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Abstract

In recent years, the global prevalence of remote work has rapidly increased. This has been caused by the COVID-19 pandemic, as well as the effects of globalisation. A specific form of remote work is a global virtual team (GVT). A GVT refers to a team that uses computer-mediated technology to communicate in order to work towards a common goal, and is temporary, multicultural, and geographically dispersed. The communication in such a team also involves interactions among people of different cultures, intercultural communication. This can be characterised by misunderstandings and communication failures. However, intercultural communication competence (ICC) can aid in achieving mutual understanding. ICC refers to the ability to effectively and appropriately interact with people of different cultural backgrounds. The purpose of this study is to answer the research question: *How can intercultural communication competence be applied in a global virtual team?* Answering to the question involves descriptions and categorisations of intercultural communication and collaboration challenges, and of solutions to the challenges in the form of ways of applying ICC.

The research design of this study included an expert interview, and a single case study of a GVT. The GVT consisted of students at multiple universities. The interview findings indicated that making assumptions related to culturally different others based on insufficient information was the basis of all intercultural communication challenges in a GVT. One solution to this challenge was extending the time of analysing one another's communication. The case study findings indicated that the most pronounced and common challenges faced by the GVT were related to coordination, particularly to some members' lack of commitment, which led to other challenges. One solution to the challenge was starting an interaction in order to involve team members in collaboration.

Many of the challenges can be related to one another. Furthermore, solutions in the form of ways of applying ICC can be devised, if not to all, at least to nearly all communication and collaboration challenges faced in a GVT. Knowledge of these challenges and ways may allow companies and their employees to overcome and prevent such challenges, improve their intercultural communication and collaboration, as well as ultimately experience increases in task and relationship outcomes.

Key words	intercultural communication, competence, virtuality, teamwork, challenges
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#### Tiivistelmä

Viime vuosina etätyö on nopeasti yleistynyt maailmanlaajuisesti. Syinä tähän ovat olleet COVID-19-pandemia sekä globalisaation vaikutukset. Etätyön erityinen muoto on globaali virtuaalitiimi (GVT). GVT viittaa tiimiin, joka viestii tietotekniikan välityksellä työskenneläkseen yhteisen tavoitteen hyväksi, ja on väliaikainen, monikulttuurinen, ja maantieteellisesti hajautunut. Tällaiseen viestintään kuuluu eri kulttuurien edustajien välistä vuorovaikuttamista, kulttuurienvälistä viestintää. Tähän voi liittyä väärinymmärryksiä ja viestinnän epäonnistumisia. Kuitenkin, kulttuurienvälinen viestintäkompetenssi (KVK) voi auttaa molemminpuolisen ymmärryksen saavuttamisessa. KVK viittaa kykyyn viestiä tehokkaasti ja soveliaasti eri kulttuuritaustaisten ihmisten kanssa. Tämän tutkimuksen tarkoituksena on vastata tutkimuskysymykseen: *Miten kulttuurienvälistä viestintäkompetenssia voidaan soveltaa globaalissa virtuaalitiimissä?* Tähän kysymykseen vastaamiseen liittyy kulttuurienvälisen viestinnän ja yhteistyön haasteiden, ja näiden ratkaisujen kuvailuja ja luokitteluja. Ratkaisut viittaavat tapoihin soveltaa KVK:ta näihin haasteisiin.

Tämän tutkimuksen tutkimusasetelmaan sisältyi asiantuntijahaastattelu, ja yksittäistapaustutkimus GVT:stä. Haastattelulöydökset viittasivat siihen, että oletusten tekeminen liittyen kulttuurisesti erilaisiin toisiin perustuen riittämättömään informaatioon oli kaikkien kulttuurienvälisen haasteiden perusta GVT:ssä. Yksi ratkaisu tähän haasteeseen oli osapuolten toistensa viestinnän analysointiajan pidentäminen. Tapaustutkimuslöydökset viittasivat siihen, että korostuneimmat ja yleisimmät haasteet, jotka GVT kohtasi, liittyivät koordinaatioon, erityisesti joidenkin jäsenten sitoutumisen puutteeseen, joka johti muihin haasteisiin. Yksi ratkaisu haasteeseen oli vuorovaikutuksen aloittaminen tiimiläisten osallistamiseksi yhteistyöhön.

Monet haasteista voivat liittyä toisiinsa. Lisäksi, ratkaisuja voidaan löytää KVK:n soveltamisen tapojen muodossa, jos ei kaikkiin, ainakin lähes kaikkiin GVT:ssä kohdattujen viestinnän ja yhteistyön haasteisiin. Tieto näistä haasteista ja tavoista voi mahdollistaa yritysten ja näiden työntekijöiden selviytyä näistä haasteista ja ehkäistä näitä haasteita, edistää heidän kulttuurienvälistä viestintäänsä ja yhteistyötänsä, sekä lopulta parantaa tehtävätuloksia ja ihmissuhteita.

Asiasanat	kulttuurienvälinen viestintä, kompetenssi, virtuaalisuus, tiimityö, haasteet (ongelmat)
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**UNIVERSITY  
OF TURKU**

Turku School of  
Economics

# **INTERCULTURAL COMMUNICATION COMPETENCE IN A GLOBAL VIRTUAL TEAM**

Master's Thesis  
in International Business

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The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin OriginalityCheck service.

## CONTENTS

1	INTRODUCTION .....	8
1.1	Background for the study .....	8
1.2	Purpose and scope of the study .....	11
1.3	Structure of the study .....	12
2	INTERCULTURAL COMMUNICATION .....	15
2.1	Culture.....	15
2.2	Intercultural communication conceptualisation and research .....	18
2.3	Intercultural communication challenges .....	21
2.3.1	National cultures as sources of interaction challenges .....	21
2.3.2	Power and social categorisation in intercultural communication ....	22
2.3.3	The influence of emotions in intercultural communication.....	24
2.3.4	Different communication styles.....	25
3	INTERCULTURAL COMMUNICATION AND COLLABORATION IN A GLOBAL VIRTUAL TEAM .....	29
3.1	Characteristics of a global virtual team.....	29
3.2	Virtual team communication.....	32
3.2.1	Sharing information with team members.....	36
3.3	Factors affecting communication and collaboration in a global virtual team .....	39
3.3.1	Team diversity .....	39
3.3.2	Cultural differences in computer-mediated communication.....	42
3.4	Virtual team performance and communication.....	45
3.4.1	Effective virtual teamwork .....	45
3.4.2	Trust in a global virtual team .....	46
3.4.3	Emotions in virtual teams .....	49
3.4.4	Conflicts in virtual teams .....	50
4	INTERCULTURAL COMMUNICATION COMPETENCE.....	57
4.1	Conceptualisation of intercultural communication competence .....	57
4.1.1	The similar intercultural communication competence and cultural intelligence.....	59
4.1.2	Competence as effectiveness and appropriateness .....	61
4.1.3	General and specific competence.....	62
4.1.4	Models of intercultural communication competence.....	63
4.2	Chen's triangular model of intercultural communication competence .....	65

4.2.1	Intercultural awareness .....	65
4.2.2	Intercultural sensitivity .....	65
4.2.3	Intercultural effectiveness.....	69
4.2.4	Comparison of intercultural communication competence and cultural intelligence.....	73
4.3	Development and assessment of intercultural communication competence in a global virtual team.....	75
5	RESEARCH DESIGN.....	81
5.1	Research approach .....	81
5.2	The case study research strategy .....	82
5.3	Data collection .....	83
5.3.1	Case description.....	87
5.3.2	Case selection .....	89
5.4	Data analysis .....	93
5.5	Trustworthiness .....	99
6	CHALLENGES AND INTERCULTURAL COMMUNICATION COMPETENCE IN A GLOBAL VIRTUAL TEAM .....	102
6.1	Diverse communication .....	102
6.1.1	Communication styles, and cultural and linguistic diversity .....	104
6.1.2	Familiarity, power, and language proficiency .....	106
6.2	Virtual communication.....	111
6.2.1	Lack of cues, and communication technology.....	111
6.2.2	Information sharing in virtual communication .....	113
6.3	Diverse collaboration .....	116
6.3.1	Individual diversity .....	116
6.3.2	Assumptions and generalisations.....	119
6.3.3	Cultural diversity .....	120
6.3.4	Emotions, and conflicts.....	122
6.3.5	Trust and cohesion, and unique team context.....	125
6.4	Virtual collaboration .....	129
6.4.1	Emotions .....	129
6.4.2	Coordination .....	132
6.4.3	Performance, and trust and cohesion .....	139
6.5	General collaboration .....	144
6.6	Synthesis of the findings .....	145
7	CONCLUSIONS .....	152



7.1	Theoretical contributions.....	152
7.2	Managerial implications.....	161
7.3	Limitations and suggestions for future research .....	163
8	SUMMARY.....	165
	REFERENCES.....	168
	APPENDICES .....	186

## APPENDICES

APPENDIX 1	GOOGLE SCHOLAR SEARCHES .....	186
APPENDIX 2	INTERVIEW QUESTIONS.....	188
APPENDIX 3	CODE LIST.....	189

## LIST OF TABLES

Table 1	Challenges in sections 1–2 .....	27
Table 2	Communication challenges in section 3 .....	54
Table 3	Collaboration challenges in section 3.....	55
Table 4	Intercultural sensitivity .....	68
Table 5	Intercultural effectiveness .....	72
Table 6	Operationalisation table.....	90
Table 7	Communication and collaboration challenges in a global virtual team.....	95
Table 8	Intercultural communication competence .....	97
Table 9	General solutions .....	103
Table 10	Challenges and solutions related to communication styles, and cultural and linguistic diversity .....	105
Table 11	Challenges and solutions related to familiarity, power, and language proficiency .....	108

Table 12	Challenges and solutions in diverse communication .....	110
Table 13	Challenges and solutions related to lack of cues, and communication technology .....	112
Table 14	Challenge and solutions related to information sharing.....	115
Table 15	Challenges and solutions in virtual communication.....	116
Table 16	Challenges and solutions related to individual diversity.....	118
Table 17	Challenge and solutions related to assumptions and generalisations	120
Table 18	Challenges and solutions related to cultural diversity.....	122
Table 19	Challenges and solutions related to emotions, and conflicts.....	123
Table 20	Challenges and solutions related to trust and cohesion, and unique team context .....	126
Table 21	Challenges and solutions in diverse collaboration .....	128
Table 22	Challenges and solutions related to emotions .....	131
Table 23	Coordination challenge lack of behavioural commitment, and its solutions.....	134
Table 24	Coordination challenge time resource coordination issues, and its solutions.....	135
Table 25	Coordination challenge responsibility distribution issues, and its solutions.....	137
Table 26	Coordination challenge task complexity, difficulty, and labour intensiveness, and its solutions.....	139
Table 27	Challenges and solutions related to performance, and trust and cohesion.....	141
Table 28	Challenges and solutions in virtual collaboration .....	143
Table 29	Challenges and solutions related to conflicts .....	145
Table 30	Challenges in the findings .....	146





Table 31	Communication challenges in a GVT .....	153
Table 32	Collaboration challenges in a GVT .....	154
Table 33	Diverse and virtual communication challenges and solutions in a GVT	155
Table 34	Diverse collaboration challenges and solutions in a GVT .....	156
Table 35	Virtual collaboration challenges and solutions in a GVT .....	157
Table 36	General collaboration challenges and solutions, and general solutions, in a GVT .....	158
Table 37	Google Scholar searches.....	187

#### LIST OF FIGURES

Figure 1	Research process .....	85
Figure 2	Organising and reporting of the study .....	99

# 1 INTRODUCTION

## 1.1 Background for the study

In recent years, the global prevalence of remote work has rapidly increased due to the COVID-19 pandemic (Mysirlaki & Paraskeva 2020, 552). According to a survey conducted by S&P Global Inc. in March 2020, 65%<sup>1</sup> of the respondents' organisations had expanded their remote working policies due to COVID-19. In a June 2020 survey, this figure was 80%. In October 2020, 64% said they had permanently and significantly increased remote working due to COVID-19. (S&P Global Inc. 2020a; 2020b; 2020c.) The increased prevalence of remote working is also owed to the effects of globalisation. One such effect is increased international interconnectedness facilitated by the development of technologies, which enable the virtualisation of communication. (Søderberg 2017, 415.) Saatçi and others (2020, 769, 790) posit that hybrid meetings, collaborations via video or audio technology including both co-located and remote participants, will be the standard form of working after COVID-19. Mysirlaki and Paraskeva (2020, 561) suggest that working in virtual teams continues to become more common. In this study, virtual teams are defined as geographically, temporally and/or organisationally dispersed groups who communicate and collaborate using digital media to accomplish various interdependent tasks or team-specific goals. However, a virtual team can be completely or partially virtual. (Snellman 2014, 1253; Handke et al. 2019, 267; Charteris et al. 2021, 638–639.)

A global virtual team (GVT) can be defined similarly, however, it is also multicultural. Global virtual teams have been increasingly used to respond to globalisation, even before the pandemic, which makes the GVT a very relevant research topic. The GVT may allow an organisation to improve its flexibility and adaptability, as well as reduce its costs through improved resource use. (Jarvenpaa & Leidner 1999, 791–792; Morgan et al. 2014, 607–610; Magnier-Watanabe et al. 2017, 267; Crowne 2020, 191; Stahl & Maznevski 2021, 8–9, 18.)

The fact that members of a GVT may work in different time zones and across infrastructures can be both detrimental and beneficial. A detriment in this situation is that coordinating a project can incur significant costs. However, it is also possible that computer-mediated technology may decrease the cost of coordination (Cohen & Gibson 2003, 8). Benefits of GVT working include that the GVT may “work around the clock”, as well as have access to different networks and institutional resources. Although some characteristics of, and cons and pros of GVTs are known, such as the aforementioned,

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<sup>1</sup> 75% if plans to implement policies are included.



there is uncertainty on others. This is due to the difficulty of ascertaining how much various aspects of team collaboration are affected by the members' diversity, geographic dispersion and virtuality of communication. (Stahl & Maznevski 2021, 8–10.)

A global virtual team includes intercultural communication (Scott 2013, 302). In this thesis, 'intercultural communication' refers to interactions among people of different cultures. An individual's intercultural communication is affected by culture. Culture is defined as the ideas, norms, customs, and social behaviour of societies or other large groups. Communication is defined as the exchange of information between individuals, the representatives of cultures. The term intercultural is defined as interaction between cultures, whereas the closely related term cross-cultural is defined as the comparison of two or more cultures.<sup>2</sup> (Jiang 2006, 408, 412–415; Aneas & Sandín 2009, 2, 6; Koester & Lustig 2015, 20; Croucher 2020, 1.)

There are also individual communication differences stemming from, for example, individually different interpretation and communication styles, and differing personal cultural values. Moreover, an individual can represent multiple different cultures and cultural groups. This is due to increased intercultural interactions enabled by computer-mediated communication and fast transportation which can lead to cultural blending. (Jiang 2006, 408, 412–415.)

GVTs often have minimal or no face-to-face communication which leads to a lack of social and communicative cues. Moreover, various communication methods are needed to build relationships, develop trust and create cohesion which usually require nonverbal communication, which is difficult to convey and observe via communication technology. (Morgan et al. 2014, 608; Schotter 2021, 346.)

Increased virtual and intercultural communication and collaboration due to working in GVTs can prove challenging to organisations, managers and employees alike (Søderberg 2017, 415–416). Such challenges include misunderstandings and communication failures which can affect work performance, mental health, and personal life. One reason for these issues is a lack of 'intercultural communication competence', which is necessary for achieving mutual understanding. (Yang 2018, 528.) According to Elo and others (2015, 44), intercultural competences<sup>3</sup> are required for successful intercultural interaction.

In this thesis, 'intercultural communication competence' refers to the ability to 'effectively' and 'appropriately' interact with people of different cultural backgrounds.

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<sup>2</sup> The terms 'intercultural', 'cross-cultural' and 'international' are all used in this study to describe intercultural issues when the concepts related to the terms also pertain to intercultural topics. Similarly, the terms 'international business communication', 'intercultural communication', 'communication', and 'interaction' all refer to 'intercultural communication' unless otherwise indicated. Lastly, 'intercultural communication competence', 'intercultural competence(s)', 'cross-cultural competence(s)', '(inter)cultural intelligence', and 'cultural understanding and communication competence' are all used to refer to matters regarding intercultural communication competence.

<sup>3</sup> 'Intercultural competences' can be considered as another term for intercultural communication competence (Elo et al. 2015, 41).

This ability can be increased by gaining cultural knowledge and skills. ‘Effectiveness’ refers to the ability to achieve one’s communication goals in intercultural communication. As a balance to effectiveness, ‘appropriateness’ refers to an other-oriented ability: recognising cultural differences and communicating in a manner that fits the specific cultural ‘context’. (Portalla & Chen 2010, 21; Chen 2017, 351–352.) In this thesis, ‘context’ is defined as the environment or setting serving as interrelated conditions in which something exists or occurs (Melby & Foster 2010, 3–4; Merriam-Webster 2021).

ICC can be regarded as culture general competence, which applies to all cultures, or culture specific competence, which is dependent on the specific culture (Chen 2017; Söderberg 2017; Gareis 2017; Crowne 2020). In this study, ICC is regarded as culture general competence since this allows more broad and simple application of ICC compared to the alternative. In this study, it is regarded as general competence if one is able and motivated to effectively apply competence, or to adapt one’s communication to be perceived as appropriate by culturally different others, or has the ability and motivation to learn to adapt in such a way through interactional experiences, regardless of one’s prior level of familiarity with the cultures of one’s interlocutors.

According to Merkin and others (2014, 1–2, 16), effective and appropriate communication strategies need to be implemented in order to achieve intercultural goals. Some of the most significant challenges faced by project team managers and members are related to communication and cultural differences therein. ‘Challenge’ can refer to a task or a problem that is difficult, or “something that is hard to do” (The Britannica Dictionary 2022). In addition, ‘challenge’ can refer to something that requires a lot of skill, energy, and determination to be able to be dealt with or achieved (Macmillan Dictionary 2022). These are the definitions of ‘challenge’ used in this thesis.

According to Stahl and Maznevski (2021, 9–11), important research topics on multicultural teams include creativity and communication as mediators of cultural diversity and team performance; geographic dispersion and virtuality as contextual moderators affecting multicultural teams; and cross-cultural competences and cultural intelligence (CQ)<sup>4</sup>, multicultural individuals and team leaders as individual-level moderators. They also state that there is an extensive stream of research on cross-cultural competences and CQ. And, that this stream has clearly demonstrated that increased cross-cultural competences lead to improvements in, among others, communication, conflict management, and trust building, which in turn are mediators of high performance in multicultural teams. They cite a 2020 study by Presbitero as an example that CQ can be beneficial to individual task performance in a GVT. The findings of the study indicated

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<sup>4</sup> Instead of ICC, Stahl and Maznevski (2021, 10) refer to ‘cross-cultural competence and cultural intelligence’. They refer to these concepts both as a whole and interchangeably. They define them as the knowledge, skills and abilities needed for effective interaction with people of different cultural backgrounds. ICC can be defined the same way (Chen 2017, 351–352). In this study, ICC is the preferred term. However, the original terms are used.



that CQ is a condition in achieving high individual task performance in a GVT. Furthermore, a high level of CQ can reduce the negative effects of foreign language anxiety on individual task performance. (Presbitero 2020, 10.)

Stahl and Maznevski (2021, 18) state that it is more important than ever to conduct research on multicultural teams and to take advantage of their potential benefits. These benefits pertain to decision-making, innovation and relationships. In addition, they argue that it ought to be recognised that diversity may lead to either higher or lower performance depending on the influence of mediators and moderators. They also posit that there should be better integration of research on mediators and moderators in culturally diverse teams and research on the development of multicultural competences, in other words, cross-cultural competences and cultural intelligence. Furthermore, Koester and Lustig (2015, 21) state that, compared theory development, assessment, and testing of ICC, there has been less attention in ICC research on the application of ICC which indicates a research gap.

## 1.2 Purpose and scope of the study

The purpose of this study is to answer the research question: *How can intercultural communication competence be applied in a global virtual team?* Answering this question will be facilitated by four subquestions:

- What are the challenges of intercultural communication in a global virtual team?
- What are the challenges of intercultural collaboration in a global virtual team?
- How can intercultural communication competence be applied to communication challenges in a global virtual team?
- How can intercultural communication competence be applied to collaboration challenges in a global virtual team?

Answering to the first subquestion describes the intercultural communication challenges, and the second one those of collaboration, respectively, in a GVT. The challenges include both intercultural communication and collaboration challenges in general, both communication and collaboration challenges in general, as well as such challenges in the context of a team, and specifically in the context of a global virtual team. The reason for the inclusion of all the aforementioned types of challenges is that all such challenges can be considered to form the intercultural communication and collaboration challenges in a global virtual team. For instance, even if a challenge is related to communication in general, the nature of the challenge is arguably influenced by the context the challenge is faced in: a culturally, geographically, and temporally diverse virtual team. Moreover, there can be no intercultural communication or collaboration without communication or collaboration, respectively. Similarly, there can also be no

global virtual team communication or collaboration without team communication or collaboration, respectively. Nonetheless, the challenges that are specifically related to cultural diversity and to virtuality are focused on.

Answering the third and fourth subquestion describes the ways of applying ICC as solutions to intercultural communication and collaboration challenges, respectively, in a GVT. In this study, the scope of examination is the ways individual, mostly millennial, members of a GVT, and the members together, can apply ICC to the challenges. This is to say that an individual may apply ICC, for instance, by modifying one's way of speaking to be more calm in a conflict. On the other hand, the team members can together apply ICC, for example, by discussing how to communicate in a more constructive way when faced with conflicts.

The application of ICC is based on the view that ICC is culture general competence, which applies to all GVT members' cultures. On the contrary, if ICC was regarded as culture specific competence, each member's ICC would have to be considered in relation to all other members' cultures. Thus, a given GVT member could have ICC in relation to merely a single member's culture yet not in relation to other cultures. This would make it complicated to determine whether a given member has applied ICC in relation to one or more cultures. Therefore, the simpler general approach is used, while the specific one is omitted.

