheena nähtiin päämääräteorian moderaattorien merkityksen vahvistaminen, sillä aikaisemmassa tutkimuksessa on todettu myös neljännen moderaattorin (sitoutuneisuuden) vaikutus tiimien tehokkuuteen virtuaalisessa työympäristössä.

AVAINSANAT: päämäärät, etäjohtaminen, etätyö, yksintyöskentely, tiimit

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1. Introduction

The transition towards Information Age continues to proceed. One of the most significant changes of the Information Age is the change on concept of location. Not anymore are people tied to a one place at a one time. On one instance, one might discuss effectiveness of marketing campaign on Helsinki, and on another, one might be representing the usefulness of said campaign on Amsterdam's office. Organizations and employees around the world have embraced the change. A recent study on global teams found out how 46% of people interact daily with colleagues on other countries (GP 2019), whereas Deloitte's (2018: 82) study highlighted how 44% of respondents believe the demand for face-to-face meetings will decrease, and 70% how the use of collaboration platforms will increase. Further, these findings were proposed before the Covid-19 pandemic, of which introduced the benefits of virtual environment for vast number of organizations. As Mockaitis, Zander and De Cieri (2018: 3) are known to have argued: "*Work in global teams has become the modus operandi in multinational organizations*".

While the most efficient methods for organizing global teams and using collaboration tools will take time to polish, one thing seems to be certain: *virtually interacting teams have established their position in organizations, and they are here to stay*.

Similarly, our transition towards Information Age – among other things – has affected the structure of organizations. *Teams* have become ever more popular way to organize work in organizations. For instance, studies have discussed how 94% of organizations with HR-, organizational development-, and training professionals use teams as a way to arrange work (Burke et al. 2011: 339). Both, the academia and business life have embraced the usefulness of teams. Although the concepts of leadership and responsibilities of superior and inferior have been challenged on the past decades, the concept of leadership is still clearly relevant in organizations. That is, teams are still seen to benefit from having a leader. And for instance, in virtual environment, skillful leadership has been perceived even as a significant factor between mediocre- and high-performing teams (Maduka et al. 2017).

As virtual teams interact in a different environment than traditional teams, they tend to require different kind of leadership with different emphases. In this thesis, I will delve deeper on *understanding the characteristics and requirements of leadership in virtual environment*.

In 2017, the author of this master's thesis conducted a literature review (bachelor's thesis) on motivating virtual teams. The aim of the review was to understand if motivating members of virtual teams could be done through the same methods as face-to-face - interacting teams. The findings of the review suggested that for members of virtual teams to be motivated, it is beneficial for virtual teams to possess especially the following three elements: a clear sense of goals and direction; well-established communication methods; and a sense of cohesiveness (Ojala 2017).

Academia and business life have laid especial interest on understanding how organizations and leaders could enhance communication- and cohesiveness-related elements in virtual environment (e.g. Townsend et al. 1998; Martins et al. 2004; Malhotra 2007; Gilson et al. 2014). However, while the importance of having clear goals and direction has been highlighted, the subject has gathered relatively low amount of specific research. Individual studies – such as Huang et al. (2002), Hertel et al. (2004) and Forester et al. (2007) – have been conducted on goal setting in virtual environment. Moreover, while the studies have been focused on specific, individual parts of goal setting, a more general understanding if goal setting in virtual environment differs from traditional environment could not been found.

Consequently, *the motivation of this thesis is to understand how goal setting operates in virtual environment*. Goal setting in virtual environment is perceived from the perspective of leaders, as most often, leaders set the goals and tasks in place for teams and team members.

1.1. Purpose of the thesis

The importance of effective goal setting has been widely acknowledged on organizations and academia. When working moves from an office to a virtual environment, the fundamental parts of performing a task does not necessarily change. That is, an accountant has to still audit financial information, prepare accounts, and apply tax returns. Consequently, the importance

of having effective goal setting in virtual environment has been similarly recognized (e.g. Bell and Kozlowski 2002; Brahm and Kunze 2012; Maduka et al. 2017).

Goal setting in virtual environment has accumulated a small amount of research. For instance, Huang, Wei, Watson and Tan (2002) focused on understanding whether group support system with goal setting structure could make team building more effective, and Forester and Pinto (2007) on researching whether high quality goals and commitment can have an effect on virtual teams' performance. However, a research conducted on the fundamental elements of goal setting could not be identified. While the act of performing a certain task does not necessarily change, *different elements of working and teamwork can face changes when moving to a virtual environment*. Indeed, as various of studies discuss, certain elements of working – such as structural support and interpersonal communication (e.g. Hoch et al. 2014; Lin et al. 2008) – are highlighted to alter in virtual environment.

This provides an interesting inconsistency between the nature of virtual environment and goal setting in virtual environment. While researchers have discussed and acknowledged the changes virtual environment provides for individual working and teamwork, the fundamental elements of goal setting are largely taken as given.

Consequently, this thesis' focus is strictly at the core of goal setting: *on understanding whether certain fundamental elements of goal setting should be emphasized in virtual environment*. Latham and Locke's (1991) Goal Setting Theory, a well distinguished and validated theory of work motivation, is used as a foundation for effective goal setting.

The research is conducted through understanding how virtual environment influences individuals' working, and what are the core elements of goal setting. As goal setting interventions are most likely done by a leader, in this thesis leadership is perceived as a valid point of view for inspecting goal setting.

For having an answer for the focus, this thesis takes three steps. Firstly, *extensive literature review is conducted on three subjects*: understanding virtual teams, understanding leadership in virtual environment, and understanding Goal Setting Theory. The former two are discussed from a general- and performance point-of-views, as performance is at the core of work motivation theories. Goal Setting Theory is discussed from a fundamental point of view, for

understanding the essential elements and mechanisms of effective goal setting. Secondly, *the information received from literature review is synthesized as a framework of goal setting in virtual environment*. Through the wider picture, this thesis is able to proceed on the third step: *conducting an empirical study to confirm the findings of the general view*.

1.2. Research question

The usefulness of conducting a comprehensive study on the fundamental elements of goal setting in virtual environments can be grounded on two underlying questions: is setting and leading goals different in virtual environment, and if it is, how it is different. While the earlier studies have shed light on specific aspects of goal setting in virtual environment, the field could benefit from understanding the fundamental elements of goal setting in virtual environment better. Therefore, the main research question of this thesis is as follows:

Should leaders emphasize certain elements of goal setting when they lead teams in virtual environment?

For answering the research question, four specifying questions are asked. Through these four questions, this thesis can increase understanding of theoretical discussion concerning the research question, and ground the empirical study on scientifically approved themes. Consequently, a thorough literature review was conducted on the three subjects. The former two questions are concerned especially with *the performance*, as increasing individuals' performance is the main objective of Goal Setting Theory.

1. *In which ways is virtual environment different from traditional environment?*
2. *What should leaders understand of leading virtual teams?*
3. *What are the core mechanisms of Goal Setting Theory and how do they operate?*
4. *Can comprehensive literature review provide a valid framework for the empirical study of this thesis?*

Goal Setting Theory was chosen as a theoretical background for understanding the importance of having clearly defined goals and tasks. Goal Setting Theory is one of the most

renown and respected theories on the field of work motivation. The causal relationship of Goal Setting Theory – difficult, specific goals lead on higher performance – has been widely supported by empirical- and laboratory studies, spanning through half a century. Consequently, Goal Setting Theory is proposed to be a relevant work motivation theory on the 2020s (Locke & Latham 2019).

By understanding how goal setting operates in virtual environment, this thesis can contribute to theoretical discussion through different ways. Firstly, new methods for increasing virtual teams' performance might be revealed. Secondly, leaders can become more aware of challenges that virtual environment provides. Thirdly, the empirical study of this thesis might support or contradict earlier findings of researchers. Lastly, Goal Setting Theory is tested on a new environment, of which can increase field's understanding of how goal setting operates.

1.3. Research approach and method

The aim of this thesis is to reveal whether certain aspects of Goal Setting Theory should be emphasized in virtual environment. Thus, a natural direction for the study could be identified from the domain of *qualitative research*.

The empirical study of this thesis is conducted as theme interviews. Theme interviews are a data gathering method, which is perceived as useful for understanding relatively less researched phenomenon. A thorough understanding of the literature and the subjects are needed for creating effective themes for the interviews. (Saaranen-Kauppinen & Puusniekka 2006.) On this thesis, theme interviews were perceived as a fit match for the purpose of this study: increasing understanding of a recognized theory on a new context. The themes were derived from the findings of the literature review.

The sample (interviewees) consist of employees of Finnish private companies. Interviewees consisted of only individuals, who subjectively perceived that they have enough experience from working in virtual environment to participate on the interview. Further, interviewees were limited on individuals aged 18 to 35, as Y- and Z-generations are generally perceived as rather technology-savvy.

1.4. Structure of the thesis

The thesis consists of introduction and four main chapters. Figure 1 illustrates the research process. The aim of *the introduction* is to increase reader's understanding of the research subject, the objectives and goals of the research, and how the thesis is conducted. Additionally, short background for the study is introduced.

The second chapter of the thesis consists of *literature review*. Altogether three subjects are discussed: virtual teams, leadership in virtual environment, and Goal Setting Theory. In each of the chapters, the aim is to discuss the subjects through the fundamental objective of Goal Setting Theory: how to increase performance of an individual. By understanding how individuals' and teams' performance can be increased by different perspectives, a general view of how to increase performance in virtual environment can be achieved. Additionally, the literature review introduces the basics of the three concepts for a reader.

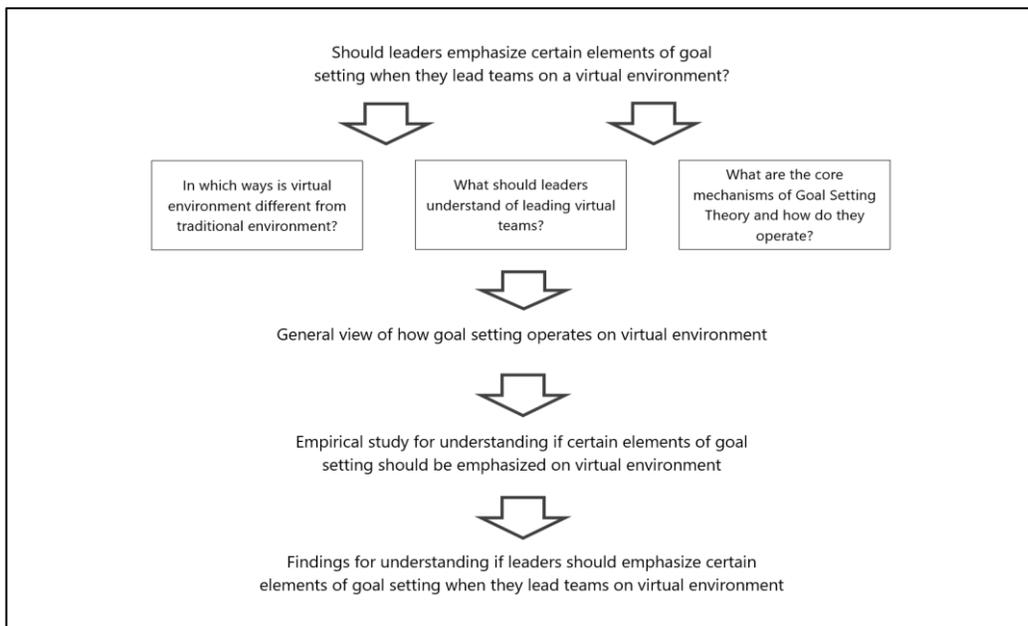


Figure 1. Research Process.

The third chapter is concerned with *the methodology*. On this chapter, the research approach, data collection, and data analysis methods are gone through. As theme interviews require, the chapter aims to introduce rather specifically how the empirical process proceeded. Lastly,

the validity and reliability of the empirical study is discussed. On the fourth chapter, *findings* of the study are introduced. The findings are discussed through the six themes, of which literature review provided. Through understanding the individual themes, the reader can have a better ability to understand the conclusions.

Lastly, *the conclusions* of the study are represented. The discussion of the conclusions is concerned on understanding the findings through the elements of Goal Setting Theory, and suggests four outcomes of which leaders could be emphasize in virtual environment. Additionally, theoretical contributions, managerial implications, limitations of the study, and possible direction for future research are represented.

1.5. Definitions, abbreviations, and key concepts

Traditional environment is perceived in this thesis as an environment, of which most of the working force has used for decades. On traditional environment, communication and interaction with work community can happen through face-to-face if needed. For instance, an office is an example of a traditional working environment.

Virtual environment is an alternative working environment for traditional environment. In virtual environment, an employee is connected to the work community and organization by Internet-connection, use virtual means to communicate with other team members, and cannot interact with work community through face-to-face. For instance, remote working (or telecommuting) is often done through virtual means.

Traditional or conventional team is a team, which is located on a traditional working environment. Conventional teams can interact with each other through face-to-face communication, as their team members are mostly located on a same place and time. Conventional teams are perceived as ‘normal’ kind of teams, and literature of virtual teams often compare virtual teams with conventional teams.

Virtual team (or VT) is a team of which’s team members are at least partly connected to each other through virtual communication means. The basic functions of the team (working towards common organizational goals and objectives) remain, yet the nature of e.g.

communication and collaboration change. For instance, a team of whose team members work from different cities is perceived as a virtual team.

Goal Setting Theory (or **GST**) is a work motivation theory, of which states that specific and difficult goals lead on increased performance. Goal Setting Theory consists of four mediators of which explain the causal relationship, and of four moderators of which set the boundary conditions for the theory to apply. The basics of Goal Setting Theory are gone through on chapter 2.3.

Mediators of Goal Setting Theory explain the causal relationship of GST (why specific and difficult goals lead on increased performance). Without mediators taking place, the causal relationship of GST will not happen. For instance, without relevant task strategies (a mediator), individual cannot perform a difficult task as efficiently as possible.

Moderators of Goal Setting Theory set the boundaries in which GST applies. Without moderators taking place, causal relationship of GST cannot be expected to succeed. For instance, without sufficient abilities and skills (a moderator), individual cannot perform a difficult task.

2. Literature Review

In this chapter, this thesis aims to increase understanding of the subject areas, and lays the foundation for the interviews. This thesis investigates two phenomenon – virtual teams and leadership in virtual environment – and one theory – Goal Setting Theory. The phenomena are discussed especially from the perspective of performance, as Goal Setting Theory’s objective is to increase performance of an individual.

2.1. Virtual Teams

This chapter is divided on two sub-chapters. Firstly, this thesis discusses the development of virtual teams from 80s to 2020s, in order for understanding how virtual teams have been defined and how they are currently defined. Secondly, this thesis goes over which factors are perceived as important for virtual teams’ performance and effectiveness.

2.1.1. Understanding Virtual Teams

Virtual teams are a classical example of a concept which does not have crystal clear definition. As virtual teams are rather new concept on organizational settings, and as technological advances continue to create new purposes for virtual teams, the concept of virtual teams is on constant development. Nevertheless, this thesis aims to clarify the concept as best as it can, with examples from past to the present and definitions from renown researchers.

Research conducted on virtual teams has relatively long traditions, considered the short history of information technology. The interest on the possibilities of virtual environment increased on the 80s and consequently, first studies regarding virtually interacting teams begun to emerge at the dawn of 90s. The first studies were interested on understanding what the virtual environment is. For instance, Finholt and Sproull (1990) studied how computer-based communication technology – specifically electronic group mail (or email) – might affect organizations in the future. Finholt et al. (1990) correctly speculated how emerging phenomenon of “*large-scale electronic groups*” might alter the boundaries of organizations, as organizations could be able to utilize specialists without the restriction of geography and

work units. Further, Lucas Jr. and Baroudi (1994) described how organizations have traditionally used offices as an only efficient way to communicate and coordinate information. With the introduction of “*virtual organizations*”, virtual environment was discussed to enable organizations to shake the ‘physical shackles of the past’, questioning even whether physical organizations are needed on the future (Lucas Jr. et al. 1994).

With concepts such as virtual organizations and large-scale electronic groups gaining popularity, literature on virtual teams begun to emerge as well. One of the earliest classifications of virtual teams comes from Townsend, DeMarie and Hendrickson (1998). Townsend et al.’s (1998: 2) definition of virtual teams has been largely cited, and thus is introduced as the first definition of virtual teams:

“Virtual teams are groups of geographically and/or organizationally dispersed coworkers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task.”

Townsend et al.’s (1998) definition contains very well the spirit of the times. On the 90s, virtual teams were widely perceived as a method for gathering specialists from everywhere to contribute on an organizational task. That is, virtual teams were seen more of a temporary solution for completing a task rather than a permanent arrangement, and as a method to connect specialists all over the globe. Temporariness of virtual teams encouraged certain amount of research to be conducted on temporal boundaries – members of a virtual team working on different time zones – which further led on studies focusing on understanding “global virtual teams” better (Martins, Gilson & Maynard 2004).

Altogether, studies on the 90s primarily focused on understanding what virtual teams actually are: on which contexts’ virtual teams can be used, how virtual teams should be formed, how to use technology in order for making virtual teams communicate as effectively as possible, what are the advantages and disadvantages of using virtual teams, and so on (Townsend et al. 1998; Martins et al. 2004). Eventually, the need for deeper understanding led on creation of the concept of virtualness. Researchers begun to agree that as technological advances made ever greater number of teams more or less virtual, teams’ virtualness should be preferably viewed as “how virtual a team is”, rather than as “is a team virtual or not” (Ortiz de Guinea,

Webster & Staples 2012). Consequently, Martins et al. (2004: 1) suggested a more modern definition for virtual teams:

“[Virtual teams are] teams whose members use technology to varying degrees in working across locational, temporal, and relational boundaries to accomplish an interdependent task.”

One of the early classifications of virtualness (or virtuality) was introduced by Bell and Kozlowski. Bell and Kozlowski (2002) discussed how the amount of virtuality depends on four different factors, of which determine whether a virtual team belongs on ideal or conventional end of virtual team continuum. The four defining characteristics are temporal distribution, boundary spanning, lifecycle, and member roles. At the other end of the continuum of virtuality are *ideal virtual teams*, of which’s team members are distributed on different time zones; break different boundaries (such as organizational or cultural); have relatively short lifecycle; and roles of members being highly specialized and temporary. Vice versa, more *conventional virtual teams* have contrary attributes, such as acting as a permanent team or unit, and having team members representing more similar cultural heritage. Further, in which section of the continuum a virtual team belonged was discussed to be primarily affected by *how complex the task is*, and whether the *workflow arrangements* are sequential or reciprocal (interdependent). (Bell & Kozlowski 2002.)

The research conducted on virtualness advanced, and more modern definitions of virtual teams’ virtualness emerged. New definitions begun to perceive virtual teams as a viable solution for all organizations, whether large or small, global or local. The amount of virtualness of a team grew to include attributes such as how much time team members spent working through virtual means (team time worked virtually), how many team members contributed their workshare through virtual means (member virtuality), and how separated team members are (distance virtuality) (Ortiz de Guinea et al. 2012; Schweitzer and Duxbury 2010). Consequently, Schweitzer et al. (2010: 8) suggested a definition of virtual teams as follows:

“A VT is first and foremost a team, which means that it is made up of individuals working together interdependently with mutual accountability for a common goal. In addition, in order to be considered virtual, a team must have members who do not work

in either the same place and/or at the same time, and therefore cannot collaborate face-to-face all of the time.”

The progress of which researchers made on virtualness of teams acted as an important bridge on today's virtual team literature. The research around virtual teams were not any longer interested on dividing teams on virtual- and conventional teams, or providing a crystal-clear definition of virtual teams. Instead, permitting virtual teams to exist on many positions on the continuum made it possible for research to focus on *understanding the effects and characteristics* of virtual teams ever more thoroughly.

In addition to virtualness, studies from the 2000s to the mid '10s included other streams as well. Gilson and her associates' (2014) literature review on virtual teams identified ten perspectives of which virtual teams had been especially researched. These perspectives included *utilization of technology* and technological tools, understanding virtual teams' influence on *globalization* and *cultural diversities*, defining behavior and traits of *effective leadership* in virtual environment, researching whether virtual teams act as *mediators or moderators*, recognizing methods for *enhancing virtual teams' success*, searching and integrating new *research methodologies*, among other perspectives (Gilson et al. 2014). Researchers further discussed how technological advancements are likely to “evolve” organizational teams ever more.

From 2015 onwards, virtual teams have attracted variety of research. As any major literature reviews have not done from 2015 onwards, this thesis made a quick glance on research subjects on the last years. Using EBSCOhost as a search platform, searching peer reviewed articles with Boolean search term “virtual teams”, limiting findings on years 2016-2020, and limiting findings on thesaurus subjects “virtual work teams” and “teams in the workplace”, this thesis was able to recognize 230 articles. This thesis then took a glance on the first 150 articles' subjects and abstracts, after which articles begun to become irrelevant. As the main objective of this thesis was not to conduct a rigorous literature review for understanding the recent research streams of virtual teams, the glance on research subjects is not as comprehensive as it could be.

Nonetheless, from listing the first 150 subjects, this thesis was able to reveal subjects of which had attracted interest on peer reviewed articles. Findings are presented on Table 1. In

addition to the findings on the Table 1, subjects such as social networking, human resource management, legal considerations, mindfulness, subgroups among VT's, and value management had been studied within the context of virtual teams.

Table 1. VT research subjects from 2016 onwards.

Research area	Studies	Example of research focuses
Global virtual teams	30	Intercultural business communication; Open innovation in global business service industry
Communication	21	Meanings of communication technology in VT meetings; Intercultural business communication
Knowledge sharing and collaboration	16	Factors influencing knowledge sharing on Global VT's; Diversity composition and team learning; Mobile collaboration support
Effectiveness and performance on VT's	12	How team performance impact trust and job satisfaction; Holistic performance management
Leadership	10	Effective coordination of shared leadership; Emergent leadership in VT's;
Trust	8	Trust and knowledge sharing in diverse global virtual teams
Technology	8	Meanings of communication technology in VT meetings; Tools for teaching VT's
Characteristics of VT's	8	Knowledge, skills and other characteristics required in VT's; Core team characteristics
Diversity and Creativity	5	Examining VT's influence on diversity and innovation; Effect of cultural diversity on VT's

Indeed, when comparing Finholt et al.'s (1990) study's focus on emails and understanding how they could influence communication on organizations; Townsend et al.'s (1998) discussion of virtual teams as global teams and societies overcoming technophobia regarding Internet; virtual teams beginning to make themselves more permanent solutions on organizational settings on the 2000s; Gilson et al.'s (2014) literature review discussing research streams such as leadership traits, cultural influence, and technological tools; and the example set of research subjects conducted from 2016 onwards (Table 1) it can see the

relatively fast progress of information technology. Similarly, virtual teams have developed along the progress, and have taken increasingly permanent positions on organizations. As societies learn new ways to utilize virtual environment and different technological tools, virtual teams continue to develop together with the progress.

At the beginning of 2020s, significant number of teams have certain amount of virtualness on their everyday working environment. While virtual teams started as a method for multinational companies to utilize and attract specialists all over the globe, virtual teams have evolved on concerning most of the everyday workforce. Nowadays virtual teams could be understood as a specific kind of ‘normal team’ with high levels of virtualness, rather than as a distinct virtual unit compared to conventional teams.

When a team is perceived as having high levels of virtualness, specific characteristics are more likely to take place and should be acknowledged. These characteristics include complete *reliance on technological communication* methods; team members being *technology savvy*; members having *essential training* on how to interact in virtual environment; *clear instructions and direction* being set on place; and *leadership skills* that are adjusted in virtual environment (Ortiz de Guinea et al. 2012; Gilson et al. 2014; Krumm, Kanthak, Hartmann & Hertel 2016). Virtual teams’ specific characteristics should be recognized and handled accordingly, as dismissing virtual environments specific needs can be seen to come at the expense of performance, efficiency, and individuals’ satisfaction.

Final words on understanding VT's

As Greek philosopher Heraclitus have been known to said: “*Everything changes and nothing stands still*”. At our Era of rapid development and constant change, non-another quote seems to be more fitting. Virtual teams are part of our ever-developing information technological societies. As societies learn new ways to utilize virtual environment and different technological tools, virtual teams keep on developing together with the progress.

Understanding virtual teams’ development helps us to understand particularly how virtual teams should be treated. That is, virtual teams as a concept are not anything abstract nor

greatly complicated, yet neglecting virtual teams' nature and characteristics as yet another form of team is not productive neither.

This thesis believes the definition provided by Schweitzer et al. (2010) (page 16) captures the essence of virtual teams rather well. Thus, this thesis perceives virtual teams as foremost a team thriving towards a common goal. As significant number of teams have virtual elements on their everyday workforce, teams' virtualness should be perceived as a sum of different factors, of which define teams' position on a continuum of virtualness. These factors include member virtuality, distance virtuality, and team time worked virtually.

2.1.2. Performance on Virtual Teams

While virtual teams share many similarities with conventional teams, virtual teams tend to require their unique emphasis. Many studies have been conducted on understanding how virtual teams affect performance, and how virtual teams' performance could be influenced. In this chapter, this thesis will take a closer look on three research streams of which have been found to affect virtual teams' performance. The streams are among the most researched subjects on Table 1 (page 18).

Communication and performance

The first stream this thesis discusses concerns communication in virtual environment. Virtual teams' communication related effectiveness has been studied from the 90s onwards and thus, significant amount of research can be found.

To begin with, virtual teams have quite different starting point for teamwork, compared to conventional teams. As discussed, the amount of team's virtualness can be discussed from many perspectives, such as the distance team members have, or the portion of time team members spend collaborating through virtual means (Schweitzer et al. 2010). Yet most often, when virtual teams are studied, virtual teams are at least moderately virtual. That is, these teams significantly lack opportunities to communicate through face-to-face, and thus must use *technologically mediated communication methods* (also discussed as computer-mediated

communication technology, or technological tools) for communication, information delivery, and completing their organizational tasks. Communication methods can be either synchronous or asynchronous.

Virtual teams' reliance on technological communication has many implications on their performance. To begin with, communication is a fundamental requirement for effective human cooperation. Without effective communication, individuals cannot pass on thoughts and information effectively. Schaubroeck and Yu (2017) discussed the problematic communication by emphasizing that when virtual teams lack nonverbal- and paraverbal communication methods and cues, an important information delivery process can lack. For instance, nonverbal communication can help team members to understand if another team member did not fully grasp the information, or if a team member disagrees with certain opinion. Moreover, challenges in abnormal communication can become especially crucial when crisis and critical situations arise, leading on team members having increased stress levels and less efficient crisis solving actions (Lee-Kelley & Sankey 2008).