Interteam and organisational perspectives are omitted. In other words, the challenges and solutions between multiple teams, or between a team and organisation(s) are not examined. This is due to the limitations of the scope of the study which only involves a single team and its members. One reason a single team is examined is the limitations of time resources. In addition, it is the belief of the researcher of this thesis that the members of a single team engage with one another on a relatively personal level, and thus their interaction is more relational and less restrained compared to the arguably more formal interteam and team-organisation interaction. More formal interaction implies more homogenous interaction, which arguably masks some of the nuances of intercultural interaction. The researcher of this thesis is interested in relatively informal, more heterogenous interaction. In addition, the examination of a single team has a more narrow scope than the examination of a team along with other teams or organisations. A more narrow scope allows for a deeper level of examination, which is of more interest to the researcher of this thesis.

### **1.3 Structure of the study**

This study begins with a literature review on the concept of, general research on, and challenges of intercultural communication. This first literature review is largely based on



the bachelor's thesis of the researcher of this thesis. The described challenges are based on the recurring challenge themes that were encountered by the researcher while working on the bachelor's thesis. The themes include national cultures, power and social categorisation, emotions, and different communication styles.

Next, there will be a literature review on communication and collaboration, and the related challenges, in a global virtual team. Some of the themes in GVT<sup>5</sup> research that appear frequently, or are emphasised as important by study authors, include, among others, computer-mediated communication, information sharing, diversity, culture, team performance, trust, emotions, and conflicts. Due to limitations of the scope of this thesis, not all themes related to communication and collaboration are focused on in this thesis. For instance, team management and leadership are not focused on, since the focus of this thesis is more on the communication and collaboration between global virtual team members in general.

Next, there will be a literature review on the concept of intercultural communication competence. The theoretical framework of intercultural communication competence used in this study will also be described. Furthermore, in order to bridge the concepts of global virtual team and intercultural communication competence, there will be a description of the development and assessment of intercultural communication competence in a global virtual team. This thesis has three literature review sections instead of two, which would be the usual number for a master's thesis. One reason for this is that the researcher believed there was a need for a section dedicated to intercultural communication in general and a section including intercultural communication in a GVT in order to better illustrate their differences. In addition, the researcher considered the lengthiness of the thesis warranted an additional section.

After the literature reviews, the research design of the study will be described. The research approach is qualitative, with relativism and interpretivism as the research paradigms. The methodology includes an expert interview and a case study. The former involves an expert on GVTs, and the latter a millennial student GVT. The expert interview is used to collect data, and the case study involves the reuse of existing secondary data in document form. The data are considered to enable the investigation of challenges and ICC application in a GVT at a relatively deep level which is aligned with the purpose of this thesis. Data analysis will be conducted in the form of a qualitative content analysis. Challenges described in the literature reviews will be identified and categorised with an inductive approach. Then, the challenge categorisation, and a model of ICC as the theoretical framework of this thesis, will be used with a deductive approach to identify and categorise the challenges and ICC application, respectively, that arise from the expert interview and case study data.

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<sup>5</sup> Where relevant to global virtual teams, research on teams and virtual teams are used instead of global virtual teams, since a global virtual team is both a team and a virtual team.

After this, the findings of the research will be presented in the form of text and tables relating to the challenges and ICC application, the latter of which will be referred to as solutions to the challenges. Interpretations related to the challenges and solutions will also be made. The expert interview and case study findings will be presented together. At the end of the section, the findings shall be synthesised.

Next, conclusions in terms of theoretical contributions will be drawn, then in terms of managerial implications. The conclusions section also includes limitations of the study, and suggestions for future research. Finally, a summary of the study will be presented.





## 2 INTERCULTURAL COMMUNICATION

### 2.1 Culture

There is a lack of consensus on how culture should be defined (Otten & Geppert 2009, 2; Caprar et al. 2015, 1012). In studies of culture, there has been a division between two approaches to the characterisation of culture. Culture has been characterised as either a feature of social life that is implicit or as a social construction that is explicit. In the former approach, culture is considered to be the basis of social interaction in the form of underlying assumptions and expectations. Thus, culture is a part of all social relations. In the latter approach, culture is regarded as an explicitly produced symbolic good or commodity. The creation of this commodity begins in social interaction as a result of unintended or intended behaviour or activities. Then, it develops into an observable form. Finally, it affects the broader social environment. Examples include works of art, books, speech acts, rituals, and ideological movements. (Wuthnow & Witten 1988, 50–51.) However, according to Otten and Geppert (2009, 2), this division between the two approaches may not be helpful owing to its theoretical nature. Both perspectives can almost always be used when analysing empirical data. In this thesis, culture is regarded as a feature of social life since culture is viewed as something that influences social interaction but cannot be directly observed.

According to Vuckovic (2008, 49), culture influences “the majority of a group in a consistent direction”. However, the extent of the influence is moderated by one’s ‘perception’. ‘Perception’ refers to how one receives and actively collects information from one’s surroundings. It is possible that an individual can be influenced by several cultures (Hong et al. 2000, 709, 716; Caprar et al. 2015, 1017, 1022). According to this multiple culture perspective, cultural influences have many embedded levels and different sources that are not limited to national culture (Bjerregaard et al. 2009, 212).

Allwood (2021, 2–3) defines culture as those patterns, or similarities, between people that have been cultivated by people. These patterns can include, for example, thoughts, behaviours, and artifacts. Culture in a narrow sense can include thoughts and behaviours. Culture in a wide sense can include agriculture, technology, and economy. ‘National culture’ refers to a national group’s culture. ‘National group’ refers to a group of people who have political autonomy, for example, Australians, and Swedes.

National culture has often been used as a basis for defining culture (Caprar et al. 2015, 1012). Hofstede’s framework is the most commonly used cultural framework (Merkin et al. 2014, 2–3). Hofstede’s original framework consists of four dimensions of cultural values representing differences among national cultures. The dimensions include power distance, or what the maintained degree of power inequality is; uncertainty avoidance, or

the intolerance for uncertainty or ambiguity; individualism, or the emphasis placed on the individual vs. collectivity; and, masculinity, or whether a society has more masculine or feminine goals or values, for instance, being assertive vs. nurturing, respectively. (Hofstede 1980, 11, 92–100, 153–155, 213–217, 261–267.) Sometimes a fifth dimension is included (Merkin et al. 2014). This is long/short term orientation which reflects future- vs. tradition-oriented mentality (Hofstede & Bond 1988, 10–11, 16). Hofstede and others (2010) have also added a sixth dimension, indulgence vs. restraint. This refers to how free vs. restricted it is to enjoy life by fulfilling basic human desires. The dimensions have been used to explain communication differences between countries, and how culture influences communication (Ting-Toomey 2010, 169–172; Merkin et al. 2014, 3). However, according to Ailon (2008), Hofstede's own values and beliefs, and a Western bias have clearly influenced the creation of the dimensions.

Defining culture based on national culture might not be as useful as defining culture on the basis of, for instance, socio-economic class, professions, or geographic or virtual environments. The limitations of using national culture as the basis of culture include increased travelling between countries, lower costs of global instant communication, globalisation of media and entertainment, and a discrepancy between national borders and ethnic and tribal boundaries. (Caprar et al. 2015, 1012.) National culture is also an overly simplified way to define culture. In addition, such definition is influenced by the cultural bias of the definer, and does not take individual differences into account. (Ailon 2008.)

According to Tung and Stahl (2018, 1168–1172), the study of culture in international business research has not been sufficiently holistic. Studies have often focused on only one perspective of culture. Two common approaches to using culture to explain management policy differences and organisational outcomes differences have been the distance approach, and the dimensional approach. The distance approach encompasses various sub-approaches. These sub-approaches, for example, compare cultures based on differences in external environments, or describe differences, which inhibit market information flow. The dimensional approach compares cultures based on cultural dimensions.

The conceptualisations and operationalisations of culture remain insufficient in international business research. There is also still excessive reliance on concepts of distance, and dimensional models of culture. Furthermore, the dynamic nature of culture could be taken more into account in research. For example, cultural values and dimensions can change over time. Research could benefit from more focus on differences within nations and between individuals, for example, individual differences in age, race, gender, and socio-economic background. Research could also benefit from having less emphasis on the current use of Western-centric cultural concepts and paradigms. In addition, there has been excessive reliance on self-report measures, in particular on large-



scale surveys. A larger amount of qualitative methods ought to be employed. More diverse research methodologies could allow for broader and more advanced conceptualisations of culture, as well as be useful for studying dynamic phenomena, such as intercultural encounters. Process and context also ought to be focused on more. The etic approach has also been favoured compared to the emic approach. ‘Etic’ is the view an outsider has of the host culture, whereas ‘emic’ is the insider view, the view the host has of one’s own culture (Fantini 2012, 271). (Tung & Stahl 2018, 1172, 1178–1183; Szkudlarek et al. 2020, 1–3.)

When culture is examined collectively, it is considered to be a construct where a group influences an individual. The extent of shared socializing agents and life experiences within a given social group affect how much an individual is affected by collective culture. Socializing agents, such as parents, teachers and government officials pass down and reinforce behaviours. Life experiences are shared events and circumstances that can be related, among others, to history, religion, environment or education. The more there are shared socializing agents and life experiences, the higher the likelihood is for an individual to share similar judgments, values, preferences, motivations and decisions with other members of a social group. (Caprar et al. 2015, 1014–1015.)

Models that attempt to define culture tend to be based on analysing the similarities of various characteristics in a group of people, and the differences the group has compared to other groups. Points of analysis can be, for example, the commonality of shared experiences, and language that affect the individuals within a group. However, one problematic component of defining culture is that individuals vary in how they interpret, understand and use culture. Situation and context also affect an individual’s views about culture. (Caprar et al. 2015, 1013–1022.)

Similarly, Aneas & Sandín (2009, 5) posit that social, political and economic contexts determine how cultural practices and representations are seen. Culture also has effects on attitudes, emotions and behaviour. However, culture affects people in different ways and people see their cultural identity differently from one another. This is to say that culture is differentially distributed. Representatives of a given culture may not share values and behaviours associated with that culture (Vuckovic 2008, 49). The uniqueness and variability of individual traits and experiences can even justify viewing culture from the perspective of ‘individual culture’. In addition, an individual might influence culture. (Caprar et al. 2015, 1015, 1021.) In this thesis, culture is viewed as the influences of society or other large group on the thoughts, attitudes, emotions and behaviour on the individual. It is also considered an individual can be influenced by multiple groups. However, for the sake of simplicity, national culture is regarded as the greatest determinant of cultural influences.

## 2.2 Intercultural communication conceptualisation and research

According to Kameda (2005, 170–171), ‘communication’ is the result of transmission that connects two individuals through shared ownership of knowledge, information and value. Communication can be seen either as the sharing of knowledge and information between two independent individuals or as a creation of a new individual where two individuals unite. According to Allwood (2021, 2), ‘communication’ can be defined as sharing of information, or sharing of understanding, or sharing of cognitive content, depending on the focus of discussion. The sharing can be characterised by different levels of intentionality and consciousness. Communication can even be subconscious. In addition, it can be defined that ‘communication with someone’ only occurs when a sender’s behaviour or its result, such as texts, or other symbols, or pictures, influences a recipient in a way that leads to the sender’s and recipient’s sharing of a cognitive content.

All organisational activities require the involvement of communication as a conduit to enable the operationalisation of the activities. Consequently, this makes being effective in communication crucial. (Chitakornkijsil 2010, 8; Marlow et al. 2017, 585.)

Inter-cultural communication can be defined as communication among people whose cultural backgrounds are different. In comparison, ‘intra-cultural communication’ can be defined as communication among people whose cultural backgrounds are the same. (Allwood 2021, 3.)

Spitzberg (2010, 432) opines that ‘intercultural communication’ is not a completely accurate term since communication occurs between communicators, not between cultures. However, the communicators are affected to a certain degree by their cultural perspectives. Nonetheless, culture may not always change the outcome of a particular interaction.

Kecskes (2015, 171–174, 179–189) argues that intercultural and intracultural communication is a continuum rather than a dichotomy. Communicators are always somewhere in between intracultural and intercultural communication. However, communicative behaviour is usually mostly affected by factors other than cultural factors. These other factors can include language proficiency, the situational context, individual interpretation, and co-construction of meaning by coming up with and using expressions that make sense to all parties in intercultural communication. However, the aforementioned factors can also be affected by culture. In addition, each speaker in intercultural communication has multiple different communicative styles. Culture is merely one factor that can affect those styles. A style or a combination of styles is applied based on communicative needs in evolving situations in interaction. Furthermore, different individuals and groups can represent many variations of a given culture or language.



According to Kecskes (2015, 175, 190–191), the main difference between intra- and intercultural communication is that, in the former, people share understanding of the situational frames, in other words, the frames and contexts of language use, to a greater extent than in the latter. The reason for this is that, in intracultural communication, members of a speech community share “common ground”, that is, prior experience in terms of, among others, shared knowledge, as well as common beliefs, norms, and conventions, such as conventions of language. Thus, the interpretation of situational frames is relatively similar among members of a speech community. In intercultural communication, there is only a limited amount of such shared understanding among the interlocutors. For this reason, there is more emphasis on the role of individuals in the co-construction of common ground.

Intercultural communication can be viewed as how culture affects human interaction and how human interaction affects culture. Intercultural communication can also be seen from the traditional perspective of “being culture” and the newer perspective of “doing culture”. Being culture sees culture as social actions based on traditions, norms and values. Doing culture defines culture based on how it is seen in practical action. (Otten & Geppert 2009.)

‘International business communication’ is business-related communication between different cultures. It can be more difficult than other communication because the communicating parties may not share enough common knowledge and common experience which can lead to misunderstandings. (Kameda 2005, 171–172.)

The modern study of intercultural communication is often considered to have started with the work of Edward T. Hall, an anthropologist, and other scholars within the Foreign Service Institute of the United States during the 1940s and 1950s. The Institute focused on training and educating individuals who travelled between nations. This meant that the individuals were given the information regarded as the most necessary to being effective in the host country’s national culture. Culture was viewed as a patterned set of components which was passed down from one generation to the next. However, even before Hall, there had been research on topics of intercultural research that are related to intercultural communication. Among these topics are cross-cultural differences, nonverbal communication, cultural adjustment, and competence. (Baldwin 2017, 19–23.)

In the 1970s, the amount of intercultural communication research started to rapidly increase (Baldwin 2017, 24–25). There was also a large amount of collaboration between several American and Japanese scholars during multiple decades. In fact, the greatest number of studies in intercultural communication between two cultural groups has been between the Americans and the Japanese. (Martin et al. 2012, 20.)

In the 1980s, intercultural communication was considered to occur between people of different nations. Intercultural communication research topics included intercultural competence, intergroup communication, cross-cultural relationships, prejudice, effects of

mass media, and diffusion of innovations. (Baldwin 2017, 25–27.) According to Balboni and Caon (2014, 1), most intercultural communication research in the 1970s and 1980s was descriptive, and the research was in its initial stage.

Cultural values frameworks have not recently been as emphasised in intercultural communication research compared to the 1980s and 1990s when they were prevalent. However, these frameworks have still been used in research. (Dutta & Martin 2017, 55.) They have been used to study the effects of society-level cultural values on communication (Merkin et al. 2014, 1–3).

Starting from the 1990s, intercultural communication research has become more diverse. Some researchers have challenged how to do research, what is regarded as a theory, and what to focus on. There has been an increasing amount of research on topics such as co-cultures and marginalised cultures. Moreover, textbooks have been developed for marginalised groups and for teaching interracial communication. (Baldwin 2017, 27–30.)

Based on the work of Hall (1976), there have been several studies involving the role of context as a cultural dimension in intercultural communication (Zakaria 2017, 351–352). In high-context communication, most of the information is internalised in a person or in the physical context. In low-context communication, most of the information is in the explicit part of the message. Some cultures are more high-context, some more low-context. (Hall 1976, 91.) Context explains how people interpret and evaluate the meaning of information received. ‘Context’ is a continuum varying from high to low context depending on the emphasis placed on nonverbal cues in order to communicate. Nonverbal cues include body language, facial expressions, hand gestures, and tone of voice. At the opposite ends of the context continuum are high and low context cultures. In high context cultures, nonverbal cues are important. In low context cultures, there is more reliance on the spoken or written words. (Zakaria 2017, 351–352.) In this thesis, context is defined in the aforementioned way only when there is a need to distinguish between high and low context cultures.

Dutta and Martin (2017, 45–48, 51, 55) reviewed articles published in five culture and communication journals in 2010–2014. Out of 700 articles, 200 were randomly selected for analysis. According to the analysis, while 55% of research focused on face-to-face communication, merely 7% focused on intercultural encounters in new media contexts, for example, email and blogs. The authors state that intercultural competence<sup>6</sup> is an important area of theorising. Moreover, there are research gaps in theorising on

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<sup>6</sup> ‘Intercultural competence’ can be defined similarly to ‘intercultural *communication* competence’ (Chen 2017, 351–352; Council of Europe, 2018, 32–33). However, Byram (2021, 5) believes that it is important to make a distinction between ‘intercultural competence’ and ‘intercultural *communicative* competence’. The former pertains to situations where one communicates with someone in a language familiar to both of them. In the latter, one needs to communicate in a foreign language. In this thesis, the terms are regarded as synonyms.



intercultural communication that call for more detailed views on popular topics. These include competence, acculturation, and identity. In addition, there is a limited amount of intercultural communication research in the contexts of new and social media. According to Calibeo and Hindmarsh (2022, 1, 11), ‘new media’ refers to the content that is accessed, produced, and shared on online platforms and applications. However, new media also refers to the platforms and applications themselves, the digital information communication technologies. These include the Internet, mobile technology, social media, blogs, and news outlets. Chen (2014, 27–29) refers to new media as virtual communication, which includes social media.

Culture has been regarded as independent, stable, identifiable and generalisable in cross-cultural management. The significance of the differences between environments has often been disregarded. National cultural identity has been considered to be unaffected by the influence of interaction. This view does not apply well when analysing encounters between cultures. The view hinders cultural adaptation and problem solving in a dynamic and complex environment. (Bjerregaard et al. 2009, 207–208.) In a similar vein, in international business research, studies involving culture and communication tend to have a cross-cultural perspective. With this perspective, differences between country-level communication patterns are compared, often using cultural value frameworks. However, an intercultural perspective would better suit the study of intercultural communication. Intercultural interactions are dynamic and unique, and affected by the backgrounds and characteristics of individuals, as well as by the situation and contextual cues. Intercultural communication in its complexity requires the focus to be on the interactional level where culturally different individuals co-create meaning. (Szkudlarek et al. 2020, 2.)

## **2.3 Intercultural communication challenges**

### **2.3.1 *National cultures as sources of interaction challenges***

Differences between individuality and collectivity are claimed to affect communication in terms of levels of competitiveness and co-operation, handling of disagreement and interactions inside a group and between groups. It has also been claimed that national culture consequently defines the values that affect people’s tendency to prefer specific forms of communication. Based on these claims, differing national cultures could cause misunderstandings in international communication settings, at least if the communicating parties do not understand each other’s differences and the implications of these differences in communication. According to the claims, even using the same language

does not guarantee problem-free communication since values and norms of culture affect how language is interpreted. Based on this, successful intercultural communication requires both learning the language, as well as gaining knowledge and understanding of another culture. However, what is also required is to be emotionally motivated to engage in intercultural encounters and to have the ability to remove the obstacles caused by cultural differences. (Bjerregaard et al. 2009, 209–210.)

The parties of international business communication are affected by their respective company - and national cultures. This leads to differences in the thoughts and actions of the parties involved. (Kameda 2005, 173.) Communication is influenced by how similar an organisational culture and employee's national culture are. Their similarity increases the employee's satisfaction, motivation, comfortability, commitment, predictable behaviour, self-efficacy and performance. Moreover, different national cultures between managers can hinder communication and prevent a consensus in decision making. (Griffith & Harvey 2001, 92–93.)

Even defining cultural value dimensions and interpreting them in a certain way can be problematic for the success of intercultural communication. For example, there can be a generalisation that a specific national culture possesses collectivism as a cultural value. However, it would be incorrect to interpret this as meaning that all acts of a representative of this culture are marked by collectivism. In other words, making generalisations from perceived cultural values to concrete situations can lead to misinterpretations and conflicts in intercultural communication. (Chornet & Parr 2017, 3.)

### ***2.3.2 Power and social categorisation in intercultural communication***

Social and organisational contexts affect intercultural communication and how important a role culture has in the communication process. The outcomes of communication are dependent upon the status of each communicating party, what the process of communication is like and what motives each party has for engaging in communication. These affect how much misunderstandings happen, how much each party manages to further their own goals and what communication strategies the parties choose to utilise throughout the communication process. Since some parties are more able to pursue their interests in the communication process, power is a component that affects intercultural communication. (Bjerregaard et al. 2009, 211, 214–215.) Intercultural relations and communication take place in existing power structures. This favours some of the communicating parties at the expense of others. This in turn obstructs communication. (Otten & Geppert 2009.)

Cultural barriers in intercultural communication are caused by how important status differences are considered to be, how much empathy is expected, the extent of face-saving





behaviour, body language, the usage of silence, and conflict avoidance (Peltokorpi & Clausen 2011, 513). If a superior and a subordinate do not share understanding of information due to communicational insufficiencies or failures, obstacles arise owing to mistrust, discord and friction. This may lead to mutual misunderstanding, antagonism, dispute and strife. (Kameda 2005, 174.)

Peltokorpi and Clausen (2011) examined barriers to intercultural communication in Nordic subsidiaries in Japan. Based on their findings Japanese managers were able to wield significant informal power and achieve a strong organisational position by being able to control what information they shared with Nordic expatriates not proficient in Japanese. Japanese managers were also valued by local employees for possessing a lot of information. This caused the managers to be reluctant to give away too much information. According to the expatriates, the managers' reluctance to share information with the expatriates lead to the expatriates' receiving inaccurate information. The expatriates also claimed that language barriers enabled the managers to either delay or block organisational changes.

Perceptions of oneself and others are culturally influenced and help in making personal, cultural and social predictions. However, the ability to make perceptions is based on forming a coherent and fast evaluation of one's environment while ignoring some of the environmental information. Personal, cultural and social environmental information that is collected through perception is also used to place other people in social categories. Placing someone in a social category activates the stereotype associated with that category. Stereotypes can create inaccurate expectations of the behaviour of a member of a cultural group. Furthermore, stereotypes can cause serious misunderstandings in intercultural encounters. (Vuckovic 2008, 49–50.)

Languages may have more effect on social categorisation than cultural values. This is due to languages' creating functional and psychological barriers to social interaction. People use categorisation to help them reduce uncertainty and understand the objects of their categorisation. In-group members build social identity and self-image by categorising out-group members as different and, often, inferior. Language differences can increase the categorisation of people to in- and out-groups. Shared language can strengthen group identity and be a source of power and advancement. Not sharing a language can create barriers and divisions within groups. Understanding a language gives one the power to provide or restrict access to information to those who do not understand the language. (Peltokorpi & Clausen 2011, 512–513.)

### 2.3.3 *The influence of emotions in intercultural communication*

Individuals feel anxiety towards interaction with people coming from different groups. People fear that the encounter can negatively affect them, that they will be misunderstood or that they will face confrontation. This can fundamentally reduce the efficacy of communication and intercultural competence. (Aneas & Sandín 2009, 10–11.) Culture and context affect the degree of experiencing and the method of expressing emotions. For example, personal spaces vary greatly in size across cultures, and consistent and dramatic violation of this space can cause severe stress. Emotions in turn affect communication behaviour. Individuals differ in how much emotions affect communication behaviour in different situations. (Vuckovic 2008, 55–56.)

Cultural differences can impede social bonding between individuals and consequently the communication between them. But, when social bonding does occur between individuals from different cultures, communication satisfaction increases and trust is built. (Griffith & Harvey 2001, 95.) Moreover, shared commonalities can make communication easier. These include participation in the subculture of international business, working in a similar industry and having similar professional specialties. (Kameda 2005, 173.) Cultural interaction is affected by and affects courtesy, respect and tolerance for ambiguity (Griffith & Harvey 2001, 97).

It can be challenging for individuals to adapt to a new culture. This adaptation is called a ‘culture shift’. Problematic in a culture shift is that interaction in a new cultural environment can cause psychological disorientation, which resembles frustration. (University of Oregon 2016.) A culture shift is a process that is very problematic and time consuming, and typically very uncomfortable for individuals (Zhu 1999, 589).

A culture shift can be challenging by making individuals question the ways they are used to doing things. A culture shift can also introduce strange situations that are difficult to get used to because they are ambiguous, and individuals might not know what to do in those situations. Individuals can feel anxiety from having their values questioned in a new culture, and cultural differences can make individuals feel out of place. Individuals can also feel disappointed in themselves if communication is difficult. However, having knowledge of the new culture before attempting to adapt to it can make adaptation easier since expectations are not as far from reality as without any knowledge. (University of Oregon 2016.) Acquiring new technical competencies is relatively easy. It can be harder to change attitudes and beliefs. Changing basic assumptions, however, is very difficult and typically takes many years, if it happens at all, since the basic assumptions have been formed in long socialisation processes. (Brocklesby & Cummings 1995, 242; Zhu 1999, 589.) Moreover, a culture shift is problematic because the adaptation process it entails cannot be hastened (Zhu 1999, 589).



### 2.3.4 *Different communication styles*

There are cultural differences between ‘communication styles’. A ‘communication style’ refers to the way things are said. It affects how ideas are generated and expressed, opinions are exchanged, and knowledge is shared. (Zakaria 2017, 352.) Language is the main medium of information circulation and serves to transmit messages. Cultures have different communication styles which can lead to misinterpretations. Someone using a more circular style of communication can be considered illogical and evasive, whereas a person using a more linear style can be thought to be simplistic or arrogant. Behaviours, or a gesture, such as a smile, or a look can have even substantially different meanings from culture to culture. These can cause problems since they can affect the communication climate or, for example, reduce confidence or produce doubts. (Aneas & Sandín 2009, 12.)

Even silence is communication and can be influenced individually and by culture (Holmes 2015, 296). Language can be considered to be organised through rules based on cultural use. This organisation gives meaning to gestures and utterances. Thus, people interpret information from their own points of view, this is largely influenced by their culture. (Aneas & Sandín 2009, 13.) Communication styles vary both between different countries and between different regions. Regional differences can be significant if a country is large like, for example, China. (Griffith & Harvey 2001, 92; Kameda 2005, 175.) Communication styles affect what people from different cultures mean when they say the same thing. Due to this, intra-company terminology should be standardised and taught to employees to minimise the obstacles different communication styles cause to mutual understanding. (Kameda 2005, 175–176.)

Since the style of communication has a significant effect on the communication outcome, speaking the same language, such as English, which is the common business language, is not enough alone for effective communication (Kameda 2005, 175–176). Using the same foreign language does not guarantee there are no misunderstandings. The reason for this is that different cultural values lead to different kinds of language usages and communication styles, which in turn hinders the effectiveness of perceiving, analysing and decoding messages. Moreover, employees have different levels of proficiency in the language used in a company. The languages one knows and uses may affect one’s thinking, understanding of the world, and way of constructing messages. Speaking a second language can be problematic since one has less proficiency in it than in one’s first language. Using a second language also reduces the willingness to communicate. Second language speakers contribute less ideas, are not as active in communicative interactions, change and simplify content, and ignore subjects that are difficult to express. (Peltokorpi & Clausen 2011, 511–512.)

The challenges related to intercultural communication and collaboration that were described in sections 1–2 are summarised in table 1. While communication and collaboration are arguably tightly linked, and sometimes it can be difficult to separate them, the researcher of this thesis strives to make a distinction between the two. While communication is arguably a part of collaboration, collaboration does not require communication all the time, and communication is not always used for collaboration. The distinction between these two may inform which challenges are more related to communication, which to collaboration. This may in turn allow a more focused examination of the challenges. Furthermore, the distinction may offer guidance on whether the challenges might be better addressed based on a framework of intercultural communication competence or another framework. Not all challenges can be solved with intercultural communication competence. Only challenges involving diversity are included in the table. Challenges involving virtuality, along with additional challenges stemming from diversity, will be described in section 3.



Table 1 Challenges in sections 1–2

<b>Intercultural communication and collaboration challenges</b>	
<b>Diverse communication</b>	<b>Diverse collaboration</b>
<p><i>Communication styles</i></p> <p>individual styles; misunderstandings; misinterpretations, and obstacles to mutual understanding</p>	<p><i>Individual diversity</i></p> <p>individual interpretations; differing personal cultural values; multiple different cultures and cultural groups represented by one person</p>
<p><i>Cultural and linguistic diversity</i></p> <p>misunderstandings and communication failures; hindered communication and decision making; increased social categorisation due to language differences</p>	<p><i>Assumptions and generalisations</i></p> <p>negative biases; misinterpretations and conflicts; inaccurate expectations and serious misunderstandings</p>
<p><i>Familiarity</i></p> <p>limited shared understanding due to a lack of commonalities; misunderstandings due to a lack of common knowledge and experience</p>	<p><i>Cultural diversity</i></p> <p>negative effect on the team due to perceptions of dissimilarity; cultural barriers due to differences; impeded social bonding</p>
<p><i>Values</i></p> <p>different interpretations of language; hindered message interpretation stemming from different cultural values</p>	<p><i>Emotions</i></p> <p>negative feelings; anxiety; negative emotions due to perceived inappropriate behaviour; doubts and reduced confidence</p>
<p><i>Power</i></p> <p>effect on the frequency of misunderstandings; obstructed communication; insufficient information sharing due to information control</p>	
<p><i>Language proficiency</i></p> <p>less proficiency in second language; changing content and ignoring subjects, and reduced idea contribution and willingness to communicate when using second language</p>	

The challenges of diverse communication illustrated by the table are related to different communication styles; cultural and linguistic diversity; a lack of familiarity; different values; power; and, language proficiency. The described challenges of diverse collaboration are related to individual diversity; making assumptions and generalisations; cultural diversity; and, emotions. In this study, ‘assumptions and generalisations’ includes assumptions, generalisations, and stereotypes of culturally different others, as well as biases towards them. The researcher of this thesis considers the aforementioned to be related to one another.



### **3 INTERCULTURAL COMMUNICATION AND COLLABORATION IN A GLOBAL VIRTUAL TEAM**

#### **3.1 Characteristics of a global virtual team**

A virtual team is a team whose members collaborate mainly via computer-mediated communication, for example, video calls, instant messages and email (Glikson & Erez 2013, 22). A global virtual team is a temporary work group whose members are culturally diverse and geographically dispersed, and rely on computer-mediated communication technology to engage in collaboration (Jarvenpaa & Leidner 1999, 792). According to Maznevski and Chudoba (2000, 473), GVTs were nearly unknown at the turn of the 1990s. However, at the turn of the millennium, they were already critical for information integration, decision making, and implementing actions globally.

‘Computer-mediated communication’ (CMC) refers to communication between individuals through the use of computers (Haines et al. 2018, 349). CMC refers to both ‘rich media’, which contains verbal and nonverbal cues as in videoconferencing, and ‘lean media’, which is lacking in behavioural and emotional cues as in email (Hassett et al. 2018, 166). CMC is related to another element of virtual teams, virtuality. In this thesis, virtuality is defined as the degree that communication is computer-mediated (Glikson & Erez 2013, 23). However, virtuality is usually considered to be based on the degree of technology usage and the degree of geographic dispersion. More or different dimensions of virtuality have also been used to determine the level of virtuality (Kirkman & Mathieu 2005, 701–702).

Virtual teams and virtuality are commonly defined based on the contrast between face-to-face and computer-mediated communication. However, it has been argued that today a certain degree of virtuality is included in all organisational work and interaction. It has also been suggested that it is too simplistic to assume that either there is virtuality or there is not, in other words, that teams are either virtual or face-to-face in nature. Rather, virtuality ought to be seen as a continuum. (Kirkman & Mathieu 2005, 701–703; Marlow et al. 2017, 576–577; Hassett et al. 2018, 166.)

The researcher of this thesis opines that when one learns about or examines any aspect of a GVT, whether as a concept or as a work group, it is important to take into account how virtual a GVT is. For example, it is quite different to evaluate the effects of culture on communication when the primary virtual communication tool used is email vs. video calling. A rather obvious reason for this is that there is a lack of visibility of nonverbal cues in email, while in video calls these cues are largely visible. Thus, it is important to take note of the degree of virtuality when one conducts research or examines extant research.

Virtual teams are typically formed in order to overcome separations by distance and time, as well as to cut office space, and costs related to time and travel. Virtual teams can also be formed in order to unify organisational functions, integrate employees due to mergers or acquisitions, increase working opportunities in organisations, which have a nonoptimal location, as well as to facilitate the recruitment of employees who do not wish to move yet have the right skills. (Cascio & Shurygailo 2003, 362; Snellman 2014, 1254.) In addition, benefits of GVT work can include global talent pooling, and working around the clock. There may also be benefits stemming from cultural diversity, which may entail different perspectives and problem-solving skills. Although GVTs can enable selecting the most suitable members for a particular project, the formation of a GVT is often grounded on convenience and the available resources. (Velez-Calle et al. 2020, 283.)

GVTs face challenges related to cross-cultural communication and knowledge sharing, virtuality and technology, identity, categorisation of members with different backgrounds into out-groups, as well as culturally different values, beliefs, and organisational behaviour. The challenges can lead to disagreements, conflict, and mistrust. Other challenges include power hierarchies related to different proficiency levels in a common language, different national holidays, and different customs which may lead to misunderstandings and hinder coordination. (Velez-Calle et al. 2020, 282–283.) One communication challenge can be a reliance on technology (Eisenberg et al. 2021, 2). Furthermore, a lack of face-to-face contact has often been mentioned as a challenge to relationship development and management (Lockwood 2015, 127). GVT challenges also include language diversity, team leadership, team members' shared identity, and coordination (Kiely et al. 2021, 1–2). The level of spatial, temporal, cultural and organisational differences within a GVT may affect the level of complexity and challenges within the GVT (Morgan et al. 2014, 609).

GVTs also face the same challenges as other kinds of teams. These can include issues related to team members, for instance, their characteristics, such as personality and competencies, as well as their affective reactions. There may also be social loafing. Issues can also stem from team-level factors, such as task structure or influences of an external leader. (Velez-Calle et al. 2020, 283.) Furthermore, the context of teamwork is likely to influence virtual team processing. This has been shown to be the case with face-to-face teams. (Marlow et al. 2017, 585.)

In recent years, important subject matters in research on virtual teams have included *communication*, *cultural diversity*, trust, cohesion, team distribution, task characteristics, leadership, empowerment, degree of virtuality, and task interdependence (Abarca et al. 2020, 168932–168937). According to Lockwood (2015, 127), there has been a large amount of research on virtual team management and working regarding leadership, team characteristics, technology, trust, and meeting skills. However, there has been a smaller





quantity of studies concerning intercultural and linguistic matters of working in virtual teams. Subject matters of research have included virtual teams' operation, experienced problems, and improvement.

There has been a limited number of studies on the effect of culture on topics such as knowledge sharing, decision making, leadership, and conflict in a GVT context. There have also been conflicting results on the effects of culture in a GVT context. Thus, more studies on these are needed. However, most research findings suggest that culture has a negative effect on virtual team performance through influencing team members' working ability in a virtual environment. Performance may be negatively affected by the presence of different cultures and work practises, and by employee mobility. (Zakaria 2017, 353–354.) 'Team performance' refers to a team's achieved 'team efficiency' and 'team effectiveness'. 'Team efficiency' refers to the degree that a team met its planned cost and time spent to achieve its goals. 'Team effectiveness' refers to the degree that a team met its planned goals, for example, the degree that a new product development team's new product met its planned sales. (Kock & Lynn 2012, 326, 328.) Communication is important to the prediction of team efficiency and effectiveness. Task-oriented communication is an important predictor of team performance in the early stages of a team's life cycle. (Gilson et al. 2015, 1320.)

According to Velez-Calle and others (2020, 283–284), a great amount of GVT research is mainly focused on themes concerning culture, communication, trust, or conflict, as well as how these affect task effectiveness in a team. Research on GVTs commonly includes effective communication and reducing CMC challenges.

It has commonly been researched how culture affects email communication in virtual work. There is also increasingly research on how culture affects the use of other channels of virtual communication. These include, for example, videoconferencing and instant messaging. Different types of media may be better for different types of interactions. (Szkudlarek et al. 2020, 4.)

While writing this thesis, it was the observation of the researcher that scientific articles on GVTs often include statements based on findings of studies that are ten to twenty years old, or even older. The researcher notes that there has been significant improvements to CMC technology within those time frames. Since communication and collaboration in GVTs are highly dependent on the CMC technology the team uses, the researcher believes that the relevance of older findings for studies involving newer technologies ought to be carefully considered.

## 3.2 Virtual team communication

According to González-Romá and Hernández (2014, 1046), ‘team communication’ is a team process, which involves information exchange among team members. ‘Team communication’ can also refer to the conversations, dialogue, and meetings between team members over the course of ordinary operations (Reiter-Palmon et al. 2021, 10). According to Marlow and others (2017, 575–577, 586), there is a consensus that ‘team communication’ refers to exchanging messages between at least two team members. There are inconsistent research findings on how virtuality affects team communication due to, for instance, several definitions of virtuality and communication which can lead to different results and limit generalisability. Measurements and operationalisations of team communication also vary across studies (Marlow et al. 2018, 156).

Research findings on the effect of virtuality on team performance have also been inconclusive, for instance, due to the impact of study setting. Studies in a laboratory setting have usually indicated that virtual teams perform worse than face-to-face teams. However, in a field setting, performance has been similar between virtual and face-to-face teams, possibly due to virtuality’s decreased negative influence when team members are familiar with one another. ‘Team member familiarity’ refers to knowledge of the skills, personality, and interests of team members. (Marlow et al. 2017, 577, 585.)

The assessment of the relationship between team communication and performance has been common in research. Team communication has been found to enhance team performance by facilitating the development and maintenance of other team processes, which include team monitoring and coordination. This is why team communication is considered to be an important team process. However, in order to accurately identify the relationship between communication and performance, it might be necessary to take into account the frequency, quality and content of communication. These are important elements of communication, and especially relevant to virtual teams. (Marlow et al. 2017, 575–577.)

According to Marks and others (2000, 972), there have been many studies on how communication frequency affects team performance. According to Marlow and others (2017, 577–578), it has been common to measure team communication through frequency. A high frequency is important to the development and functioning of a team in the initial phase of the team’s life cycle due to more opportunities for team members to contribute to collective understanding, which can improve overall team functioning. However, familiar teams can achieve higher performance than unfamiliar teams even if the communication frequency is lower due to shared understanding and common way of working. A high frequency may even be detrimental to performance if there is a large amount of irrelevant communication.



McLarnon and others (2019, 208) cite several studies indicating that communication frequency is important to the effectiveness of both GVTs and face-to-face teams. For example, frequency is linked with less process coordination delays. However, frequency can be difficult to achieve in a GVT due to cultural and temporal diversity within the team which can lead to coordination difficulties. If communication is not frequent, the awareness of other team members' behaviours, activities and challenges can be low, and the integration of members' efforts and accomplishments can be reduced.

'Team coordination' refers to organising the sequence and timing of a team's work (Breuer et al. 2016, 1152). Similarly, 'process coordination' refers to how individual team members' work is sequenced, timed, and integrated into an interdependent whole. Coordination can be especially important to GVTs since electronic communication may hinder the team members' ability to communicate. While communication norms commonly develop early in a team's life cycle, coordination may develop relatively slowly. (McLarnon et al. 2019, 209.) Team coordination is important for project teams in achieving successful outcomes, for instance, knowledge sharing (Kiely et al. 2021, 4–5).

Communication quality entails communication that is on time, lacks delays, and where it is confirmed when messages are received and understood. Virtual teams' lack of real-time communication can lead to longer task completion times compared to face-to-face teams. Communication delays can particularly hinder virtual teams' coordination and planning processes. Asynchronicity of communication may also contribute to team members' attention becoming divided since the members may simultaneously be communicating with one another and working on other tasks. This may lead to the members' not being able to properly focus on any task. Ascertaining that a message was received and understood can reduce misunderstandings. This is especially important in virtual teams, which can have more challenges than other teams. Culturally diverse members with different values can have different understandings and interpretations of the information presented. In addition, virtual communication may entail audio delays and other technological difficulties. There can also be problems in the interpretation of text if there are no related verbal tone or nonverbal cues available. (Marlow et al. 2017, 578–579, 583.)

According to Marks and others (2000, 972–973), communication quality is more important to team performance than communication quantity or length, and research has illustrated this. Marlow and others (2017, 577–578, 585) concur. For instance, high quality communication may increase shared understanding in any situation, and has been found to positively influence team performance in multiple different types of teams, for example surgical teams and cockpit crews. On the other hand, high frequency can be either beneficial or detrimental to performance, depending on the situation.

According to Glikson and Erez (2020, 1–3, 7–8), the amount of research on team communication content is low, with focus mainly on task-oriented communication

content and its impact on team outcomes. Relational communication content has not been commonly studied. This content has been regarded as less relevant to team performance. However, this content could contribute to effective intercultural communication. The authors claim that, in the beginning of communication in a GVT, cultural diversity and unfamiliarity lead to team members' experience of uncertainty, which could be reduced by sharing relational content which would benefit relationship development. The authors add that relational communication content may decrease stereotypical thinking, as well as be auxiliary to shared understanding, and a sense of inclusion. The results of their study indicate that sharing relational content in the initial stage of GVT formation contributes to a psychologically safe communication climate, which in turn positively influences team performance.

Virtual team communication is always mediated by technology. Successful team interaction requires that communication technologies and their use is appropriate. Yet, there are some unclarities on what effect communication technology has on virtual teamwork and efficacy. (Laitinen & Valo 2018, 12.) According to Gilson and others (2015, 1317–1318), technology is commonly regarded as an enabler of communication and the monitoring of performance. Yet, studies have usually either found that technology hinders virtual team performance or has no effect on it. For example, according to a study by Andres (2012, 75), compared to face-to-face collaboration, technology-mediated collaboration can delay the exchange of information, as well as reduce shared understanding, message coherence, attempts to seek information, and team-wide participation.

Nevertheless, technology has also been found to incur positive effects. These include the advantage of virtual teams over face-to-face teams in overcoming challenges related to increased team size, and that the use of particular CMCs can decrease social loafing. The ease of use of CMC can improve overall satisfaction, decrease inter-member status differences, as well as alleviate difficulties stemming from task complexity when multiple CMCs are used. (Gilson et al. 2018, 1318.) In addition, communal CMC, which refers to a group collaboration system, such as videoconferencing, can strengthen the ties between group members, including in collocated teams. The reason that collocated team can benefit from communal CMC is that it can offer additional functions to such a team, encourage information sharing, and facilitate group socialisation. (Suh et al. 2011, 353–355, 360, 378–379.)

Most studies on virtual team technology focus on older technologies, including email, chat, and discussion boards. There has been less research on newer technologies, including meeting tools, and social networking. (Gilson et al. 2015, 1318; Laitinen & Valo 2018, 13.) However, online meeting tools, shared workspaces, or group conferencing platforms are increasingly common technology used in virtual teams. They include video and/or audio communication. (Laitinen & Valo 2018, 13–14.)



There have been studies indicating that attitudes, perceptions, and skills affect the use of communication technology in virtual teams (Rhoads 2010, 115, 118; Laitinen & Valo 2018, 12–13, 19). Technology can support work and team communication. However, expectations and previous experience can influence how useful one perceives technology to be. Furthermore, a perceived lack of technical skills can lead to uncertainty in using communication technology. Technology can also be a hindrance if a team member experiences communication technology anxiety, which can reduce the member's participation, the number of task-oriented messages, and introduction of novel topics, as well as lead the member to receive poorer ratings from other members. Virtual teams have unique configurations of individuals and relationships. Consequently, teams differ in their needs. Therefore, they ought to use the particular communication technologies that are suitable to their unique needs. (Laitinen & Valo 2018, 13, 20–21.)