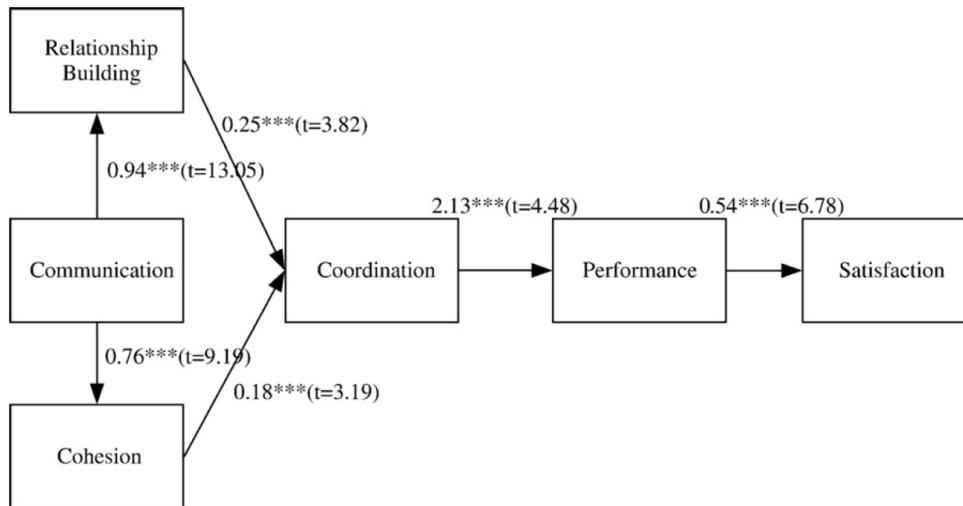


Figure 2. Structural Equation Model Results (H1 through H6) (Lin et al. 2008).

Various of studies have been interested on understanding the effects of communication on virtual teams' performance levels. As Lin, Standing and Liu (2008) studied virtual teams, they revealed that social elements and communication were critical for the effectiveness of virtual teams. Communication was seen as a *key element* for increasing individuals' satisfaction on social dimensional factors, such as cohesion and relationships. Social factors

were then seen to have direct influence on coordination, the performance level of the team, and individual's perceived subjective satisfaction. The role of communication – among other elements – can be seen on Figure 2. (Lin et al. 2008.) Secondly, Schaubroeck et al. (2017) laid their focus on understanding what effects technology mediated communication methods have for teamwork. Researchers aimed to combine the existing literature conducted on face-to-face interacting teamwork structures on virtual teams. Researchers were able to recognize the importance of reliability of messaging, suggesting that it may be the most critical factor of virtual teams' communication. For team members to maintain trust and stay engaged in the absence of face-to-face meetings, team members must believe that when certain information is needed at a certain time, it is communicated on them. Further, the role of leadership and continuous information delivery was seen as important, as well as teams being able to collectively define the communication methods which they need for feeling sensations of reliability and supportiveness. (Schaubroeck et al. 2017.)

Berry (2011) was interested in understanding communication differences on virtual- and conventional teams. While Berry recognized factors that might hamper the effectiveness of virtual teams – such as team members feeling themselves isolated, or difficulties on creation relations and trust – he was able to identify positive effects of virtual communication, as well. For instance, asynchronous communication (e.g. email) on information delivery can be perceived from two angles: while instant feedback and nonverbal cues might be lacking on virtual teams, team members processing, reflecting and reconsidering their answers can lead on more high-quality decisions. Moreover, when such face-to-face communication characteristics as power-politics and personality traits are not present, team members might feel themselves more confident on presenting their thoughts and ideas. This applies also on evaluating peers' performance. As non-task related attributes (such as personality) are not considered as much, team members are more likely to be evaluated by their actual accomplishments and contributions. (Berry 2011.) Lastly, Berry (2011) emphasize that virtual teams could benefit from better methods for creating and encouraging shared understanding and team formation processes.

Methods for increasing performance in virtual environment have been similarly suggested. Lee-Kelley and her associate (2008) emphasized the importance of starting the teamwork project with face-to-face meeting – in order for introducing team members to each other – as well as using “more cue-laden communication modes” such as video calls. Further,

researchers discussed the criticality of appropriate technological solutions for communication being on place, as well as making every team member self-confident and encouraging them on using technological communication (Lee-Kelley et al. 2008). On the other hand, Coppola et al. (2004) found that focusing on creating positive atmosphere on virtual teams leads on team members feeling sensations of solidarity and affiliation. Further, having predictable patterns in team communication and actions was seen to enhance the effectiveness of teams (Coppola et al. 2004).

From above examples, the effects of communication in virtual environment can be understand better. Virtual environment requires thorough consideration on how communication should be arranged on *the particular* virtual team that is concerned, what possible challenges on communication might occur, and how possible challenges could be accordingly handled. As virtualness of teams differ, so does suitable methods and processes for making the team effective.

Trust and performance

Trust is a fundamental factor on human relationships. When individuals trust each other, they can, for instance be confident that the other will act in harmony with them, feel sensations of safety, and can let their guards down. Individuals are more able to focus on the task, rather than increasing safety-related matters. Trust is perceived to build through time, effort, and patience. As trust is important on interpersonal relations, thus it is on teamwork and cooperation as well (e.g. Dube et al. 2016).

When virtual teams begun to pave their way on organizations, researchers understood interpersonal relations might lack in virtual environment. Trust was quickly identified as one of the defining factors. For instance, Dube and Marnewick (2016) discuss of studies which have highlighted face-to-face interaction as “*irreplaceable for building trust and repairing shattered trust*”. Consequently, the question regarding virtual teams’ ability to create trust has attracted plenty of study. For instance, Sénquiz-Díaz & Ortiz-Soto (2019) found that trust had been the second most researched virtual team subject during 2008 to 2018.

Many studies have focused on understanding how virtual teams should behave for creating sensations of trust and thus, improve elements such as communication, cooperation, relationship-building, and performance. As Henttonen and Blomqvist (2005) studied the formation of trust on creation- and commitment stages of virtual teams, they were able to recognize the importance of early stages. Researchers discussed how face-to-face interaction at early stages was seen as more efficient way to solidify social-based trust. They further discussed how initial face-to-face meetings were seen as creating basis for interpersonal communication, and thus having influence on team's culture and norms. Culture and norms were then seen to influence performance later. Lastly, open communication, feedback, and timely responses were seen to increase trust within the team. (Henttonen & Blomqvist 2005.) Dube and Marnewick's (2016) study similarly found the role of trust important. Trust was discussed to influence such teamwork elements as cooperation, frequent communication, and sharing of information. Further, researchers found that when a team had high levels of trust, they tend to have higher performance levels as well. Researchers lastly suggest that by giving positive public feedback on performance, having social interactions within team members, and by sharing knowledge, virtual team members can increase their sense of trust on each other. Researchers illustrate their findings on Figure 3. (Dube et al. 2016.)

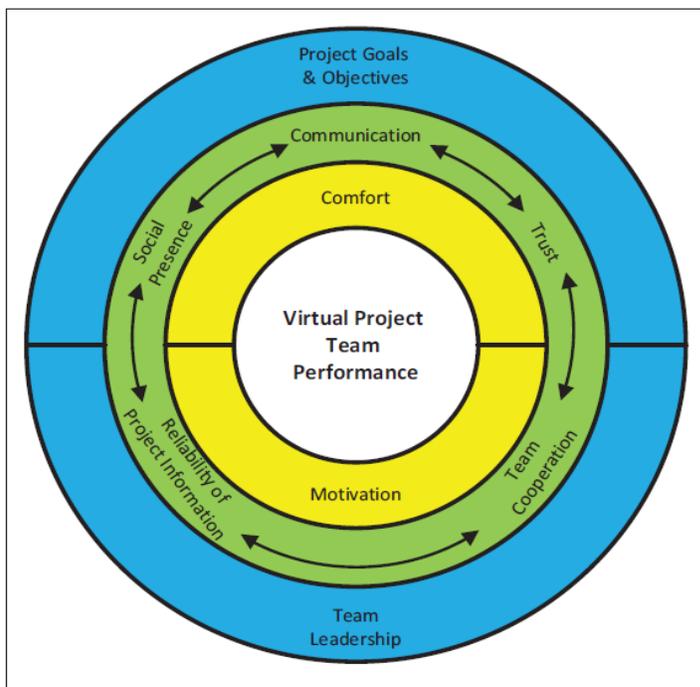


Figure 3. A conceptual model for improving performance in virtual project teams (Dube et al. 2016).

Research on virtual teams' trust creation eventually led on the interest shifting towards the concept of swift trust. Swift trust can be described as a method for creating a quick sense of trust on other team members. Swift trust is perceived to concern mostly temporary teams. Coppola et al. (2004) emphasized that swift trust can and should be created at the beginning of a temporary teamwork. Researchers argued that when swift trust within the team is established, a sense of trust among team members will most likely stay for the whole team existence. In order for creating trust within the team, Coppola et al. (2004) suggested to have early open communication, positive atmosphere, having predictable communication and action; and involving team members on tasks. Gilson et al. (2014) further discuss that swift trust can have influence on performance through increasing sense of trust, as well as increasing team members' confidence.

As discussed, the role of trust on virtual teams has been found on many studies to be important. Dube et al. (2016) further emphasize trusts role as a mediator whether the effectiveness of knowledge sharing is increased or hampered and eventually, whether the team will "*perform effectively and efficiently*". While some researchers have found that the role of trust is not as important factor on defining the efficiency of virtual teams (e.g. Krumm et al. 2016), substantial research discussing otherwise makes trust to stay as an important concept for making communication better and consequently, having effect on the overall performance of a virtual team.

Knowledge sharing and performance

Since the beginning, one of the most appreciated sides of virtual teams are their ability to attract specialists all over the globe together (Townsend et al. 1998). Attracting specialists is not solely done for the specialist to contribute his or her workload for a certain project, yet for other team members to learn new methods and techniques from the specialist as well. Similarly, when specialists from far away collaborate, the environment might facilitate innovations (Townsend et al. 1998). Knowledge sharing has been an important research stream of virtual teams, and studies have suggested that virtually interacting teams and organizations provide a great method for improving efficiency, productivity, and nearly instantaneous knowledge sharing around the world (Pinjani & Palvia 2013).

In today's information-orientated business environment, the importance of knowledge sharing and knowledge management are widely agreed. Indeed, knowledge sharing has often been discussed as a major source of sustainable competitive advantage for organizations (e.g. Sénquiz-Díaz et al. 2019). On the other hand, knowledge sharing in virtual environment has been found to be more difficult than through face-to-face interaction. This concerns especially short-lived virtual teams, in which knowledge sharing had negative effects on individuals' performance and satisfaction. The effect was neutralized on longer-existing teams. (Ortiz de Guinea et al. 2012.) Consequently, studies have discussed different aspects of how knowledge sharing affects organizations and how knowledge sharing relates on performance.

As for understanding how knowledge sharing operates in virtual environment, Gilson et al. (2014) discussed that on the context of virtual teams, especially three action processes are crucial for increasing virtual team's efficiency and effectiveness: communication, coordination, and knowledge sharing. Researchers discussed that as communication and coordination (task-oriented communication) were more important at the early phases of virtual teamwork, knowledge sharing and coordination (task-knowledge coordination) became increasingly important on predicting the performance of a team on later phases (Gilson et al. 2014). Further, Dube et al. (2016) discussed that knowledge sharing is especially related to two other elements of virtual environment: trust and cooperation. Researchers found that knowledge sharing and trust have reciprocal (two-way) relation with each other. That is, when individuals share knowledge to other members, trust within the team increases. Similarly, when trust among the team increases, knowledge is shared more trustfully. Trust then leads on cooperation, and the better a team cooperates, the better their communication and performance are discussed to be. Thus, knowledge sharing has an important role on increasing team's performance levels. (Dube et al. 2016.)

Pinjami and Palvia (2013) laid their focus on understanding relationships between diversity, mutual trust, and sharing knowledge. First, the study was able to identify diverse virtual teams' tendency to have less efficient teamwork. As teamwork requires efficient collaboration and cooperation, diverse methods and procedures were seen to lead on higher levels of miscommunication, distrust, and so on. The effects somewhat disperse through longer period of time. Secondly, researchers were able to recognize trust's and knowledge sharing's influence on team's efficiency. Mutual trust and sharing knowledge were seen as

important parts for creating value within virtual teams, and as discussed by Dube et al. (2016), they reinforce each other. Lastly, the effects of mutual trust and knowledge sharing were mediated by collaborative technological tools and interdependency on task. When good collaborative tools were in place, negative effects were weaker; and when interdependency of tasks was higher, individuals collaborated more effectively. (Pinjami et al. 2013.)

Final words on virtual teams and performance

Communication, trust, and knowledge sharing in virtual environment have attracted plenty of studies. As can be perceived, the three streams are related closely on each other. Trust plays a role when knowledge sharing is concerned, and the influence of trust can be seen on every organizational level. Knowledge sharing is similarly tied on open communication and cooperation. When individuals cooperate and trust in each other, open communication leads more likely on knowledge sharing and increased performance.

The elements of the three streams represent fundamental building blocks for an effective teamwork. Without them, a team is not most likely able to operate as effectively as it could. As virtual teams are at the end teams, virtual teams are bound to follow the same fundamental elements of teamwork. It can be argued whether the streams become highlighted in virtual environment. Nonetheless, the influence of the three streams in virtual teams' performance is evident. Understanding communication, knowledge sharing, and trust provides an important tool for understanding the challenges leadership faces in virtual environment.

2.2. Leadership in Virtual Teams

This chapter is divided on four sub-chapters. Firstly, this thesis discusses and defines the terms *leadership* and *teams*, and go through the research streams leadership in teams has attracted. Secondly, this thesis discusses what characteristics does virtual environment and virtual teams require from leadership. Thirdly, this thesis delves deeper on understanding what factors have been found to have influence on virtual teams' performance from the perspective of leadership. Lastly, this thesis takes a closer look on articles that have concerned leadership and goal setting in virtual environment and virtual teams.

2.2.1. Leadership in Teams

Leadership as a phenomenon has long roots. From Alexander the Great and Julius Caesar to Aristotle and Mahatma Gandhi, great leaders have attracted inspiration, admiration, and following all around the world. Indeed, it could be discussed that as long as there have been humans, as long there has existed great leaders among groups.

Scientific research of leadership can be seen to have begun at the early 20th century. Whereas the early studies were concerned on understanding *the traits* of great leaders (e.g. The Great Men Theory, Trait Theory), leadership research evolved on understanding how leaders *behave* (e.g. the studies of University of Michigan and The Ohio State University), how the *situation or contingency* affects leaders success (e.g. Fiedler Model, Situational Leadership Theory, Leader-Member Exchange Theory) and eventually, how leadership should face 21st centuries challenges (such as digitalization and globalization) on organizations (e.g. Hofstede's Cultural Dimensions; Distributed Leadership; Emotional Intelligence; Identity Leadership) (Grint 2011: 48-50, 52).

While leadership as a phenomenon has been present for millennia, the concept of leadership has been more difficult to define. Unique definitions for leadership have arisen, as researchers have defined leadership from the perspective of their respective fields. Nonetheless, what seems to connect most of the definitions is well discussed by Gary Yukl (2010: 3) "*Most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted over other people to guide, structure, and facilitate activities and relationships in a group or organization*".

Teams are organizational units that are established for completing an organizational task. Teams consists of individuals who are working together, interdependently, and with mutual accountability towards achieving a common goal (Schweitzer et al. 2010). Yukl (2010: 33) completes the definition by stating that team members usually have common purpose, interdependent roles, and complementary skills.

Burke, Diaz Granados, and Salas (2011: 339) argue that research on *leadership in teams* have primarily revolved around four concepts: co-located leadership, virtual leadership, multisystem teams (or networked teams), and shared leadership. While leadership of co-

located team has attracted the greatest amount of research – largely due to the far spanning time period – understanding the other concepts have been an interest of researchers on recent years. Moreover, Burke et al. (2011) highlight that the research on the latter three is still premature: virtual leadership has little prescriptive methods to leaders to handle challenges; the construct of shared leadership is still “fairly messy”; and research on multisystem/networking teams is still its infancy phase (2011: 341, 343-344). Yukl (2010: 354), on the other hand describes leadership in teams through four categories: functional work teams, cross-functional teams, self-managed teams, and top executive teams. Yukl (2010: 354, 359) highlight that virtual teams could be categorized as a one form of team, while at the same time discussing that most of the teams on today’s business environment has virtual elements on their teamwork.

As suggested by Yukl (2010: 347) and Burke et al. (2011: 341), leadership with virtual teams does not seem to differ significantly from ‘the traditional leadership efforts’ of which leaders have to take when they lead teams. The concepts of leadership, teams, and leadership in teams have been widely studied during the previous decades, and many of the findings and best practices can be applied in virtual environment as well. *Yet what differs in virtual environment is the emphasis which must be placed on certain elements of leadership in teams.* On co-located teams, leaders can rely more on practices and methods of which have been learned through such methods as academia, workshops, and even unconsciously through the interactions within the organization. In virtual environment, the most efficient methods are still investigated. Burke et al. (2011: 342) discuss the need to enhance certain processes, such as developing non-traditional forms of trust and distributing leadership actions more for the team. Yukl (2010: 347) continues by discussing how leadership roles on virtual teams are most likely quite similar as in co-located teams, yet “the relative importance [of leadership roles] and how they are carried out” is likely to differ in virtual environment.

Altogether, leadership in virtual environment can be seen to be a collective of different leadership streams and categories. For instance, leadership in virtual environment most often include elements from shared leadership; occasionally combines cross-functional aspects within it; and might include cooperation and networking with other teams from other organizations. Nonetheless, understanding the specific needs of virtual environment has the opportunity to prove a more comprehensive view of leading teams in virtual environment.

2.2.2. Leadership in Virtual Environment

A great number of studies have supported the argument that compared to conventional (or co-located) teams, leadership in virtual environment has its own characteristics. As virtual environment provides challenges for elements such as communication, cohesion, trust, and knowledge sharing, leadership must address these challenges on an appropriate manner for the team to perform efficiently. Indeed, scholars have discussed how motivating and managing teams can be perceived as *more challenging, complex, and less effective* in virtual environment (Bell et al. 2002; Liao 2017; Maduka et al. 2017; McCann & Kohntopp 2019). Further, organizations are argued to need to *invest more time and effort on developing effective virtual teams*, some even suggesting that the increased need might be too excessive and not feasible (Liao 2017; Hoch & Kozlowski 2014).

Table 2. Research areas of leadership in virtual environment.

Research area	Authors mentioning the area
Formalizing team processes and structures	Sénquiz-Díaz et al. 2019; Dube et al. 2016; Liao 2017; Hoch et al. 2014; Bell et al. 2002
Clarifying goals and direction	Maduka et al. 2017; Manole 2014; Gross 2018; Liao 2017; Hoch et al. 2014; McCann et al. 2019
Facilitating conflict solving	Wakefield et al. 2008; Liao 2017
Acknowledging environmental factors	Bell et al. 2002; Maduka et al. 2017
Enhancing relationship building	Maduka et al. 2017; Hoch et al. 2017; Liao 2017; Dube et al. 2016
Providing continuous feedback	Maduka et al. 2017; Krumm et al. 2016; Hoch et al. 2017; Dube et al. 2016; McCann et al. 2019
Establishing trust	Henttonen et al. 2008; Maduka et al. 2017; McCann et al. 2019; Malhotra et al. 2007
Sharing mental models	Mielonen 2011; Liao 2017

Researchers have been interested in understanding how leadership behaves in virtual environment. Consequently, leadership in virtual environment (or virtual leadership, or e-leadership) has attracted plenty of study. The aim of this sub-chapter is to understand *how leadership in virtual environment differs from leadership on conventional teams*, and *what specific elements leaders should emphasize when they lead virtual teams*. Studies used on this chapter were primarily gathered as follows. EBSCO Information Service's *EBSCOhost* was used as a database. "Virtual teams" and "leadership" were used as search terms. Studies were gathered from peer reviewed articles of academic journals. The emphasis on publication year was more on the present, as the concepts of virtual teams and virtual environment were perceived to have gradually evolved from the early 2000s. Table 2 illustrates the findings of researchers.

Formalizing team processes and structures

The first major difference between leading conventional- and virtual teams is *the increased need to lead and establish team processes and structures*. While certain number of processes and structures are needed on every team, leaders of co-located teams are more capable of directing and guiding teams' behavior and processes when the need arises. In virtual environment, changing learned behavior and team culture is perceived as more difficult. For instance, should a virtual team have inadequate knowledge exchange routines and communication methods, disadvantages such as reduced trust and cooperation might occur. As previously discussed, organizational structures have significant role on facilitating information exchange (Sénquiz-Díaz et al. 2019), and cultural norms have been found to have direct influence on performance (Dube et al. 2016).

Leaders are the connection between organizational objectives and teams. As discussed, having high levels of teamwork elements – such as communication, cohesion, trust, and sharing knowledge – is widely seen as necessary of effective teamwork. Yet at the same time, it is perceived that effective communication and cohesion related elements are more challenging to achieve in virtual environment. Consequently, *leaders must take stronger responsibility on facilitating team processes for members of virtual teams*, and make team processes as easy, efficient, and effortless as possible (Liao 2017). Team processes can be defined as processes that influence the effectiveness of teamwork. These processes include

elements such as interacting with team members, sharing knowledge, and having appropriate communication tools and methods on place (Liao 2017).

Moreover, *leaders should establish well thought structural support mechanisms* for virtual teams. As virtual teams interact mainly through virtual means, leaders are not capable of performing the same swift adjustments on virtual teams as in co-located location. Thus, appropriate processes, structures, and routines are perceived as an important way to provide guiding and support for virtual teams.

Structures, processes, and routines should be created at the beginning of the teamwork. They can include such elements as specifying desired routines, training team members to follow the routines, and providing clear objectives, goals, and missions. Through structures, virtual teams are more likely able to self-regulate their actions, and monitor and evaluate their performance. Moreover, structural systems are discussed to bring stability and reduce ambiguous conclusions on virtual teams. (Hoch et al. 2014; Bell et al. 2002.) Hoch and Kozlowski (2014) further discuss the importance of two elements of structural support. Firstly, they perceive that rewarding virtual team members is important. Rewarding should be made on individual level, and be based on transparent evaluation. Secondly, creating and managing adequate communication- and information management systems is highlighted. Interconnecting team members on different levels is perceived to lead on increased familiarity, cohesiveness, and trust. (Hoch et al. 2014.)

Clarifying goals and direction

The importance of having goal clarity becomes highlighted with virtual teams. Goals are seen to have an important influence on self-regulating and guiding team members' actions (Locke et al. 2002). As discussed, leaders are not able to make fast adjustments in virtual environment. *Thus, having a clear direction, goals, and member roles is especially important in virtual environment* (Maduka et al. 2017; Manole 2014; Gross 2018; Liao 2017). Further, well-established structures and routines should be created at the beginning of teamwork (Hoch et al. 2014).

Maduka et al. (2017) discuss how certain amount of ambiguity is natural for virtual environment. Providing clear direction, specific goals and specific objectives are argued to mitigate the increased ambiguity on virtual teams. Researchers further discuss how providing clear tasks, objectives, and clearly understood expectations – on individual and team levels – will further reduce ambiguity, and increase satisfaction of team members (Maduka et al. 2017). McCann et al. (2019) highlight that formalizing team members' roles and responsibilities – along with leaders' – is a key priority in virtual environment. While leaders are able to make more swift adjustments and changes on co-located teams, virtual teams are not discussed to have the same ability. Thus, having formalized responsibilities and structures is discussed to be important in virtual environment (McCann et al. 2019).

Facilitating conflict solving

On the context of conflicts, leadership faces yet another challenge. Where there exist people, there exists differences between people's preferences. When differences are too vast, conflicts arise. Conflicts are not necessarily a bad thing, and minor conflicts can be beneficial to the team dynamics. Yet as virtual environment makes acknowledging emerging conflicts and resolving conflicts less efficient, leaders are faced with rather challenging problem (Wakefield, Leidner & Gardner 2008; Liao 2017). Thus, *leaders should have appropriate conflict resolution mechanisms for virtual teams*. Wakefield et al. (2008) highlight that virtual teams tend to make conflicts less manageable and conflict resolution efforts less effective. Consequently, the responsibility on detecting and managing conflict early on falls to leaders of virtual teams. Having early conflict mitigating mechanisms on place – such as guiding task coordination and defining the responsibilities clearly for everyone – can prove out to be useful (Liao 2017).

Acknowledging environmental factors

Leaders must take care of *acknowledging team members' environmental factors, facilitate adapting on new environment and situations*, and when required, *make appropriate changes* for the team. Members of virtual teams are more likely to have more than one ongoing project at the same time. On some occasions, environmental factors such as project deadlines, task

modifications, or goals can change. This might lead on challenging situations, such as two projects having overlapping deadlines. Another example is new insight emerging from consumer market. Therefore, a virtual team's leader must have an up-to-date understanding of changes in environmental factors. Acknowledging team members' ongoing situations is necessary for the teamwork to flow efficiently. When needed, team leader can make appropriate changes for the team, such as allocating necessary resources for the team, or including a new member for having necessary competencies to succeed the task. (Bell et al. 2002; Maduka et al. 2017).

Enhancing relationship building

Communication is the basis of human interaction, and an important part of teamwork. Communication has influence on many elements of teamwork, such as collaboration, trust, coordination, and knowledge exchange. During the decades, organizations have learned ways to enhance interpersonal communication and improving teamwork related elements. At the same time, virtual team is by nature a team, of which consists of team members who are to a certain extent distributed by location. When team members are distributed and cannot communicate with each other in a traditional way, social challenges are more likely to occur. Through social challenges – such as reduced levels of trust, knowledge sharing, and collaboration – interpersonal relations are less likely to occur.

Consequently, *team leaders have a critical task to enhance the relationship building* in virtual environment. As discussed on sub-chapter 2.1.2., relations on teams have a vital effect on the performance of teams. For instance, interpersonal communication among team members has been found to have influence on standardizing the team culture and norms (Henttonen et al. 2008); relationship building has influence on coordinating efforts within the team (Lin et al. 2008); and inefficient communication methods are perceived to lead on less efficient conflict solving and increased stress (Lee-Kelley et al. 2008). Moreover, without relations, individuals are more likely to focus on personal goals, and possess reduced trust on team members (Gross 2018). Consequently, building relationships among virtual team members could be argued to be as important as in conventional teams.

Providing continuous feedback

When it comes to providing feedback, Maduka et al. (2017) discuss *the need for leaders to provide constant feedback* in virtual environment. Researchers highlight that as virtual team members are not located on the same place, having feedback from colleagues and leader does not happen as often and through same methods. Feedback acts as an important indicator on acknowledging whether individuals' actions are leading towards a goal (Locke et al. 2002). Thus, the lack of feedback might lead on an individual feeling oneself confused whether the direction is correct. Researchers further discuss how feedback should be especially concerned with process feedback – increasing understanding how an individual is currently performing a job or task. (Maduka et al. 2017.) Further, Krumm et al. (2016) highlighted that as virtual teams often communicate through asynchronous methods, immediate feedback and quick resolving of ambiguity does not happen. This is then likely to lead on team members making their own conclusions of the information available and increase ambiguity. The need to provide feedback in virtual environment was similarly discussed by other researchers: Hoch et al. (2017) described how leaders' ability to provide clear objectives and goal would lead on team members providing appropriate feedback for each other; Dube et al. (2016) emphasized how feedback is a vital part of efficient communication; and McCann et al. (2019) highlighted that leaders need to provide extensive feedback for team members to increase productivity.

Establishing trust

As discussed on sub-chapter 2.1.2., trust is a major contributor on creating relationships between individuals. For instance, Dube et al. (2016) recognized that trust has influence on teamwork elements such as cooperation, frequency of communication, and sharing knowledge. Virtual environment provides a challenge for leadership, as trust is perceived to be harder to achieve on virtual teams (Henttonen et al. 2008; Maduka et al. 2017; McCann et al. 2019). Thus, it is vital for leaders to *understand the specific requirements virtual environment requires from leaders* from the perspective of trust, and *establish processes to enhance trust* on virtual teams.

Trust on virtual teams has attracted plenty of study, and methods for leaders to establish trust has been suggested. Malhotra et al. (2007) discuss that as it is hard for individuals to see the contribution of others in virtual environment, appropriate communication tools and methods must be on place. When leader establishes *appropriate communication tools* – such as instant messaging and project management platforms – and *communication norms* – such as what, when, and how often to post and update information – frequent communication will eventually lead on team members having open knowledge sharing and increasing sensations of trust (Malhotra et al. 2007). McCann et al. (2019) support the argument of frequent communication and predictable “cycles of behavior” leading on increased trust. The ability to create trust is then seen to lead on individuals’ increased commitment on organizations. Researchers further continue by discussing how the concept of trust is different in virtual environment, as familiarity and reliability on others must be achieved through different methods. (McCann et al. 2019).

Sharing mental modes

Mental model can be defined as an explanation why the world surrounding an individual works as it works. Shared mental model is a mental model that a collective group share. As virtual teams can consist of vast number of specialists from different organizational units, occupations, organizations, and even cultures, it is likely that team members’ individual mental models will differ. For instance, while individuals on one organization might treat feedback as an objective information to polish performance and workflow, individuals on another organization might believe critical feedback is given only when performance is poor. Thus, *leaders must acknowledge the different mental models* of team members, and *the need to create common mental modes* for the virtual team.

Mielonen (2011) discuss that shared mental models are a key element of “team cognition”. Team cognition can be defined as mental models that a group of people collectively hold, which further “enable them to accomplish tasks by acting as a coordinated unit”. Shared mental models are discussed to increase the coordination within the team, and enhance the common thrive towards team’s goals. Mental models should similarly be moderately flexible, in order for the team and the leader being able to adjust mental models if needed. (Mielonen 2011.) Liao (2017) agrees that shared mental models provide an important field on which

leaders have influence on. Shared mental models can assist the team to face different team- and task related challenges and requirements. Liao (2017) further suggests that shared mental models have the ability to facilitate communication within the virtual teams, and “enhance the collective capability” to utilize knowledge among the team.

2.2.3. Leadership and Performance in Virtual Environment

From previous chapter, it can be concluded that leadership has its challenges in leading teams in virtual environment. Yet what studies can show us of increasing the performance levels of virtual teams and team members? In this chapter, this thesis directs interest on studies that help us on understanding *how leaders can increase the efficiency and performance of virtual teams*. This thesis will go through six studies of which improves understanding of different factors affecting leaderships effect on performance.

Laying foundation for leadership on virtual teams

In 2002, Bell and Kozlowski published a pioneering article about increasing the effectiveness of leadership in virtual environment *A Typology of Virtual Teams: Implications for Effective Leadership*. Although the article was published nearly 20 years ago – relatively long time on swiftly progressing virtual environment – its implications have stood the test of time well. Consequently, the article is often cited on recent articles as well. Bell and Kozlowski’s (2002) typology was especially interested on standardizing the differences between conventional- and virtual teams, and understanding and making propositions on how leaders should behave and lead in virtual environment. The focus on leaders was made in hopes for making virtual teams act as efficiently and leaders to perform as highly as possible.

On their research, Bell et al. (2002) had many propositions for leaders in virtual environment, of which this thesis discusses five. Firstly, researchers suggested that when virtual teams face *complex, dynamic, and challenging tasks and goals*, leaders should implement more synchronous and information rich communication methods for the team. When complexity is low, team members are more likely to cope with asynchronous communication tools. Secondly, researchers perceived that members of virtual teams are expected to have

experience on working in virtual environment. This was seen to lead on more self-managed teams. For self-managed teams to perform effectively, leaders were seen to have an important objective to provide clear and inspiring direction, together with specific individual goals. Direction and goals were seen to enhance individuals' capabilities to self-regulate themselves, gather feedback of themselves, and monitor and evaluate their performance. Thirdly, effectiveness of virtual team was discussed to benefit from a leader being proactive on *creating efficient structures for the team*. Proactiveness was seen as especially important on a context in which team members are distributed on different time boundaries. (Bell et al. 2002.)

Fourthly, leaders were seen to have a mission of motivating and inspiring team members on *becoming more committed* on their tasks and goals, and *encouraging team cohesiveness* and collaboration. Commitment and cohesion were seen to lead on higher level of team effectiveness. Cohesiveness among team can be enhanced by making individual goals interconnected, developing and revising appropriate task strategies, and making team members to have certain roles among the team. Lastly, the study discussed that virtual teams are more likely to have more permanent lifecycle when they are performing complex and challenging tasks. When a virtual team's task is more complex and lifecycle longer, leaders should *focus increasingly on developing the team*. Team development should be done especially regarding on creating relations among team members, and developing the workflow arrangements of which are likely to be similarly complex. (Bell et al. 2002.) Bell and Kozlowski (2002) conclude their study by discussing how virtual team leaders should possess fine *delegation and facilitation skills*, and when a leader lack "key functional leadership skills", have appropriate *development training programs and structural support*.

The findings of Bell and Kozlowski (2002) have been supported rather widely. For instance, Liao (2017) and Hoch et al. (2014) suggested that creating structures and facilitating team processes is likely to be beneficial for virtual teams; Maduka et al. (2017) perceived that specific goals and objectives reduced the ambiguity of virtual teams; Malhotra et al. (2007) perceived that developing teams and e.g. their knowledge sharing can lead on increased trust and effectiveness; and Lin et al. (2008) emphasized that building relations among the team has influence on coordinating and collaboration efforts of the team. Indeed, the elements of leading virtual teams clearly cannot be discussed to be 'confusing' or 'abstract', as the findings have been replicated rather clearly on other studies as well. That said, leading teams

consisting of different individuals is always unique. It may very well be that the most important suggestion of Bell and Kozlowski (2002) is that experience on working in virtual environment might be the key for increasing effectiveness of virtual teams.

Leadership factors through social elements

Malhotra, Majchrzak and Rosen (2007) set their focus on understanding which factors have influence on the efficiency of a virtual team leader. Their research was conducted through interviews and attending meetings. Teams differed from small to large teams, and were from 33 companies and 55 virtual teams. Malhotra et al. (2007) were able to identify six factors of which effective virtual team leaders were found to use.

Firstly, *establishing and maintaining a sense of trust* was highlighted once again. Malhotra et al. (2007) emphasized that due to virtual environment, trust must be established through communication structures and norms. Communication norms included such procedures as when to post information and how to inform other members, as well as periodically discussing the norms and adjusting them if needed. Secondly, it was found that effective leaders made sure *every team member understood and appreciated diverse backgrounds*. As virtual teams are more likely to consist of various of specialists from diverse organizational unit, organizational, and cultural boundaries, acknowledging that every member has something to contribute to the teamwork was found as important. Asynchronous communication methods were introduced as a method for encouraging different opinions to be represented. (Malhotra et al. 2017.)

Thirdly, Malhotra et al. (2007) introduced that as meetings are an efficient way to exchange information and thoughts, *virtual teams should adapt all-team audio-conferencing meetings*. Leaders were found to use audio-conference meetings as a method for energizing team members, and to keep them contacted with each other. Further, effective leaders were found to encourage social interactions at the beginning of a meeting, confirm during the meeting that everyone are engaged with the conversation, and provide future work plan to the virtual team's digital storage. Fourthly, effective leaders were found to utilize the ability to *monitor online the progress of team members*. Monitoring can be done through following asynchronous and synchronous communication patterns, and providing training if necessary.

Further, initial technological solutions were often found to be inadequate for the task, and leaders thus can promote active communication and feedback for improving technological elements and team processes. (Malhotra et al. 2017.)

Fifthly, researchers emphasized that team leader is not only responsible of the team members, yet for external stakeholders (such as team members' local bosses, project owners, end results users) as well. Therefore, Malhotra et al. (2017) suggested that efficient virtual leaders should *enhance the external visibility of the team's progress*. An organization was found to use a so-called steering committee, of which consisted of team members' superiors and client organizations' representatives. Leader then informed the committee on the progress and accomplishments of the team, further emphasizing the need to reward team members when needed. Lastly, researchers discussed the importance of *making participating on virtual team benefitting for a team member*. When a team member has succeeded on one's job, recognition and rewards should follow. Recognition and rewarding should then be communicated for both, other team members and team members local superior. Researchers lastly simplified that for team members to benefit from participating a virtual teamwork, "an opportunity to learn, grow, contribute, and feel integrate part of a team" should exist. (Malhotra et al. 2017.)

Altogether, researchers provided an interesting view on virtual teams' effectiveness. Malhotra et al.'s (2017) focus seemed to be mostly on social elements, as practically every factor concerned a social aspect of teamwork. Indeed, social elements on virtual teams have been recognized as one of the most critical elements of virtual team effectiveness. Acknowledging above discussed six factors will assist us to understand the differences virtual environment provide for leadership.

Hierarchical leadership, structural support, or shared leadership in virtual environment?

Hoch and Kozlowski (2014) focused their interest on researching whether hierarchical leadership, structural supports, and shared team leadership have positive or negative effect on virtual teams' performance. Structural support can be described as a method for having less hierarchical leadership style: a leader creates structures and communication means for the team, and direct the actions and behaviors of team members without actively participating on leading the team. 565 team members and 101 leaders from R&D unit participated on the

study. The amount of team virtualness acted as a moderating force on the study. The three elements and the moderator (team virtualness) are represented Figure 4.

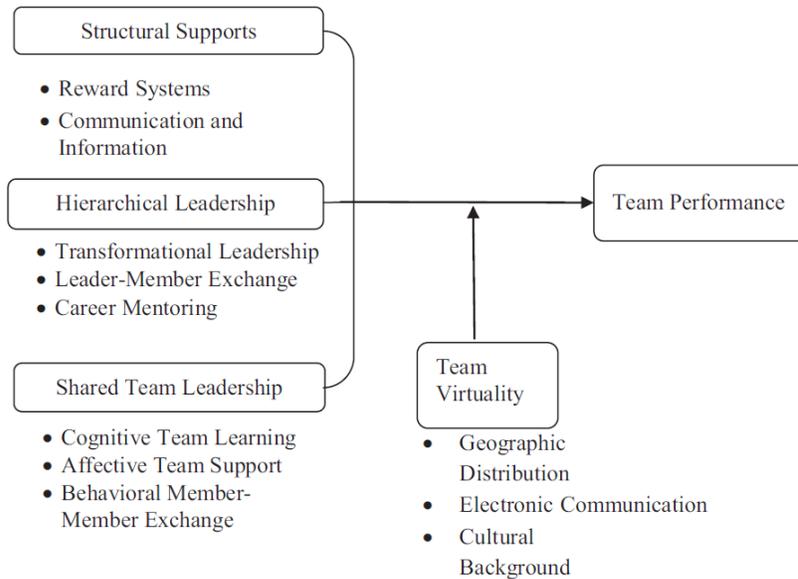


Figure 4. Effects of the elements and moderator on team performance (Hoch et al. 2014).

Hoch et al. (2014) were able to recognize the influence of virtual environment on leadership styles and virtual teams' performances. First of all, virtual environment was perceived to cause a negative influence between *hierarchical leadership* and team performance. When the virtualness of a team increased, the negative influence reduced. Secondly, virtual environment was perceived to cause a positive influence between *structural support* and team performance. When the virtualness of a team increased, the positive influence strengthened. Thirdly, virtual environment was perceived to cause a positive influence between *shared team leadership* and team performance. When virtualness of a team increased, the influence between shared leadership and team performance did not change. (Hoch et al. 2014.)

Researchers discussed that when a team operates in virtual environment, the importance of having additional means for leading the team is necessary. On the study, structural support and shared leadership were seen as viable alternatives for *supplementing the leadership behaviors* of which leader commonly takes on co-located teams. Leadership behaviors are such behaviors as e.g. increasing team members' sense of trust, facilitating relationship building, and solving confusing- or conflict situations. Especially structural supports were

perceived as relevant when leading and managing virtual teams. Further, structural supports were seen as effective methods for *augmenting hierarchical leadership* in virtual environment. While hierarchical leadership might hinder the effectiveness of virtual teams, creating structures for augmenting elements of hierarchical leadership was seen as a method for combining the best of both practices. Lastly, Hoch et al. (2014) recommended that leaders in virtual environment should utilize practices of shared leadership. Shared leadership practices were seen to enhance the collective engagement on cognitive-, affective-, and behavioral elements of team leadership behaviors. (Hoch et al. 2014.)

Hoch and Kozlowski's (2014) study was able to recognize the need of organizations to make adjustments on leadership in virtual environment. While traditional, co-located teams can be led rather hierarchically – that is, team members can contact team leader quickly, and members does not necessarily need to perform any managerial activities – in virtual environment leaders must acknowledge the negative connection of hierarchical leadership and team performance. Managerial role is therefore more connected on creating structures, and empowering and encouraging team members to share leader behavioral elements within the team. The findings seem to be congruent with other similar studies, such as Krumm et al. (2016) and Bell et al. (2002) who discussed the need for creating early structural support. Highlighting the possibility of structures acting as an augmented hierarchical leadership was further interesting finding.

Virtual teams and transformational-, transactional-, and laissez faire – leadership styles

Gross' (2018) research focused on understanding the links between virtual teams' effectiveness and different leadership styles. Gross (2018) suggested three leadership styles of which he saw as important for organizations and leaders to consider: transformational-, transactional, and laissez faire – leadership styles. Laissez faire stands for absentia of leadership: the less leader interacts with the team, the better. Gross (2018) further discussed that while every leadership style has its positive sides, the styles are interdependent on each other. Consequently, effective leaders should learn to understand different leadership styles for having many methods on their toolbox from which to choose from.

Transformational leadership style is represented as an inspiring focused version of leadership. Transformational leaders are discussed to be relation oriented, and aim for providing clear vision of the outcome, guide team members when guidance is needed, and encourage team members to form relations with each other. Transformational leadership style is seen to have especially positive influence on *social dimensions and elements* of virtual teams. When the performance is dependent on interdependency of team members, transformational leadership is perceived as a great method for enhancing e.g. shared goals, trust, and cooperation. Lastly, transformational leadership style is discussed to be useful when it is seen as important to create strong and trusting relations between team members. (Gross 2018.)

Transactional leadership style is more focused on the outcomes and behaviors of team members. Outcomes stands for the emphasis being on task-goal completion and specifying tasks and goals clearly. Behavior stands for managing the expectations actively and passively, and guiding behavior through rewards and praises when objectives are achieved. Moreover, transactional leadership style is seen to high potential to enhance *absorptive capacity* of virtual teams. Absorptive capacity can be defined as ability to assimilate and utilize new information for the project objectives. When leaders reward and praise knowledge exchange and learning through experiences, absorptive capacity is seen to be more easily achieved. Lastly, transactional leadership style is seen to improve virtual teams' task communication and task completion. (Gross 2018.)

Laissez faire leadership style is discussed to have the ability to strengthen innovativeness related capabilities of a virtual team. Innovativeness is seen to have many elements in common with *entrepreneurial orientation* and *intrapreneurial behavior*. Intrapreneurial behavior stands for a unit being able to work autonomously within a larger organization, and develop and implement products and ideas, without someone superior having the last word. When team members are proficient and highly self-guided, virtual teams led by laissez faire – has the possibility to increase creativity, innovation, and opportunism. (Gross 2018.)

Altogether, every leadership style can be seen to have some beneficial side for virtual teamwork. On most occasions, leaders should learn to utilize the positive sides of every leadership style, and use various combination of styles when the need arises. Further, while transformational- and transactional leadership styles have more apparent benefits for

organizations, acknowledging laissez faire – style’s benefits remind us of the diverse states virtual environment and virtual teams can take. It is important to emphasize that Gross (2018) highlighted many researchers, of who have argued laissez faire - leadership style has more negative sides than beneficial sides. Yet on some occasions – such as when a team consists of highly proficient and experienced specialists – elements such as leadership, structures, and goals can have hampering effect on virtual team’s performance.

Virtual leadership through team members competencies

Krumm, Kanthak, Hartmann, and Hertel (2016) studied virtual teams’ competencies and effective performance from the perspective of KSAO’s – knowledge, skills, abilities, and other characteristics. In their study, Krumm et al. (2016) studied virtual teams’ characteristics from the perspective of the Great Eight competency factors, a well-known framework for understanding job performance. The study had 380 virtual- or conventional teamwork specialists as participants. The effects of personality traits – studied through the Big Five model – and teams’ different levels of virtualness – studied through questionnaire – were mediated.

Krumm et al. (2016) were able to recognize two domains of KSAO’s of which were seen as more important in virtual environment than on co-located: Leading and Deciding, and Analyzing and Interpreting. When team members possess competencies related to domain of Leading and Deciding, team members can be seen to have strong ability to initiate action, work rather autonomously, take responsibility, and clearly understanding goals. When team members possess competencies related to domain of Analyzing and Interpreting, team members can be seen to have ability to think analytically, quickly adopt digital tools, and communicate well through writing. Researchers further discuss how working in virtual environment is often characterized as distant collaboration, which often leads on more isolated workspaces and influence of fewer social norms. This is seen to affect especially domain of Leading and Deciding, which was supported by the study. Lastly, researchers emphasized that although some studies have argued how conventional- and virtual teams tend to have rather similar KSAO-requirements, their study have shown the different needs when virtual teams’ members and processes are created and developed, as well as managed. (Krumm et al. 2016.)

Although the study was not directly concerned with leadership in virtual environment, indirect elements on understanding the leadership on virtual teams can be rather clearly seen. For instance, domain of Leading and Deciding provided us with understanding that most effective virtual teams are more self-guiding teams than conventional teams. When team members have the ability to take responsibility and initiate action by themselves, the role of leadership tends to lean towards the beginning of teamwork: providing structures, providing clearly goals and direction, facilitating team process, enhance social relations, etc. The findings of Krumm et al. (2016) seems to support the findings of which researchers on sub-chapter 2.2.3. were able to support as well.

Multilevel approach for effective virtual leadership

Liao (2017) discussed that the research conducted on virtual teams and leadership seems to have a gap from a perspective of multilevel approach. Consequently, Liao's (2017) aim was on establishing a multilevel theoretical framework for understanding the effects of which leadership has on both, the team level and *individual* level. To achieve the goal, Liao (2017) conducted a comprehensive literature analysis for understanding leadership in virtual environment. The study focused on two leadership behaviors: task-oriented leadership (such as clarifying responsibilities and goals, or providing guidance for team) and relationship-oriented leadership (such as ensuring the well-being of team members, or creating relationships among team). As an outcome, Liao (2017) was able to propose a framework for enhancing leadership performance and effectiveness. The proposed framework is illustrated on Figure 5.

Liao (2017) begins the development of his framework by discussing *virtual leadership on a team level*. Firstly, Liao (2017) emphasizes that while some researchers have argued that relations are not as important in virtual environment, studies have similarly shown the importance of strengthening social-emotional bonds and relations. Secondly, Liao (2017) discusses that as virtual teams are teams by nature, they tend to have interdependence of tasks and mutual accountability on outcomes. This is seen to have possibility to lead on emerging of collective processes and team states. Collective processes and team states can be described as individual's learned behavior on a certain situation, of which is caused by the norms and practices a collective group have consciously or unconsciously established for themselves.

In practice, this can be e.g. on methods on how the team communicates on virtual meetings, or does meetings begin with social small talk. Collective processes and team states are seen to have an influence on team performance, as team practices can be having either enhancing or hindering effect on various of team processes. (Liao 2017.)

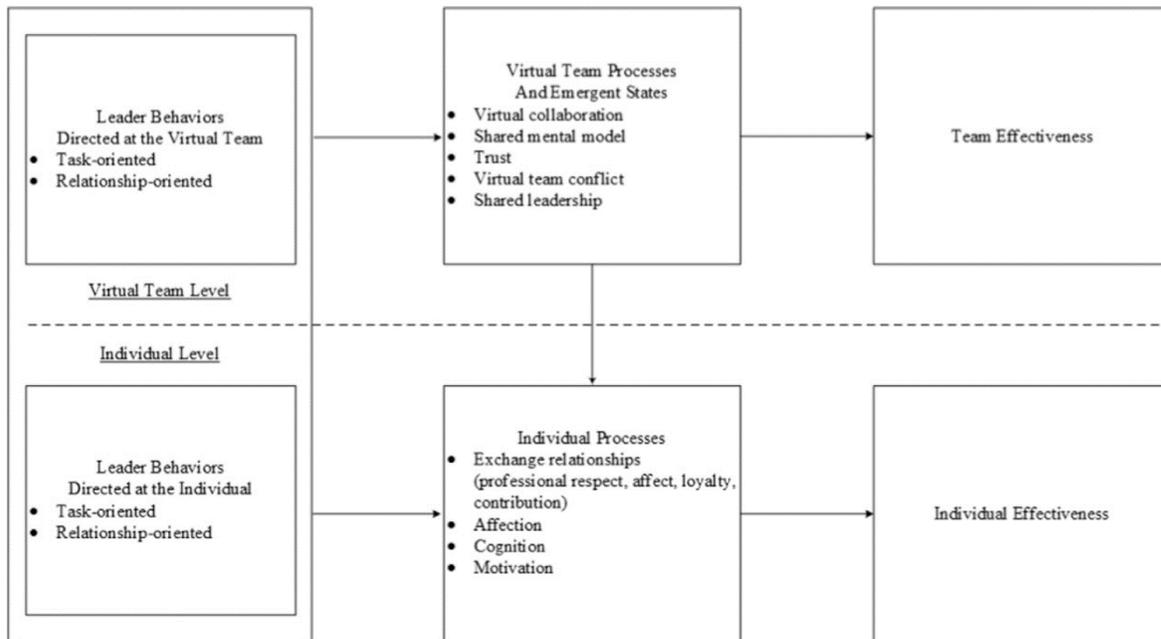


Figure 5. A Multilevel Model of Leadership in Virtual Teams (Liao 2017).

Liao (2017) discusses that the most recent advancements on team research highlights the importance of considering collective processes and emergent team states. He further discusses these processes and states from the perspective of five mediators: shared mental models, trust, virtual team conflict, virtual collaboration, and shared leadership. As this thesis has already considered the first three mediators on sub-chapter 2.2.2. (Leadership in virtual environment), the latter two are discussed.

Liao (2017) emphasize that *virtual collaboration* is “one of the most important processes” on virtual teams that influence team performance. Similarly, leadership is seen to have an influence on virtual teams’ performances especially through virtual collaboration – related elements. Firstly, leaders’ *task-oriented behaviors* (such as coaching team members, and providing necessary training and resources) are seen to lead on the team being able to establish a strong community, and having better communication and collaboration abilities.

Secondly, emphasizing *relations-oriented behaviors* (such as establishing good relations, and focusing on members' well-being) are discussed to lead on team members being more responsive and willing to assist other team members. As for *shared leadership*, Liao (2017) discusses that as it is harder for leaders to lead teams hierarchically in virtual environment, ensuring team members to have better self-management abilities is emphasized. Teams are encouraged to share such leadership elements as sharing responsibilities, guiding each other, and making decision together. The role of leaders is seen to be more on facilitating team processes and establishing beneficial structures and norms for the team. (Liao 2017.)

Liao (2017) discusses that similarly as leaders interact with teams in general, they tend to interact individually with team members as well. The need to *address every team member individually in virtual environment* arises especially due to the reason, that all team member's local environments and their requirements tend to be different. Liao (2017) continues that by influencing individuals individually, leaders and their behaviors have an ability to affect individuals' "cognitive, affective, and motivational states", and have an effect on individuals' performance and effectiveness levels. Liao (2017) further argues that using an approach called leader-member exchange (LMX) with virtual team members could prove out to be useful. Studies have found that as leaders are the dominant actor in the LMX relationship, they have a major influence on the development of LMX, which further leads on team member's effectiveness (Liao 2017).

Liao (2017) discusses that leaders are found to interact with individual team members through four dimensions: professional respect, contribution, affect, and loyalty. *Professional respect* stands for member's appreciation for a leader. Especially at the beginning of virtual teamwork, team leader is the one who have the best knowledge regarding goals, tasks, and responsibilities. Leader can further provide guidance and have a proactive grasp on reducing ambiguity. These actions are perceived to lead on professional respect for the leader, and increased willingness of a team member to identify the leader as an inspiring model whom to follow. Professional respect is connected on task-oriented leadership. *Contribution* stands for increasing member's efforts towards the goal. Leader has the ability to enhance team member's efforts towards the tasks and goals through many means, such as providing coaching, understanding individual's needs, establishing structures, and providing feedback and necessary resources. This is seen to lead on team member's self-efficacy and work

motivation levels to increase, which further leads on increased performance. Contribution is similarly connected on task-oriented leadership. (Liao 2017.)

Affect stands for member's good personal relation with a leader. Leader is perceived to have ability to influence team member's affection towards the leader through personal messaging and behavior. For instance, personalizing emails and instant messaging, or discussing of personal matters are seen as actions of which can lead on leader and member having a good relation. Good relation is then seen to lead on member feeling the leader as friend, and further social-emotional bonding. *Loyalty* stands for the leader showing signs that he or she is willing to defend the team. For instance, for leader to increase loyalty of an individual, leader can publicly defend a member and explain the situation, when a person outside the team shows critique of something that a member did. These kinds of situations are seen to lead on leader having increasingly better relations with the team members on an individual level. (Liao 2017.) Both, affect and loyalty are seen to relate on relationship-oriented leadership style.