Both verbal and written communication may have benefits. In verbal media, a large amount of social cues and symbols can be transmitted via pronunciation, and tone or pitch of voice. This may be beneficial to team collaboration by increasing understanding. More cues can also be more beneficial for relationship development (Kirkman et al. 2013, 343–344). On the other hand, written media has certain advantages over verbal media. In written media, the receiver can read the received messages multiple times which may increase understanding. Furthermore, the sender can control and improve messages before sending them. (Eisenberg et al. 2021, 5–6.)

If a team includes members who find it challenging to use verbal media due to a lack of language proficiency, the use of such media may make the members feel uncertain. There can also be misunderstandings, and the members with higher language proficiency may perceive negatively the members with lower proficiency. Therefore, in some situations, the use of verbal media may lead to negative consequences, which might not be incurred by written media. Whether a given media technology is beneficial to a team is also dependent on whether the team uses it. Even if a specific media technology is available to the team, some members may not wish to use it. In addition, the technology may allow members to appear offline to other team members. Members who opt to appear offline may in doing so distance themselves from other members. (Eisenberg et al. 2021, 6.)

Many studies have compared face-to-face communication and CMC (Rhoads 2010, 115–118; Laitinen & Valo 2018, 13). Compared to face-to-face communication, CMC can enable simultaneous communication between multiple individuals and more equal speaking opportunities. Virtual collaboration may also be beneficial to the quality of decisions. However, trust development is more difficult in virtual teams, whereas face-to-face communication is linked with higher satisfaction. In addition, attitudes, perceptions, and skills related to technology may affect the 'richness' of communication, however they can change over time. 'Richness' refers to the amount of simultaneous

emotional, attitudinal, or normative cues present in communication. Face-to-face interaction has the highest richness, video communication second highest, then audio, and lastly text-based communication. (Rhoads 2010, 115–118.) Richness is required for clear understanding. A lack of nonverbal cues may decrease understanding since the cues often serve to confirm understanding. Thus, the use of virtual communication tools which have low informational value can lead to lower communication quality. (Marlow et al. 2017, 581, 583–584.) However, due to virtual teams' efficiency benefits, and adaptation to virtuality and the team, virtual teams can over time achieve the same level of communication, performance, and relationships as face-to-face teams (Rhoads 2010, 115–116).

### ***3.2.1 Sharing information with team members***

A benefit of a GVT is that organisations can form teams consisting of the most qualified individuals, who can collaborate without the need to be in the same location or time zone. Although the individuals may be chosen as part of a team based on their task-related capabilities, they may have prior knowledge of one another that can affect the team's information sharing and integration. This prior knowledge can be referred to as 'familiarity'. When team members are familiar with one another, it is more likely that they trust one another, coordinate actions, know what they can expect from one another, and that they communicate more effectively and clearly. Furthermore, member familiarity has been found to positively affect communication, productivity, decision making quality, and individual and team performance. It has also been found to reduce accidents. It may also increase willingness to listen which can affect the way of exchanging and perceiving information. (Maynard et al. 2019, 4, 6–7.) Familiar teams may have higher performance on highly complex tasks involving high levels of cognitive effort and team coordination. The reason for this is that familiar teams can achieve effective performance with reduced communication. (Marlow et al. 2017, 584.)

'Information sharing' is a part of communication. It has been shown that the way information sharing is defined affects how strong the relationship between information sharing and performance is. Information sharing can be defined based on 'uniqueness' or 'openness'. 'Uniqueness' refers to sharing information that is not commonly known by all team members. 'Openness' refers to how broadly, or openly, information is discussed. Information sharing predicts team performance better when defined as uniqueness rather than openness. However, openness may be better for relationship cultivation. Moreover, the type of information that is shared affects the impact virtuality has on the relationship between information sharing and performance. (Mesmer-Magnus & DeChurch 2009, 541; Marlow et al. 2017, 575, 577.)



Information sharing is important for the success and performance of GVTs. Information sharing can allow members to gain new information, to learn, and to form new perspectives which enhances creativity, which in turn is important to virtual teams (Hahm 2017, 4106, 4110). Yet, it is often challenging for a team to take advantage of all the information it has. This is due to the tendency of team members to share and discuss common information at the expense of unique information. The degree that members share diverse information and integrate it into their decision making affects the success of the team. Furthermore, when people are at a distance from one another, as in a virtual team, the likelihood of freely sharing information and acknowledging others' information is lower. Without face to face contact, it is more difficult to create deep and close relationships, without which team identification and cohesion can be hindered which can in turn hinder information sharing (Hahm 2017, 4106). Information sharing can be negatively affected by virtual team members' lack of history and experience with one another. In addition, cultural and linguistic differences can hinder information sharing (Waring et al. 2018, 519, 594, 609). A lack of communication richness, and a virtual team's membership fluctuation can also be challenges to information sharing (Cordery & Soo 2008, 491). On the other hand, a lack of information sharing, as well as communication delays, and insufficiency of nonverbal cues and clarity of messages can make it more difficult for members to form a shared understanding. However, team coordination can be improved by having awareness of whether team members are able to finish on time the work they agreed to do, and knowing when the members can work. (Hinds & Weisband 2003, 21, 26–27; Mesmer-Magnus & DeChurch 2009, 537, 543; Maynard et al. 2019, 4–7.)

Information sharing is increased when members believe that it will benefit team performance, or when the atmosphere supports or encourages free information sharing. Furthermore, the adoption of one's ideas or opinions increases one's information sharing. (Hahm 2017, 4109.) In addition, a common language can increase the frequency of communication and sharing of knowledge in multinational companies (Hassett et al. 2018, 166). Team members share more information if everyone already knows the information, everyone can make independent and accurate decisions, and there is a high level of similarity of the members. However, the teams that would gain the most from information sharing are those that possess more unique information. Yet, these teams share less information than the teams who possess more common information. Team members commonly refrain from sharing their unique knowledge, which might contribute to learning, since they fear that they will appear incompetent, for instance, due to admitting to a mistake or asking for help (Edmondson 1999, 351–352). A lack of unique information sharing may also hinder team decision-making and team performance. Information sharing and in-depth information processing can be improved through structuring team discussions, framing team tasks as intellectual, and promoting a team

climate that is cooperative. An intellectual task refers to a task to which it is possible to find a correct answer. On the other hand, a judgmental task refers to a task that requires team consensus. Framing a task as intellectual instead of judgmental may encourage the sharing of unique information. (Mesmer-Magnus & DeChurch 2009, 535–537, 543–544.)

When a team's information sharing ability is combined with the team's ability to process and integrate information, this is called 'information elaboration'. This entails that each team member shares with others the information that they know. Then, the members process and integrate their information by constructively discussing and combining it. Information elaboration enables the effective use of information in decision making. Information elaboration is a social phenomenon, and occurs with a higher likelihood with a higher comfort level, in other words, the psychological safety of members. Information elaboration has been shown to be especially relevant in dynamic and complex situations, which are often found in a GVT. (Maynard et al. 2019, 5–6.)

According to Maynard and others (2019, 3–7, 22–26), there has been uncertainty on the link between virtuality, familiarity and information elaboration in GVT research. Related to this is that familiarity can be categorised as personal or professional. 'Personal familiarity' refers to knowledge of one another's personal life that is not related to work. 'Professional familiarity' refers to knowing one another's strengths, weaknesses and past experiences that are related to work. The authors got an unexpected result that was in contrast to previous research. To paraphrase the result: If team members had low personal familiarity with one another, their information elaboration was somewhat higher if they used less virtual means of communication compared to more virtual means. On the other hand, as expected, high personal familiarity and virtuality were linked with high information elaboration. The authors add that if there were high personal familiarity and low virtuality, information elaboration could be hindered since communication could become too social. However, personal familiarity was found to be less relevant for information elaboration compared to professional familiarity. When professional familiarity was higher, information elaboration was increased regardless of the level of virtuality.

Different expertise, responsibilities, and goals can lead to barriers for knowing what information ought to be shared, with whom and when it should be shared, as well as how it should be interpreted (Waring et al. 2018, 592). On the other hand, in the context of multiple teams consisting of emergency respondents, shared familiarity with one another's roles and responsibilities has been indicated to increase situational understanding and speed of information exchange, as well as reduce communication barriers due to different use of terminologies (Waring et al. 2020, 272, 274). The researcher of this thesis opines such benefits of professional familiarity also apply to the context of a single GVT. Finally, professional familiarity, along with unique information sharing, seems to be important for information sharing effectiveness.





### **3.3 Factors affecting communication and collaboration in a global virtual team**

#### **3.3.1 Team diversity**

Team characteristics, such as ‘team diversity’, are inputs influencing how and when team members communicate. ‘Team diversity’ refers to the heterogeneity of team member characteristics, in other words, individual differences among team members. These include, for example, differences in cultures, backgrounds, ethnicities, values, beliefs, experiences, genders, languages, and knowledge. Studies on virtual teams have had different results on whether team diversity positively or negatively influences performance. This may be due to differences between definitions and operationalisations of team diversity, and also due to the influence of moderators on results. The relationship between team diversity and team effectiveness may possibly be mediated by team communication. If there is a high degree of diversity, team members may speak less. Thus, there may be less opportunities for members to clarify misunderstandings. In this way, diversity may contribute to a hindered common understanding, which may have a negative influence on performance. However, if team members are able to engage in high quality communication, team diversity may positively influence performance since members are able to exchange information and take advantage of their unique perspectives. These perspectives can enable them to have novel approaches to tasks which may increase performance. (Marlow et al. 2017, 579–580.)

Similarly, diversity may increase team performance in creative tasks due to unique ideas from diverse members. However, a lack of trust and cohesion in a diverse team may hinder the competitive advantage that could be gained from diversity. Nevertheless, if there exists trust in a team, trust may decrease the negative effects that member diversity incurs on individual performance and, consequently, on team performance in globally distributed teams. On the other hand, culturally diverse teams may have coordination issues, which may hinder effective communication. (Garrison et al. 2010, 27–41; Abarca et al. 2020, 168935.)

However, similarly to trust, cohesion in a team is linked to improved performance. Cohesion is also linked to satisfaction. ‘Cohesion’ refers to a sense of unity in a team. (Abarca et al. 2020, 168935.) Cohesion can also refer to a process where attraction among team members due to similar characteristics leads to the members’ attraction towards the team and its goals, and belief that they are a part of the team (Garrison et al. 2010, 33–34). In this study, ‘team cohesion’ refers to members’ perceptions of their team’s attractiveness, willingness to work for the team, and the team’s integration as a whole (Paul et al. 2016, 187).

Cohen and Gibson (2003, 8) suggest that it is possible that high diversity, as well as high virtuality, are beneficial. Reasons for this include: access to the best talent; access to unique competencies across different organisations; and, increased innovation through team members' different knowledge and perspectives.

Virtual team diversity can include differences between members in terms of cultures, countries, languages, organisations, business units, functions, professions, and disciplines. Virtual teams need to manage the differences, and the greater the differences are in amount and depth, the greater are the challenges that need to be overcome to achieve effectiveness. A team that faces great differences can find it even harder to achieve effectiveness if the team is also characterised by a high degree of virtuality. High diversity and virtuality can lead to high complexity and uncertainty of teamwork. These in turn make information processing and sense-making tasks more difficult. A team facing the aforementioned high diversity and virtuality is especially in need of effective design, support and leadership. (Cohen & Gibson 2003, 5, 7, 12; Gibson & Cohen 2003b, 408–412; Ismailov & Laurier 2022, 123).

Research on GVTs commonly includes cultural diversity. Diversity and cross-cultural management scholars widely agree that cultural diversity can have both negative and positive influences. However, research often focuses on the negative rather than positive influences of cultural diversity on teams. These negative influences can stem from perceptions of dissimilarity, negative biases, negative feelings caused by differing values, and from difficulties in communication due to language and communication differences. The negative influences can also include hindered innovation, possibility for misunderstandings, and viewing culture more as an obstacle than an opportunity in the face of a challenge. The focus on the negative may be due to assumptions that team members are not comfortable using CMC, and that they are not familiar with different global and cultural work norms. The cultural diversity of GVTs may be thought to indicate that the perspectives of members vary regarding many team aspects, for example, work norms, leadership, decision-making, and team structure and processes. These differences between perspectives are in turn assumed to lead to a lacking team identity, and consequently, reduced effectiveness. (Velez-Calle et al. 2020, 283; Stahl & Maznevski 2021.)

Stahl and others (2010) conducted a meta-analysis of empirical studies on the effects of cultural diversity on teams. The findings indicate that cultural diversity is not directly related to team performance. The findings also indicate that teams characterised by higher cultural diversity experience higher creativity but also increased conflict and decreased 'social integration'. 'Social integration' refers to the perception of the affective aspects of group collaboration, for example, commitment towards the group, cohesion of a group, and trust. However, unexpectedly, the communication effectiveness of culturally diverse teams is not lower, and their satisfaction is higher compared to homogeneous teams. In



addition, these effects are virtually the same regardless of whether the level of cultural diversity is surface-level or deep-level which is a finding the authors did not expect. Surface-level cultural diversity refers to team members' demographic attributes, for example, race or nationality. Deep-level cultural diversity refers to team members' psychological attributes, such as attitudes and values associated with culture. The effects of cultural diversity are also virtually the same regardless of whether the type of cultural diversity is cross-national or intra-national.

However, the findings of the aforementioned meta-analysis suggest that the effects of cultural diversity on team performance are different based on differences in context, including team size, distribution of team members in different locations, the complexity of the team's task, and the amount of time team members have spent together. The effects are also different based on research design, and sample characteristics. The findings also suggest that cultural diversity has an indirect effect on team performance. However, some of the effects of cultural differences may not be recognised, or the effects may be thought to stem from matters other than cultural differences. If the cultural differences are not recognised, it may in turn be difficult to recognise the origins of conflicts, and resolve the conflicts in multicultural teams. (Stahl et al. 2010, 690, 693–696, 702–703; Stahl & Maznevski 2021, 4–8.)

According to a study by Au and Marks (2012), virtual teams may be negatively affected by cultural and linguistic differences, for instance, different communication styles. Cultural and linguistic differences in working practises can lead to conflicts. In addition, such differences may hinder team members' identification with the team. There may also be cultural differences in the perceived appropriateness of communication behaviours (Lockwood 2015, 128). Furthermore, while the most common language in GVTs is English, it is also common that the members' English language proficiencies differ (Eisenberg et al. 2021, 2).

However, even if GVT members share similarities, for example, in terms of business situation, expertise, and communication skills, there can be misunderstandings and coordination difficulties, as well as rifts within the team even due to somewhat small cultural and communication differences. Examples include how direct or explicit communication is, how context-dependent messages are, how emotional or serious the messages are, as well as how formal vs. informal the used communication channels are. Furthermore, although GVT members can speak the same common language, often not all of them are native speakers. Words can often have different meanings based on local variations of language. In order to avoid such challenges, members ought to share information of their local cultural and workplace contexts. They should also tell one another about their respective cultural values, practises, and habits, as well as what their cultures are like in relation to the other members' cultures. (Elron & Vigoda 2003, 326–327, 331; Gluesing et al. 2003, 354–356; Gibson & Cohen 2003b, 405.) According to

Merkin and others (2014, 2–3, 16), there has been extensive research on the importance of cultural differences in communication, and it continues to be important to research how culture and communication are linked.

### **3.3.2 Cultural differences in computer-mediated communication**

The degree of personal involvement, for instance, face-to-face vs. electronic communication, has a large impact on the success of intercultural communication (Griffith & Harvey 2001, 92). For example, email communication between cultures has challenges that are different from face-to-face interaction, yet some of the challenges are shared (Davis et al. 2009). Some communication challenges may develop when members of high and low context cultures interact. A ‘high context culture’ refers to a culture where there is a need for nonverbal communication, which contains visual cues, to get their message across, and the communication is indirect. A ‘low context culture’ refers to a culture where a more direct communication style is used. Moreover, unlike computer-mediated communication, face-to-face communication can transmit information concerning social context and a virtual team member’s social status. However, high-status members may dominate discussions in face-to-face communication, and status inequalities may be reduced in email communication. (Dubrovsky et al. 1991, 119–120; Purvanova & Bono 2009, 344; Jonasson & Luring 2012, 406–407; Snellman 2014, 1257–1258.)

Different ways of communication can cause miscommunication between the members from low and high context cultures. The necessity of nonverbal communication in a high context culture leads to a preference for face-to-face interaction over impersonal email communication. Another difference between cultures can be the perception of time. When time is considered scarce, complying to requests is considered to be a matter of urgency. In this type of culture, large amounts of email can be considered to be unmanageable. In less urgency-oriented cultures even urgent matters can be thought of as non-urgent. This imbalance between different cultures’ temporal orientations can cause delays to progress and damage to relationships. In email communication, the differences between communication styles and between temporal orientations tend to be neglected causing problems and harm to relationships in business communication. What is also challenging in email communication is that the interpersonal relationship of the communicating parties tends to be built face-to-face. Trust may be better created face-to-face because the communicating parties get to know and understand each other better than via email communication. (Davis et al. 2009, 78–79.) However, the prevalence of email makes it important to improve one’s written communication abilities (Kameda 2005, 175–176).



Even when there is a lack of nonverbal cues, virtual team members can learn to interpret and form messages based on the available cues, such as those available in an email text. Members can learn to send messages that include the information that is required to achieve productivity and goals. Thus, members can learn to communicate effectively using technological tools. In this case, the effects of culture, including different communication styles, are not as apparent as in a face-to-face situation. (Zakaria 2017, 353.)

Technology can even have a positive effect on virtual team communication and collaboration when using technology allows team members to save face in a conflict situation. Using CMC can also reduce the dominance of a GVT member if members cannot observe nonverbal cues that can be used to indicate superiority in high context cultures. (Zakaria 2017, 353.)

Moreover, if a virtual team member does not wish to actively participate in a discussion due to believing that a more passive form of participation enables one to avoid being blunt or outspoken, that member can use emoticons or emojis as a tool of interaction. This is to say that the member can display one's participation or agreement by using symbols, for example "like", "thumbs up" and "smiley face". However, if one is silent, this is not as apparent in a virtual team as in a face-to-face interaction. Emoticons and emojis can also convey such nonverbal information as indications of emotions and affective states which may increase the possibility that the receivers of a message correctly perceive the emotion, intent, and attitude of the message. Visual cues may also contribute to a positive attitude. (Zakaria 2017, 353; Li & Yang 2018, 1–2.)

In the opinion of the researcher of this thesis, emoticons and emojis are likely usually helpful in conveying nonverbal information that would otherwise be lacking in messages. Emoticons and emojis probably also contribute to a better team atmosphere. However, one should still acknowledge that emoticons and emojis may not always be interpreted correctly even intra-culturally. There are numerous different emoticons and emojis, and not everyone knows the meaning of each of them. Moreover, they can be used in multiple ways and their meaning can depend on the context, or the state of mind of the sender. Thus, they can be ambiguous. In an unfortunate case, even a simple smiley face might be mistaken for an indication of sarcasm. Moreover, it depends on the application program what emojis look like. Since various interpretations of an emoji can be made by different individuals, it is still prudent for team members to pay extra attention to making their intended meaning clear even if they are adding visual cues to their messages.

There may be cultural differences in preferences for particular CMC tools (Abarca et al. 2020, 168935). In a study by Duranti and Almeida (2012, 36, 45–47), the perceptions and attitudes towards the adequacy of CMC tools for common project tasks differed between an American and a Brazilian group. Brazilians preferred higher richness communication media that could convey diverse contextual information regarding

communication, for example, audio and videoconference. They also preferred communication tools enabling immediate feedback. On the other hand, Americans preferred lower richness tools, including email and chat. The reason for this might be that Americans require less information regarding communication context.

High context people have lower levels of satisfaction when they use CMC tools that lack nonverbal cues and immediate response, for instance, email. Thus, for high context people, email may not be the most suitable form of communication and collaboration. Initially, these, as well as developing relationships, can be difficult for them owing to the lack of nonverbal cues. Later, they can learn to cope without nonverbal cues. For low context people, using email communication is less difficult due to less reliance on nonverbal cues and more reliance on describing details and on linear communication. (Zakaria 2017, 352.)

Higher virtuality may be linked to lower satisfaction. Satisfaction affects motivation in a team, and may affect the functioning of a virtual team. However, virtual team members may experience higher satisfaction if there is face-to-face communication in the beginning of team formation, if information not related to work is shared, and if conflict management is constructive. Higher satisfaction may also be achieved if performance expectations are communicated clearly, and the team members are familiar with one another. Therefore, relational-oriented communication may positively influence satisfaction. The use of multiple communication tools may also increase satisfaction regarding team functioning. This might be due to the complementarity of the tools, which aids in overcoming their respective limitations on communication quality. (Marlow et al. 2017, 585.)

Culture can have an effect on the perception of the appropriateness of a medium. However, this perception is also affected by job position and communication networks. Nonetheless, culture may influence one's perceptions, attitudes and choices even when one is considering the use of computer-mediated communication. Some CMC media can also be regarded as more appropriate than others. This is affected by culturally different norms and beliefs. Thus, cultural norms and beliefs ought to be compatible with the communication technology used. (Zakaria 2017, 353.)

Virtual team research usually takes the stance that computer-mediated communication is problematic to team members. This has previously been shown to be the case. However, current research has indicated that millennials<sup>7</sup> may be better versed at facing the past challenges of CMC, as well as be able to effectively use CMC in order to quickly and fluently perform various tasks. (Gorman et al. 2004, 257; Gilson et al. 2015, 1324; Abarca et al. 2020, 168934.)

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<sup>7</sup> Millennials can be referred to as the generation beginning approximately between 1977 and 1982 (Gorman et al. 2004, 257). Millennials can also be referred to as the people born between 1979 and 1994 (Velez-Calle et al. 2020, 280).