Increasing relations with individual members of a team have been found to have positive effects on individual's performance. Yet as can be understood, creating meaningful relations among team members and leaders is more challenging in virtual environment. Nonetheless, when a leader is successful on understanding the needs of an individual team member and developing relations with a member, leaders can very well establish highly functional and trusting relations with team members. As discussed, this is then seen to lead on increased performance and effectiveness on an individual level. (Liao 2017.)

Liao's (2017) study provided an important reminder for this thesis. That is, leadership on virtual teams does not only happen on team level, but similarly on individual level. The number of relations that leaders should establish with team members could be discussed to be dependent on the extent of a team's virtualness. For instance, when the team performs a long-lasting project (such as 10 months), establishing stronger relation-related leadership behavior could make the team perform more efficiently on both, team- and individual levels. Secondly, Liao (2017) multilevel approach provided a useful tool for the actual research material. Lastly, as can be seen, the premise of the study was once again the two familiar leadership behaviors: task- and relationship-oriented leadership styles. Other studies have discussed so-called transformational- and transactional leadership styles, of which can be seen to be rather similar as Liao's task- and relation-oriented styles.

2.2.4. Leadership and Goal Setting in Virtual Environment

Lastly, this thesis will direct the focus on the research of which have been conducted on leadership, virtual teams, and goal-setting. While this thesis swiftly discussed the importance of clarifying goals and direction on sub-chapter 2.2.2. (page 30), this sub-chapter looks on studies which have had goal setting in virtual environment as the main focus of the study.

Virtual leadership and the usefulness of establishing group support system with goal setting

Huang, Wei, Watson and Tan's (2002) study aimed to understand whether implementing a group support system (GSS) with goal setting structure could benefit team-building in virtual environment. Enhancing team-building was perceived as a method for increasing the effectiveness of teamwork. The particular interest was on understanding whether virtual team-building with goal setting structure would be more efficient, than virtual team-building without goal setting structure. Huang et al. (2002) used five elements as variables: team cohesion, team commitment, collaboration climate, perceived decision quality, and the number of decision alternatives. Participants consisted of 240 undergraduate students, and of 48 teams (4x12) which were divided as either virtual or not, and had goal setting structure or not.

Huang et al. (2002) were able to identify interesting findings. First, *virtual teams with GSS and goal setting structure* were found to have better team cohesion, stronger team commitment, and better collaborative atmosphere than virtual teams with GSS yet without goal setting. Similarly, virtual teams with GSS and goal setting structure were found to have better decision quality, and provided more decision alternatives than virtual teams with GSS yet without goal setting. Secondly, and interestingly, *virtual teams with GSS and goal setting structure* were found to have better team cohesion, decision quality, and more decision alternatives than co-located teams with GSS and goal setting structure. Team commitment and collaborative climate were perceived to be the same on both team alternatives. (Huang et al. 2002.)

Further, GSS with goal setting structure was found to *increase teams' cohesion*. The increase on cohesion was found to happen even at the beginning of the teamwork. Huang et al. (2002)

discussed that the team norms and shared goals begun to converge rather quickly, which then lead on individuals' goals, team goals, and team norms being more aligned. Researchers further discussed that the study supported the argument that when individual- and team goals are compatible, the performance of the team will likely increase. (Huang et al. 2002.)

Indeed, the usefulness of implementing GSS together with goal settings structure was highly supported on Huang et al.'s (2002) study. As can be understood, implementing structures and norms provides crucial support for the members of virtual teams – Hoch et al. (2014) even suggesting that structural support could augment traditional hierarchical leadership actions in virtual environment. Yet the usefulness of goal setting on group support system was rather interesting. This finding strengthens the assumption that goal setting structures can benefit organizations on many levels: from increasing performance to aligning personal goals with team goals, and enhancing team-building. If anything, Huang et al.'s (2002) study supplements our understanding on the importance of establishing strong structures for virtual teams, especially from the perspective of goal setting.

Virtual teams and interconnectedness of personal and shared goals

Hertel, Konradt and Orlikowski (2004) were interested on understanding whether *reduced physical connectedness of virtual teams can be compensated through highly experienced (felt) interdependence*. Interdependence and interconnectedness were studied through three perspectives: goal interdependence, task behavior (task interdependence), and evaluation of behavior outcomes (outcome interdependence). The effects of interdependencies were mediated by four motivational processes: valence (the attractiveness of team goals), instrumentality (the perceived importance of individual's contribution to the goal), self-efficacy (the perceived self-confidence towards tasks), and trust. These four mediators were perceived as factors that mediate individuals' motivation levels on teamwork. Participants consisted of 31 virtual teams, and the teams had hierarchical leadership style. The study lasted for 15 months. (Hertel et al. 2004.)

The concept of *task interdependence* discusses that when team members' tasks are structured as highly interdependent, a team member will feel the pressure and responsibility to perform one's tasks well. This will then lead on higher coordination of tasks and working more closely

with others, and further on increased motivation and performance levels. Hertel et al.'s (2004) study was able to recognize that task interdependence was related on increased performance of virtual teams. High task interdependence was related significantly on instrumentality. Further, high task interdependence was perceived as important especially on the beginning of teamwork. *Outcome interdependence* argued that when team-based rewarding is implemented on virtual teams, stronger cohesion and importance of individual's contribution will occur. This will then lead on increased effectiveness and motivation. Hertel et al.'s (2004) study similarly supported this hypothesis, and found the increased effectiveness of virtual teams. High outcome interdependence was related especially on instrumentality, and marginally on valence. Having team-based rewarding was perceived as important through the life cycle of virtual teams. (Hertel et al. 2004.)

Hertel et al. (2004) discussed that *goal interdependence* consists of two elements: virtual teams having a clear sense of direction and clearly defined goals, and the extent of how much individuals' personal goals and virtual teams' shared goals align with each other. Having goal interdependency was seen as being a part of high-quality goal. Further, researchers evaluated the quality of goal structure through six factors – such as goal clarity, goal conflict, participation, and goal adaptation – of which was based on research conducted on distance working, and Locke et al.'s (1990) research conducted on goal setting. Hertel et al. (2004) were able to identify that high-quality goal structure was related significantly on all the mediators: valence, instrumentality, self-efficacy, and trust. Having clear sense of goals and direction (or high-quality goals) was further discussed to be important throughout the lifecycle of a virtual team. Lastly, the effects of goal setting were seen to have influence on team members' motivation and performance levels. (Hertel et al. 2004.) Altogether, Hertel et al. (2004) suggest that leaders can increase the motivation and performance levels of virtual team members when they implement different interconnectedness within the team structures.

Hertel et al.'s (2004) study contributed an important research topic and finding for this thesis: the importance of motivation. The increase on effectiveness is often credited on some certain action or input, such as guidance, setting goals, or structural support. Yet without motivation, there likely is not action. Motivation is often perceived either as *the* underlying factor that makes individuals to behave in a certain way: as '*the spark*' which initiates consciousness to decide whether to pursuit a certain action (Ojala 2017). After all, individuals have to choose to pursuit a goal (Latham et al. 1991). Either way, motivation have been found to have a

fundamental effect on individuals' behavior. Thus, it was an interesting finding from Hertel et al.'s (2004) that not only goal setting increases the performance of virtual team members, yet the motivation as well. Moreover, Hertel et al. (2004) emphasized the importance of aligning shared goals with individual goals. This finding has been supported on other studies as well, and thus completes our understanding of goal setting in virtual environment.

High quality goals and commitment vs task- and psychosocial outcomes

On their research, Forester and Pinto (2007) put their attention on understanding whether higher quality goals and commitment does influence on virtual teams' performance. Performance was measured as individuals' perceived quality of task outcomes (such as perceived project quality and satisfaction of project owners) and psychosocial outcomes (such as team members' perceived quality of relations and feelings). Further, researchers discussed that when project teams' members have high psychosocial outcomes, team members are found to have better performance on following projects as well. Participants consisted of 12 virtual teams and 82 individuals. (Forester et al. 2007.)

Forester and Pinto (2007) were able to verify three of their four hypotheses. Firstly and secondly, higher quality goals *and* commitment on goals were found to have significant positive effect on both, task- and psychosocial outcomes. Thirdly, high quality goals *and* commitment on goals *together* were able to predict a significant variance on task outcome.

Forester and Pinto (2007) continue their study by discussing other findings on the study. Firstly, researchers highlight a managerial implication of the study: the managerial practices that have influence on co-located team setting – such as implementing high quality goals and establishing commitment for the goal – have influence in virtual environment as well. Secondly, research continue by discussing that the “strategies” of Goal Setting Theory provides a useful way to enhance the performance and outcomes of virtual teams.

As an only study concerning Goal Setting Theory and leadership on virtual teams, Forester and Pinto's (2007) study provides a verification for the validity of this thesis. That is, other researchers have similarly found the subject of this thesis as important, and further, have found support for the usefulness of Goal Setting Theory on leading virtual teams. Indeed,

having clarity of direction, goals, responsibilities, and roles have been found to be especially important within virtual teams, as changes on later phases of the teamwork are perceived to more challenging in virtual environment (Maduka et al. 2017; Gross 2018; Liao 2017). One could even question why more research have not done on Goal Setting Theory and efficient goal setting in virtual environment.

The influence of team cohesiveness and trust on the effectiveness of goal setting

Brahm and Kunze (2012) took a different route to study the effects of goal setting in virtual environment. Their research focused on understanding the effect of goal setting in team cohesion, and team cohesion further leading on increased performance. Brahm et al. (2012) used trust as the moderator of the effectiveness of team cohesion, perceiving that high levels of trust will increase the knowledge sharing among the team: thus leading on increased cohesion. The study was organized as longitudinal study, consisted of 50 virtual teams, and in total of 124 team members. (Brahm et al. 2012.) Figure 6 illustrates the model and the findings of the study.

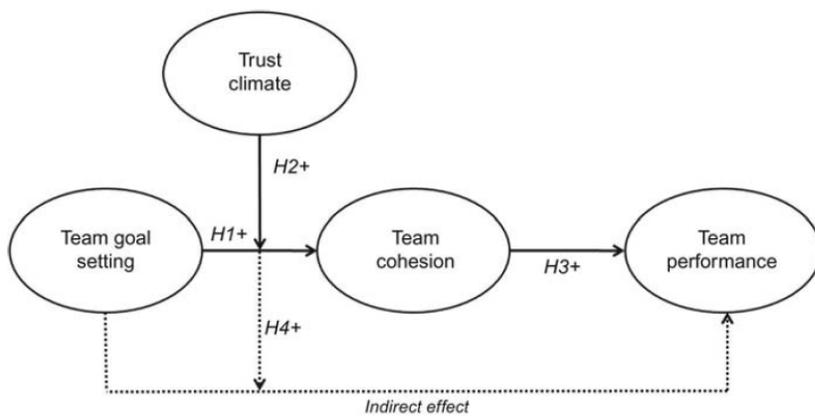


Figure 6. Moderated-Mediation Overview Model (Brahm et al. 2012).

Firstly, the study was able to identify that goal setting had a positive relation on the team's performance. The effectiveness of goal setting was mediated by team cohesion, which acted as the second finding. Thirdly, the climate of trust was found to have a moderating effect on the mediation-relation between goal setting and team cohesion. Lastly, the climate of trust

was found to have a moderating effect on the relation between goal setting and performance. (Brahm et al. 2012.)

Brahm and Kunze (2012) further discussed the above stated findings. Foremost, researchers highlighted that the study was able to identify team cohesion as "an important emergent state mediating the relation" between goal setting and teams' performance. The mediating effect was then highlighted to be moderated by trust among the team. Brahm et al. (2012) continued by stating that the described model (Figure 6) benefits the field by increasing understanding on how the "development process" of virtual teams occurs, and how the group dynamics interact in virtual environment.

Brahm and Kunze (2012) were able to recognize interesting findings among virtual teams. To begin with, team cohesion has been discussed to be one of the most important elements on increasing performance on VT's – along with communication and goal setting (Ojala 2017). Brahm and Kunze's (2012) study was able to connect goal setting with team cohesion. As the importance of cohesiveness was highlighted on other studies as well (e.g. Bell et al. 2002, Huang et al. 2002 & Hoch et al. 2014), the importance of cohesion in virtual environment is rather strongly supported. Moreover, the study was able to recognize that whether a team had high- or low levels of trust, high quality goal setting was able to increase cohesion of the team. Based on the study, a question could be asked whether goal setting and cohesion have mutually beneficial relation with each other.

2.3. Goal Setting Theory

This chapter is divided on four sub-chapters. Firstly, this thesis will briefly view the development of Goal Setting Theory. Secondly, this thesis defines the mechanism of Goal Setting Theory, consisting of the causal relationship, mediators, and moderators. Thirdly, this thesis defines other important aspects and concepts regarding goal setting, such as concept of self-efficacy and participative vs assigned goals. Lastly, this thesis will take a look at positive implications GST has provided on organizational settings.

2.3.1. Evolution of Goal Setting Theory

Foundations for Goal Setting Theory were laid on the 60s, when Edwin Locke and Gary Latham made their first observations of goals having a relationship with performance. At this time, they operated separately. Based on Ryan and Smith 1954 work, Locke observed that employees with specific goals seemed to perform a better than employees with do your best goals. Latham, similarly, made the same conclusion during his master's thesis: there exists relationship between goals and performance. Due to their similar conclusions, Locke and Latham understood their research overlaps. Consequently, they began to work together at the early 70s, and their partnership has continued to this day. (Locke & Latham 2019.)

The environment was challenging for the development of Goal Setting Theory for few reasons. Firstly, behaviorism was the dominant philosophy in the field of psychology on 60s. Behaviorism believed that individuals' behavior can be explained and predicted, as individuals are mainly prone to environmental determinism. Events happen strictly on a cause-effect relation, of which can be predicted. Secondly, there were other competing motivation theories of which aimed to solve the question of how motivation works. Herzberg proposed in 1959 that Motivator-Hygiene Theory could answer why individuals are satisfied and dissatisfied on their position, yet eventually lacked on empirical studies. Similarly, Vroom's Expectancy Theory aimed to quantify the process of how individuals make their decisions and choices. During coming decades, individuals' decision-making process proved out not to be as quantifiable as Vroom had theorized. Eventually, scientific community accepted that motivation consists of more than merely behaviorist believes.

Goal Setting Theory was able to establish its position on the field of work motivation. *Work motivation theories* are interested on understanding what makes organizations employees motivated – and consequently, efficient. While GST was formulated for the field of work motivation, it can be utilized on other contexts as well. Through rigorous empirical studies, Locke and Latham were able to eventually propose a formal theory of goal setting in 1990. The theory was proposed after 25 years of research, was conducted through inductive research methods, and was based on circa 400 studies. The authors proposed how “*the most effective goals for increasing performance are those that are specific and difficult*”. Various studies from different perspectives have supported the theorem. Consequently, GST continues to be relevant work motivation theory on the 2020s. (Locke & Latham 2019.)

2.3.2. Mechanism: How Goals Operate

Goal Setting Theory (1990) is a work motivation theory. Goal Setting Theory’s premise was based on Ryan’s (1970) presupposition that consciously set goals affect action. Locke and Latham (2002: 2) describe goals as “*the object or aim of an action, for example, to attain a specific standard or proficiency*”. Locke and Latham focused their research on understanding the relationship between consciously set performance goals and level of task performance.

Goal Setting Theory (or GST) has proven that *specific and difficult goals lead on higher performance*. Difficulty is defined as how challenging a task is. Specificity is defined as how precisely the task or goal is clarified for individual. Higher performance is defined as the effectiveness of task performance (e.g. higher productivity). Higher performance tends to have various positive effects for individuals and organizations. For instance, individuals can increase their task- and self-confidence when they meet challenging goals, and organizations can become more effective and increase their competitiveness. (Latham & Locke 1991; Locke & Latham 2002.)

Specific and difficult goals are compared to easier goals, vague goals, or do-your-best goals. Easy goals are defined as goals of which require no high effort to be achieved. Vague goals are defined as goals which lack the specificity of what should be done. Do-one’s-best – goals are goals, in which individuals are told to do their best, and neither precise information of required goal nor high expectancy are given. GST found that specific and challenging goals

led constantly on higher performance, compared to do-one's-best – goals. One explanation is that do-your-best – goals usually lead on subjective interpretations, and thus might not be considered as high performance by supervisor. (Latham & Locke 1991.)

Difficulty of a task or goal can be anything from easy to impossible to attain. For instance, one can have a goal to run 500m or 5500m in 20 minutes. GST discusses that when a goal is difficult to achieve, individuals tend to have stronger effort to obtain the goal, which leads on higher performance levels. Further, it is important to emphasize individuals' tendency to have different perceptions on the concept of difficulty. Factors affecting perceptions of goal difficulty are e.g. individual's abilities and skills, and sense of commitment. While individuals' perceptions of challenging goals might vary, in principle the harder the goal is, the harder it feels for everyone (and vice versa). (Latham et al.1991.)

Specificity of a task or goal is essential for the objective of a goal not to be vague, as vague goals can be interpreted in many ways. Specificity helps one to understand the desired goal and to adjust one's actions towards the goal. For instance, a goal to “be a better runner by next Fall” can be interpreted in many ways, such as being able to run 10km by Fall or have a better running technique by Fall. Further, specific goals at themselves have been found to not be enough for increasing performance, and thus must operate together with challenging goals. This is mainly because goal can be at the same time specific and easy to acquire. (Latham et al. 1991; Locke et al. 2002.)

Goals have an important objective to enhance individuals' self-regulative skills. *Self-regulation* is discussed to be within the goal setting process, as eventually, individuals choose whether to regulate their actions towards the goal. Goals define the minimum- or desired performance-level, which further incentives individuals to thrive towards the goal, and thus influence individuals' current and future self-regulative actions. Once an individual chooses to strive towards the goal, mediators of GST activate. (Latham et al. 1991.)

Lastly, it is vital to emphasize once more how thriving towards a goal is voluntary. That is, individuals must choose to take purposeful actions for being able to achieve the goal. Latham et al. (1991) discusses that individuals has to have clear sense what they want to achieve, set goals to achieve this, choose the manners by which they thrive towards the goal, and choose

to act towards the goal. (Latham et al. 1991.) Further, consciously set goals must be important for an individual, for commitment to actually happen (Latham 2016^a).

In order for theory to be qualified as a theory, causal relationship must be found, mediators explaining the causal relationship must be identified, and moderators of the theory boundaries must be defined (Latham 2016^a). Goal Setting Theory states that specific, difficult goals lead for higher performance. This statement acts as the causal relationship, and next this thesis will define the mediators and moderators of GST.

Mediators of Goal Setting Theory

Goal Setting Theory has identified four mediators to explain why high goals lead on high performance. Mediators explain the causal relationship of high goals leading on high performance. These mediators are: Directive function (or goal choice or attention), Effort (or intensity), Persistence (or duration), and Relevant task strategies.

Firstly, high goals have an important task *to direct individuals' actions*. When one has a clear picture of a desired goal, as well as the goal being challenging for one's capacities, one's attention and efforts are most likely on finding relevant ways to achieve the goal. Difficult goals are occasionally accompanied with challenging yet reasonable time limits (see Persistence). The focus on goal-relevant tasks is done at the expense of other activities, as one must reject non-beneficial activities and focus attention on activities that bring the goal closer. In other words, individual must choose to pursuit a goal. Thus, goal setting leads rather naturally on one being more efficient and goal focused. Researchers argue that the directive effect happen by both, consciously and subconsciously. (Locke et al. 2002.)

Secondly, high goals *increase and regulate individuals' efforts*. Latham et al. (1991) discuss that individuals tend to adjust their effort levels related to the challenge of a task. That is, when a goal is easy, low amount of effort is required, whereas when a goal is challenging, greater amount of effort is required. For instance, if two goals that are easy and challenging for individual to achieve are compared – such as conducting a thesis on 18 months or on 6 months – it can be assumed that individual is more likely to use time and energy more efficiently on e.g. conducting a thesis on 6 months. Latham et al. (1991) discussed that this

mediator is at the core of explaining why difficult goals tend to have strong effect on performance.

Thirdly, high goals are found *to increase individuals' persistence*. Based on the founding research of LaPorte & Nath on 1976, GST describes that when individuals face challenging goal, the spent time usually increase. Yet when goals are imposed together with a reasonable time limit, individuals must find ways to complete the goal within the limit. This is seen to lead on more “rapid work pace”. (Locke et al. 2002.) Persistence is often discussed together with *tenacity*, which stands for overcoming obstacles and refusal to quit the task. For instance, Latham et al. (1991) discussed that when individuals were bargaining, individuals with harder goals bargained more persistently to achieve their goal, compared to easier goals.

Lastly, high goals are seen to lead on high performance when *individuals have and use relevant task strategies*. Most often, challenging goals include some complexity for an individual. For instance, complexity can occur because an individual has not done any similar tasks before, or have to take new responsibilities. As different tasks require different methods to conduct them efficiently, individual must discover new strategies and ways to complete the tasks. To simplify, when individuals face a challenging task or a goal, individuals use their existing skills and strategies from previous experiences. When the tasks are new for individuals, they must deliberately discover new strategies and put them into action. High self-efficacy and training on task strategies have positive effect on individuals' capabilities to achieve the task goal. (Latham et al. 1991; Locke et al. 2002.)

Moreover, directive function, effort, persistence, and relevant strategies cooperate strongly with each other. They tend to have each other supporting and even strengthening relationship. For instance, high effort can make individual more persistence, or having a clear direction might assist individual to create more relevant strategies related to the task.

Moderators of Goal Setting Theory

Goal Setting Theory have similarly identified four moderators. Moderators set the boundary conditions for the theory, in which the theory is applicable. That is, without these limits, the

theory does not apply. These moderators are Ability (or task complexity, or knowledge, or skill), Commitment, Feedback, and Situational factors (or resources).

Firstly, individual must have *sufficient ability to obtain the goal*. GST discusses that when an individual has necessary knowledge and skills, the goal is achievable. Too difficult or even impossible goals can make individual stressed and perform weakly. Ability has an important function on GST, as it is seen to affect many aspects of individual's self-confidence (see Figure 7). Ability is seen to influence one's self-efficacy (task related confidence), adjusting one's personal goals, and consequently, one's performance. (Latham et al. 1991.) In principle, high skills and knowledge (ability) can lead on higher task-confidence, higher personal goals, and on higher performance. Further, higher performance and higher rewards are seen to lead on higher satisfaction, and further on higher commitment to goals (Locke et al. 2002). This positive loop is described as High-Performance Cycle, which will be discussed in chapter 2.3.4. Lastly, when individual does not possess the necessary ability and skills to thrive towards the goal, using learning goals can be useful technique (of which will be discussed in chapter 2.3.3.).

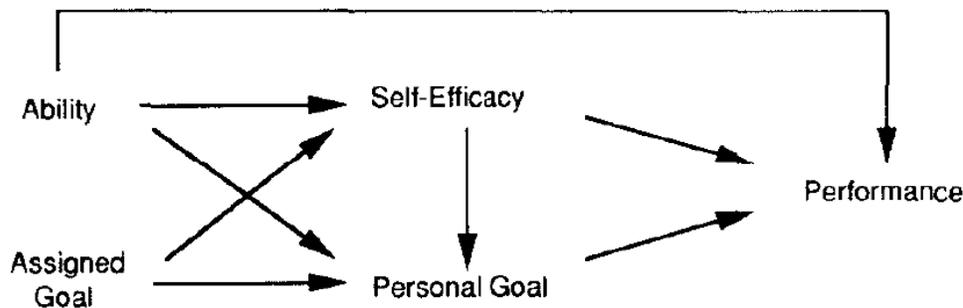


Figure 7. Relation of ability, self-efficacy, goals, and performance (Latham et al. 1991).

Secondly, individuals have to be *committed to achieve the goal*. Commitment is related to persistence. When individuals commit to the goal, the goal-performance relation is discussed to be the strongest (Locke et al. 2002). Vice versa, when individual does not commit to the goal, individual's actions are not likely to change. Commitment to goal is essential especially when the goal is difficult.

Commitment on goal is more natural to achieve when two factors are in place: importance and self-efficacy. Firstly, individuals tend to be more inclined to achieve the goal when the *importance of goal* and its *outcomes* are communicated on them. The importance of a goal can be transmitted in many ways, such as committing to the goal publicly, or making monetary incentives on achieving the goal and rewarding individuals for their performance. (Locke et al. 2002.) Further, leading individuals supportively and compassionately has been found to lead more likely on higher goal setting – and consequently higher performance – than authoritative leadership style (Latham & Saari 1979). Secondly, when individuals have *self-efficacy*, they tend to commit more on the goal. Self-efficacy can be described as task-specific confidence (Latham et al. 1991). Self-efficacy is an important part of GST and reflects on many areas, such as commitment, receiving feedback, developing task strategies, job attendance, and communication. Self-efficacy is discussed more on chapter 2.3.3.

Thirdly, Latham's and Locke's discussion regarding *feedback* is rather interesting. Latham and Locke (1991) argue that feedback as itself – as an information whether some action is performed correctly – is not enough to affect performance. Researchers argue that feedback which leads on setting of specific and difficult goals is actually *the* defining reason for increased performance. Thus, goals are discussed to act as a mediator of whether feedback is useful. Yet at the same time, Latham and Locke emphasize that feedback has moderating effect on whether goals affect performance. Thus, goals and feedback working together is the most efficient way to utilize them. (Latham et al. 1991.)

In other words, individuals can find it hard to know if their actions are leading towards the goal without feedback. As discussed, goals have a directive function to guide individual's actions towards the right actions, on the expense of non-beneficial activities (Locke et al. 2002). The importance of feedback is related especially on effort and task strategies. For instance, acknowledging that one is falling behind the goal, one might alter one's efforts accordingly and even change task related strategy. Should an individual reach the desired performance level, individual is likely to maintain the same actions towards the goal. Lastly, Latham and Locke (1991) discussed the optimal method to utilize feedback and goals. They concluded that individuals who are at the beginning *dissatisfied* for falling behind the goal, yet have *strong confidence* that they can increase their performance level, will *increase their goals* and consequently performance. (Latham et al. 1991.)

Fourthly, for goal setting mechanism to function properly, *necessary situational factors* (or resources) must be in place. Situational factors are external resources such as leadership, equipment, and team members. Situational factors have especial effect on commitment and ability. When these factors are on place and act supportively, goal-performance relationship gets strengthened. Similarly, when e.g. leadership does not provide individual with necessary skills and abilities, or team members act in a way that reduces individual's commitment, the relationship gets hindered. Thus, situational factors and resources can have enhancing and reducing effect on individual's goal-performance – relationship. (Latham 2016^a.)