Millennials are the first digitally immersed generation. They are the first generation to grow up with access to, and using, computers and different types of CMC in both professional and social interactions. They are comfortable, accepting, and adept when it comes to technology and its use. This is why they may be less affected by CMC. They may value the flexibility and mobility of virtual teams more than older generations. Millennials may regard virtual teams as being a more accessible and time-efficient way to collaborate compared to face-to-face work. They may even prefer virtual work over face-to-face work. Furthermore, in international business literature, cultural differences are usually thought to incur more negative than positive consequences. Yet, millennial GVTs may not view cultural differences as barriers. Instead, other issues related to teamwork may be more pertinent, for example, task-based and interpersonal issues. Millennials may focus on their shared values, for instance, speed and mobility, instead of on their differences in cultural values. Thus, member demographics may influence team outcomes. (Gilson et al. 2015, 1324; Velez-Calle et al. 2020, 279–280, 284.)

In a study by Velez-Calle and others (2020, 285–289, 295–296), while millennial GVTs expected to mostly face challenges related to cross-cultural differences, they mostly experienced challenges related to the task or the team which are common in many types of teams, for instance, goal selection problems, freeriding, and coordination problems. Furthermore, different aspects of diversity and differences between member characteristics can present different teams with different challenges. In a GVT, team members can be unfamiliar with their unique team context. They may not know what challenges they should expect and what solutions they could have to the challenges. There can be several challenges of different types which can vary from team to team. Therefore it may not be possible to devise specific solutions to the different challenges beforehand. Instead, the authors suggest that it is more effective to determine broad philosophies with which to approach the challenges.

### **3.4 Virtual team performance and communication**

#### ***3.4.1 Effective virtual teamwork***

The effectiveness of virtual teams is dependent on, among others, trust, relations and satisfaction among team members (Velez-Calle et al. 2020, 280). Studies in laboratory settings indicate that, compared to face-to-face teams, virtual teams may have higher performance on creative tasks, for example, brainstorming tasks. In contrast, virtual teams may have lower performance on decision-making tasks, and lower consensus. However, these findings might not generalise to field settings. (Marlow et al. 2017, 584.) Marlow

and others (2018, 154–156) found that the relationship between communication and performance is stronger for face-to-face than virtual teams. The authors suggest this may be due to the limitations posed by virtual tools in communication. Furthermore, the aforementioned relationship was similar for face-to-face and ‘hybrid teams’. ‘Hybrid teams’ refer to teams that use both face-to-face meetings and virtual tools. The authors suggest the similarity in the relationship may stem from the fact that hybrid teams can meet face-to-face if they experience problems with virtual tools. In addition, familiar teams had stronger relationship with communication and performance than unfamiliar teams. The authors suggest this could be explained by the familiar teams’ development of more effective team processes. For this reason, these teams may have more team-related shared knowledge, and more efficient communication practises.

According to Ismailov and Laurier (2022, 123–124), studies suggest that the more team members affect and depend on one another’s work in terms of a task, outcome, or a goal, the higher the team’s communication, motivation, cohesion, and overall teamwork effectiveness are. Team effectiveness is determined by many jointly acting factors (Cohen and Gibson 2003, 6; Ismailov & Laurier 2022, 124). Moreover, several different methods can create the same outcome. Thus, rather than attempting to identify causalities between team effectiveness and single factors, it may be more functional to identify which conditions promote virtual team effectiveness. (Cohen & Gibson 2003, 6–7.)

In order to achieve effective virtual teamwork, organisations need to create the enabling conditions for this (Cohen & Gibson 2003, 2). In a framework by Cohen and Gibson (2003, 8, 12; Gibson & Cohen 2003a, 401–402) concerning the creation of conditions for virtual team effectiveness, there are three enabling conditions that need to be met in order to achieve high virtual team performance. These are shared understanding, integration, and mutual trust.

According to Cohen and Gibson (2003, 2), virtual teams can be successes, failures, or anything in between. Both the pros and the cons of teamwork can be magnified due to virtuality. A virtual team can be successful if the team is designed, supported, managed and implemented well. If these are done effectively, it is possible to reap the benefits of global talent sourcing in solving business problems, creating new products, and servicing customers.

### **3.4.2 *Trust in a global virtual team***

A significant challenge to virtual teams can be a lack of trust (Marlow et al. 2017, 581). ‘Trust’ refers to one’s willingness to become more vulnerable to others’ actions, and one’s expectation that the others will keep with their duties (Abarca et al. 2020, 168934–168935). In this study, trust refers to willingness to be vulnerable due to positive





expectations towards another person's intentions or behaviour (Rousseau et al. 1998, 394–395; Cohen & Gibson 2003, 9; Golden & Raghuram 2010, 1065). If a team achieves mutual trust, the members can feel safe. This in turn can make the members willing to expose their vulnerabilities and take risks with other members. Achieving mutual trust in a virtual team is difficult since people are more likely to trust those who are seen as similar to themselves yet team members can represent different cultures, as well as have different backgrounds and experiences. Moreover, interpersonal cues are important to establishing trust, and they are lacking in CMC. (Cohen & Gibson 2003, 9.) Furthermore, developing and maintaining trust in a GVT may be difficult due to irregularity, unpredictability and inequity of communication (Hassett et al. 2018, 166–167).

There is a consensus among researchers that individual ability, competency, strongly predicts trust. Trust has typically been defined as a one-dimensional construct. In fact, trust may be one-dimensional in the initial phase of a team. However, over time, trust may become two-dimensional in the form of 'cognitive trust' and 'affective trust'. 'Cognitive trust' can refer to one's beliefs concerning the reliability, dependability and competence of one's peers. Similarly, it can refer to one's knowledge and positive expectations regarding another person. 'Affective trust' can refer to mutual interpersonal care and concern, or emotional bonds. Similarly, it can refer to mutual identification, and positive affect. Trust development in a virtual team is commonly linked with knowledge sharing. Interpersonal trust and trust in technology may have a positive influence on knowledge sharing. Correspondingly, a lack of these two types of trust may hinder knowledge sharing. (Breu & Hemingway 2004, 191, 199–201; Webber 2008, 746–750; Golden & Raghuram 2010, 1061, 1065–1079; Abarca et al. 2020, 168935.)

In a study by Webber (2008) on trust development in student project teams, the results indicated there may be a significant and positive relationship between affective trust and team performance. However, there may not be a significant relationship between cognitive trust and team performance. The results also indicated that neither cognitive nor affective trust had a relationship with interaction frequency, the frequency of team- or project-related interactions among team members. The author suggests that the reason for this is that interaction frequency does not reveal what the interaction is like: even a high frequency of interaction may not aid in task completion. The author also notes that prior familiarity might also not lead to increased trust. Prior familiarity with a team member may stem from a negative experience involving the member, or from knowledge of the member's negative reputation. Therefore, if prior familiarity is negative in nature, it may impair trust development.

'Group trust' refers to a common belief among group members that other members strive to comply with commitments, are honest, and do not take excessive advantage of other members (Cummings & Bromiley 1996, 303). Trust can be important to virtual teams in reducing concerns of whether other members will fulfil their responsibilities.

The existence of trust can allow members to rely on one another in achieving a collective goal. If a team is highly virtual, it may lack informal, relational-oriented communication. This may impair the team's ability to develop high quality interpersonal relationships, as well as to form a collective identity, a sense of belonging, and group norms. This can in turn impair the formation of trust. Trust formation can also be hindered due to a lack of timely responses if the members are working in different time zones. (Marlow et al. 2017, 580–581.)

As indicated by the aforementioned, a concept related to trust is commitment. There are many types and definitions of commitment (Meyer & Allen 1991; Hersovitch & Meyer 2002; Graham & Daniel 2021; Lee & Lee 2021; Storr 2022). For instance, commitment can be classified as attitudinal and/or behavioural. Attitudinal commitment can refer to one's mindset, feelings, and/or beliefs involving a desire, need, and/or obligation towards something, for instance, remaining in an organisation or towards a course of action. Behavioural commitment can refer to following a course of action based on one's attitudinal commitment. (Meyer & Allen 1991, 62; Hersovitch & Meyer 2002, 475; Lee & Lee 2021, 3; Storr 2022, 88–90.) The findings of case studies by Jarvenpaa and others (1998, 52) indicate that high-trust global virtual teams are characterised by their meeting of commitments. Group goal commitment has been found to correlate with group performance (Klein & Mulvey 1995, 47). Furthermore, team member commitment directly influences team effectiveness (Powell et al. 2006, 300).

High quality, particularly relational-oriented, communication may aid in trust formation, which can in turn be beneficial to team performance. Trust formation, as well as shared understanding, in a virtual team may be facilitated by frequent communication. Timely and predictable communication may help to maintain trust among virtual team members for the whole duration of the team's existence. If communication is merely occasional, members may become uncertain of the commitment of other members, and confidence may be reduced. However, the maintaining of trust can be improved if a member informs other members of an inability to engage in regular communication. Face-to-face communication in the beginning of team formation may facilitate trust formation. Face-to-face communication may entail higher quality communication, which may improve the establishment of group identification, norms and trust. Early establishment of communication rules may also improve trust in a virtual team. An example of such a rule is that team members confirm the reception of a message. However, it may be difficult to ascertain the most effective communicational practises for establishing trust in a virtual team. For example, it is not known whether relational-oriented communication or a meeting involving face-to-face communication is more important for early trust formation. (Marlow et al. 2017, 581.)

An important contributor to the success of teams may be team psychological safety, which is similar to trust (Newman et al. 2017, 521–522). 'Team psychological safety'



refers to team members' shared belief of the safety of the team for interpersonal risk taking (Edmondson 1999, 350). This is the most common definition in studies (Newman et al. 2017, 522). Team psychological safety has its basis on mutual respect and interpersonal trust (Edmondson 1999, 354).

A work group at Google studied the characteristics that allow a Google team to be effective. It was found that psychological safety was by far the most important characteristic that successful teams had in common. (Google 2015; The New York Times 2016.) Team psychological safety may positively influence performance, learning, and creativity both at the individual and the team level, as well as risk-taking at the individual level, and innovation at the team level. Team psychological safety may be more strongly linked to team learning and performance if a task environment has more complexity, and a greater requirement for creativity and sense-making. The link to team learning may also be stronger if there is more social contact/impact. (Newman et al. 2017, 525–528.) However, in teams with a utilitarian orientation, high psychological safety may be linked with increased likelihood of engaging in unethical behaviour. In utilitarianism, one determines the best course of action by assessing the outcomes and consequences of a decision. (Pearsall & Ellis 2011, 401; Newman et al. 2017, 528.)

### 3.4.3 *Emotions in virtual teams*

According to Hassett and others (2018, 167), there has been increasing interest in emotions in virtual teams. According to Abarca and others (2020, 168936–168937), emotions is an increasingly important subject of study in multiple different areas of study, for example, marketing. Moreover, emotions and their influence on performance in virtual teams have not been widely researched. There should be more virtual team research particularly on emotions but also on new communication and collaboration technologies, as well as trust.

When people meet one another for the first time, anxieties and uncertainties related to culture increase. This also applies to GVTs and CMC. (Zakaria 2017, 352.) Managing emotions and emotionality is regarded as one of the most major challenges of organisations regarding virtual teams. Expressing emotions is different in a virtual environment. For the most part, emotions are experienced in and shaped by interaction. This happens through language and social practise. However, social practise is limited in virtual interaction. Moreover, emotions towards virtuality may have an effect on, for example, how technology is implemented and how often it is used, as well as how well-accepted remote working is. (Hassett et al. 2018, 167.)

In a virtual environment, conveying emotion and reacting is less effective compared to face-to-face interaction due to a lack of cues for displaying and perceiving emotions.

This makes it harder, even impossible, to decode facial expressions or body language. This in turn necessitates that communication be more explicit in order for the same amount of meaning to be conveyed. In addition, cultural differences can make it more difficult to interpret written messages. Emotional cues and meaning can only limitedly be perceived and conveyed in lean media via emoticons or capitalisation. However, in text-based communication, which has delays, even if there is aggressiveness or competitiveness, this may not be apparent. This is why negative connotations can be reduced due to the use of lean media. (Hassett et al. 2018, 167.)

Moreover, if virtual team members are faced with a conflict, it might be beneficial to negotiate in text form. When the members express their feelings and perspectives in text form, their emotions may tone down, and their honesty towards one another may increase. (Shin 2005, 335–336.) However, the contrary may also be true, depending on the particular virtual team and the relationships among its members (Zimmermann 2011).

The researcher of this thesis believes that, in text-based communication, increased time spent formulating a message may be beneficial when virtual team members are faced with a conflict. The agitated parties may calm down and consider one another's messages, and consequently tone their messages down. Yet, this is only true if it is assumed that the use of text-based communication does not lead to misunderstandings that inflame the conflict. However, should a sufficiently calm interactional atmosphere be achieved, it is possible that members may become more honest with one another since they can trust one another to the extent that they are willing to openly share information. The researcher believes that text-based communication may be beneficial in negotiating conflicts if the team members are willing and able to sufficiently well interpret communication that lacks cues.

The researcher of this thesis posits that negative emotions may lead to conflicts. On the other hand, conflicts may elicit negative emotions. Regardless of which one comes first and leads to the other, negative emotions and conflicts are related not only to one another but also to relationships, on which either may have a detrimental effect.

#### **3.4.4 Conflicts in virtual teams**

Conflicts influence the relationships of employees, and are a part of team functioning. 'Conflict' refers to disagreements concerning issues related to tasks, relationships, or processes. (Kuriakose et al. 2018, 463.) Similarly, 'conflict' denotes disagreement between team members due to incompatible goals or interests (Kankanhalli et al. 2006, 239). Along the same lines, 'team conflict' refers to disagreement between team members (Johnson & Avolio 2019, 848).

Different types of conflict in teams are relationship conflict, task conflict, and process conflict (Johnson & Avolio 2019, 847–850). Similarly, conflict can be categorised as task



conflict, relationship conflict, or process conflict. 'Task conflict' refers to disagreements and different viewpoints regarding the task goals in a team. 'Relationship conflict' refers to conflict caused by different personalities and personal dislike. (Kuriakose et al. 2018, 463.) Similarly, 'team relationship conflict' refers to disagreements due to interpersonal differences between team members. These differences can pertain to, for example, personalities, values, or experiences. (Johnson & Avolio 2019, 848.) According to Kankanhalli and others (2006, 239–240), the main conflict types are 'task conflicts' and 'relationship conflicts'. 'Task conflicts' refer to task related issues. 'Relationship conflicts' refer to personal issues among team members.

'Process conflict' refers to disagreements concerning the way of accomplishing the task, responsibility for a specific job, the amount of work that should be done, and delegation. In the past, process conflict was considered to be sufficiently similar to task conflict to be considered a part of it. However, process conflict is arguably its own type of conflict. (Kuriakose et al. 2018, 463.) Process conflict can also refer to how resources are distributed and allocated in order to implement decisions (Papenhausen & Parayitam 2015, 105).

Team member interactions often lead to conflict. Reasons for this may include members' attempts to maintain individuality, and not having ways of de-escalating conflict. Conflicts in the workplace may be harmful to team effectiveness and satisfaction, as well as to the short-term and long-term well-being of employees (Kuriakose et al. 2018, 463). Overcoming conflict can be important to teams' development and effectiveness. (Johnson & Avolio 2019, 847.)

Process conflict is usually found to be detrimental to group performance, as well as to individual satisfaction. It has also been found to hinder employee performance, satisfaction, viability, and commitment. It may be the conflict type that lasts the longest, is the most damaging, and explains the most variance in team outcomes. Process conflict may have a negative effect on the well-being of employees through subjective employee distress. However, the extent of this effect may be affected by the employees' 'conflict management styles'. (Kuriakose et al. 2018, 462–464, 479–480.)

'Conflict management style' refers to a consistent way of handling a conflict. Conflict management styles can be categorised as 'passive' or 'active'. With a 'passive conflict management style', an individual has a low concern for self and either low or high concern for others, depending on the specific style. With an 'active conflict management style', the individual has a high concern for self and either low or high concern for others, depending on the specific style. If the concern for both self and others is high, this is called a 'problem-solving conflict management style', which is the most effective style for reducing the harmful effects of conflict. With this style, one seeks to find solutions that satisfy the needs of all parties of the conflict. It is a collaborative style, which involves compromises, and seeking optimal solutions, as well as mutual information sharing,

amicability and respect. It can contribute to positive interpersonal relationships and enhanced self-esteem and well-being, as well as reduce feelings of helplessness and frustration. On the contrary, employees using passive conflict management styles are subjected to the greatest harmful effects of process conflict. The use of passive styles can lead to decreased well-being, performance and quality of communication. However, conflict management styles can be changed through training. (Kuriakose et al. 2018, 462, 466–468, 477–480.)

The cultural orientations of team members can affect the effectiveness of conflict management. When members have collectivistic values, teamwork can be facilitated due to the use of a collaborative conflict management style instead of a competitive style. (Zakaria 2017, 353.) A collaborative conflict management style involves high concern for both one's own outcome and for the other party's outcome. With this style, one collaborates with the other party to solve problems with the goal of maximising gains for both parties. This style may be the most effective one, and it is especially useful for the synthesis of ideas and for working on issues that are complex. It may reduce not only conflicts but also stress. A competitive conflict management style involves high concern only for one's own outcome, the concern for the other party's outcome is low. With this style, one uses threats, intimidation, punishments, and unilateral action. (Reade & Lee 2016, 206.)

In a cooperative conflict management style, team members consider conflict to be a mutual problem that they need to solve by seeking solutions that benefit the whole team. In a competitive conflict management style, team members believe that a conflict is something where necessarily some win and some lose, and the members attempt to get other members to agree with them. (Papenhausen & Parayitam 2015, 106, 108.)

A cooperative conflict management style may generally lead to more productive consequences than a competitive conflict management style, especially in terms of preventing a cognitive, or task, conflict from becoming an affective, or relationship, conflict. However, a certain level of cognitive conflict may be beneficial to decision making and innovation in teams, yet a high level of cognitive conflict is detrimental. In cognitive conflict, disagreements may lead to team members' more thoroughly examining information. This may benefit decision making, problem-solving, and idea creation. However, excessive disagreements may lead to affective conflict. Process conflict may also lead to affective conflict due to disagreements, which can involve, for example, how to implement a decision. Affective conflict may be detrimental to decision quality, and in turn to team effectiveness. (Papenhausen & Parayitam 2015, 101–105, 114–115.)

Research on team conflict has mixed results on whether the effects of conflict are positive or negative. However, the effects may depend on moderators, such as team psychological safety. Team members' initial perceptions concerning team psychological safety may affect what the members expect their interpersonal interactions and potential



levels of conflict to be like. And, if the expectations are not consistent with the actual levels of conflict, a member's team identification and satisfaction may be hindered. (Johnson & Avolio 2019.)

Cultural differences are not bound to always lead to conflicts. However, perceptions of, interpretations of, and ways of dealing with those differences may induce intercultural conflicts. (Dai & Chen 2015, 103.) There are inconclusive results on whether cultural diversity and virtuality increase or decrease conflicts. The inconclusiveness may be due to different relationship aspects and relationship configurations. (Zimmermann 2011.) Relationship aspects refer to matters that affect how virtual team members relate to one another. These include, among others, communication, conflicts, knowledge creation, trust, and satisfaction. (Zimmermann 2011, 59–62.)

A combination of different relationship aspects in a virtual team can be called a configuration. The aspects can influence one another in various ways. Depending on the influences, there can be different configurations with different effects on the team's task performance and quality of interpersonal relations. (Zimmermann 2011.)

Depending on the relationship configuration, the effects of some relationship aspects on other aspects can have either negative or positive effects in a virtual team. As an example, the existence of strong subgroups may either contribute to conflicts and ethnocentrism or to team learning. As another example, virtuality of communication may contribute to misunderstandings, or it may serve to clarify language difficulties and aid in avoiding emotional conflict. As the final example, conflicts may hinder knowledge sharing or result in new knowledge, depending on other relationship aspects. (Zimmermann 2011, 72.)

Examples of challenges related to diverse, virtual, or general communication, or collaboration thereof that were described in section 3 are illustrated in the following tables 2 and 3, respectively. The general communication or collaboration challenges can apply to all teams. Thus, they are not specific to GVTs.

Table 2 Communication challenges in section 3

<b>Main category: Communication</b>		
<b>Category: Diverse communication</b>	<b>Category: Virtual communication</b>	<b>Category: General communication</b>
<b>Subcategories</b>	<b>Subcategories</b>	<b>Subcategories</b>
<i>Communication styles</i> misunderstandings	<i>Lack of cues</i> reduced information exchange	<i>Information sharing</i> a lack of unique information sharing
<i>Cultural and linguistic diversity</i> team communication and management challenges	<i>Communication frequency</i> difficult to achieve suitable frequency	<i>Emotions</i> being afraid of appearing incompetent
<i>Familiarity</i> a lack of common history and experience	<i>Communication delays</i> hindered virtual team coordination and planning processes	
<i>Values</i> different understandings and interpretations of information	<i>Communication technology</i> communication difficulties	
<i>Power</i> misunderstandings and hindered coordination due to power hierarchies	<i>Appropriateness of medium</i> cultural incompatibility with an inappropriate medium	
<i>Language proficiency</i> language proficiency differences	<i>Information sharing</i> reduced information sharing and acknowledgement in a virtual team	
<i>Information sharing</i> high diversity may reduce information sharing		





Table 3 Collaboration challenges in section 3

<b>Main category: Collaboration</b>		
<b>Category: Diverse collaboration</b>	<b>Category: Virtual collaboration</b>	<b>Category: General collaboration</b>
<b>Subcategories</b>	<b>Subcategories</b>	<b>Subcategories</b>
<i>Individual diversity</i> communication technology use is affected by attitudes, perceptions, and skills	<i>Emotions</i> uncertainty due to perceived lack of technical skills	<i>Emotions</i> potential unethical behaviour with a utilitarian orientation and high psychological safety
<i>Assumptions and generalisations</i> out-group categorisation can lead to disagreements	<i>Coordination</i> virtual team coordination development slow	<i>Conflicts</i> conflict may reduce team performance and satisfaction
<i>Cultural diversity</i> cultural differences can lead to misunderstandings and discord	<i>Performance</i> virtuality may hinder team performance	<i>Conflict management style</i> conflict management style affects whether conflict decreases performance
<i>Emotions</i> uncertainty and anxiety due to cultural diversity and unfamiliarity	<i>Trust and cohesion</i> trust development and team identification more difficult in virtual team	<i>Coordination</i> coordination problems common in many types of teams
<i>Performance</i> hindered virtual team performance due to diversity	<i>Unique team context</i> GVT members can be unfamiliar with their unique team context	
<i>Conflicts</i> conflict and decreased social integration due to high cultural diversity		
<i>Coordination</i> coordination issues due to cultural diversity		
<i>Trust and cohesion</i> hindered mutual trust and identification with the team due to diversity		
<i>Unique team context</i> different aspects of diversity can present different teams with different challenges		

The challenges of diverse communication are related to communication styles; cultural and linguistic diversity; familiarity; values; power; language proficiency; and, information sharing. The challenges of virtual communication are related to a lack of cues; communication frequency; communication delays; communication technology; appropriateness of medium; and, information sharing. The challenges of general communication are related to information sharing; and, emotions.