The Mechanism of Goals

To summarize, Goal Setting Theory relies on strong empirical research and is perceived as a valid work motivation theory. Having challenging and specific goals can have many positive effects on individual's performance, such as clear direction where to head, increased task-related effort, stronger persistence to withstand obstacles, and creating relevant strategies for achieving the goal. For Goal Setting Theory to operate sufficiently, individual must possess task related skills and abilities, be commitment to achieve the goal, have goal-related feedback, and have necessary support regarding environmental factors. When the above discussed factors are applied, higher and challenging goals lead on higher performance.

2.3.3. Other relevant elements

In addition to the mechanisms of Goal Setting Theory, research on goal setting has identified other elements affecting goals. Following elements have been identified as applicable by Locke and Latham (2019), and thus is introduced in this thesis as other relevant elements.

Self-efficacy

One of the most significant 'external' concepts of Goal Setting Theory is self-efficacy. Theory of self-efficacy is largely based on work done by Albert Bandura. Bandura (1994: 2) describe self-efficacy as it follows:

“Perceived self-efficacy is defined as people’s beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives”.

Eventually, the concept of self-efficacy was included on Goal Setting Theory as an essential element of goal setting. Individual’s perceived (subjectively felt) self-efficacy level has many implications on how one view the environment around. For instance, individual’s self-efficacy is found to affect individuals’ feelings, thinking, well-being, and behavior (Bandura 1994). High self-efficacy levels have positive effects on individuals’ performance, and vice versa. Bandura (1994) discusses how higher self-efficacy levels make individuals, for instance take difficult task as challenges, not threats; take higher goals and commit on them; possess stronger resiliency when difficulties are faced; and make individuals less stressed. Vice versa, individuals with lower levels of self-efficacy, for instance are more prone to be stressed; abandon tasks and lower goals more easily when difficulties are faced; and take more time to recover from negative events and feedback (Bandura 1994).

In the context of work motivation, self-efficacy can be simplified as task-specific self-confidence (Latham et al. 1991). When it comes to Goal Setting Theory, self-efficacy has many important implications. On the most fundamental level, researchers have identified that individuals with high self-efficacy are more committed on goals, as well as develop more efficient task strategies (Locke et al. 2002). As commitment is a moderator of GST, and as developing efficient task strategies mediate the effects of GST, the importance of high self-efficacy can be perceived rather clearly. Further, partly belonging to fundamentals, individuals with higher self-efficacy tend to receive feedback on a more positive way. For instance, when individuals face negative feedback, the one with higher self-efficacy tend to remain more “unshaken” and keep their challenging goals high, rather than adjust their goals lower (Bandura et al. 1986). In addition to fundamentals, high self-efficacy levels lead to other positive aspects related to high performance as well. For instance, high self-efficacy is associated with high motivation, even when individuals would not reach the goal; individuals to perceive their abilities as increased to face future challenging goals: and individuals’ tendency to thrive towards higher goals and thus, towards higher performance (Bandura et al. 1986; Locke et al. 2002; Locke et al. 2019).

Altogether, individuals should strive towards high self-efficacy levels for various of reasons. Self-efficacy has positive effects on individuals' self-belief capabilities, of which reflect on all areas of individuals life, such as free-time and working environment. Similarly, organizations should make strong efforts for their employees to feel strong sense of self-efficacy. Locke et al. (2002) discuss of three effective methods for managers to increase employees' self-efficacy: providing necessary training for employee to succeed on the task, providing role models for employees to follow, and managers communicating actively their confidence on employee's ability to succeed.

Personal goals

Individuals' opinions differ. Some of us have a strong desire to achieve an appreciated position on an organization, whereas some of us only need to achieve a certain position in which one can live a comfortable life. Thus, it can be concluded that individuals' personal goals differ. While personal goals are as themselves a notable factor explaining individuals' actions, the research on Goal Setting Theory has found how personal goals have a strong influence on individuals' "conscious motivational determinants", as well as on the effects of which external incentives have on an individual. (Locke et al. 2002.)

Personal goals are affected by assigned goals and self-efficacy (see Figure 7, page 60). Individuals mediate their response on assigned goal through their task related self-confidence (self-efficacy) and their personal or self-set goals. Self-efficacy and personal goals then lead on certain performance-level, whether it is high or low. As Locke and Latham (2002) discussed, individual's conscious motivational action can be explained through this equation. That is, if individuals have high self-set ambitions and high confidence on their capabilities to perform the task well (self-efficacy), individuals drive towards high performance rather purposefully.

Individuals' actions can be influenced by different methods. Organizations use various of incentives to increase individuals' performance, such as social- and monetary rewards. Yet when it comes external incentives and personal goals, goal setting research suggests that personal goals and self-efficacy mediate the effect of external incentives. That is, individual's self-efficacy and personal goals affect how efficiently external incentives work.

Regarding external incentives, there is slight controversy whether monetary incentives are mediated by personal goals and self-efficacy. While Locke and Latham (2002) discuss how studies have shown the mediating influence of goals and self-efficacy towards monetary incentives, other studies have shown how instrumentality and outcome expectancies sooner mediate the effect of monetary incentives. When it comes to feedback, the mediating effect of personal goals and self-efficacy is stronger. For instance, Bandura & Cervone (1986) discussed how individual's self-set goals and self-efficacy mediates the effect of feedback. Individuals adjusted their self-set goals towards predefined standard, when they received feedback that their performance did not meet with the standard. Similarly, feedback mediated by self-efficacy had influence on performance, yet the influence was both, negative and positive (Bandura et al. 1986). Consequently, Locke and Latham (2002) summarize that when negative feedback is received, individuals benefit from high self-efficacy levels. Self-efficacy has influence on both, self-set goals and performance.

Altogether, personal goals influence the performance of an individual. Personal goals are affected by assigned goals and self-efficacy, of which can be influenced to certain extent. Further, monetary- and social incentives are used to encourage individuals to perform on a higher level. Yet the effectiveness of incentives is mediated by individual's personal goals and self-efficacy. Similarly, personal goals and self-efficacy affect how individual encounter feedback - especially when negative feedback is given.

Satisfaction or Affect

Research conducted on Goal Setting has revealed interesting findings about satisfaction (and affect). To begin with, GST has identified that goals indeed have influence on individuals' feelings and senses of satisfaction. Secondly, goals are discussed to be a thing which an individual uses as a reference of success. That is, when an individual is thriving towards a goal, individual is not likely to be satisfied until the goal is reached. Further, research on GST has revealed that reaching and exceeding the goal will increasingly raise individual's feelings of satisfaction. This apply on the other way around as well, as not reaching the goal will cause dissatisfaction, which will accumulate the more far away individual was left from the goal. (Locke et al. 2002; Locke et al. 2019.)

One of the most interesting findings of satisfaction-research has revealed a paradox, of which concerns satisfaction and difficulty–performance equation. Research has identified that when goals are difficult and hard to reach, individuals tend to perform better. It is even suggested that the sweet spot for reaching a goal should be between 70-100%, not reaching the goal (e.g. Prince 2020). Yet, research has similarly identified that individuals tend to be more satisfied the further they exceed the goal. Thus, easier goals lead more likely on satisfaction. Why, then, individuals with the highest performance and production levels are the least satisfied?

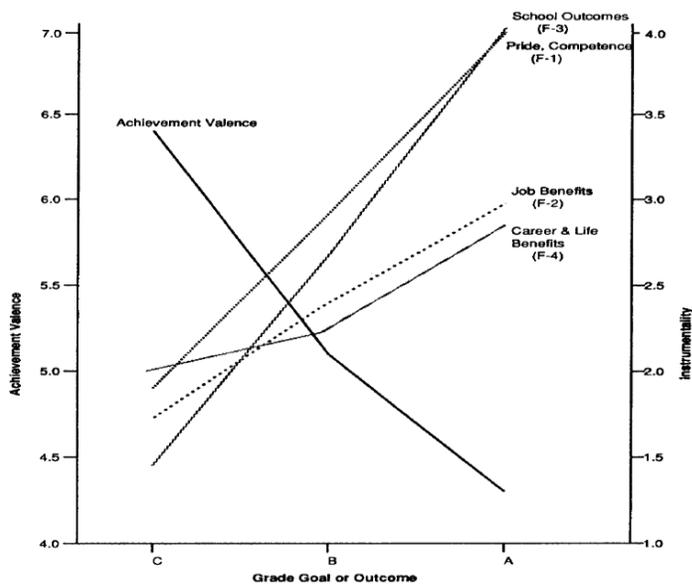


Figure 8. Achievement valence and future expectancies (Mento et al. 1992).

In simplicity, individuals with higher goals demand more from themselves to feel satisfied. Further, individuals with higher goals perceive the future outcomes and objectives (such as better career) as more appealing than their present satisfaction. (Locke et al. 2002.) These findings were verified on Mento's, Locke's and Klein's (1992) study, in which undergraduate business students' satisfaction- and grade-levels were compared. Individuals with lower grades (C) were more satisfied, and vice versa. While high grade (A) students were less satisfied, their expectancies regarding their future outcomes (such as excellent job offer or high starting salary) were much higher than lower grade students'. (Mento et al. 1992.) The findings of the study are presented on Figure 8.

Altogether, goals affect individuals' feelings and their perceived level of satisfaction. Individuals also use goals as an indicator whether they should be satisfied of certain level of work performance or not. While the highest performing individuals might be the least satisfied today, their expectancies regarding their future continue to motivate them to perform at high performance levels.

Proximal and Distal goals

Goal Setting Theory has identified the importance of timeframe of goals. Proximal goals stand for near-term goals (such as writing a sub-chapter), whereas distal goals stand for long-term goals (such as writing a thesis). Proximal goals tend to guide and clarify the journey towards the distal goal, which is especially important on the context of complex and challenging goal.

Proximal and distal goals have attracted many interesting studies. Firstly, Stock and Cervone (1990) conducted a research of comparing groups with achievable subgoals (proximal goal), unachievable subgoals, and without subgoals. All groups had the same complex, difficult task(s). They identified four ways how proximal and distal goals benefit the goal-performance equation. Firstly, individuals that had subgoals (proximal goals) in addition to distal goal – compared to control groups – had stronger self-efficacy levels, as their smaller goals led them to think their tasks were more manageable and their capabilities stronger. Secondly, individuals who reached proximal goals had higher self-efficacy levels and stronger belief that they can complete the distal goal. Thirdly, individuals reaching subgoals were more satisfied and evaluated their performance higher than two other control groups, despite the progress being the same. Lastly, individuals with attainable subgoals were more commitment and persisted longer with completing the task, largely tied on individuals' beliefs on their abilities to succeed on the task. (Stock et al. 1990.)

On the other hand, on some occasions moderately distal goals can increase performance more efficiently than proximal goals. Latham et al. (1991) summarize literature regarding moderately distal goals by discussing how individuals with high interest on the task can benefit from moderately distal goals, as individuals have higher flexibility regarding task strategies. As proximal goals tend to direct individuals' behavior towards certain action, on

some occasion's proximal goals can hamper individuals' creativity and problem-solving abilities. This will further make individuals concentrate on smaller details rather than exploring analytical strategies to reach the moderately distal goals. (Latham et al. 1991.)

Altogether, proximal and distal goals could be discussed to be an interesting tool to use when employees' goals are defined. On instances where individual could benefit from higher self-efficacy, proximal goals could be useful. On instances where individual has high capabilities, specific distal (or moderately distal) goal could unleash the potential of individual more efficiently. Yet as often, skillful and context specific use of both, proximal and distal goals can be the most efficient way to benefit from them.

Participative and Assigned goals

Research conducted on Goal Setting Theory has been interested on whether goal-performance equation could benefit from individuals participating on goal setting. Extensive research on participation in goal setting resulted on rather peculiar finding: goals that are assigned for individuals are as effective as participatively set goals (Locke et al. 2019). Most importantly, contradictory research stream had found out that participating on goal setting made individuals to perform on higher levels.

For understanding these controversy findings, Latham and Locke – who had resulted on assigned goals being as effective – formed a research partnership with Miriam Erez, whose patient research had found that participation in goal setting increased performance. Their research was eventually able to find out the underlying reason for contradicting results. The reason was found to be on how the goals were assigned for employees: Latham had made individuals to understand the importance of goal and acted in supportive manner, whereas Erez had been more brief or “curt” when she assigned the goals for control group (Latham, Erez & Locke 1988). Locke et al. (2019) further discuss that the increase on performance is due to increased quality of task strategies on individuals who participate on goal setting, and how the beneficial effects of participation can be grounded on knowledge exchange. Lastly, individuals' commitment can be enhanced when they participate on goal setting, yet sole increased commitment is not enough on its own to increase individuals' performance (Latham 1991).

Altogether, participating on goal setting can have beneficial effects on individuals' commitment and formation of task strategies. Yet if goals are assigned on a supportive and “tell-and-sell” manner, assigned goals' increase on performance can be as effective as participatively organized goals.

Learning and Performance goals

Studies have also investigated whether it is useful to aim towards increased performance through learning or performance goals. Performance goal stands for a specific task goal – such as making 15 insurance contracts on a month – whereas learning goal stands for discovering and understanding different task strategies and methods to increase performance – such as learning two new ways to sell insurance contracts for middle-sized enterprises.

The single most defining factor for deciding whether learning or performance goal should be used is ability. As discussed, ability is one of the moderators of GST's, and thus is prerequisite for difficult-goal-high-performance – equation to succeed. GST discusses that when individual possess required skills and knowledge, performance goal should be set. Vice versa, when individual lacks on essential skills, learning goal should be used. (Latham 2016^b.) When individual lacks on skills and have a complex goal, performance goal might make one to feel stressed and hinder the performance. Consequently, others with do-your-best – goals tend to have higher performance levels. (Latham 2016^a.) Moreover, like performance goals, learning goals must be specific and challenging. For instance, a goal to “learn two efficient insurance selling strategies for medium-sized enterprises” lay out the boundaries of learning goal more efficiently than “learning to sell insurances better” (Locke et al. 2019). Further, learning goals can be more effective on the context of primed goals. Latham (2016^b) discussed how a primed learning goal to obtain deeper understanding of subject resulted on better performance than primed performance goal. Lastly, learning- and performance goals can be used together, as long as individuals' mental capabilities is not stressed excessively (Locke et al. 2019)

Altogether, learning goals are an important tool to have when methods of Goal Setting Theory are implemented. Understanding individuals' skills and knowledge (ability) of the task define whether performance-, learning- or both goals should be used. When learning

goals are used, learning goals must be specific and challenging for increased performance to happen.

Primed goals

Research done from the 90s onwards has revealed, that Goal Setting Theory can be applied not only on consciously set goals, yet for primed (or subconscious) goals as well. The concept of primed goals is based on the work of John Bargh's Automaticity Model. The model states that external cues activate a certain 'desire', of which lead subconsciously for setting a goal and provoking action towards the goal. Further, primed goals are discussed to form on subconscious by two ways: subliminally and supraliminally. Subliminally stands for the priming happening without individual's aware, and supraliminally stands for the priming happening with individual noticing the stimulus (such as hunger) yet not being aware of its effects on individual's behavior and action. Lastly, situational factors and resources (such as leadership) are especially important moderator of primed goals effectiveness (Latham 2016^a; Latham 2016^b.) Naturally, as GST discusses, for stimulus to provoke certain action, individual must find the goal worth accomplishing.

As stated, Goal Setting Theory can be used on primed goals. For instance, Latham (2016^a) discuss how showing a picture of a woman winning competition was able to increase employees' performance by great margin, compared to control group. Further, primed goals can be used on the context of learning goals, as well. Locke et al. (2019) discuss that when the goal is complex for individuals, making a primed learning goal was perceived to raised performance higher than primed performance goal. Lastly, consciously set- and primed goals together increase individuals' performance higher, than either of the goal types alone (Latham 2016^a).

Altogether, primed goals are found to be a useful tool for increasing individuals' performance. Goals primed on subconscious act more efficiently when they work together with difficult and consciously set goals. Situational factors moderate the effect of primed goals.

2.3.4. Practical implications of Goal-Setting Theory on organizations

In addition to possessing a relatively strong validity and empirical background for academia, Goal Setting Theory can have many positive implications for organizations as well. After all, work motivation theories purpose is to benefit working environment as well.

High-Performance Cycle

As have been discussed, Goal Setting Theory consists of mediators, moderators, and other relevant elements. On Figure 9, a comprehensive summary of Goal Setting Theory's elements can be perceived. When all the elements are put together, at best, individual might develop a High-Performance Cycle (or HPC).

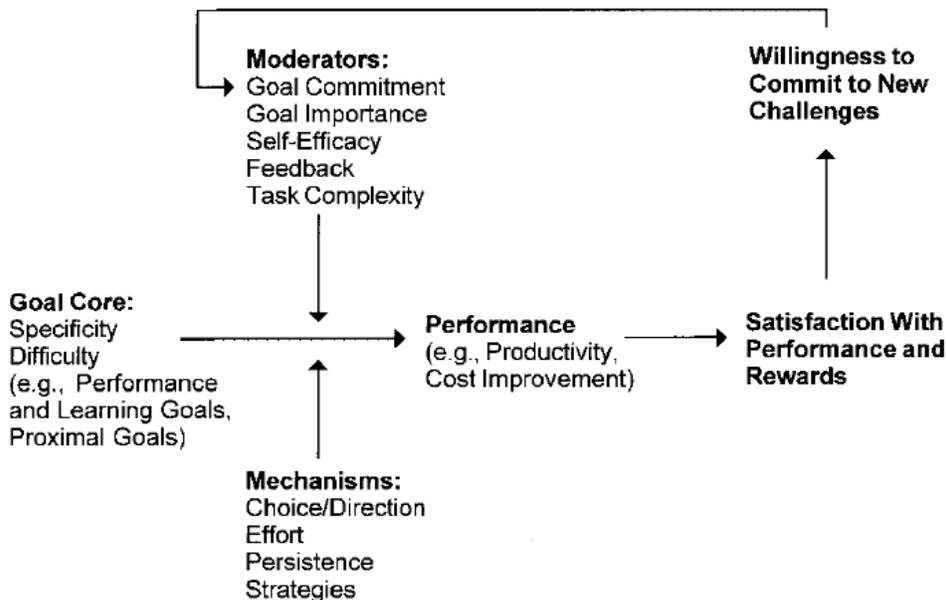


Figure 9. High-Performance Cycle (Locke et al. 2002).

The first part of High-Performance Cycle consists of (A) the difficult goal, (B) mediators explaining the causal relationship of goals and performance, and (C) moderators laying the 'positive' conditions for the goal. Performance is the result of these three working together. According to GST, when (A) a goal is specific and difficult and when the right supporting elements (such as learning- or proximal goals) are taking place; (B) when an individual is

embracing a goal and every four mechanism (such as being persistent despite obstacles) are taking place; and (C) when goal moderators define the conditions in which the thrive towards a goal is happening (such as receiving feedback of actions and strategies), high performance will occur. When high performance is occurring and difficult goal is (at least nearly) achieved, individual will receive social appraisal and rewards (such as monetary incentive, career opportunities, or social recognition). Satisfied with rewards and performance, individual's satisfaction will increase. Consequently, individual's self-efficacy (task-specific confidence) regarding future challenges and ability to obtain high performance will increase. With satisfied on one's performance and rewards, and with increased sense of ability and self-confidence, individual is perceived to be more willing to commit on new challenges. This will directly affect individual's commitment on future goals, and perceived ability to overcome even higher challenges and goals. (Locke et al. 2002.) Further, as was previously discussed (see Commitment), individual's high commitment on goal leads on the strongest goal-performance relation (Locke et al. 2002).

Locke and Latham (2002) further emphasize there are certain boundaries of which the High-Performance Cycle must have. Job satisfaction is discussed to affect performance only when: individual's organizational commitment increases; commitment will affect challenging goals; and GST's moderators are taking place (Locke et al. 2002). Borgogni and Della Russo (2012) supported the concept of High-Performance Cycle on their study. Borgogni et al. (2012) further recognized how feedback and support of supervisor were found to have influence on goal commitment, as well as how increased goal commitment and self-efficacy had direct influence on mediators affecting individual's performance.

Altogether, High-Performance Cycle is an outcome which Goal Setting Theory can at its best provide. When increased satisfaction, self-efficacy, and subjective ability leads on increased organizational commitment, individuals and organizations will benefit. On the other hand, it is important to emphasize that High-Performance Cycle is more of a concept rather than a formal theory. That said, empirical research has supported the findings. Thus, High-Performance Cycle could be discussed to act as an interesting incentive to implement Goal Setting Theory on organizational setting.

Productivity and cost efficiency

Various of studies have shown how implementing Goal Setting Theory can make organizations more productive and consequently more cost effective. As organization face ever growing globalization and the need to compete through efficiency, GST can be a useful tool for achieving competitive advantage.

Latham and Baldes (1975) studied the effects of which GST had on logging companies. The study concerned logging company employees, of who cut trees and loaded them on trucks heading for the mill. The initial situation had revealed that logging companies' employees were loading their trucks merely circa 60% full of maximum weight. Researchers set then a "*difficult yet attainable performance goal*" of 94% full trucks for employees. No punishments, rewards, or training was given for the employees. After 3 months of setting the difficult goal, employees were constantly loading their truck on circa 90% full: an increase of 50%. Researchers discussed how the specific, difficult goal clarified for employees what they should achieve, prompt employees to develop more efficient task strategies, and provided senses of accomplishment when performance levels increased. (Latham & Baldes 1975.)

Schmidt's (2013) interest was on identifying whether goal setting could provide increased economic value for organizations. Economic value was divided on two: increased dollar value, and increased percent output. Schmidt conducted a literature review on the subject, and approached the subject through Utility Analysis, of which concerns the economic benefits of productivity intervention (such as GST). Schmidt's study was able to recognize interesting findings. As for dollar value, goal-setting intervention was discussed to raise employees' efficiency rather significantly. On the context of an employee producing \$50 000 worth of value, goal setting was able to increase employee's dollar value output by \$9200 (or 18,4%). As for percent increase on output, Schmidt recognized that output increase varied between 20-50% over average employee output, depending on the skill-level of a job. As an example, Schmidt discussed how mid-level employee was able to increase output by 9,2% (0,46 x 0,2). Schmidt further discussed how organizations of which do not want to increase output (e.g. if organizations customers tend to buy circa the same amount every year), output increase can be utilized through decreased labor costs. The increased economic values were discussed to last as long as the productivity intervention lasted. (Schmidt 2013.)

As can be perceived from above examples, goal setting interventions have provided significant productivity increases. Productivity increases can be found on every level of organizations, from unskilled jobs to professional and managerial jobs. On the context of large organizations, productivity increases can result on large cost savings, ranging from tens of thousands to millions (Locke et al. 2002; Schmidt 2013).

2.4. Goal Setting in Virtual Environment

Through understanding the previously discussed three literature streams – virtual teams, leadership in virtual environment, and Goal Setting Theory – this thesis can proceed on making conclusions from the literature. Firstly, this thesis discusses the findings of each literature stream. Then, a synthesis of the streams is done. The synthesis provides a framework for the empirical study of this thesis. Further, the synthesis is based on Locke and Latham's (2002) High-Performance Cycle.

In the end, for leadership, *virtual teams* are teams as much as other teams. While virtual teams are described as more self-managing and -guided teams, leaders are prone to follow the same actions and responsibilities as with local teams. For instance, leaders have the responsibility to guide their virtual teams, set the goals and tasks, facilitate knowledge exchange, and so on. That said, virtual environment provides certain differences when compared to traditional, local environment.

Table 1 (page 18) represented us the recently most studied streams of virtual teams. When global virtual teams, effectiveness, and leadership were excluded – due to either being irrelevant (GVT) or included on this thesis in other ways (effectiveness and leadership) – the three most studied virtual team streams were communication, knowledge sharing and collaboration, and trust. These three virtual team streams were then studied from the perspective of performance. When this thesis studied the findings of the three virtual team streams, it became evident that the performance of virtual teams is affected by communication-, knowledge exchange-, and trust-related elements. Further, the three virtual team streams can affect each other, as e.g. reduced interpersonal trust may lead on reduced communication and knowledge exchange.

For *leadership in virtual environment* to be effective, leaders must understand the challenges of which teams will face in virtual environment. The studies conducted on effective leadership in virtual environment were able to reveal important sections to focus on. These findings highlighted, for instance the importance of creating processes and structures, specifying goals and tasks, providing active feedback, establishing trust between team members, making personal- and team goals more aligned, enhancing interpersonal relations, along with other themes.

At the core, *Goal Setting Theory* is a theory of work motivation, which discusses how and why individuals become and stay motivated. As we look at the focuses and challenges of virtual environment, the relevance of GST becomes clear. Goal Setting Theory can provide a one method or tool to assist leaders to understand what elements they should emphasize to increase team members' motivation and performance. Yet at the same time, the traditional methods of through which leaders apply elements of goal setting face a challenge from virtual environment, as well. For instance, certain moderators of GST – such as receiving feedback and necessary resources – have been found to need stronger focus in virtual environment. Therefore, studies of virtual environment might similarly assist the field of goal setting to understand how goals operate in virtual environment. After all, the utilization of virtual environment is expected to ever increase on years to come.

Consequently, this thesis perceives that each of the research streams can have a positive effect on understanding other streams. As the focus of this thesis is to especially understand if leaders should emphasize certain elements of goal setting in virtual environment, the synthesis of the literature streams is done from the perspective of Goal Setting Theory. Figure 10 represents the connections between *leadership in virtual environment* and *Goal Setting Theory*.

In Figure 10, the findings of leadership in virtual environment – literature have been connected with the High-Performance Cycle, a previously discussed concept of Goal Setting Theory. Each citation mark represents a study concerning leadership in virtual environment. The data gathering methods are discussed more accurately on chapter 3.2. (page 80).

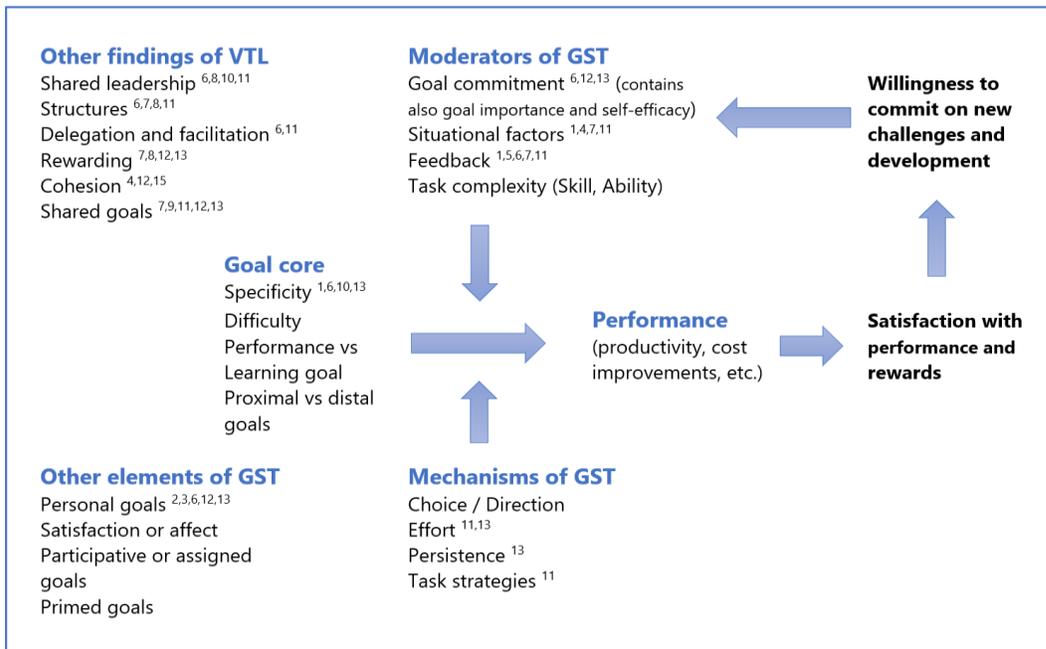


Figure 10. High-Performance Cycle (Locke et al. (2002)) with connections.

The figure represents the findings of the literature review, and a framework for understanding which elements of goal setting might require especial focus from leaders of virtual teams. Through comprehensive literature review on the three literature streams, this framework is able to contribute to the field of goal setting in itself. On the other hand, as the nature of this thesis is to conduct an empirical study, a more rigorous review on the literature could verify the findings of this thesis' literature review. Nonetheless, the framework provides a valid framework for conducting the empirical study of this thesis.

3. Methodology

In this chapter, the methodology through which this thesis got the necessary data to answer research questions is discussed. Firstly, the research methods which this thesis took for understanding the research area are discussed. Secondly, the ways of which this thesis took on gathering the necessary data are gone through. Lastly, this chapter discusses the methods that were used to analyze the data.

3.1. Research method

Qualitative research is a research method, which focuses on understanding human behavior from the perspective of an informant. Qualitative research method perceives the environment in which humans interact as dynamic and changing by nature. Thus, the methodology and data used in qualitative research are often connected with understanding an informant's perspective through interviews and observations; analyzed through theme's and descriptions; and the findings are reported with the "language of the informant". (Minichiello 1990: 4-5) Further, Töttö (2004) suggest that for a research to be defined as qualitative research, the research is most often founded on three elements. Firstly, qualitative research uses earlier studies and theories from the studied subject. Secondly, the studies used are most often empirically conducted studies. Lastly, qualitative studies tend to include the own thoughts and conclusions of the researcher. (Töttö 2004: 9-20.)

In this thesis, *qualitative research approach* was perceived as a suitable method for understanding how goal setting operates in virtual environment. As individuals' goals are connected on various different personal characteristics (such as personal goals, self-efficacy, and skills), the findings would be hard to quantify and generalize through quantitative approach. Further, on this thesis all the three elements described by Töttö (2004) are realized. Thus, qualitative research was found to be a suitable method for understanding our research subject.

The three generally used research approaches can be classified as follows: deduction, induction, and abduction. *Deduction* is a theory-oriented approach, in which the earlier

studies and theories are used as the basis of analyzing the data. Deductive studies aim to understand the theory or the framework on a new situation, in order for complementing the theory. *Induction* is a data-oriented approach, in which the data is used as the primary source of information. Thus, inductive approach proceeds from empirical research towards general theoretical results. *Abduction* can be seen as a mixed-oriented approach, in which a theory is used as a base for understanding the research area, yet the primary research focus is on supplementing the existing theory from a certain point of view. Thus, abductive can be seen to include elements from both previously discussed approaches. In abductive approach, the influence of a researcher is perceived to be significant, research is most often understood as context-specific, and subjective reasoning is thus viewed as a natural consequence. (Saaranen-Kauppinen & Puusniekka 2006.)

In this thesis, the primary focus is on understanding how goal setting operates in virtual environment, and if certain elements of Goal Setting Theory should be emphasized in virtual environment. Consequently, this thesis can be perceived to have elements from all of the three research approaches. For understanding the former research and being able to craft quality propositions for interviews, deductive approach was needed. At the same time, the second research focus is rather inductive, as the aim of this thesis is to supplement the existing theory on a new environment. Thus, *the nature of this thesis was perceived to be abductive.*

Theme interview is a data gathering method, in which the themes derived from the literature review are at the center of the interview. In theme interviews, interview questions are not specific and narrow, yet they are formed in a wider manner. The wider manner gives the interviewees opportunities to ponder and discuss the themes from subjective point of views. Theme interviews are perceived to be a valid data gathering method, for instance on situations when a subject of a study is less known phenomenon. Theme interviews are an often-used method for gathering data from qualitative research, and are occasionally used as together with quantitative research elements. (Saaranen-Kauppinen et al. 2006.)

Theme interviews require a thorough understanding of the research subject and literature, for the researcher being able to create suitable themes for the interview. The themes are created through a process called operationalization, which stands for transferring the research subject and research questions on an empirically measurable form. Moreover, theme interviews require that interviewees are chosen through their suitability for the study. That is, the

interviewees should not be chosen without understanding whether their experiences are relevant for the study. Lastly, and largely due to the nature of theme interviews and the process of creating themes, theme interviews are closely connected with content- and situation analyses. (Saaranen-Kauppinen et al. 2006.)

In this thesis, theme interviews were chosen as a suitable method for gathering relevant data. Due to the abductive nature of the research – understanding the literature and striving towards complementing the theory – classifying the empirical findings had to be done before interviews could be carried through. Therefore, consisting themes from the empirical findings was rather natural outcome of the literature review. The classification was able to recognize six themes, of which were emphasized as having greater importance on the virtual environment. Table 3 on page 81 illustrates the findings of the literature review.

Further, different elements of theme interviews were perceived to be suitable for this thesis. Firstly, the research subject of this thesis had not attracted plenty of study. Thus, the subject fits well on the category of “less known phenomenon”. Secondly, neither highly structured- nor free form-interviews were perceived as adequate method for understanding the subject and data. Thus, theme interviews’ ability to provide wide manner interview questions – together with defining the outlines of the subject – was found to be suitable method for gathering data. Lastly, interviews aimed to approach the subject from the perspectives of both, quantitative and qualitative methods. This further is applicable with the setup of theme interviews.

Triangulation is a research method in which the data is gathered from more than one perspective. Rugg (2010) recognize that there exist mainly four types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation. Each of the types consist of using more than one perspective within the type. For instance, on investigator triangulation, more than one researcher studies a same subject and participates on creating a study, or on data triangulation, more than one data sources (such as doctors and patients) are used. Moreover, utilizing triangulation may reveal certain controversies among the research area. For instance, when methodological triangulation is used, different data gathering methods (such as surveys and interviews) might provide controversial results. Surveys might argue that individuals are relatively satisfied with a certain situation, yet interviews might reveal that underlying dissatisfaction exists. As

triangulation may provide differing results from the same subject, triangulation increases the internal discussion within the subject area. Consequently, triangulation has been discussed to be a method for increasing the reliability of a study. (Saaranen-Kauppinen et al. 2006; Rugg 2010.)

In this thesis, *two types of triangulation were utilized*. Firstly, *data triangulation* was chosen. For understanding the research subject more comprehensively, two types of interviewees – superiors and subordinates – were chosen for the interviews. Through two types of interviewees, this thesis perceives that the reliability of this thesis was enhanced. Secondly, methodological triangulation was chosen. As Saaranen-Kauppinen & Puusniikka (2006) discussed, researchers could utilize the qualitative and quantitative research mechanisms more as together. In this thesis, the advice was heeded. In otherwise qualitative study, this thesis aimed to introduce a quantitative element on the interviews. Rather than using only abstract classifications, interviewees were asked to evaluate certain sections with numerical values, from 1 to 5. Numerical evaluations are perceived to provide a simple way for individuals to evaluate certain elements. Moreover, through using methodological triangulation, the reliability of the findings was – for the second time – expected to become enhanced.

3.2. Data collection

Before the data collection begun, classification of themes was done. The classification process started by recognizing the elements of Goal Setting Theory. All the elements that were discussed on sub-chapters 2.3.2. and 2.3.3. were recognized as relevant. After this, all the articles that discussed leadership in virtual teams were closely examined. For each article, a ‘citation number’ was given. When a connection between *an element* of Goal Setting Theory and *an article* of virtual leadership was found, a citation number was marked for the element. In cases when a repeating finding was found on articles, yet no GST element existed, the findings was marked on side. This was done for later comparison between elements and findings, as some aspects might be combined. Indeed, during the comparison, this thesis found out how certain elements and findings were compatible. The findings can be viewed on Figure 10 (page 76). The citation marks can be viewed on Appendix 1.

Eventually, the theme classification was able to recognize the elements of which virtual leadership literature emphasized as crucial for leading teams through GST. The relative variety of different suggestions among researchers was a minor surprise for the author of this thesis. On the other hand, leadership in virtual environment is such a large field that merely taking a different research focus will adjust the findings. Moreover, *it is critical to emphasize* that when an element received a citation mark – a connection between the GST theory and articles of VTL – the element was highlighted to be significant. Aspects such as motivating individuals' goal mechanisms (choice, effort, persistence, and task strategies) could be discussed to be always important. This can provide one reason for understanding why the mechanisms were highlighted less often. Nonetheless, Figure 10 (page 76) represents the classification process of connections, which is based on Locke et al.'s (2002) High-Performance Cycle. Table 3 represents the highlighted findings.

Table 3. Themes and connections.

Theme	No of mentions	Major connections with GST elements
Feedback	5	Direction, personal goals, effort, task strategies
Personal- and shared* goals ⁱ	5+4	Feedback, rewarding, self-efficacy, satisfaction
Shared leadership*	4	Participative goal setting, task strategies, commitment
Rewarding	4	Personal goals, satisfaction
Situational factors	4	Ability, commitment, feedback
Structures*	4	Specificity, Task complexity, situational factors
Specificity	4	Direction, difficulty, ability
Cohesiveness*	4	Situational factors, task strategies, satisfaction

*) Not directly included on Goal Setting Theory
i) Two compatible elements connected

The data was collected through theme interviews. The interviews were carried out on 26.10.–10.11.2020. The interviews were conducted through Google Forms – questionnaire, and the questionnaire included six sections: one for every theme. Table 3 illustrates the themes. Rewarding was not included as a theme for two reason: rewarding is significantly connected with personal goals, and rewarding often happens as a consequence of performance. In each section five questions were asked. The interviewees were either asked to estimate their

opinion in a scale from 1 to 5 (2 per theme), or write their subjective opinion to an open question field (3 per theme). Scale- and open field-questions can be found from Appendix 2.

The sample (interviewees) of the interviews consisted of Finnish *private companies' employees*, whose daily job assignments consisted primarily of *office work*. The interviewees had *reliable experience from working in virtual environment*, and were aged *between 18 and 35-year-old*. Altogether, there were 14 participants on the interviews: 11 team members and 3 team leaders.

The justifications for the sample are as follows. *Firstly*, there are three primary reasons for choosing private companies' office workers as the sample: this thesis is done for the faculty of business studies; the articles were gathered mainly from business- and economics related journals; and Goal Setting Theory is a theory of work motivation. Consequently, office workers were perceived as relevant and reliable sample for this thesis. *Secondly*, before the theme interview was begun, interviewees were asked if they subjectively felt they had enough experience to evaluate different aspects of working in virtual environment. Only the interviewees who felt their experience as sufficient were allowed to participate on the interview. *Thirdly*, the interviewees consisted of employees aged between 18 to 35 years old. Not only were the interviewees from a similar generation, yet these age groups have used different virtual communication methods most of their adult life as well. As these generations are generally perceived to have less difficulty with computer-related functional matters, interviews could be more focused on experiences and thoughts.

Background information consisted of age, experience of working on virtual teams, the current hierarchy level of position, and whether an interviewee is subordinate or superior. Hierarchy levels consisted of four options: office worker, specialist, special expert, and executive position. Moreover, as the sample size is relatively low, two compromises were done. Firstly, the anonymity of respondents was increased by eliminating the gender. While the interviewees were at least men and women, this thesis did not choose to categorize respondents through gender. Secondly, the opportunity to fill the questionnaire on Internet was perceived to reduce social pressure to answer in a certain way, as well as increase the quality of open question field - thoughts. Both of the aspects were perceived to increase the anonymity and the quality of answers: thus, the reliability of the study as well.

3.3. Data analysis

Collected data was analyzed by methods of content analysis. *Content analysis* is a technique in which a text-form data (content) is analyzed through a careful observation of the data. Content analysis strives to create a condensed picture of the research area, in order for understanding meanings, consequences, and connections of the data. Content analysis further connects the research on earlier studies done on the research area. Content analysis can be used together with deductive, inductive, and abductive research approaches. (Saaranen-Kauppinen & Puusniekka 2006.)

In this thesis, content analysis was chosen as a suitable method for analyzing data. As the nature of this thesis is abductive, the themes were based on the literature and categorized beforehand. As discussed, the literature review was able to recognize and categorize six themes: (1) Feedback, (2) Personal- and shared goals, (3) Shared leadership, (4) Situational factors, (5) Structures, and (6) Cohesiveness. These themes were used as the basis for conducting the data collection. The data analysis is based on qualitative content analysis method suggested by Elo and Kyngäs (2008)

To begin with, Elo et al. (2008) discuss that content analysis can be done through deductive or inductive approach. When a research subject is less known phenomenon, inductive approach is recommended. When earlier knowledge regarding a research subject is extensive and the aim is rather retest earlier knowledge on new context, deductive approach is recommended. (Elo et al. 2008.) As have been discussed, this thesis is concerned with understanding the theory of GST on a new context. Therefore, deductive approach is perceived as more relevant way to conduct content analysis.

Elo et al. (2008) divides the data analysis process on three phases: preparation, organizing, and reporting. *Preparation phase* begins with selecting a unit of analysis. Unit of analysis can be e.g. a word or a theme. Then, a unit of meaning is chosen. A unit of meaning can be anything from one letter to sentence to small number of pages. Lastly, researcher of the study should become “immersed in the data”, and understand “what is going on” with the data. *Organizing phase* consists mainly of two phases: of developing a categorization matrix, and of reviewing and coding the data to the identified categories. Structured categorization matrix

consists of only findings which “fit the matrix of analysis”. After the matrix has been developed, the data is carefully reviewed and coded on the matrix. Lastly, in *reporting phase* the analysis process and results are reported in as carefully manner as it is necessary for readers of the study to understand how the analysis process was conducted. Reporting should also include the strengths and limitations of the study, as well as discussion of reliability and validity of the data. Moreover, it might be useful to include tables, appendices, and authentic citations on the study, in order for “demonstrating links between the data and results”, as well as “to increase the trustworthiness” of the study. (Elo et al. 2008.)

Preparation phase. In this thesis, *themes* were chosen as the unit of analysis. As GST consists of certain different elements (moderators, mediators, etc.), creating themes around the elements was perceived as valid unit of analysis. As for unit of meaning, combination of *words* and *sentences* were chosen. The objective of this thesis is to gain increased understanding and general view of goal setting in virtual environment. Therefore, on data gathering, this thesis aims to understand the interviewees on a more comprehensive way. That is, this thesis aims to understand the underlying thoughts and experiences of what interviewees mean, when they use certain words and sentences. When sentences and choice of words are looked carefully, underlying attitudes of how the themes actually influence interviewees working can be revealed. Therefore, words and sentences together are perceived as a suitable way to gain understanding.

After the units were chosen, theme interviews were carefully gone through. The aim was to “become immersed” with the data and understand how interviewees experienced the different themes on their everyday working in virtual environment. For achieving that, every question and answer was gone through at least four times, with a slow and patient pace. Relevant sentences were gathered on table’s, relevant parts of sentences were highlighted, and interesting thoughts were further separated. Eventually, a document full of classified experiences, thoughts, highlighted attitudes, complaints, and praises came to exist.

Organizing phase. Organizing phase begun by creating a *structured matrix of analysis*. The structured matrix consisted of the open field – questions, and was divided on three columns: the question on the left, the first end of the spectrum on the middle (e.g. sufficient feedback), and another end of the spectrum on the right (e.g. insufficient feedback). The aim of the matrixes was to make it easier to comprehend findings of the theme interviews. Then, all the

content was carefully gone through, and the content was *coded* in matrixes. As Elo et al. (2008) suggest, only data that was relevant was included on the matrixes. Through coding, categorized matrixes begun to reveal. The matrixes summarized the findings on categories, of which can be perceived on Table 4. Further, should any similar categories exist, they were marked with superscript mark ⁱ (see Table 4, columns “Guide direction” and “Increase uncertainty”). This was done in order for combining similar categories for the reporting phase.

Table 4. Sufficient and insufficient feedback.

	Sufficient feedback	Insufficient feedback
1B. How sufficient / insufficient feedback influence your working at virtual environment?	Increase performance	Reduce motivation
	Open communication	Increase uncertainty ⁱ
	Guide direction ⁱ	

Reporting phase. Eventually, the findings of the interviews are reported in chapter 4. The findings aim to discuss the findings carefully and on as much detail as possible. For instance, many citations from interviewees are used, for increasing the trustworthiness of the study and reducing ambiguity of analyses. Tables were represented for increasing the reliability of the findings. Reliability and validity of the data are discussed on sub-chapter 3.4. The interview questions are provided at the end of this thesis (Appendix 2).

3.4. Validity and Reliability

Validity

In simplicity, validity of a study discusses of whether a study is done thoroughly, and if the findings and the conclusions are ‘factual’. At the same time, researchers are discussed to understand how each researcher has an own reality, of through which a researcher glances at the world. It is further discussed how research cannot provide a complete understanding of a phenomenon, as studies are not able to describe the settings and situations on reports as precisely and specifically as the settings and situations were understood by a researcher.

Consequently, the validity can be understood more as credibility and conviction. (Saaranen-Kauppinen et al. 2006; Töttö 2004.)

The objective of this thesis was to understand if certain elements of Goal Setting Theory should be emphasized in virtual environment. To gather empirical data of whether certain elements should be emphasized, theme interviews and content analysis were chosen as the primary methods for understanding the subject of interest.

The chosen research- and data analysis methods are perceived to be valid for understanding the aim of this thesis. As goal setting in virtual environment is a relatively lesser researched subject, giving interviewees an opportunity to express their experiences and thoughts without restrictions was chosen as a suitable method for understanding the environment. Indeed, while themes were chosen to guide the interviews, underlying reasons for understanding why certain elements and themes are perceived as more or less difficult in virtual environment could be identified.

As for data collection methods, there exist certain limitations. First of all, the sample could be described as random sample. As the aim of this thesis was not to provide a generalization for the field – yet to understand the thoughts and experiences of individuals – a broader sample was permitted. This, however, resulted on the sample being broader, which reduced the generalization of the findings. Consequently, the validity of the sample cannot be perceived to as high as it could have with different sample been. Moreover, a choice to increase anonymity at the expense of knowing interviewees was made (e.g. gender was not asked at the background questions). Through increased anonymity, this thesis assumed that individuals would be more willing to express their actual experiences and feelings. However, this resulted on the interviewees being rather completely anonymous, of which resulted on the impossibility of verifying certain answers – if a need would have risen. Due to these limitations, the validity of data collection methods is reduced from the optimal validity.

When it comes to the validity of the findings and conclusions, the findings and conclusions are perceived to be valid to a certain extent. That is, when data is interpreted, the social constructionism of a researcher is likely to come into play (Saaranen-Kauppinen et al. 2006). Understanding this implicit characteristic of qualitative research, the aim of this thesis was not to avoid this ‘flaw’. Instead, when findings and conclusions of this thesis were thought

and written, the impossibility to have a completely objective view was understood. At the same time, the aim was to inspect the findings on a truly careful and thorough manner. As an outcome, the validity of this thesis' findings and conclusions are hopefully as strong as they can be.

Reliability

To begin with, two types of triangulation were used. The other triangulation type included comparison between team members and team leaders. Yet the number of responses from team leaders was eventually left as narrow. For this reason, the reliability of team leaders' responses is not as reliable as with the team members. Secondly, optimal theme interviews include only narrow, certain type of target audience. While the aim of thesis was to get as targeted audience as possible, the target audience is not as optimal as it could be. For instance, the target audience could have consisted only of certain kind of job position, such as accountants or account managers. Through narrower target audience, the reliability of the empirical study could have been increased.

Saaranen-Kauppinen et al. (2006) introduce three ways to understand the reliability of a study: quixotic reliability, diachronic reliability, and synchronic reliability. Quixotic reliability is concerned with understanding in which contexts' certain method is reliable and consistent. Diachronic reliability discusses of how consistent measurement and observations are through different times. Synchronic reliability aims to understand the similarity of observations, of which have been gathered at the same time period. (Saaranen-Kauppinen et al. 2006.)

In this thesis, the *quixotic reliability* of research methods was perceived to be moderately successful. The interview questions were aimed to be as neutral and objective as possible, and based on the variety of responds the interviewees gave, the aim was reached. Further, on most of the questions, interviewees provided answers for the right question. While there were few occasions in which answers discussed a different subject than what the question asked, they were nonetheless rare. Further, the combination of qualitative open-ended questions with simple numerical evaluation assisted the author of this thesis to understand whether certain responds were critical, appraisal, or uncertain by nature. On the other hand, the lack

of ability to ask specifying questions was perceived to reduce the quixotic reliability of this thesis. Similarly, while the open-ended questions were perceived as a capable method for gathering relevant data, acknowledging interviewees non- and paraverbal gestures on questions could have resulted on understanding better interviewees' experiences. Now that this opportunity did not exist, some relevant data was most likely lost.

As for *diachronic reliability*, the interviews were conducted during a short time period of 16 days. There did not exist any longitudinal aspect on this study. Therefore, this thesis was not concerned with diachronic reliability.

Lastly, understanding the *synchronic reliability* of this study was a more challenging task. Due to the nature of this study, the findings of this study were not similar. For instance, as we come to understand, interviewees' opinions on the challenge of feedback in virtual environment varied rather evenly on both sides of the spectrum. While these findings are not inconsistent with each other, what can they tell of the synchronic reliability of the study? Eventually, the synchronic reliability was ignored as irrelevant for this thesis. The objective of this thesis was not to test consistencies among the subject, yet understand and reveal whether certain elements of goal setting should be emphasized in virtual environment. While two opinions of feedback can be inconsistent with each other, they can discuss the same matter and thus, provide understanding for us whether certain elements interact differently in virtual environment.

Moreover, Saaranen-Kauppinen et al. (2006) discussed how certain actions can be taken for increasing the reliability of a study. For instance, content analysis could include justified and open-written categorizations and coding; interviews could be pre-tested and rehearsed; and interviews can be recorded with audio or video. In this thesis, actions towards the above discussed were taken: the coding and categorization processes were aimed to be precise and specific; and interviews were recorded on writing for later inspection. Through these methods, it was further hoped to increase the reliability of this thesis.

4. Findings

In this chapter, the findings of the interviews are discussed. This chapter is separated on 6 chapters: each theme with its own chapter. *In each chapter, the order of discussion is the same. Firstly*, the theme and purpose of the interview-questions are introduced. *Secondly*, quantitative evaluations of interviewees are represented. *Thirdly*, the findings relevant to the research area are represented and analytically discussed. *Lastly*, the experiences of team leaders and team members are discussed, and the differences highlighted. If a quote from an interviewee is represented, the quote concerns the paragraph below the quote. Interview-questions can be viewed on Appendix 2.

4.1. Feedback

The first part of the interviews was interested on understanding interviewees' thoughts and experiences of giving and receiving feedback in virtual environment. The four questions regarding feedback were divided in two separate categories: whether feedback is *received and given sufficiently*, and whether *receiving and giving is perceived as challenging*. The first two interview-questions were interested with the sufficiency of feedback, the latter two with the challenge of feedback.

Whether the 14 interviewees experienced that sufficient feedback was given on virtual working communities was evenly divided. A moderate amount of scattering existed on evaluations, as the combined evaluations of both categories revealed that 10 out of 28 responds perceived having sufficient feedback as more challenging, and similarly, 10 out of 28 perceived it as less challenging. Slight variation was noted depending on the question, yet the combined evaluations balanced the questions well. Moreover, the relatively small amount (4 of 28) of extreme evaluations (grades 1 and 5) suggests that receiving and giving feedback was not perceived as neither a great success nor great problem among interviewees, yet something on the middle.

Sufficiency of feedback

"Feedback of work is important for me. [...] Now that it is missing, this has caused uncertainty of my work quality - is my work sufficient, am I good enough?" (Member)

The most evident finding of the interviews was the importance of which sufficient feedback has on *individuals' perception of direction*. Interviewees recognized that feedback increases their understanding whether they are heading towards the right direction. Five interviewees connected direction with such concepts as developing- and improving oneself, taking feedback seriously, and continuing work as it is. At the other side of the coin, three interviewees perceived that the lack of feedback has caused negative effects on their work. For instance, the above-stated quote is from an interviewee who perceived missing feedback as major part of increased uncertainty from both, personal contribution- and quality-of-work – perspectives. Another interviewee fretted over the lack of feedback, as the interviewee could not recognize whether anything should be improved or not.

"Depending on the nature of feedback, receiving feedback motivates me to either continue the same with increased energy, or possibly develop my work on something." (Member)

Sufficient feedback was further found to have effect on individuals' *motivation levels*, of which was mentioned six times. The influence was found to work on both ways: whereas one interviewee saw that feedback motivates and energizes one to improve or keep going on, another interviewee saw that low amount of feedback was connected on low motivation levels. Moreover, one interviewee described how positive feedback from a colleague can have a significant effect on one's well-being. Feedback's influence on *individuals' satisfaction* was similarly discussed, as two respondents highlighted that receiving positive feedback "feels always nice to have", and how positive feedback can "cheer me very much" during long distance-working periods. Lastly, feedback's ability to enhance *communication* was noted on two responds, of which discussed that feedback can "lower the threshold of communication" and "increase openness on a working community".

Challenge of feedback

"Feedback is often given on one-to-one discussions, or en passant when catching up with a colleague. Now these kinds of encounters do not happen." (Member)

The major challenge of feedback arose from *the different communication means* of which virtual environment forces individuals to interact with. While office-environment was discussed to make it effortless for individuals to encounter each other, eight interviewees experienced that virtual environment does not have this kind of element. Three interviewees highlighted how the amount of giving swift positive feedbacks for team members have reduced. Similarly, three interviewees highlighted that the lack of nonverbal- and paraverbal communication complicates feedback giving among team members. One interviewee discussed the increased need to be careful with word choices, while another fretted that it is hard to know how colleague reacted on the feedback without gestures. In three interviews, *organizational practices* were perceived to either have a positive or negative effect on giving feedback.