The challenges of diverse collaboration are related to individual diversity; assumptions and generalisations; cultural diversity; emotions; performance; conflicts; coordination; trust and cohesion; and, unique team context. The challenges of virtual collaboration are related to emotions; coordination; performance; trust and cohesion; and, unique team context. The challenges of general collaboration are related to emotions; conflicts; conflict management style; and, coordination.



## 4 INTERCULTURAL COMMUNICATION COMPETENCE

### 4.1 Conceptualisation of intercultural communication competence

The concept of competence has been studied since the 1930s. It has been applied to the context of intercultural communication since the 1960s. However, it was not until around the middle of the 1990s that intercultural communication research began to focus on intercultural communication competence (ICC) (Balboni & Caon 2014, 1). There have been hundreds of published papers on ICC. However, there is a consensus only on some parts of the concept. Namely, there is a consensus on the essential elements of ICC. These include individual level cognitive/knowledge, affective/emotions and/or motivation, and behavioural/skills aspects/components (Arasaratnam-Smith & Doerfel 2005, 142; Spitzberg 2010, 431; Caillier 2014, 221; Elo et al. 2015, 40–41; Martin & Nakayama 2015, 16–18; Chen 2017, 353–354; Aggarwal & Wu 2020, 186). There is also a consensus on a broad definition of competence as being an ability to act in an interaction process. It is also consensual that intercultural communication can be regarded as a context to which competence is applied. However, the specific definition of intercultural communication competence is contested, especially when it comes to the definition of competence. Moreover, technological development and globalisation have made the study of the concept of ICC more complex. (Chen 2017, 349–351.)

There are almost fifty terms with a meaning similar to intercultural communicative competence (Fantini 2019, 28). Many different terms in multiple disciplines have been used to refer to ICC yet the authors using the terms rarely cite one another's work (Martin & Nakayama 2015, 16). Similarly, Kohli Bagwe and Haskollar (2020, 346–347) state that there are many definitions of intercultural competence, yet there is no consensus on any one definition. They add that the conceptualisation of intercultural competence is highly debated. However, the authors claim that intercultural competence can be described in a general way as the ability to effectively cross-culturally communicate, as well as to appropriately relate in different cultural contexts. In addition, intercultural competence usually includes three elements, which are intercultural knowledge, attitudes and skills. Intercultural knowledge refers to both knowledge of oneself and of others. Intercultural attitudes include placing value on other's beliefs, values, and behaviours, as well as considering one's self to be relative. Intercultural skills involve abilities concerning interacting and/or discovering, interpreting, and relating.

According to Deardorff (2006, 247–254), most definitions of intercultural competence are general. However, definitions have been critiqued for being excessively general or consisting of a disconnected list of attributes. In a study by the author, the general definition that was the most highly rated among 23 intercultural scholars was

that intercultural competence is the ability to communicate both effectively and appropriately in intercultural situations. And, that this is based on intercultural knowledge, attitudes, and skills.

Byram (2021,1) defines intercultural *communicative* competence<sup>8</sup> as one's ability to communicate with and relate to people speaking another language and living in another cultural context. The different cultural context can be in one's own country or in a different country. The reason that the different cultural context can be in one's own country is that the country can be multicultural, multilingual, and multiethnic.

According to Varela (2019, 178), multicultural competence<sup>9</sup> refers to a capacity for cross-cultural operation. However, there has been interest towards this concept in different fields of study, for example, intercultural communication, intercultural business, and acculturation. This is why there are several different and conflicting conceptualisations/constructs of multicultural competence, for instance, whether they include one or multiple dimensions, or what the key components are like. There are also different ways of assessment, for example, different surveys, that may not be compatible with one another, yet can still be linked to the same construct. Nonetheless, there has been interest in research on connecting different models and seeking general features. Yet, there is a scarcity of research on comparing and contrasting models and scales. In addition, research ought to include empirical tests, which are now lacking.

Competence can be viewed as a trait or a state, or both, for instance, an inherent ability that is somewhat stable yet also changeable (Chen 2017, 351). According to Fantini (2012, 271–273; 2019, 28, 35–38), ICC consists of both innate, unchangeable personal qualities and acquired, changeable characteristics. ICC develops over time, and one can monitor and measure this. However, it sometimes stagnates, even regresses. The development is affected by one's motivation and attitudes towards the host culture, as well as one's host language proficiency.

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<sup>8</sup> Intercultural *communicative* competence can be characterised as a concept, which emphasises the role of learning a foreign language. The concept also emphasises the role of foreign language teaching in the development of qualities that a sojourner needs to have. 'Sojourner' is a person living in an environment new to the person and where others perceive the person as new, or a "newcomer". (Byram 2021, 2–5.) However, according to Balboni and Caon (2014, 1), in Europe, 'intercultural *communication* competence' is referred to as 'intercultural *communicative* competence'. On the other hand, according to Martin and Nakayama (2015, 16), these terms represent related yet different concepts. The authors state that the difference is that the latter concept has an emphasis on language. However, Yang (2018, 528) states that the terms refer to the same concept. In this thesis, the concepts are considered to be sufficiently similar to be considered synonymous. In addition, the term intercultural *communication* competence is preferred in this thesis.

<sup>9</sup> Varela (2019), refers to multicultural competence interchangeably with intercultural competence, intercultural communication competence, and, cultural intelligence. However, the author also compares the similarities and differences between cultural intelligence and intercultural sensitivity.



#### ***4.1.1 The similar intercultural communication competence and cultural intelligence***

Intercultural communication competence has also been conceptualised under the name ‘intercultural intelligence’ (Chen 2017, 349). Intercultural intelligence in turn can be used interchangeably with ‘cultural intelligence (CQ)’ (Tuleja 2014, 21; AL-Dossary 2016, 305). In addition, ICC and CQ can be used synonymously (Tuleja 2014, 6). ICC is also used interchangeably with cross-cultural communication competence (Aggarwal & Wu 2020). Furthermore, similar to the concept of ICC are, considered together, cultural understanding and communication competence (Griffith & Harvey 2001, 95–96). For the sake of brevity, only CQ is described in more detail, as well as later compared with ICC at the end of section 4.2. In this study, ICC and CQ are regarded as synonymous concepts when the whole of the concepts are compared, in other words, when all of their respective dimensions are considered to form the whole concept. However, it is also acknowledged that a single dimension of one concept is not directly comparable with a dimension of the other concept.

Cultural intelligence is the ability to function effectively in culturally diverse settings. CQ consists of a metacognitive, cognitive, motivational and behavioural dimension. Metacognitive CQ can be characterised as one’s level of conscious cultural awareness, which allows the development of new heuristics and rules for social interactions in new cultural settings. The cognitive dimension of CQ consists of cultural knowledge. Motivational CQ encompasses one’s tendency to approach intercultural situations, and the ability to pay attention and direct one’s energy to learn about and function in intercultural situations. The behavioural dimension of CQ consists of being able to correctly act verbally and nonverbally, as well as regulate one’s social behaviours, in intercultural interactions. (Ang et al. 2007, 337, 339–340; 2019, 820–825; Varela 2019, 181–182.)

CQ can also be referred to as multiple abilities referring to personal characteristics, which are related to being able to perform the behaviour one has chosen. These characteristics can be developed through education, training, and experience. CQ is different from personality traits since these cannot be developed. However, personality traits are related to CQ, and CQ may mediate the effects of some personality traits. (Ang et al. 2007, 339–340; 2019, 825, 828.) On the other hand, according to Zakaria (2017, 354), culture affects a person’s language and personality. In addition, when it comes to a bilingual person, language and even personality change depending on the cultural context. Furthermore, according to Stieger and others (2021), it has been shown that personality traits develop in adulthood, although slowly. In addition, in their study, the authors found that personality traits can be changed in the desired direction, and these changes persist at least for a few months.

CQ is based on Sternberg's theory of multiple intelligences. According to the theory, different aspects of human intelligence share the same cognitive information processing mechanisms, which are hypothesised to be the same between cultures. On the contrary, the manifestations of cognitive mechanisms in behaviour are often culturally specific. It can depend both on the culture and the individual in question whether behaviour is considered to be intelligent. (Sternberg 1985, XI–XII; 1986, 137; 1999, 296–298; 2015, 229–235; Ang et al. 2007, 336–337, 339–340; 2019, 821–822.)

Cultural intelligence was initially conceptualised as a three-dimensional construct by Earley in 2002. This construct included a cognitive, motivational and behavioural dimension. The cognitive dimension included a cognitive and a metacognitive subdimension. This construct transformed into Earley and Ang's four-dimensional construct/model in 2003. The latter has become the prevailing construct of CQ. (Earley 2002, 274; Ang et al. 2007, 337; 2019, 820–822; Thomas et al. 2008, 126; 2015, 1100–1102; Varela 2019, 181.)

Ang and others (2007, 339–340; 2019, 820–821, 825) argue that CQ is different from other constructs of intercultural competency. The authors critique the other constructs for definition ambiguity, insufficient integration, a lack of theoretical coherence, not being explicitly based on contemporary theories of intelligence, a lack of systematic assessment of the aspects of intelligence, having a focus on a specific culture, and inclusion of personality traits. In comparison, the authors state that CQ consists of abilities that are relatively changeable and able to be enhanced, and apply generally to situations that include cultural diversity. On the other hand, Thomas and others (2015, 1100–1102) critique the conceptualisation and measurement of the four-dimensional construct of CQ. For example, the authors claim that the four dimensions are not reflective of a single construct. In addition, they argue that motivation, as willingness to behave in a certain way, is not a part of cultural intelligence, which refers to being able to interact effectively.

CQ can be measured in various ways, for example, in the form of self-reports or peer ratings. There have been several studies that suggest that CQ may improve and predict various types of work performance in intercultural settings, including GVTs. (Ang et al. 2019, 826, 829–833; Presbitero 2019, 1092, 1094.) According to Presbitero (2019, 1101) examining CQ as a single construct has been a prevalent approach in extant literature, however, it would be useful to examine each dimension of cultural intelligence in the future. The author claims that, in the context of GVTs, the behavioural dimension of CQ could be the most important one since GVTs rely on CMC, and the dimension involves effective communication.



#### 4.1.2 *Competence as effectiveness and appropriateness*

In the past, an early definition of competence was that one has to act effectively to be competent in communication. However, the concept of ‘effectiveness’ was also used interchangeably with ‘competence’. Today, in order to avoid confusing competence with effectiveness, the latter is sometimes replaced with the term *adroitness*. ‘Effectiveness’ in intercultural communication is to control and manipulate the interaction in order to achieve one’s goal. However, this is a Western<sup>10</sup> approach, which often leads to failure of intercultural communication since people of different cultures have different beliefs and values. For example, Asian people, who value harmony, would not consider the approach an indication of competence. Since effectiveness alone can be a problematic, potentially culturally biased, basis for the definition of competence, there is a consensus among intercultural communication scholars that ‘appropriateness’ ought to be included in the definition of competence. ‘Appropriateness’ is the ability to recognise cultural differences and to carry out communication functions according to the specific cultural context. The functions may refer to the manner, quantity, quality, and relevance of one’s message sending. The functions may also refer to informing, sharing feelings, imagining, and ritualising in communication. (Chen 2017, 352–353.)

According to the Council of Europe (2018, 32–33), ‘competence’ can be defined as the ability to apply relevant psychological resources, namely, attitudes, values, skills, understanding and/or knowledge, to effectively and appropriately respond to the challenges, demands and opportunities of a given context. ‘Intercultural competence’ is the aforementioned competence but in intercultural settings. According to Gudykunst (2003, 233–234, 246–247, 250), ‘competence’ refers to adequacy or sufficiency, in other words, ‘effectiveness’, and ‘competence’ also refers to suitability, or, ‘appropriateness’. ‘Effectiveness’ in communication refers to minimising misunderstandings or maximising how similarly messages are interpreted in interaction with strangers. ‘Appropriateness’ in communication refers to taking into account the verbal, relationship, and environmental context. According to Xu (2013, 387), theorists have determined that effectiveness and appropriateness are the basic requirements of ICC.

‘Communication competence’ consists of the motivation, knowledge, and skills component, which respectively refer to communication desire, understanding, and behavioural abilities that enable effective and appropriate communication with strangers. However, in addition to the components, various factors may affect one’s ability to be competent. For instance, to be perceived as competent by people of other cultures, one also needs to be able to control one’s emotional reactions to be able to adapt to new cultural situations and environments that can be upsetting. (Gudykunst 2003, 235–236.)

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<sup>10</sup> Chen (2017) uses a broad generalization of West vs. East/Asia for the sake of simplicity and illustration of cultural differences.

According to Fantini (2012, 269–271; 2019, 21, 29–31, 34), ‘cultural communicative competence’, in other words, ‘cultural competence’ or ‘native communicative competence’, is one’s ability to communicate in one’s native ‘linguaculture’. ‘Linguaculture’ refers to a combination of language and the verbal aspects of culture (Risager 2012, 104). One’s first language and first culture form one’s native communicative competence, although one could also be bilingual yet not considerably bicultural, or vice versa, or one could be both. The concept of communicative competence is well-known and widely understood, however, ICC is not. ‘Intercultural communicative competence’ is a set of abilities that is required in order for one to perform effectively and appropriately in interaction with culturally and linguistically different others. In this definition, ‘effectiveness’ refers to one’s personal perception of one’s performance in the others’ linguaculture. ‘Appropriateness’ refers to how the others perceive one’s performance. Effectiveness and appropriateness are equally important and widely used in the definition of ICC.

#### **4.1.3 General and specific competence**

It is debated whether ICC is universal or local. Culture general competence can be represented by generic intercultural skills that may be useful at the global level, for instance, to know how to deal with cultural complexity in intercultural interactions, or English language proficiency, which applies universally to different contexts. However, it has been argued that ICC cannot be generalised due its being specific to the cultural context. Furthermore, one may have a different level of ICC depending on the cultural context. Culture specific competence refers to different skills that are required based on the different ways and characteristics of communication among cultures, as an example, small talk is important in some cultures yet has little use in others. Other examples are proficiency in a language specific to a country or region, or understanding the local context of the English language. It has also been argued that both approaches, cultural general/etic and cultural specific/emic, co-exist in human society. Moreover, it has been suggested that both could be used together to cover both the cultural similarities and the differences, respectively. (Chen 2017, 351, 354–355, 362; Söderberg 2017, 418–420; Gareis 2017, 457, 461–463; Crowne 2020, 206.)

However, studies indicate there are differences among cultural groups. This would call for a cultural specific approach. Yet, the differences should not be over-emphasised either. To a certain degree, there are both differences and similarities among all cultures. For example, it should be noted that while Western cultures emphasise individualism more and Eastern cultures put more emphasis on collectivism, individualism and collectivism are found in both Western and Eastern cultures. In addition, there are





universal problems concerning, among others, time, activity, human nature, nature-man relationship, and human relations. However, the ways of solving these problems vary based on different values among societies. As an example, conflicts in human relations are universal, yet, in general, the Western tendency to solve them is more confrontational, while the Eastern is more harmonious. It is argued that ICC requires both general knowledge of human culture and specific knowledge of the particular culture in question. (Chen 2017, 354–355.) According to Byram (2021, 5–6, 13), ICC is specific since individuals and their interlocutors need different knowledge, attitudes, and skills, based on their cultural, linguistic, and professional backgrounds, all of which affect their interaction.

There are many cultural and biological traits that are universal to all human societies. These universal similarities include, for instance, linguistic practises such as story telling, lying, gossip and using metaphors. However, there are many variations in how the universal traits are elaborated, interpreted and enacted. Moreover, cultures have fluid boundaries, and societies are heterogeneous. (Baghramian 2004, 71–73.)

#### ***4.1.4 Models of intercultural communication competence***

According to Chen (2017, 355), ICC has been conceptualised using various components and models. Along the same lines, Kohli Bagwe and Haskollar (2020, 350) state that there is a large amount of intercultural competence models.

The models of ICC can be categorised based on the context of communication. Examples of the categories include the general ICC models in the context of intercultural communication, ICC models in intercultural adaptation context, ICC models in educational/training context, and ICC models in global context. (Chen 2017, 357.)

The general models of ICC are directly concerned with competence in the intercultural communication context. These are the foundational models used in the study of ICC. The general models include, among others, Chen's triangular model of ICC, which is used as the theoretical framework for this study, and Deardorff's pyramid/process model of ICC. In this subsection, Chen's triangular model is only briefly described since the next subsection is dedicated to this model. Chen's triangular model of ICC, developed in 1996 with William J. Starosta, is based on the literature of the study of ICC, and is a revised version of Chen's first model of ICC, developed in 1987. The triangular model divides ICC into three aspects of human ability: cognitive, affective, behavioural. Deardorff's pyramid/process model of ICC places emphasis on the process of ICC development. The pyramid and process models are visual representations of the same information. (Chen & Starosta 2000, 4; Deardorff 2006, 249–257; Chen 2009, 530–531; 2017, 357–358.)

ICC models in the intercultural adaptation context mostly pertain to expatriates in the form of students, immigrants and employees. The models aim to illustrate how expatriates adjust to a new culture and back to their own culture. (Chen 2017, 358–359.)

ICC models in the educational/training context have been created as frameworks for education and training in ICC. They represent the practical and application aspect of ICC. Examples include Byram's model of ICC, and Sue's model of multidimensional facets of cultural competence. (Sue 2001; Byram 2009; Chen 2017, 359–360.) The researcher of this thesis considers the models to be less clear, and less suitable for culture general application, compared to Chen's triangular model. In addition, the models do not appear to offer particularly specific descriptions of ICC application.

Finally, ICC models in a global context incorporate global communication to the concept of ICC, and aim to take into account the increasing effect of globalisation trends on intercultural communication. An example of an ICC model in the global context is Chen's model of global communication competence (GCC), which was developed as an extension to the triangular model of ICC. (Chen 2017, 360.)

Chen (2014, 19) acknowledges that, compared to the global communication competence (GCC) model, the triangular model of ICC is more precise, rigorous and heuristic. This is owed to the fact that the triangular model synthesises the previous literature more comprehensively. In this study, informed by Chen's acknowledgment, the theoretical framework of ICC used is Chen's triangular model of ICC rather than Chen's newer model, the GCC model. Moreover, it is the opinion of the researcher that the inclusion of the global context, as found in the GCC model, is not warranted in this study. The researcher is of the opinion that it is not suitable for this study to employ as broad a perspective as communicative patterns in the global society.

The researcher considers Chen's triangular model of ICC to be sufficiently reflective of how ICC has been conceptualised in intercultural communication and intercultural communication competence research. Chen's model describes what ICC consists of. The purpose of this thesis is to describe ways of applying ICC in GVTs. The researcher of this thesis considers Chen's model to be a suitable model to serve as the basis of identification of ICC application. In addition, Chen's model can be used with a culture general approach, which is the approach used in this thesis. Finally, the researcher considers the model to be a clear and simple, yet adequately comprehensive model to serve as the theoretical framework for this study.

Chen (2021) uses the triangular model in a recent article. Chen (2014, 14–40; 2021) seems to place preference on the triangular model over Chen's other models. This arguably lends credence for the viability of the use of this model in research over Chen's other models. This in turn is one of the reasons this model was selected for use in this thesis.



## **4.2 Chen's triangular model of intercultural communication competence**

### **4.2.1 *Intercultural awareness***

Chen's triangular model of ICC consists of a cognitive, affective and behavioural aspect, which are represented by abilities called 'intercultural awareness (IA)', 'intercultural sensitivity (IS)', and 'intercultural effectiveness/adroitness (IE)', respectively (Chen 2009, 530–531; 2017, 357). 'Intercultural awareness' refers to the ability of having, and the process of gaining, knowledge and understanding of how one's own and another cultural group's or its members' values, attitudes and beliefs affect communication, and thinking and behaviour in general. By being aware of one's own cultural values, and by viewing people as cultural beings, one can learn about the culture of one's interlocutor. This can aid in achieving success in intercultural communication. There are three levels of IA. The first level of IA is to know cultural traits that are superficial. The next level is to know cultural traits that are significant and subtle, and clearly different from one's own. The final level is to know the insider's perspective of what a culture is like. (Chen 1997, 9; 2009, 530; 2014, 21; 2021, 16; Chen & Starosta 1998, 31–34; Portalla & Chen 2010, 21.) However, for this study, the levels of IA are not relevant.

One can use a culture specific or culture general approach to study IA. With a culture specific approach, one seeks to gain cultural information that enables effective and appropriate communication with members representing a specific culture. With a culture general approach, one seeks to know the possible variations in culture, as well as to understand the universal influence culture has on human behaviours. One can increase one's intercultural awareness by learning with a specific or general approach. With both approaches, learning can be achieved in a lecture format and experientially. (Chen & Starosta 1998, 34–36; Chen 2009, 530.) In this study, intercultural awareness is summarised as having and seeking knowledge and understanding of culture's effect on communication, thinking, and behaviour. The general approach is used.