Experiences of team leaders and team members

"It is important to take care of that objectives and key performance indicators are fulfilled also in distance-working [...] This requires active concern [of team members]. Otherwise[,] especially on long distance-working periods[,] individuals might begin to lose it." (Leader)

"There could be more discussions between leaders and members, as in distance working normal spontaneous interaction doesn't happen. In distance working[,] team members feelings are not necessarily transmitted to team leader, and regular private calls [between leader and member] could catch this up." (Member)

Virtual team leaders were mostly concerned with having necessary time resources to give feedback for team members. Leaders were rather unanimous that if time for giving feedback is not reserved on the calendar, giving feedback is easy to forget. Indeed, some virtual team members seemed to be rather keen on noticing the lack of feedback. While both peer groups

seemed to acknowledge the flaws in feedback, team members seemed to put stronger emphasis on the lack of receiving feedback. Further, team members were eager to discuss the more challenging sides of giving and receiving feedback, as eight of them highlighted practices that had been challenging or bad. Nonetheless, team leaders and team members highlighted active feedback giving on both directions.

Especially the transition phase from office to virtual environment gathered comments from team members. One interviewee highlighted how “it would have been many times useful” to ask feedback of processes, and another interviewee discussed how “feedback among team would have been needed [...] how have we succeeded, has working been as good as earlier, is superior satisfied with the team’s performance”. Lastly, one leader highlighted that in virtual environment, it is more important to verify that the message was conveyed for the receiver as it was meant to.

4.2. Personal- and shared goals

The second part of the interviews was interested on understanding interviewees’ thoughts and experiences of compatibility of personal- and team goals. The four questions regarding feedback were divided in two separate categories: whether personal- and team goals tend to be compatible in virtual environment, and whether compatibility of goals is difficult to achieve through virtuality. The first two interview-questions were interested with goal being compatible or not, the latter two with the challenge of compatibility of goals.

Quantitative evaluations of interviewees suggest that personal- and shared goals are most often viewed to be compatible. Majority of interviewees (9 out of 14) perceived their personal- and shared goals as compatible, while merely one perceived that the goals are somewhat rarely compatible. When it comes the difficulty of having compatible goals in virtual environment, 8 out of 14 perceived that it is somewhat rare or rare to have difficulties on combining personal- and shared goals. The number of interviewees who perceived having compatible goals as either somewhat difficult or difficult was slightly higher (3 out of 14). Nonetheless, as the combined evaluations of both categories suggest, majority of interviewees (17 out of 28) perceive having compatible goals as less challenging, compared to responds of who perceived it as more difficult (4 out of 28).

Compatibility of personal- and shared goals

“It is good that goals are compatible, as then everyone knows what to do even when we are separated from each other” (Member)

When interviewees were asked how compatible and divergent goals affect their working in virtual environment, compatibility of goals was discussed to especially *increase individuals’ understanding of tasks and responsibilities*. Altogether six interviewees described how compatible goals have an ability to clarify what should be done. The mindset can be summarized on the quote found from above.

“Same goals ease working on distance-working situation. [Current] State of emergency [Covid-19 pandemic] has affected our common goals by [introducing] so-called “back to basics” hedgehog-tactic, and preserving normal business activities. In these common goals are important and personal development paths of secondary importance. This has affected my motivation during last weeks, as I feel that my personal development currently goes nowhere.” (Member)

Yet while most of the interviewees described compatible goals in positive way, two interviewees discussed how team goals can hamper their working. One interviewee fret that their current tactic of ‘back to basics’ has stagnated his or her career development and thereby reduced motivation (see quote). Another interviewee pondered that while compatible goals are good, the interviewee felt that when one is solely responsible of a goal, the working efforts can become increased (compared to shared responsibility regarding of goals). That said, both interviewees perceived that most of the time, personal- and shared goals tend to be compatible and work in harmony with each other.

Moreover, compatible goals were found to *ease the working* in virtual environment. The following phrase was stated nearly as identical by three interviewees: “The same goals tend to ease the working in virtual environment”. Further, three interviewees highlighted that trust among a team is a reason for compatible goals to work well. The trust was seen to reflect on areas such as trusting each other, and trusting for everyone to contribute their work for common goals as well as they can.

Challenge of compatible goals

“Compatible goals have been a topic of our chat group meetings for many times, which have led on common objectives” (Leader)

Interviewees generally found that making personal- and shared goals compatible is not more challenging in virtual environment. The most supported statement highlighted how *team objectives are defined well* on their team. Five interviewees pondered how clear objectives tend to make it easier to match personal goals with shared goals. One reason for this was proposed by two interviewees, of who praised their *team leaders for taking strong responsibility* of leading all goals, which made it easy for team members to follow their leader’s actions. Another reason for well-defined team objectives could be found from *active communication* among a team. Two interviewees highlighted that group discussions have made the goals being compatible more likely, and another two how group meetings and discussions would have made it easier to have compatible objectives and goals. A common mindset was also that goals were well defined at the beginning of virtual collaboration.

"I feel merging goals as challenging, as dialogical connection is harder to have. It feels like everyone thinks emails and Teams-messages are behind greater effort than walking to colleague’s workstation and discussing a matter face-to-face." (Member)

Similarly, interviewees found certain aspects to be more challenging in virtual environment. The most evident finding was concerned with *the virtual communication means*. Five interviewees agreed that making goals compatible is more challenging due to the communication. The reasons varied: one interviewee highlighted how emails and Teams-messages are harder ways to agree on goals (see quote); another one discussed how face-to-face time is easier; and the last one fret how the implementation of agreed objectives is harder to follow.

Experiences of team leaders and team members

When it comes to quantitative evaluations, team leaders and -members largely agreed with each other. Both peer groups evaluated that the goals are somewhat compatible, and

similarly, evaluated that the challenge of making goals compatible is somewhat rarely difficult. Thus, the consensus among interviewees suggest that compatible goals are generally perceived as achievable and somewhat rarely challenging in virtual environment.

As for qualitative descriptions, the beforementioned challenge with *virtual communication means* was highlighted by team members. Five interviewees discussed through different ways why communication has been difficult. As discussed, they evaluated the challenge of having compatible goals as somewhat challenging. While some members were quite skeptical of virtual communication, the sole mention of virtual communication by leaders was done by one leader. The leader discussed that their team has had discussions of compatible goals through chat, of which was described as useful. On the other side of the coin, four interviewees perceived that communication regarding of compatible goals has succeeded. Two of them highlighted leader's ability to lead the team, while two of them active communication through different virtual means.

4.3. Shared leadership

The third part of the interviews was interested on understanding interviewees' thoughts and experiences of shared leadership. The four questions regarding shared leadership were divided in two separate categories: whether individuals felt that their self-management skills are sufficient, and whether individuals perceive that functions of shared leadership and shared responsibility are challenging in virtual environment. The first two interview-questions were interested with self-management, the latter two with the challenge of shared leadership functions.

Interviewees' experiences on self-management were moderately good, as 7 out of 14 perceived that they had somewhat sufficient or sufficient abilities to interact in virtual environment. Merely 2 out of 14 perceived their capabilities as somewhat insufficient. When it comes to the challenge of sharing responsibilities and leadership in virtual environment, a slight larger scattering was noticed. While majority of interviewees (8 out of 14) perceived that sharing leadership activities is either somewhat easy or very easy, relatively more interviewees (3 out of 14) perceived it as somewhat difficult or very difficult. Nonetheless, slight majority of combined responds of both categories (15 out of 28) perceived shared

leadership – related elements as less challenging, while smaller number of responds (5 out of 28) felt them as difficult.

Self-management in virtual environment

"If others' support isn't needed, working isn't particularly place dependent. Correspondingly orientation or working new duties without particular close-support isn't necessarily ideal [...] Many will most likely have larger threshold to ask for support before one has used lots of time for researching information by oneself."
(Member)

Interviewees generally perceived that the key for effective self-management in virtual environment is *having necessary skills* to conduct one's tasks. Seven interviewees discussed that as they perceive their work-related skills and capabilities as sufficient, their performance in virtual environment have not changed that much. The descriptions of why interviewees perceived sufficient capabilities as important varied: one interviewee highlighted the capability and importance to set the pace and amount of work for increasing a sense of control; another discussed that the ability to self-coordinate one's actions sufficiently has made it possible to cope in virtual environment; and further two interviewees how their skills and capabilities has made it possible to work without the assistance of others. One explanation for having sufficient capabilities might be found from routines. *Pre-existing routines and habits* and the lack of changes on them were discussed four times as a reason for having sufficient capabilities.

"I have to use lots of time for self-education, as working in live learning would most likely be faster and practical." (Member)

On the other side of the coin, the five interviewees who described their skills and capabilities as insufficient, four of them fretted of *the large amount of self-education* they had to conduct. Two interviewees highlighted that asking minor questions and assistance is behind a larger threshold. Another interviewee agreed with the larger threshold, and discussed that as a rather new employee, the support of work community for an inexperienced employee seems to be completely lacking. The last interviewee was frustrated on the great amount of time he or she

must use on self-research, as “learning on live environment” would be more effortless (see quote).

Challenge of shared leadership

“Delegation and sharing responsibilities work fine on distance [working] as well. Yet it is important to bring opinions and observations forward.” (Leader)

While the respondents generally agreed that sharing leadership and responsibilities is not perceived as challenging, the reasons were distributed. Four interviewees experienced that *organizational practices* were a reason for shared leadership functions to be less challenging. Two interviewees praised their organizations ability to define tasks and responsibilities very precisely, and one interviewee gave appraisal for the team leader who has led the team when needed. Two interviewees also highlighted the good meeting-practices, as e.g., one team had made a habit of agreeing on matters at the end of every meeting

Four respondents discussed that *virtual meetings as efficient ways to collaborate* and conduct teamwork. As one interviewee described: “Yet on distance-meetings, it [agreeing on matters] is as effortless as compared normally”. Another interviewee highlighted their practice of getting together weekly and “thrash out” every issue and concern of team members have had. The only negative comment of virtual meetings was raised by an interviewee, of who discussed that meeting virtually is challenging when everyone cannot attend on the meeting.

Experiences of team leaders and team members

Team leaders and team members generally agreed that having necessary skills and abilities was a key for succeeding in virtual environment. As one leader highlighted, “sufficient capabilities make it possible to work independently”. Organizational practices and pre-existing structures were similarly connected on succeeding in virtual environment. Challenges on self-education was observed only with team members, yet most of them perceived the challenges as minor.

“This [sharing decision-making and responsibilities] hasn't actually felt as challenging. Every problem / obstacle is gone through together with a team or with a person in question.” (Leader)

“It [challenge of sharing responsibilities] depends on the situation. If decisions are made on team meetings, it's hardly problematic. Correspondingly[,] if they are made e.g. in email chains, a risk for misunderstandings is bigger.” (Member)

Yet while team leaders were generally unanimous that sharing responsibilities and leadership is rather effortless in virtual environment, team members were not as united on their experiences. Especially making decisions on email chains and chats gathered negative comments from team members. That said, most of the team members agreed with team leaders, and perceived that their teams have succeeded fine on sharing responsibilities and leadership.

4.4. Situational factors

The fourth part of the interviews was interested on understanding interviewees' thoughts and experiences of situational factors. The four questions regarding situational factors were divided in two separate categories: whether individuals felt that sufficient orientation and support were given for entering the virtual environment and coping independently, and whether individuals perceive that having support from team members and leaders is perceived as less or more challenging. The first two interview-questions were interested with orientation, the latter two with the challenge of having support.

Most of the interviewees (9 out of 14) perceived that the amount of orientation they received was either somewhat sufficient or sufficient. A smaller number of interviewees (4 out of 14) perceived the amount as insufficient or somewhat insufficient. When it comes to the challenge of asking and receiving support, the responds divided equally on both sides of the evaluations. 6 out of 14 interviewees perceived that receiving support was rarely or somewhat rarely challenging, and similarly, 6 out of 14 perceived it as very or somewhat very challenging. The number of extreme grades (1 or 5) was one for each side. Altogether, slight majority of combined responds of both categories (15 out of 28) evaluated support related

factors as less challenging to have, yet somewhat similar number of responds (10 out of 28) evaluated that support is harder to have in virtual environment.

Sufficiency of orientation for virtual environment

“I didn't get orientation, yet this [work] doesn't particularly need it. Short distance coaching - package gone through, in which was reminded of breaks and ergonomics which would be certainly important to remember.” (Leader)

Many interviewees perceived that there *did not exist a great need for orientation*. Four interviewees stated rather directly that orientation was not needed for their organizational duties and tasks. Two interviewees discussed that while orientation was not given, it was not particularly needed. One interviewee discussed a short distance coaching – package (see quote), another how pre-existing IT-skills were sufficient for carrying the work in virtual environment.

“I have had sufficient skills and orientation for working on distance. When it comes to the content of my job, orientation could have been more comprehensive[,] especially of different systems.” (Member)

Moreover, five interviewees described how sufficiency of orientation affected their working in virtual environment either positively or negatively. Two interviewees discussed how sufficient orientation had *facilitated their working* in virtual environment, whereas three interviewees highlighted how insufficient orientation *made it more difficult* to conduct their tasks properly. One interviewee discussed that the lack of sufficient orientation led on the interviewee researching necessary information by oneself, while another pondered how additional knowledge regarding different computer systems could have been given.

Challenge of receiving support

“Most often it's problematic to have quick answers, as emails and Skype messages doesn't necessarily have quick responses. Calling isn't neither always possible [...] e.g. because of meetings.” (Member)

Challenges on asking and receiving support in virtual environment revolved largely around *communication and information exchange* – related problems. Altogether nine interviewees described how virtual environment provides communication or information flow challenges for teamwork.

“Additional stress is caused because the flow of information is obviously challenging[,] especially on distance working. This results on additional work for many parties, as information has to be dug up by oneself to have it.” (Member)

Five interviewees discussed the difficulty of *having quick answers* in virtual environment. While interviewees were understanding why quick responds were not always possible to receive, this was nonetheless seen as a challenge. One interviewee pondered that he or she would not want to bother others all the while; another how sending constant messages could easily be seen as ‘commanding’ other colleagues; and another two interviewees how the lack of spontaneous interaction makes it more challenging to ask for assistance. At the same time, two interviewees highlighted that *the threshold to ask for assistance* increases. Moreover, two interviewees highlighted cohesiveness related challenges. One interviewee fretted that assistance requests seem to result on more negative attitude towards the person asking a question, while another discussed that their team seems to currently work more as individuals.

Experiences of team leaders and team members

“Despite of the difficulty of asking for assistance and the slowness of responds[,] in the end tasks have been always taken care of exemplary.” (Member)

While team leaders were generally brief on their comments regarding the challenge of asking and receiving support – one leader stated how assistance is available when it is asked, and another how asking is not necessarily difficult yet receiving might be – team members were quite talkative regarding of receiving support. As discussed previously, many team members highlighted the communication- and information exchange – related challenges. The insufficient flow of information was discussed to cause stress for three team members, while spontaneous interaction on offices was praised by four interviewees. That said, one leader acknowledged the problem and discussed that on their organization, additional problems had emerged as some employees had not followed mutually agreed communication-instructions, emphasizing the importance of structures. Nonetheless, a gap between leaders' and members' perceptions on support was noted.

4.5. Structures

The fifth part of the interviews was interested on understanding interviewees' thoughts and experiences of structures and routines in virtual environment. The four questions regarding feedback were divided in two separate categories: whether individuals are able *to have support from structures*, and whether *changing routines or structures* is perceived as challenging. The first two interview-questions were interested with the support of structures, the latter two with the challenge of changing structures.

Support of structures had the highest individual evaluation of questions by the interviewees. Altogether 11 out of 14 perceived that structures have somewhat supported or supported their working in virtual environment, whereas none (0 out of 14) evaluated structures as not supporting. Similarly, changing structures had relatively small number of interviewees who perceived it as somewhat challenging or challenging (3 out of 14), while most of the interviewees (10 out of 14) adapted on changes either easy or somewhat easy. Altogether, most of the combined responds of both categories (21 out of 28) perceived that structures do not often provide challenges in virtual environment, compared to evaluations with more critical views (3 out of 28).

Support of structures

“Processes which were laid out before distance working have ease the working of the team [...] Additional instructions hasn't been needed.” (Leader)

The ability to have support from structures was highly supported by interviewees. Interviewees found structures especially useful on *making working easier* in virtual environment, as five interviews connected structures with it. One interviewee discussed how pre-existing procedures and responsibilities make it easy to rely on them, another highlighted their “project frame” of which guide and ease their working on projects, while the last interviewee described their structures as “so clear” that following them is easy. Altogether, interviewees were satisfied with the structures they currently had.

Challenge of changing structures

“Clear structures, which have been improved even more due to the corona-situation [pandemic], guide working efficiently. Any essential part isn't forgotten, and therefore tasks get done in one go.” (Member)

Interviewees generally perceived that changing structures and routines are rather effortless. The reasons for this varied. Three interviewees highlighted how *instructions had been clear* on the state of change, while one interview saw the changes as so small that it had been easy to adapt on them. Most of the descriptions complied the usefulness of structures in other words, and one interview summarized the mindset well: “It has been useful that structures exist in the first place. If they would not, distance working arrangements would have certainly been a one giant hotchpotch”.

“Information flow has brought slight challenges, as information of reforms and changes must often be found by oneself. But when knowledge reaches the right person, it is easy to adapt on it.” (Member)

While interviewees mostly perceived that it somewhat easy to adapt on changes, few exceptions were identified. The most evident finding suggested that *information exchange*

was perceived as a reason for a team having effortless or difficult adaptation on changes. One interviewee highlighted that as everyone on their team are aware of changes, adaptation on changes is easier. On the other side of the coin, four interviewees discussed how inadequate information exchange makes adaptation on changes more difficult. One interviewee fretted that not everyone is able to participate on the meetings where changes are discussed, another highlighted that their team's internal information exchange had significantly reduced in virtual environment, while the third discussed the need to search for information by oneself (see quote).

Experiences of team leaders and team members

Team leaders and team members were rather unanimous on their perceptions of structures. The existence of structures and the ability to rely on them was appreciated by both groups.

4.6. Cohesiveness

The fifth part of the interviews was interested on understanding interviewees' thoughts and experiences of cohesiveness in virtual environment. The four questions regarding cohesiveness were divided in two separate categories: whether individuals *feel sensations of cohesiveness or loneliness*, and whether *creating and supporting cohesiveness* is perceived as challenging. The first two interview-questions were interested with the sensations of cohesiveness and loneliness, the latter two with the challenge of cohesiveness in virtual environment.

In general, cohesiveness related evaluations had the lowest values in the interviews. While interviewees were able to feel sensations of cohesiveness, only 2 out of 14 evaluated that they feel them somewhat often. Vice versa, 7 out of 14 evaluated that they feel cohesiveness either somewhat rarely or rarely. When it comes to challenge of creating and supporting cohesiveness, interviewees were more divided. While more interviewees (9 out of 14) perceived the challenge as somewhat difficult or difficult, relatively more interviewees (4 out of 14) felt that these activities are somewhat easy or easy to support. Nonetheless, slight majority of combined responds of both categories (16 out of 28) perceived that sensations of

cohesiveness are more challenging to achieve in virtual environment, compared to less challenging (6 out of 28)

Sensations of cohesiveness and loneliness

“[I feel] Cohesion mainly on team meetings held once in a week. Working from home is mostly very lonely. Occasional client meetings bring nice feelings of cohesion.”
(Member)

While most of the interviewees experienced that they are not able to feel sensations of cohesion very often, interviewees recognized certain moments that they were able to feel so. Most evidently, seven interviewees described how *team meetings* were able to provide at least somewhat cohesion among the team. One interviewee discussed how weekly team meetings were important for creating sense of cohesion, another how daily informal ‘meetings’ were a source of cohesiveness, while the third pondered that team meetings are “very occasionally” able to provide cohesiveness within the team. Moreover, *one-on-one discussions* were another source of cohesion for three interviewees. One interviewee argued that one-to-one- and sparring-situations with colleagues keep the virtual working “active”, while another interviewee praised how their team takes care of cohesion by continuous communication on Slack [chat platform] and calling to each other many times per day.

“I have felt myself really lonely most of the distance-working time. Work community is one of the best things in my workplace and it is shame, that it has disappeared.”
(Member)

Yet while interviewees were able to feel sensations of cohesiveness in virtual environment, most of the interviewees highlighted that the sensations were either minor, occasional, very occasional, rare, or not regular. Interviewees were more likely to feel less cohesion in virtual environment, and six of the interviewees described that they feel themselves *at least most of the time lonely* in virtual environment. An interviewee described how he or she feels loneliness in hours after lunch time, and another emphasized that while sensations of cohesiveness happen, they are “not by any means continuous or even regular”. Further comments regarding the minor amount of cohesiveness included one interviewee

highlighting how their team seems to currently work more as individuals than a team, and four interviewees commenting how work community does not seem to feel the same anymore.

Challenge of creating and supporting cohesiveness

“A human needs face-to-face interaction with others, which can't be replaced with video connection” (Member)

One theme among the interviewees rose above others: *virtual communication means are not able to replace live communication*. Altogether six interviewees fretted about the lack of live interaction. An interviewee described how their team is not able to catch up with each other on video meetings, as “the atmosphere isn't the same” as in “real encounters”. Other interviewees seemed to support the beforementioned, with one interviewee highlighting that he or she does not always have energy to make the effort to interact with others. Third interviewee highlighted that their coffee breaks include other activities as well – such as playing together – of which cannot be replicated in virtual environment. Moreover, *busyness of team members* was highlighted by three interviewees. One interviewee emphasized that individuals' different schedules and meetings have made it harder to spend time together, while another fretted it is truly hard to organize any cohesive activities as all the team members are already busy.

Experiences of team leaders and team members

“Team meetings, in which experiences are shared have certainly been very important for individuals working from afar. Coffee breaks with cameras on have also brought feelings of community!” (Leader)

“It is really difficult to organize anything that would advance community spirit, as everyone are busy and we aren't allowed to get together [due to the pandemic] [...] We don't tend to chit-chat the same way in video meetings, the atmosphere isn't the same as in real encounters.” (Member)

Team members were more likely to experience sensations of loneliness and inability to create cohesion in virtual environment, compared to team leaders. Whereas team members felt cohesion somewhat rarely and perceived somewhat difficult to create cohesion, team leaders' experiences were more neutral; leaders even evaluated abilities to create cohesiveness as somewhat easy.

5. Conclusions

The aim of this thesis was to understand whether leaders should emphasize certain aspects of goal setting, when they lead teams in virtual environment. Previous studies on virtual teams have been concerned with variety of topics, such as culture and diversity, communication, knowledge sharing, and leadership. However, focus on goal setting in virtual environment has been relatively minor. In this thesis, the aim was to combine the literature of leadership in virtual teams with the literature of Goal Setting Theory.

The research was conducted as theme interviews, and interviewees consisted of a variety of virtual team leaders and virtual team members. Altogether six themes were introduced for interviewees, who evaluated questions with two simplified, numerical evaluations and three qualitative, open-field questions. Eventually, this thesis was able to recognize four elements of Goal Setting Theory, which were found to have an enhancing or weakening effect on the performance of a virtual team.

The research question of this thesis was interested on understanding if *leaders should emphasize certain elements of goal setting when teams are led in virtual environment*. The findings of this thesis suggest that the performance of virtual teams can be enhanced by emphasizing the following four elements of goal setting: specificity of goals, ability, feedback, and situational factors. Discussion of the findings can be found from the next sub-chapter.

In addition to the research question, three specifying questions were asked. The first specifying question was interested on understanding *in which ways virtual environment differs from traditional working environment*. A glance at the recent research subjects revealed how communication, knowledge sharing and collaboration, and trust had attracted studies on recent years. Focusing on the three subjects, this thesis was able to recognize how communication-, knowledge sharing-, and trust-related elements are more likely to provide challenges in virtual environment than on traditional one. The influence of communication and knowledge sharing on virtual teams' performance was later supported on interviews.

The second specifying question asked *what leaders should understand of leading virtual teams*. The literature review on the subject was done especially for understanding how the performance of virtual teams could be increased. The review revealed how leaders should consider the following elements: formalizing team processes and structures; clarifying goals and direction with precision; acknowledging environmental factors; providing continuous feedback; establishing trust among team members; considering individuals' personal goals together with teams' shared goals; delegating leadership tasks and responsibilities for team members; and enhancing relations and cohesiveness among team members.

The third specifying question was interested on understanding *what are the core mechanisms of Goal Setting Theory and how they operate*. The core mechanisms of Goal Setting Theory are mediators and moderators. The four mediators – directive function, effort, persistence, and relevant task strategies – explain why Goal Setting Theory leads on higher performance. The four moderators – ability, commitment, feedback, and situational factors – set the boundaries for Goal Setting Theory. For instance, without persistence, relevant task strategies, sufficient ability, or feedback of individual's actions, an individual is not likely to achieve the difficult goal. Moreover, goal setting can include other mechanisms, such as proximal- and distal goals, or learning- and performance goals. Lastly, the effectiveness of goal setting is dependent on individual's personal factors, such as self-efficacy, personal goals, and satisfaction. Information of how the different mechanism and elements operate can be found from chapter 2.3.

The last specifying question asked *whether a comprehensive literature review can provide a valid framework for the empirical study of this thesis*. In chapter 2.4., this thesis proposed a framework for empirical study. Through short discussion, this thesis concluded that the framework was indeed valid for conducting an empirical study for the research subject.

5.1. Discussion

Specificity of goals

Specificity is at the core of a successful goal. In virtual environment, it might increasingly be so. The findings were able to reveal that many interviewees perceived specificity of goals

and tasks as factors for the effectiveness or ineffectiveness in virtual environment, throughout the different themes.

Interviewees discussed how *increased understanding of tasks and responsibilities* had the ability to support their working in virtual environment. Specifying tasks and responsibilities were similarly discussed on the literature. Maduka et al. (2017) highlighted that as virtual environment holds a certain amount of ambiguity by nature, providing specific goals and specific objectives can mitigate the ambiguity, whereas McCann et al. (2019) argued how formalizing team members' and leaders' roles and responsibilities is a key priority when leading virtual teams. Vice versa, the lack of clear understanding of tasks and responsibilities were connected on uncertainty of direction and development. Moreover, *well-defined team objectives* were observed as a factor for teamwork not being challenging. Hoch et al. (2017) highlighted that clear objectives and goals can make team members provide feedback for each other.

Further, interviewees highlighted how *structures and organizational practices* provided assist and support in virtual environment. Relying on structures and organizational practices was discussed to be connected on both, enhancing and weakening performance. Similar discussion could be found from the literature. Both, Bell et al. (2002) and Hoch et al. (2014) recognized that structures and routines – together with providing clear objectives – are able to provide stability and self-regulation for virtual teams, as well as reduce ambiguity in virtual environment. Hoch et al. (2014) further discussed how structures might be able to supplement leadership functions in virtual environment.

In virtual environment, specificity of goals and tasks was seen to make it possible for individual to adjust their actions and performance towards the right direction. As the literature recognized the importance of specific goals and tasks in virtual environment, so did the findings. The better individuals felt that their tasks and responsibilities are defined, the more likely they were to describe self-confidence-related sensations and ability to perform their tasks effortlessly in virtual environment. Similarly, lack of specificity and increased uncertainty usually signaled that an individual perceived working in virtual environment as more challenging. Further, findings seemed to carefully suggest that early-on established practices and routines can assist interviewees to cope in virtual environment.

Communication-related elements were found to be a disruption for achieving a clear understanding of goals and tasks. Giving and having quick feedback was often emphasized as challenging, which was discussed to lead on reduced understanding of one's performance. Virtual communication means were similarly discussed to make it harder to communicate with each other and exchange knowledge. Fortunately, organizational structures were found to facilitate the working in virtual environment and provide a reliable source on which individuals were able to rely on. Individuals of who perceived their organization's structures and routines as efficient were less likely to feel working in virtual environment as challenging. Communication disruptions were occasionally connected on knowledge exchange-related elements. However, as suggested by Sénquiz-Díaz et al. (2019), organizational structures were found to facilitate the knowledge exchange among team members.

While the findings do not particularly discuss that the need for specificity is *increased* in virtual environment, *the usefulness of having specific tasks and goals could be observed*. Interviewees with clear understanding of tasks and goals were more likely to feel their working in virtual environment as more effortless. Moreover, while the literature suggested that it might be difficult for virtual teams to adapt on changes, findings did not support this.

Ability

Ability is a moderator of Goal Setting Theory and it is proposed that individuals must possess necessary knowledge and skills to perform a task. When individuals' ability to perform a task is insufficient, increased stress and reduced performance might occur (Latham et al. 1991). The importance which sufficient ability has in virtual environment could be observed throughout the findings.

Findings showed that when interviewees felt their *skills and knowledge as sufficient*, they perceived their abilities to perform their tasks as less challenging. These interviewees were not likely to feel virtual environment as that much different, compared to conventional environment. On the other hand, when interviewees felt their *skills and abilities as insufficient*, an increased need for support was recognized. Yet at the same time, support was found to be difficult to receive in virtual environment. Consequently, this was found to lead

on increased self-education. Further, increased need for self-education and support was found to lead on feelings of confusion, uncertainty, and frustration.

Difficulties regarding insufficient abilities were mainly related on *communication* and *knowledge exchange*. Interviews revealed how communication was often described as challenging, whereas receiving necessary knowledge from others was highlighted from time to time. Communication- and knowledge exchange-related challenges are well-known in virtual environment literature. For example, Schaubroeck et al. (2017) highlighted how team members must believe that when they need certain information, they will receive it. Receiving the information was seen to lead on reliability of messaging and increased trust. Dube et al. (2016) further discussed how knowledge sharing is related on efficient cooperation and creation of interpersonal trust.

Interestingly, literature review on virtual leadership did not argue how ability and skills should be emphasized in virtual environment. Indirect discussion of sufficient ability was made by Bell and Kozlowski (2002), who highlighted that members of virtual teams are expected to have *experience* of working on virtual teams, which will lead on a more self-managed team. Liao (2017) similarly discussed the usefulness of *self-management skills*, highlighting how this will lead on team members guiding each other and sharing responsibilities effectively.

When work community is not able to provide support which an individual would need, increased uncertainty is a natural outcome to arise. Reduced support can then lead on increased need for self-education, which can lead on ambiguity and frustration. As interviewees with sufficient abilities were found to have less need for support, experience (on work tasks and working in virtual environment), self-management skills, and task-related skills might provide a useful way to reduce individual's need for support.

The necessity of having sufficient skills to conduct a task might be so fundamental part of performing a task well, that literature have not felt the need to emphasize it. Nonetheless, findings suggested that insufficient abilities can make working in virtual environment more challenging. Consequently, *focus should be laid on ensuring repeatedly that every individual have the necessary capacities to perform their tasks well.*

Feedback

Feedback has an important role on goal setting as guiding individual's behavior towards the goal. Without information, individuals might find it difficult to understand whether they are performing the right actions and heading towards the right direction. (Latham et al. 1991.) In virtual environment, receiving and giving feedback were not found to come that easy.

First and foremost, interviewees discussed how sufficient feedback has the ability to *increase individuals' understanding of their direction*. When a right direction was, interviewees were more likely to be able to do the right tasks, focus on developing themselves, and become satisfied. Similarly, insufficient direction was discussed together with increased uncertainty on work quality. Feedback was further connected on *individual's motivation*. Findings suggested that sufficiency of feedback can lead on both, positive and negative effects on individual's motivation. In the literature, minor discussion of the findings could be found. Maduka et al. (2017) highlighted that for individuals to understand their current performance better, leaders should focus on giving (especially) process feedback for team members. Further, feedback's ability to improve motivation (as well as satisfaction and performance) was identified (Maduka et al. 2017).

At the same time, giving and receiving feedback accumulated critique from interviewees. The difficulties were mainly connected on *the lack of giving spontaneous, quick feedback* on others. Interviewees perceived that when everyone are working at the same place, team members' threshold to give fast feedback for others (especially positive feedback) was lower. Krumm et al. (2016) recognized how immediate feedback might be lacking in virtual environment, which can lead on increased ambiguity. Further, albeit more indirectly and slightly less notably, findings seemed to suggest that *the lack of nonverbal- and paraverbal communication* can make it more challenging to give feedback through virtual means. Schaubroeck et al. (2017) highlighted how virtual communication means can weaken information delivery process.

Whether giving and receiving feedback was perceived as successful divided evenly. While the first half was relatively satisfied with the sufficiency of feedback and were able to focus on the tasks and personal development, the other half was more critical. At the core of many

critical attitudes seemed to be a frustration on the lack of receiving feedback and difficulties of interpersonal communication. Throughout the interviews, dissatisfaction on the amount of received feedback and the lack of asking team members' opinions were highlighted. Findings show how critics of feedback would have needed more proactive feedback-giving relationship – concerning process feedback and personal contribution. The flaws of feedback were pointed out by team members.

Altogether, findings of this thesis suggest that giving and receiving feedback can affect individual's efficiency. As team leaders and team members are not as reachable in virtual environment, spontaneous, quick and continuous feedback is less likely to happen. At the same time, communication related challenges exist. Individuals need feedback for understanding that their actions and direction is correct, and the need is not reduced in virtual environment. As virtual environment provides a challenge for giving feedback, *it might be useful for leaders to focus on finding the right methods for giving active feedback in virtual environment.*

Situational factors

Situational factors are resources and factors of which are dependent on external factors. That is, individual's capabilities to influence these factors are small. For instance, equipment, facilities, leadership, and support are mainly perceived as being outside of individuals influence. (Locke et al. 2019.) When it comes to situational factors, leaders can expect challenges to emerge.

The importance of community was discussed to become increased in virtual environment. Mainly because the community is not reachable and present at the same way, challenges that would not otherwise rise became highlighted. Especially *the lack of social elements* and *distance between the team* were discussed. Literature has been largely interested on the reduced sociability of virtual environment. For instance, Gross (2018) argued that without interpersonal relations, team members might become more focused on personal- than team goals, Lin et al. (2008) discussed that cohesion acts as an important link between communication and coordination of team tasks, whereas Brahm et al. (2012) found the ability of cohesion to mediate equation between goal setting and team's performance.

Further, findings suggest that *the ability to receive support* is reduced in virtual environment. The importance of asking and receiving support became emphasized throughout the interviews. Researchers have approached the challenge from different perspective. For instance, Huang et al. (2002) highlighted how creating “group support system” is important for reducing the need for support from others, whereas Hoch et al. (2014) discussed the usefulness of implementing structures and routines from early-on.

While the importance of community was recognized, creating sensations of community were generally unsuccessful. Nearly half of the interviews described themselves as feeling at least most of the time loneliness, while others mostly got along with the situation. As literature discussed, teams working as individuals is not an optimal situation, and might lead on downsides such as reduced coordination of tasks and performance. Challenges related to the social elements are widely studied and different methods for improving cohesion in virtual environment is continuously suggested. Yet as the findings suggest, current solutions were not able to address the needs of the interviewees.

Receiving support was similarly perceived as challenging. The challenge of receiving support was especially concerned with *the difficulty to ask and receive quick answers*. The difficulties were often connected on *virtual communication means* (such as emails and instant messaging) and *increased threshold to contact* work community. Krumm et al. (2016) stressed the difficulties of which asynchronous communication provides on immediate interaction with team members, which is likely to lead on prolonged confusion. Increased threshold to contact others was discussed together with individuals fretting over whether they could constantly bother others. Based on the findings of this thesis, it could be argued whether necessary training and ‘social etiquette’ for using virtual communication means had been introduced.

Latham (2016^a) has proposed how situational factors tend to have especial influence on individual’s commitment and ability. While the support for decreased commitment was rare, the effect on ability could be recognized. Findings suggest that when individuals cannot have the support they need, stress and confusion can increase. Consequently, *understanding the importance of work community and receiving support is an essential step for improving individuals’ satisfaction in virtual environment*.

5.2. Theoretical contribution

The aim of this thesis was to understand if certain elements of goal setting should be emphasized in virtual environment. During the research process, this thesis was able to support earlier research conducted on the virtual environment, and recognize a direction in which future research could head on.

First and foremost, the findings of this thesis seem to suggest that *the importance of three moderators of Goal Setting Theory might become emphasized in virtual environment*. Altogether, three out of four moderators – feedback, ability, and situational factors – were found to have an effect on interviewees’ effectiveness in virtual environment. Similarly, *specificity of goals and tasks might become emphasized*. Figure 11 illustrates the findings.

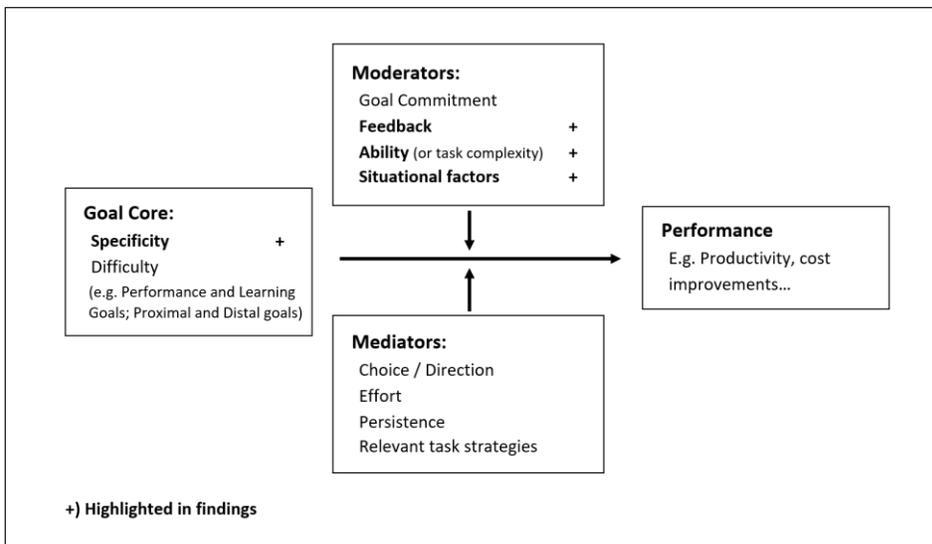


Figure 11. Goal Setting Theory in Virtual Environment (based on Locke et al.'s (2002)).

The theoretical contributions concern especially understanding how goal setting operates in virtual environment, and extends Goal Setting Theory on a new environment. As discussed on introduction, research on virtual teams has not been particularly concerned with the elements of goal setting. While individual studies have been conducted on goal setting, the main focus has been elsewhere. Similarly, Goal Setting Theory have not been extensively tested in virtual environment. This thesis was able to recognize four studies – Huang et al. (2002), Hertel et al. (2004), Forester et al. (2007), Brahm et al. (2012) – which were focused

on goal setting in virtual environment and included citations from Latham and Locke. Consequently, the motivation for testing elements of Goal Setting Theory in virtual environment existed.

Further, it is essential to emphasize the study of Forester and Pinto (2007). On their study, Forester and Pinto (2007) were able to identify how high-quality goals and goal commitment have influence on virtual teams' performance. As discussed, goal commitment is a moderator of Goal Setting Theory, as are feedback, ability, and situational factors. By combining the findings of Forester and Pinto (2007) on the conclusions of this thesis, it could be argued that moderators of Goal Setting Theory seem to become emphasized in virtual environment.

Nonetheless, the importance of the three moderators and specificity became highlighted on the findings. Of course, these findings cannot be taken at face value, and further research is needed. Nonetheless, the findings increased our understanding of goal setting in virtual environment, and can provide a framework of which future studies can strive towards.

Secondly, *communication* and *knowledge exchange* in virtual environment have attracted plenty of earlier study. As discussed, communication and knowledge exchange-related elements are perceived to face difficulties in virtual environment. *The findings of this study support the earlier discussion regarding communication- and knowledge exchange-related challenges.* Throughout the interviews, interviewees discussed the challenges that communication provides on receiving support, providing feedback, and feeling sensations of cohesion. Similarly, the interviews highlighted how knowledge exchange was related on receiving support and managing one's skills and in virtual environment

While the findings could be widely expected, it is nonetheless useful to emphasize how communication- and knowledge exchange-related challenges have not yet been resolved. On the 2020s, the challenges still exist, and the work to refine them should be continued.

Lastly, *the framework* in which the empirical study of this was based, was a contribution for the field of goal setting in itself. No similar framework for connecting leadership in virtual environment with goal setting could be identified during the writing of this thesis. That said, a more rigorous literature review on the literature streams of this thesis should be conducted,

as the purpose of this thesis was not to conduct a complete literature review on the literature streams.

5.3. Managerial implications

Goal Setting Theory is a theory of work motivation. Work motivation theories are interested in understanding how organizations could increase the motivation of individuals. Therefore, the findings of this thesis are similarly meant for practical use of organizations. Following are the suggestions of which could be concluded from the findings.

Understand team members as individuals

In the end, teams consist of individuals. Individuals have different personal goals and needs, together with variety of motivation factors they perceive as effective for them. Therefore, *it is foremost essential to emphasize how teams should be understood as collection of individuals*. As we could perceive, individuals experienced working in virtual environment through variety of lenses. Only by understanding how an individual subjectively experience working in virtual environment, leaders (among other team members) are able to support the individual as effectively as possible. After all, when two individuals complain how they receive insufficient amount of feedback, the first might need more process feedback from a leader, whereas the second would require more quick positive feedback from team members.

Create specific tasks and goals

In virtual environment, distance between an individual and working community is wide. Therefore, *it is essential to define individuals' tasks, goals, and responsibilities specifically*. Specific tasks and goals can increase individuals' understanding of their actions and direction, whereas specific team-objectives can increase the effectiveness of teamwork. Structures and organizational practices can provide support for individuals. These three actions can then reduce ambiguity and increase efficiency of individuals and virtual teams.

Ensure team members have necessary skills and knowledge

While the need to have necessary skills and knowledge to perform a task might be self-evident, it is nonetheless critical to understand how insufficient skills affect individuals' performance. Insufficient skills were discussed to lead on increased confusion, uncertainty, and frustration. The difficulties were largely connected on weakened communication and knowledge exchange, of which are rather integral part of virtualness. Consequently, *it is important to ensure early-on that individual possess necessary skills and knowledge to perform their tasks*. This can lead on reduced ambiguity and need for support, which can enable individuals to work more independently in virtual environment.

Recognize different feedback tendencies

Feedback was found to have effect on individuals' understanding of their direction, and their motivation. These two alone are useful reasons for emphasizing feedback in virtual environment, of which is prone to misunderstandings and ambiguity due to the nature of virtual communication. Further another reason for emphasizing feedback exists, as feedback was found to be a two-sided matter. While one half of interviewees perceived their feedback as challenging, the other half experienced received feedback as sufficient. It might therefore be important to recognize individuals' differences on what kind of feedback they need: active or passive, process or result. Lastly, interviewees fretted the lack of quick, positive feedback that they received on offices. Finding ways to provide quick, positive feedback for others (such as anonymous positive feedback box) might increase satisfaction and motivation of individuals

Find ways for the work community to be present

In virtual environment, the distance between individuals is wide, and the work community is not present the same way. The importance of community varies between individuals, yet often, most of us tend to need the support of work community on some matter. When a need for community's support arises and the community is not available, prolonged ambiguity might lead on reduced efficiency and satisfaction. For these moments, *it is helpful to have*

effective ways on place for the work community to be present. These ways can be anything from organizational structures to intra-team agreed practices.

5.4. Limitations and future research

Limitations of the thesis

As an author of this master's thesis, my sincerest goal was to conduct the thesis as creditable as possible. Therefore, this thesis was crafted with a careful touch in detail, with every conclusion as justified on findings and earlier research as possible. Indeed, this thesis was able to recognize how certain elements of goal setting can be challenging in virtual environment, and therefore increased our understanding how goal setting can operate in virtual environment. Yet as could be expected, certain limitations in this thesis exists.

Firstly, it is essential to emphasize how *the objective of this thesis was not to provide a factual generalization for the field.* On this thesis, the flaws of conducting a limited empirical study on a limited target audience is recognized. Instead, the aim of this thesis was to understand thoughts and experiences of variety of individuals better, in order for understanding if any elements of goal setting are perceived as important and challenging. In other words, the aim was to scratch the surface (Finnish proverb) and see what may lie underneath it.

Another limitation comes from the current global pandemic. From March 2020 onwards, a global Covid-19 pandemic engulfed the Earth, and most of the capable workforce moved on working from distance. In Finland, many organizations have continued distance working practices to current date (January 2021). While this made it easier to find suitable interviewees for the empirical study, at the same time, we can expect *that the fast shift in virtual environment was not as carefully planned as more conservative transform.* Therefore, we can assume that certain challenges which interviewees experienced could have been facilitated, if organizations would have had more time to prepare. As academia and business life come to understand virtual environment better, the challenges are hopefully overcome.

Moreover, *the interviewees of this thesis consisted of rather random sample of individuals.* While there were boundaries for who can participate on the study, the boundaries were rather

broad. For instance, while the motivation to participate on the study could have been expected to be at least moderate – individuals without motivation were not likely to participate on the empirical study – some interviewees were seemingly more eager to write their experiences, while others were briefer on their comments. The heterogeneity of interviewees was generally perceived as a good thing, yet there might exist actual differences between interviewees' teams and team leaders. For increased reliability, narrower target audience (e.g. an organization) could have been chosen.

Continuing from the previous, *it is essential to highlight how interviewees' thoughts and experiences cannot be interpreted completely correctly.* As every individual, the author of this thesis is prone to draw conclusions based on social constructionism. Saaranen-Kauppinen et al. (2006) describe social constructionism as a framework, in which individuals' social reality is an outcome of individual's social interaction. Indeed, the author of this thesis has own thoughts and experiences from working in virtual environment, which were likely to affect the interpretation of the interviews. With social constructionism in mind, the interpretation of interviews was done as objectively as was possible. Nonetheless, author's own interpretation cannot be completely neglected, and therefore, this provides a limitation for this thesis.

Moreover, there is always *the difficulty of understanding whether the questions that the interviewer asks are the most suitable for the situation.* This thesis chose the path of understanding which things interviewees perceive (and do not perceive) as reasons for having sufficient abilities to cope in virtual environment, and which are the reasons why certain elements are perceived as challenging (or not) in virtual environment. While these starting points were found to be useful, it cannot be ruled out that other questions could have attracted more relevant answers. After all, the questions have a strong influence on directing the conversation. While this thesis is satisfied with the answers of which were gotten from the interviews, it is nonetheless important to highlight the enigma of right questions.

Future research

Moderators set the boundary conditions for a theory to perform correctly. Without moderators, the theory does not necessarily perform as it should. As we can understand,

without essential support or relevant feedback of performance, individuals can find it harder to perform their tasks correctly. In virtual environment, it might be increasingly so.

The importance of the three moderators (feedback, ability, and situational factors) in virtual environment was recognized on this thesis. Elsewhere, Forster and Pinto (2007) had recognized the importance of goal commitment to the outcomes of virtual projects. Together, these findings can be seen to argue how the importance of moderators of goal setting can become increased in virtual environment.

Especially two future research suggestions could be identified. Firstly, the moderating effect of commitment in virtual environment has been supported by Forester et al. (2007). However, studies other than this thesis have not been conducted on understanding the effects of the other three moderators. Therefore, *understanding whether all the moderators have a moderating effect on the performance of virtual team members, could increase the field's understanding of how to effectively enhance virtual teams' performance*. Future research could be conducted either on all the moderators, or at the three moderators identified in this thesis. Secondly, one of the limitations of this thesis was the broad sample. *Future research could focus on repeating the findings of this thesis with a narrower sample* (such as conducting a case study with certain specific target audience).

Further suggestions for future research could be found from the details of this thesis. For instance, research could focus on understanding how communities could provide effective support in virtual environment, or understanding why interviewees appreciate the quickness of face-to-face environment (e.g. asking quick questions, giving quick positive feedback) and which ways could be identified for enhancing this.

Moreover, earlier research on virtual teams has recognized how the difficulties regarding communication, trust, and knowledge exchange might lead on various of negative consequences. When the difficulties materialize, consequences such as reduced performance, satisfaction, and cohesiveness among a team might occur. Similarly, this thesis found out that communication, knowledge exchange, and cohesion-related elements are perceived as challenging to have in virtual environment.

Consequently, it is interesting to consider *whether the importance of cohesiveness should become highlighted when goal setting in virtual environment is discussed*. On a study conducted by Brahm and Kunze (2012), cohesiveness was found to have a mediating effect on the team goal setting-team performance – equation. The mediating effect was found to be moderated by trust. The findings of Brahm and Kunze (2012) seems to argue on behalf of the cohesion being a potential important factor in virtual environment. Further, it is interesting to perceive how Brahm and Kunze perceive cohesion as a mediator, rather than a moderator of the equation. The findings of this study seem to suggest how cohesion could act more likely as a moderator of goal setting (perhaps an integral part of situational factors).

Nonetheless, the importance of cohesiveness in virtual working communities might be worth understanding. While the earlier research supporting this argument is rather indirect and small, the subject might provide an interesting area towards which research could proceed.

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Appendixes

Appendix 1. Citation marks

- 1) Maduka et al. (2017)
- 2) Huang et al. (2002)
- 3) Gross (2018)
- 4) Bell & Kozlowski (2002)
- 5) Hoch & Dulebohn (2017)
- 6) Bell et al. (2002)
- 7) Malhotra et al. (2007)
- 8) Hoch & Kozlowski (2014)
- 9) Gross (2018)
- 10) Krumm et al. (2016)
- 11) Liao (2017)
- 12) Huang, Wei, Watson & Tan (2002)
- 13) Hertel, Konradt & Orlikowski (2004)
- 14) Forester, Pinto & Thorns (2007)
- 15) Brahm & Kunze (2012)

Appendix 2. Interview questions

Age:

18-25

26-35

36+

Experience from virtual working:

0-1 years

1-2

2-4

4+ years

Which of the following describes your current position the best:

Leading position

Specialist

Employee

I answer the interviews as an ...

Team member

Team leader

1A. When you reflect experiences at virtual environment, do you feel that enough feedback is received and given in your work community?

1B. How sufficient / insufficient feedback influence your working at virtual environment?

1C. When you reflect experiences at virtual environment, how challenging do you experience giving and receiving feedback?

1D. Why do you experience giving or receiving feedback as more or less challenging in virtual environment?

1E. Do you remember any moments or situations, in which receiving feedback was useful / would have been useful?

2A. When you reflect experiences at virtual environment, how often have you felt that your personal are aligned with your teams' goals ?

2B. In which ways do you feel compatible / divergent goals have influenced your working in virtual environment?

2C. When you reflect experiences at virtual environment, how challenging do you experience aligning your personal goals with teams' goals?

2D. Why do you experience aligning the goals as more or less challenging in virtual environment?

2E. Do you remember any moments or situations, in which aligning personal- and teams' goals was useful / would have been useful?

- 3A. When you reflect experiences at virtual environment, do you experience that you have had sufficient self-management capabilities to conduct your work of high quality?
- 3B. In which way do you feel sufficient / insufficient capabilities have affected your working in virtual environment?
- 3C. When you reflect experiences at virtual environment, do you feel that sharing decision making and responsibilities is challenging?
- 3D. Why do you experience sharing decision making and responsibilities as more or less challenging in virtual environment?
- 3E. Do you remember any moments or situations, in which shared decision making was useful / would have been useful?
-
- 4A. When you reflect experiences at virtual environment, do you experience that you have had sufficient orientation for operating in virtual environment?
- 4B. In which way do you feel sufficient / insufficient orientation have affected your working in virtual environment?
- 4C. When you reflect experiences at virtual environment, do you feel that asking and receiving support is challenging?
- 4D. Why do you experience asking and receiving as more or less challenging in virtual environment?
- 4E. Do you remember any moments or situations, in which receiving support was useful / would have been useful?
-
- 5A. When you reflect experiences at virtual environment, do you experience that official structures have assisted you on conducting your work well?
- 5B. In which way do you feel sufficient / insufficient structures have affected your working in virtual environment?
- 5C. When you reflect a situation in which certain team process or routine has been changed, has it been challenging to adapt on a new situation?
- 5D. Why do you experience adapting on new situation as more or less challenging in virtual environment?
- 5E. Do you remember any moments or situations, in which official structures were useful / would have been useful?

- 6A. When you reflect experiences at virtual environment, how often do you feel sensations of cohesiveness?
- 6B. When do you experience feelings of cohesion or loneliness?
- 6C. When you reflect experiences at virtual environment, do you experience that advancing and maintaining cohesive functions is challenging?
- 6D. Why do you experience advancing and maintaining cohesive functions as more or less challenging in virtual environment?
- 6E. Do you remember any moments or situations, in which feelings of cohesiveness were meaningful / would have been meaningful for you?

Did anything else about working in virtual environment occur on your mind? Would you like to give constructive critique of the interview? Did anything else occur on your mind? Feel free to write your thoughts on the below. Thank you!