### **4.2.2 *Intercultural sensitivity***

'Intercultural sensitivity' (IS) can be conceptualised as one's ability to develop a positive emotion towards, a willingness to motivate oneself towards, as well as being accepting, understanding, acknowledging, appreciating, and respecting cultural differences. This aids in achieving effective and appropriate behaviour, and a positive outcome, in intercultural communication. IS also refers to being able to distinguish the differences

between one's own and a culturally different person's perceptions, feelings and behaviours. Having IS entails being able to receive and display emotional responses before, during and after an interaction. Moreover, an especially important part of having IS is that one is able to display respect to others and to cultural differences. Intercultural sensitivity can be demonstrated and measured via empathy, interaction involvement, suspending judgment, open-mindedness, self-monitoring, and self-esteem. (Chen 1997, 5–7; 2009, 530; 2017, 357; 2021, 16; Chen & Starosta 2000, 4; Portalla & Chen 2010, 21.)

'Empathy' refers to the ability to take another person's point of view in order to think and feel in the same way the other person does. Empathy is a central component of IS. An empathic person attempts to share others' experiences, as well as takes a different role depending on the situation. With empathy, one is more selfless, and has sympathy and concern towards others and their feelings and reactions. Having empathy enables one to accurately evaluate others' behaviours and internal states. This allows one to be reciprocal in displaying affect, active listening, and verbal responding. This in turn creates mutual understanding which leads to intercultural rapport. (Chen 1997, 8; Chen & Starosta 2000, 5.)

'Interaction involvement'<sup>11</sup> refers to one's ability to be attentive, perceptive and responsive in interaction. 'Attentiveness' refers to concentrating on the conversation. 'Perceptiveness' is defined as understanding the events occurring in a given situation, and the meanings placed on one's and others' behaviour. 'Responsiveness' is the ability to know what to say, and when to say that, during an interaction. Interaction involvement places emphasis on empathic, other-oriented ability. (Cegala et al. 1982, 233; Chen 1992, 67–68; 1997, 9; Chen & Starosta 2000, 5; Cegala 2009, 527.)

'Suspending judgment', or 'non-judgment', refers to avoiding hastily judging others' inputs based on insufficient information. It is also an attitude involving sincerely listening to others in intercultural communication. When one listens to others instead of being judgmental, the others can feel more satisfied and happy. Being non-judgmental can also lead to enjoyment towards intercultural interaction, and establishing intercultural relationships, as well as enjoyment of intercultural tasks, and cultivating intercultural working relations. (Chen 1997, 9; 2014, 21; Chen & Starosta 2000, 5.)

'Open-mindedness' refers to being willing to openly and appropriately explain oneself, as well as to accept explanations provided by others. Open-mindedness also involves that one is willing to recognise, accept and appreciate different ideas and views. Furthermore, open-mindedness entails consideration for others, understanding of others' needs,

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<sup>11</sup> In the definition of interaction involvement and its components, Chen (1992, 66–68, 73, 75; 2014, 21, 31) refers to Cegala's (1981; 1984) and Cegala and others' (1982) earlier work. Comparing the definitions Chen refers to with those of Cegala's (2009) more recent ones, while Cegala elaborates on the definitions more than Chen, it appears they have remained adequately similar, thus considered the same. Therefore, the definitions are synthesised for use in this study.



receptiveness to others' needs and differences, and adaptiveness to differences in intercultural situations, as well as being able to act based on these qualities in intercultural communication. Finally, open-mindedness can be characterised as a process where cultural identities are mutually validated and confirmed. This can promote a favourable impression. (Chen 1997, 8; Chen & Starosta 2000, 5.)

'Self-monitoring' is the ability to regulate and adapt one's behaviour and self-presentation in order to achieve communication behaviour that is appropriate to the situation. A high self-monitoring ability allows one to be other-oriented, attentive, and being able to adapt to various communication situations. A high self-monitoring ability also allows one to be capable in making compromises and emotional appeals, and using coercion, ingratiation and influence. Self-monitoring also aids one in being sensitive to others' expressions, as well as being able to detect and take advantage of situational cues which helps one in knowing how to present oneself. (Chen 1997, 7–8; Chen & Starosta 2000, 4–5.)

'Self-esteem' refers to a sense of self-worth or self-value. Self-esteem is based on one's perception of one's aptitude in developing one's potential in a social environment. With a high self-esteem, one tends to have an optimistic outlook which leads one to have confidence in interaction. With a high self-esteem, one also tends to have a positive conception of others and an expectation that one is accepted by others. Self-esteem can increase one's ability to face psychological stress, frustration and alienation. This can aid one in performing one's tasks and in building relationships. Self-esteem also increases one's positive emotion and motivation towards accurately recognising and respecting cultural and situational differences in intercultural communication. (Chen 1997, 7; Chen & Starosta 2000, 4.) An overview of intercultural sensitivity is presented in table 4. The researcher created the table based on information found in the literature used.

Table 4 Intercultural sensitivity (Cegala et al. 1982; Chen 1992; 1997; 2014; Chen & Starosta 2000; Cegala 2009)

<b>The affective aspect of intercultural communication competence:</b>	
<b>Intercultural sensitivity</b>	
<i>Empathy</i>	Taking another person's point of view in order to think and feel in the same way the other person does
<i>Interaction involvement:</i> Participating in interaction	Attentiveness: Concentrating on the conversation Perceptiveness: Understanding the events occurring in a given situation, and the meanings placed on one's and others' behaviour Responsiveness: Ability to know what to say, and when to say that, during an interaction
<i>Suspending judgment</i>	Avoiding hastily judging others' inputs based on insufficient information; Sincerely listening to others
<i>Open-mindedness</i>	Willingness to openly and appropriately explain oneself; Appreciating others' explanations, ideas, and views; Receptiveness to others' needs and differences
<i>Self-monitoring</i>	Knowing and modifying how one and one's behaviour appear to others in order to achieve communication behaviour appropriate to the situation
<i>Self-esteem</i>	Having an optimistic outlook; Positive conception of oneself and others

As seen in the left column, intercultural sensitivity consists of empathy, interaction involvement, suspending judgment, open-mindedness, self-monitoring, and self-esteem. As seen in the right column, interaction involvement further consists of attentiveness, perceptiveness, and responsiveness. The right column contains the descriptions of the components of intercultural sensitivity.

### 4.2.3 *Intercultural effectiveness*

‘Intercultural effectiveness/adroitness’ refers to having and cultivating intercultural communication skills, as well as to being able to effectively and appropriately use them in different contexts in order to achieve communication goals. Communication goals can include, for instance, accurate prediction of the responses of one’s interlocutor, the assessment of potential communication results, and getting information about the goals. Effectiveness refers to the ability to achieve the goals. Appropriateness refers to the ability to recognise and act according to communication rules in different contexts. The communication skills can be organised into five categories of verbal and nonverbal behavioural skills that are needed in order to achieve IE. These include message skills, interaction management, behavioural flexibility, relational cultivation, and identity management. (Chen 1997, 10; Chen & Starosta 2000, 3–4; Chen 2009, 530–531; Portalla & Chen 2010, 22–24; Chen 2014, 22; Chen 2017, 352, 357.)

‘Message skills’, or ‘language ability’, refer to one’s ability to use the language of another culture with a person of that culture in a manner that reflects said person’s verbal and nonverbal behaviours, and the given cultural and situational context. Message skills consist of four components: ‘communication codes’, ‘oral message evaluation’, ‘basic speech communication skills’, and ‘human relations’. The ‘communication codes’ component refers to appropriately using words, grammar, pronunciation, and nonverbal signals, and the ability to listen. ‘Oral message evaluation’ is the ability to identify main ideas, and to distinguish between fact and opinion and between informative and persuasive messages, as well as to realise whether or not the other party understands the message. ‘Basic speech communication skills’ are an ability that includes clearly and concisely expressing ideas, defending a point of view, comprehensibly organising messages, effectively asking and answering questions, giving concise instructions, and summarising messages. The ‘human relations’ component includes being able to describe someone else’s point of view, to explain differences between opinions, to express feelings to others, as well as to perform social rituals. (Chen 2009, 531; Portalla & Chen 2010, 22; Chen 2014, 22.)

‘Interaction management’ mainly refers to displaying the ability to take turns in an interaction, and starting and ending an interaction based on an accurate evaluation of others’ needs and desires. However, interaction management also entails having concern for others’ interests and orientations, knowing how to behaviourally perform in a way that is appropriate to the given cultural context, as well as displaying involvement and commitment to others through attentiveness, perceptiveness and responsiveness. (Portalla & Chen 2010, 22–23.) It is noteworthy that the concept of ‘interaction management’ is fairly similar to that of ‘interaction involvement’, a component of intercultural sensitivity. However, interaction management is focused on one’s behavioural ability to take turns, and start and end an interaction. On the other hand, interaction involvement is mostly concerned with one’s being attentive, perceptive and responsive. (Chen 1992, 67, 73.)

‘Behavioural flexibility’ refers to being able to track an interaction, to determine and apply the appropriate behaviours, and to adapt to the given situational context. To achieve behavioural flexibility, one should accommodate one’s goals within the interaction in order to be better able to strategise and adapt to the situation. Developing behavioural flexibility requires awareness of cultural variations, a cognitive ability, as well as self-monitoring, an affective ability. (Portalla & Chen 2010, 23.)

‘Relational cultivation’ is the ability to form a relationship with one’s interlocutor that satisfies each others’ needs and allows achieving a positive interactional outcome (Chen, 2007, 106). Relational cultivation can also refer to efforts towards relationship development and maintenance within a group. It can include conflict mitigation, attempts to achieve equal distribution of workload, comments related to group dynamics, and willingness to compromise in a group in order to achieve group consensus. The displays of such efforts are carried out via verbal and nonverbal communication. The resultant outcomes can include improvements related to the efforts, as well as the creation of a supportive group atmosphere, and the improvement of the group’s feelings of participation. Relational cultivation is important in achieving intercultural effectiveness. (Hammer et al. 1978, 390; Chen 1992, 65, 81; 2014, 22; Portalla & Chen 2010, 24.)

‘Identity management’ is one’s ability to negotiate, maintain and support, and to effectively and appropriately advance one’s own and especially one’s interlocutor’s cultural identity, along with the separate individual identity. Identity is formed and affected by internalising one’s experiences in verbal and nonverbal communication. Everyone one communicates with affects one’s identity. Cultural identity is formed in intercultural communication. Managing cultural identities is a type of facework, which one ought to be able to reconcile. (Portalla & Chen 2010, 23–24.) ‘Facework’ is defined as supporting one’s own or someone else’s face via communication. ‘Face’ refers to how one wishes that others see and treat one, and how one treats the others in connection with the others’ expectations of social self-conception. Face is concerned with such issues as politeness rituals and conflict repair, pride and shame, honor and disgrace, and identity





respect and disrespect. (Ting-Toomey & Dorjee 2017, 160.) The aforementioned definitions of facework and face are used in this thesis to better describe the concept of identity management.

Studies have indicated that all three aspects of ICC are significant and necessary for ICC in various cross-cultural communication contexts (Chen 2014, 19–20). The aspects are closely related to one another and mutually dependent, yet separate from one another. In order to achieve IA, one needs IS to be able to achieve a positive emotion towards learning and understanding cultural similarities and differences. In order to achieve IE, one needs IA and IS, as well as be able to apply IA and IS in the context of intercultural communication. (Chen 1997, 5–6, 9–10; 2021, 16–17.) Furthermore, specific components of IS may be helpful in achieving IE. Self-monitoring aids one in controlling one's emotional expressions which may in turn aid in learning what is appropriate in a particular situation. Self-monitoring may therefore help in creating desired impressions. Self-esteem aids in feeling and appearing confident instead of apprehensive, as well as in participating in interaction. Therefore, self-esteem may positively affect one's IE behaviours. Finally, IS in general aids in being other oriented which may be helpful to relational cultivation, a component of IE. (Chen 1997, 7–9; Chen & Starosta 2000, 4–5; Portalla & Chen 2010, 21, 24, 27–28.) An overview of intercultural effectiveness is presented in table 5. The researcher created the table based on information found in the literature used.

Table 5 Intercultural effectiveness (Hammer et al. 1978; Chen 1992; 1997; 2007; 2009; 2014, 2017; 2021; Chen & Starosta 2000; Portalla & Chen 2010; Ting-Toomey & Dorjee 2017)

<b>The behavioural aspect of intercultural communication competence:</b>	
<b>Intercultural effectiveness</b>	
<i>Message skills:</i>	Communication codes: Appropriate use of words, grammar, pronunciation and nonverbal signals, and the ability to listen
	Oral message evaluation: Identifying main ideas, distinguishing between fact and opinion, and between informative and persuasive messages, and realising whether the other party understands the message
	Language ability
	Human relations: Describing someone else's point of view, explaining differences between opinions, expressing feelings to others, and performing social rituals
<i>Interaction management</i>	Ability to start and end an interaction, and take turns based on others' needs and desires
<i>Behavioural flexibility</i>	Adapting within an interaction by changing one's behaviour to be appropriate to the situation
<i>Relational cultivation</i>	Ability to form a mutually satisfying relationship, which allows achieving positive collaborative outcomes through communication
<i>Identity management</i>	Supporting the social perceptions one has of oneself and others have of themselves, thus avoiding negative emotions and conflicts



As seen in the left column, intercultural effectiveness consists of message skills, interaction management, behavioural flexibility, relational cultivation, and identity management. As seen in the right column, message skills further consists of communication codes, oral message evaluation, basic speech communication skills, and human relations.

In addition to the three aspects of ICC, it has been posited by Dai and Chen (2015, 104, 107–109) that a moral aspect ought to be included in the triangular model. It has also been suggested that the aspect should be a part of the conceptualisation of ICC (Chen 2017, 352–353). The moral aspect consists of taking the other parties of intercultural communication into account (Dai & Chen 2015, 104). The moral aspect could aid in cultivating harmonious relationships, and increase the completeness and inclusivity of the model. However, the moral aspect is not a separate aspect in the triangular model. Instead, the moral aspect can be considered to be a part of each of the three aspects, or that it guides the cultivation of the abilities of the other aspects of ICC. (Chen 2017, 357.) For the aforementioned reasons, the moral aspect is not used in this study.

Chen's triangular model is arguably influenced by the cognitive-behavioural theoretical framework of human functioning, and cognitive-behavioural theory. The basis of the framework and the theory is that there is an inextricable link between thoughts, emotions, and behaviours, the aspects of human functioning, and that the aspects incessantly influence one another. In addition, cognitive-affective-behavioural processes are regarded as similar and analogous among human beings and human experience. Yet, the content of the processes is individually unique, specific, and personal. (Nurius & Macy 2012, 126–127.) According to Lench and others (2013, 536–537), in modern psychology, cognition, emotion, and behaviour have long been considered to represent humans' core intrapsychic processes, the fundamental components of psychology. However, instead of one theory, it has also been stated that there are multiple cognitive-behavioural theories, even hundreds (Rice 2015, 195; Ryan 2021, 376). Nonetheless, in this study, it is considered that Chen's triangular model is influenced by knowledge of there being interconnected cognitive, affective, and behavioural processes in human functioning.

#### ***4.2.4 Comparison of intercultural communication competence and cultural intelligence***

The following is a comparison between the concept of intercultural communication competence (ICC) as represented by Chen's triangular model of ICC, and the concept of cultural intelligence (CQ) as represented by Earley and Ang's model of CQ (Earley 2002; Ang et al. 2007; Chen 2009; 2017; Ang et al. 2019). The comparison is based on the

similarities between the models as perceived by the researcher of this thesis. It should be noted that the models do not encompass the entirety of conceptualisations of the concepts. Still, the purpose of the comparison is to illustrate that ICC and CQ can be conceptualised in a similar fashion, at least when the concepts are represented by particular models.

Chen's triangular model of ICC, and Earley and Ang's model of CQ both have a similar cognitive and behavioural aspect. The affective aspect of ICC corresponds with the metacognitive and motivational aspects of CQ. In both ICC and CQ, the cognitive aspect refers to knowledge and understanding of cultural differences and conventions. The affective aspect of ICC, similarly to the metacognitive aspect of CQ, includes self-monitoring and suspending judgment. The affective aspect of ICC also refers to being understanding and appreciating cultural differences in intercultural communication which is similar to the motivational aspect of CQ. In both ICC and CQ, the behavioural aspect refers to abilities enabling effective intercultural communication. Both in ICC and CQ, the behavioural aspect does not only include visible communication behaviours. It also includes the ability to select the behaviours that are appropriate to the context and cultural group. (Ang et al. 2007, 337–339; Chen 2009, 530–531; 2017, 357; Portalla & Chen 2010, 22–23; Ang et al. 2019, 820–824; Presbitero 2019, 1094; 2021, 3; Varela 2019, 182, 185.)

Furthermore, the motivational aspect of CQ can be characterised as willingness to interact in, and learn from, intercultural situations (Varela 2019, 182). In ICC, motivation can be considered to be a part of the affective aspect (Chen 1997, 6; 2017, 354). The motivational aspect of CQ might be somewhat comparable with some elements of the affective aspect of the triangular model of ICC. These elements are self-esteem, open-mindedness and interaction involvement (Chen 2009, 530). In CQ, the motivational aspect can be considered to be based on self-efficacy and positive expectations (Varela 2019, 182). All things considered, the concepts of ICC and CQ are quite similar.

Varela (2019, 178) suggests that comparing multicultural competence models across fields/disciplines might aid in understanding multicultural competence. The author views this comparison as a form of triangulation that could inform the investigation of the key components of multicultural competence.

Some authors have considered the concepts of ICC and CQ to be synonymous (Tuleja 2014; AL-Dossary 2016; Chen 2017). Others have considered the concepts to be different (Ang et al. 2007; 2019). Thus, the researcher of this thesis suggests that, on the one hand, if the concepts are synonymous, and if some authors have nonetheless viewed the concepts as being dissimilar, the authors may have unnecessarily refrained from taking advantage of the results of the studies of the concept they do not adhere to. On the other hand, if the concepts are dissimilar, and if some authors have viewed them as being synonymous, the authors may have, for example, made erroneous conclusions regarding one concept based on the results of studies conducted on the other concept. The researcher of this thesis opines that if the concepts of ICC and CQ were sufficiently similar to be



commonly considered synonymous, this could be useful for ICC/CQ research. For instance, there could be less redundancy of studies, and better integration of the knowledge bases of ICC and CQ scholars which could allow more focused research efforts which could in turn increase the accuracy of conceptualisation and assessment of ICC/CQ, as well as better inform the ways of developing ICC/CQ.

### **4.3 Development and assessment of intercultural communication competence in a global virtual team**

Similarly to conceptualisation, there are disagreements on the application and operationalisation of ICC. Application refers to education/training in ICC, and operationalisation refers to assessment/measurement of ICC. (Chen 2017, 350.) However, in this thesis, application refers to applying ICC in practise.

There is a need for more studies on ICC. Nonetheless, there have been studies on the development and assessment of intercultural communication competence, including in a global virtual team setting. The findings of these studies indicate that ICC can be developed as a result of collaboration and communication with culturally different others in a GVT. The findings also indicate that ICC can be assessed. According to Koester and Lustig (2015, 21), there should be more ICC research on the successful practical demonstration of ICC, and the identification of what makes one competent. (Eisenberg et al. 2013; Taras et al. 2013; Dutta & Martin 2017; Söderberg 2017; Kohli Bagwe & Haskollar 2020; Petrovskaya & Shaposhnikov 2020.) The researcher of this thesis conducted multiple searches on the application of ICC in a GVT yet no result was considered to elaborately detail the application in practice which indicates a research gap (appendix 1).

Intercultural communication competence is important for positive outcomes and success in multicultural groups (Lloyd & Härtel 2010, 851). Effective intercultural communication is needed in the collaboration of multicultural team members. Employees' ICC can have a large impact on marketing outcomes, employee satisfaction, and management performance. (Aggarwal & Wu 2020, 185.) Kohli Bagwe and Haskollar (2020, 346) state that, to gain competitive advantage in the global market, it is vital to understand the impact globalisation has on intercultural competence. Due to globalisation, there is an increasing amount of both physical and virtual connections and interactions between people with different backgrounds and perspectives. The authors claim that the different perspectives can aid in the development of empathy among societies, organisations, and institutions. However, there is also an increasing need for culturally diverse populations to be able to positively interact, and deal with cultural differences. Furthermore, intercultural teams are valued by many organisations, both

private and public, which have made efforts to implement intercultural competence training.

In a similar vein, Söderberg (2017, 415–416, 426) states that increased GVT communication and collaboration in global organisations has led to an increased need for both cross-cultural and virtual collaboration competencies in GVTs. Due to globalisation, there has been research on how cross-cultural competence<sup>12</sup> could be assessed and developed through training. There has also been research on cultural learning in the context of global communication and collaboration. However, most of the cultural competence and cultural intelligence research has been conceptual. There is a relatively small amount of empirical studies on cultural learning, and applying cultural competence.

According to Dai and Chen (2015, 100), the focus of theorising in ICC tends to be on acquiring cultural knowledge. There has been less emphasis on how cultures, or culturally different individuals, interact and how the dynamic process of cultural interaction affects ICC development. According to Byram (2021, 6–7), ICC learning is specific to the learner and the learning situation. Individuals have different needs in their learning of ICC, based on their own culture and language, and the culture and language of the people they are striving to communicate with. In addition, individuals have unique cultural and linguistic competences and identities, as well as backgrounds and attributes that affect the learning process. For the same reasons, the assessment of ICC learning ought to also be specific to the learner and the learning situation.

Initial business-related intercultural interaction between two people can involve complexity, unexpected situations, and high uncertainty. There can be misunderstandings in intercultural interaction even with intercultural training in intercultural business. In addition, some individuals may not have the personal characteristics and learning abilities that would allow them to benefit from intercultural training to the same extent as others. Therefore, those individuals may not be as able as others to modify and apply their intercultural competences. The application of intercultural competences also depends on the context, and the motivation of a given individual. (Elo et al. 2015, 38–39, 41.)

According to Szkudlarek and others (2020, 4), the development of intercultural communication competence is among the most prominent streams of research within intercultural communication. The development of ICC has been studied, for example, in business, language education, and sociolinguistics contexts.

According to Kohli Bagwe and Haskollar (2020, 347–352), the claim that studying abroad enhances intercultural competence is generally supported. Yet there is unclarity on the factors that influence the development of intercultural competence. The authors conducted a systematic literature review to test this. According to the review, the

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<sup>12</sup> Söderberg (2017) uses the terms (inter/cross)cultural competence/competencies and cultural intelligence synonymously in referring to intercultural (communication) competence. However, the author also describes some of the different approaches and definitions that the particular terms tend to refer to.



development of intercultural competence is directly and positively correlated with language training, intercultural training programmes, the type and duration of studying abroad, as well as with the type of, duration of, and interventions during an intercultural experience. On the contrary, there were no conclusive results on whether the development of intercultural competence is influenced by age, gender, education, location, religion, or ethnicity.

According to Söderberg (2017, 416, 423), some managers and employees in multinational corporations may assume that international studying or working will lead to sufficient levels of cultural learning, thus cultural training is not required before international assignments. However, the author claims that exposure to different cultures, or contacts with culturally different people may not inevitably develop one's cultural competence or help build intercultural relationships. The exposure or contacts may even reinforce one's cultural stereotypes. Similarly, according to Ladegaard and Jenks (2015, 8), while many people improve their ICC by studying abroad, not all do. Furthermore, negative intercultural experiences can decrease a person's motivation to engage in further intercultural experiences.

In a study by Deardorff (2006), 23 intercultural scholars and 24 university administrators agreed that, in the assessment of intercultural competence, a combination of qualitative and quantitative methods ought to be used. The assessment methods that were agreed upon included interviews, observation, case studies, judgment by self and others, analysis of narrative diaries, triangulation, as well as self-report instruments. However, there was skepticism among study participants regarding the use of self-report instruments as the only assessment method. In addition, it was agreed that the assessment/measurement of degrees of intercultural competence is possible and important, that the assessment of intercultural competence requires more than merely the assessment of observable performance, and that there ought to be consideration of cultural and social implications when intercultural competence is assessed. It was also generally agreed that it is important to analyse social, situational, and historical contexts when assessments are being made. Finally, it was agreed that the distinct components of intercultural competence are possible to be measured. However, it was controversial whether intercultural competence as a whole could be measured.

According to Söderberg (2017, 420), some scholars have argued that the measurement of intercultural competence is context-specific. This includes most of the scholars in a study by Deardorff (2006, 253). Söderberg adds that other scholars, such as Thomas and others (2015), have strived to develop scales that measure context-independent, culture-general cultural intelligence. All CQ scales are based on participants' self-assessment. However, self-assessment scales have been criticised since they may lead to overestimations. (Söderberg 2017, 420.) Their use in pre-tests and post-tests may lead

participants to assess themselves higher in the post-test due to their belief that a class or a training course will increase their CQ (Eisenberg et al. 2013, 618; Söderberg 2017, 420).

According to Koester and Lustig (2015, 20), there are many studies that assess ICC solely with self-report scales. They claim that these scales might be suitable for the assessment of the effectiveness dimension of ICC since a person can judge one's own strategic purposes. However, self-reporting is likely not suitable for assessing the appropriateness dimension of ICC. The reason for this is that appropriateness is the judgment others make of a person, who may not know what expectations there are in a particular intercultural interaction. Moreover, according to Portalla and Chen (2010, 27), an individual's intercultural sensitivity likely influences how well the individual can determine the behaviours that are the most appropriate ones when interacting interculturally.

Another way to assess intercultural competence has been with the use of the "big five personality test", which includes the personality traits extroversion, agreeableness, conscientiousness, emotional stability/strength, and openness to experience. If a person has, based on those traits, a personality profile that indicates said person is open to culturally different others and able to deal with cultural challenges, the person is expected to be interculturally competent. (Borghuis et al. 2017; Söderberg 2017, 420–421.) The researcher of this thesis opines that one's personality traits, although not necessarily a part of ICC, at least affect one's ICC, one's self-assessment, and how others assess one. In any case, ICC could still be assessed without taking personality traits into account. However, ignoring the traits could distort the understanding of what is actually being assessed, and how ICC ought to be developed. Furthermore, other factors, such as one's mood, the situation, and human error likely also affect one's ICC. Consequently, these other factors may need to be taken into consideration in the assessment of ICC.

According to Petrovskaya and Shaposhnikov (2020, 348–349), it has become common in higher education institutions to use virtual or online groups in education. This can be referred to as computer-supported collaborative learning (CSCL). Studies on CSCL in multicultural groups have indicated that CSCL has positive effects on several learning outcomes. These include performance, satisfaction, construction of new knowledge, improved understanding of concepts, as well as positive effects on group processes. There have also been indications that students' cultural background affects their learning and behaviour in the context of CSCL. It is assumed that the development of students' intercultural competence can be aided by exposing them to cultural diversity in CSCL. However, there is a limited amount of quantitative studies addressing the effect that teamwork in GVTs has on the intercultural learning of students.

There are two large-scale studies examining the outcomes of short-term GVT projects concerned with business proposal development. The studies had similar findings. In one of the studies, the students participating in a GVT project perceived, after the project, less





differences and difficulties with people of other cultures than the control group. In the other study, participation in a GVT project led to positive effects on various learning outcomes, attitudes, perceived cultural differences, behaviour, and performance, including increased motivational CQ. This study is authored by Taras and others (2013). (Petrovskaya & Shaposhnikov 2020, 349.)

In the study, the most commonly cited expected, yet not observed, challenges that hinder GVT performance were related to communication with culturally and linguistically different members. In comparison, coordination was not as commonly expected to be a challenge. However, after the project, it was the most often observed challenge. Most of the students stated they would change their behaviour in the future by paying more attention to the technical aspects of coordination. There was also an experimental assessment involving students who participated in the project twice. The assessment indicated that, in the second project, these student improved in their performance and communication. The authors believe that increased cross-cultural competencies due to more GVT project experience were at least a contributing factor in these observed differences. In conclusion, various assessments indicated that the virtual collaboration had positive outcomes, including increased performance, which was due to increased knowledge and understanding of culturally different others. In addition, stereotyping and prejudice were reduced. (Taras et al. 2013; Söderberg 2017, 427.)

Petrovskaya and Shaposhnikov (2020, 345, 350–353, 356–357) used an intercultural effectiveness scale by Portalla and Chen (2010) to assess the development of self-perceived intercultural effectiveness of undergraduate business students working in a GVT for two months. The authors found that there was a moderate overall increase in self-perceived IE when pre-test and post-test scores were compared. The self-perceived IE also moderately increased for five out of six dimensions of IE<sup>13</sup>, however not for interaction management. According to Petrovskaya and Shaposhnikov (2020, 349–350, 355–357), their study indicates that short-term GVT projects may aid in the development of students' intercultural communication competence. The study also indicates that undergraduate business students may be able to deal with the challenges of working in a team characterised by cultural diversity, as well as able to proactively engage in cultural learning.

According to Zakaria (2017, 354), there have been studies that indicate that people can, and are willing to, learn to adapt to different cultures and to people of said cultures. People can do this by changing their values, attitudes, habits and behaviours to be suitable in terms of different situations, people and purposes. Initially, a cross-cultural experience is frustrating. Yet, in due time, people will learn to adapt in the process of cross-cultural adaptation. Furthermore, according to Fantini (2019, 21, 31), it is possible yet uncommon

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<sup>13</sup> Petrovskaya and Shaposhnikov (2020) refer to the six factors in the IE scale as the six dimensions of IE.

for one to attain the same level of competence in a second communicative competence compared to one's native communicative competence. However, usually the same level is not reached even if one's second communicative competence were to become greater than one's native communicative competence in some areas due to one's interests or experiences.

The communication and collaboration challenges described in section 4 are summarised as follows. A diverse communication challenge related to cultural and linguistic diversity was that there can be misunderstandings even with intercultural training. Diverse collaboration challenges related to individual diversity were that cultural stereotypes may be reinforced by exposure to different cultures and people; and, bad intercultural experiences can decrease motivation for further engagement. A challenge related to cultural diversity was that there can be perceptions of collaboration difficulties with culturally different others in a GVT. The challenges related to emotions were that one can experience stress due to cultural differences; and, there can be complexity, unexpected situations, and high uncertainty in initial intercultural interaction. A virtual collaboration challenge related to coordination was that the technical aspects of coordination may pose a great challenge to GVT performance.



## 5 RESEARCH DESIGN

### 5.1 Research approach

This study is qualitative in nature. The purpose of this study is to gain descriptive qualitative information by answering the research question: *How can intercultural communication competence be applied in a global virtual team?* Since qualitative research methodologies can be used to describe interactions, behaviours and phenomena, such methodologies are in line with the purpose of this study (Cope 2004, 89; Fossey et al. 2002, 717).

According to Maanen and others (2007, 1146), the relationship between theory and method ideally follows a prescribed sequence. First, problems of interest are identified. Next, research questions based on theoretical resources are presented. Then, appropriate research strategies with an inductive and/or a deductive approach are described. Next, qualitative or quantitative data collection methods are selected and applied. After this, data is compiled and analysed. Finally, there are inferences and conclusions that are plausible or verifiable.

A research paradigm, or a philosophical perspective of research, refers to a world view, or system of ideas, that a research community uses in knowledge generation. The paradigms used in qualitative research are the interpretive and critical research paradigms. Following either paradigm, the researcher strives to understand meanings of human actions and experiences, as well as to generate accounts of their meaning based on the views of the people involved in the research. (Fossey et al. 2002, 718–719). In this study, understanding human actions and experiences is relevant to the purpose of this study.

According to Fossey and others (2002, 717), in the generation of research knowledge, if one limits oneself to a single paradigm or way of knowing, the range of knowledge, and depth of understanding possible to be applied to a particular problem may also be limited. Therefore, one ought to take advantage of multiple perspectives, methodologies and techniques in order to achieve a broad range of knowledge and depth of understanding.

The research paradigms influencing this study are relativism and interpretivism. Relativism and interpretivism have both similarities and differences. Both share the notion that knowledge and meaning are context-dependent. However, relativism emphasises context on the level of a culture or a society, whereas interpretivism focuses more on an individual's interpretation of events and phenomena in a certain context. (Baghrarian 2004, 2; McNeill 2006, 148–149; Mulej 2008, 215.) Both can be relevant for studies involving culture (Baghrarian 2004, 1; Ryan 2018, 8). They are deemed relevant for this study as well. The interpretive paradigm has been one of the approaches

to studying ICC since the 1980s, stemming from the impact caused by globalisation trends (Chen 2017, 362).

It is the belief of the researcher that in order to form an adequately complete view of intercultural communication, it is important to account for both the cultural and the individual level of intercultural communication. This can be achieved by taking heed of the lessons found in relativism and interpretivism, respectively. One ought to bear in mind the cultural contextuality of knowledge and meaning found in relativism, as well as the contextuality and individuality of interpretation found in interpretivism when it comes to conducting research on intercultural communication. However, in this study, due to the culture general approach to the application of ICC, cultural contextuality on a culture specific level was not studied with the research methodologies used in this study.

## **5.2 The case study research strategy**

The case study is a research strategy, approach, design, methodology, or method. Its focus is on understanding the dynamics that are contained in single settings, and it can be qualitative. (Eisenhardt 1989, 532–534; Yin 2006; Creswell et al. 2007, 236–237, 245.) In other words, a case study refers to an empirical inquiry, which involves the investigation of a contemporary phenomenon, the case, in depth as well as within its real-world context (Yin 2014, 16). ‘Case’ is the unit of analysis within a given topic (Yin 2006; 2014, 31). The ‘unit of analysis’ can be defined as a phenomenon, individuals and/or actions of individuals that are the source of specific information required to satisfy the purpose of the research (Yin 2006; 2014, 16; Grünbaum 2007). The more one’s research question strives to explain why or how a social phenomenon works, or depends on an extensive and in-depth description of the phenomenon, the higher the relevance of case study research (Yin 2014, 4). There are single- and multiple-case studies. In the former, one needs to carefully examine the case, whereas in the latter, the study findings may be corroborated through replication. (Yin 2006, 111–112, 115.) A single case can be used as an example. Case research, including a single case, can be used to motivate, inspire, or illustrate. (Siggelkow 2007, 20–22.) Furthermore, theory can be developed as a result of the process of conducting a case study. Theory development refers to adopting an initial theoretical perspective based on literature, then striving to build, extend, or challenge the perspective in one’s case study. The process includes a literature review, definition of research questions, case selection and possibly screening, data collection and analysis, hypothesis shaping, and comparison of emergent theory with literature. The process ends when improvement to theory becomes small, and, preferably, theoretical saturation is achieved. (Eisenhardt 1989, 532–533, 544–545, 549; Yin 2006, 112–115.)



In this study, the research strategy was a qualitative case study, which was relevant since this study sought to answer a descriptive question which could be answered by investigating a phenomenon in-depth and in a real-world context. There was a single-case study design: a global virtual team, and their ICC application to their challenges. The case was selected due to convenience and ease of access. The theoretical starting point of the case study was Chen's triangular model of ICC.

This single case study may motivate further research on how ICC can be applied, including in a GVT, and to investigate which ways of applying ICC correspond to a given component of ICC, as well as which of the ways, if any, are more universally applicable than others. This case study may also serve as inspiration for new ideas since this thesis points to a research gap in the identification of ways of applying ICC, and in the conceptualisation of ICC in the context of GVT communication and collaboration. Perhaps, the concept of ICC could be extended to intercultural virtual communication and collaboration competence since today virtuality is an important factor to consider, and since communication and collaboration are quite closely related. Finally, this case study illustrates concrete examples of ICC application in a GVT which may make it easier for further research to envision how ICC could be applied in other empirical settings.

### **5.3 Data collection**

Data collection methods and major data sources in qualitative research include, among others, interviews, and documents, the latter of which can be reused, secondary data. (Onwuegbuzie et al. 2010, 699; Draper & Swift 2011, 4–7). The use of multiple data collection methods is called triangulation, which can strengthen the verification of constructs and hypotheses, and increase the robustness of one's findings by displaying that multiple independent sources of evidence point to the same facts or events (Eisenhardt 1989, 534, 537–538; Yin 2006, 115–116).

The interview allows the researcher to collect data that is suitable for the research question. There are many types of research interviews, which differ mostly based on the degree of structuration. Regardless of the interview type or degree of structuration, one can ask predetermined questions to gain information, and the questions do not need to directly correspond with theory. In a structured interview, the researcher formulates the questions in advance, based on theory. The form and order of questions is the same for all research participants. The researcher also provides the participants with response options. A semi-structured interview is similar, however there are no response options. A completely non-structured interview is called an open interview, which refers to a situation akin to a conversation where the topic discussed is predetermined by the researcher. The open interview is suitable in the pre-research phase. The goal of the

interview can be to increase the researcher's prior knowledge, or to specify the research questions or the research setting. One type of interview is an expert interview, which is used to collect data on a topic in a specific field of interest where the interviewed expert is knowledgeable. (Puusa 2011, 73, 76, 80–81, 83; Döringer 2021, 265.)

The data collection in this thesis was based on an expert interview, and the reuse of secondary data in document form, the latter of which related to the case study. The interviewee is considered to be an expert on global virtual teams due to having conducted a doctoral dissertation on the topic (Aleem 2021).

The purpose of the expert interview was to increase the researcher's prior knowledge and understanding of communication and collaboration challenges, as well as communication skills in a GVT. This understanding aided the researcher in specifying the research question, and in preparing for the analysis of the case study. However, while the interview was based on the expert's description of challenges and skills in a GVT, the case study concerned an actual GVT. The case study allowed the researcher to analyse challenges, and ICC application in an actual GVT. In the case study, the researcher was more directly involved with the topic of the thesis. This allowed the researcher to focus on those parts of the communication and collaboration in the GVT that were the most relevant to the purpose of this thesis. While both the interview and the case study served as bases for answering to the research question, the case study had the more important role in this thesis. The research process involving the expert interview and the case study had two phases, which are presented in figure 1.

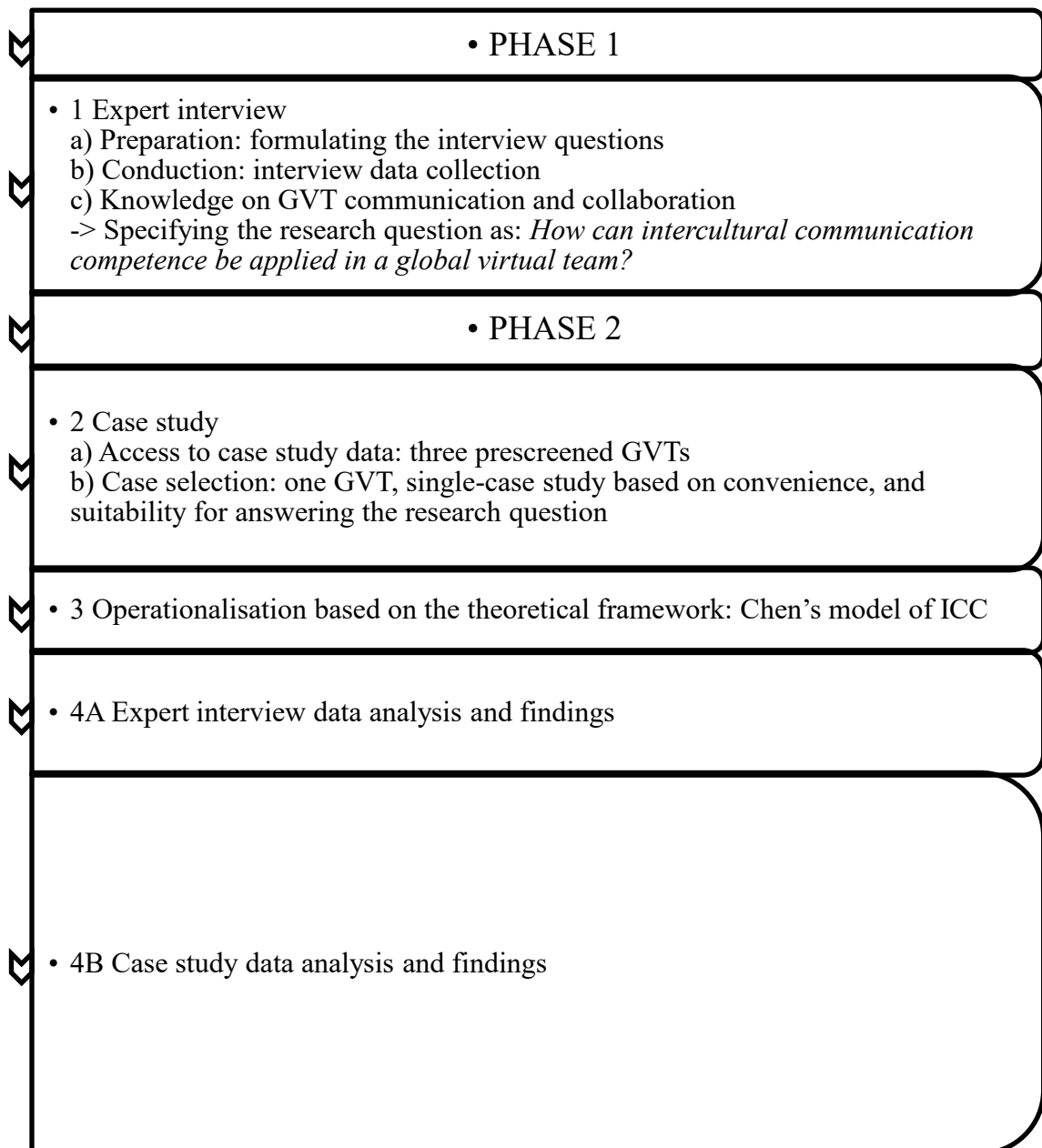


Figure 1 Research process

The phase 1 of the research process included preparing for and conducting the expert interview, during which data was collected and which increased the researcher's knowledge. The aforementioned prepared the researcher for the phase 2 of the research

process. This involved gaining access to case study data, which was based on three GVTs prescreened by the expert. Then, there was case selection, which resulted in a single-case study based on convenience, and suitability for answering the research question. The next step included the operationalisation of the study. Lastly, the expert interview and case study data were analysed, and the resultant findings presented. In the image, the greater size of the case study data analysis and findings compared to those of the interview indicates the greater importance of the case study for this thesis.

The expert interview had elements of both a semi-structured and an open interview. The interview was semi-structured in the sense that predetermined questions were used. However, the questions were not directly based on theory. Instead, the questions reflected the goals of the open interview described previously. In this thesis, the expert interview with such elements was suitable since, in the first phase of the research, the researcher lacked knowledge and was uncertain of the specification of the research question. The interview was conducted face-to-face 15 March 2021.

The expert interview was based on the sub-questions of the research question of this study. However, the sub-questions and research question have since been modified. In addition, the first interview question was about the background of the interviewee (appendix 2). Some other questions were formulated before the interview in the hope that they would help reveal additional information. Two of these were used, questions 5 and 6. The interview was conducted face-to-face since this setting allows a richer form of communication than a virtual setting due to unhindered nonverbal language. The duration of the interview was 38 minutes and 39 seconds. The transcription of the interview was automated using Otter software. The transcription was manually proofread by listening to an audio recording of the interview. The interviewee consented to the recording and to the digital storage of the audio file.

The interviewee was chosen based on the interviewee's expertise regarding the research topic, and ease of access. The reason for only conducting a single interview was the lack of time resources. The interviewee is Majid Aleem, D.Sc., who has conducted research on global virtual teams (GVTs). Majid Aleem, D.Sc. has studied GVTs and relationships within them in his master's thesis and doctoral dissertation. He has also been working with GVTs and teaching in a GVT setting.

Three days before the interview, 12 March 2021, the researcher attended the dissertation defence of the interviewee via the virtual conferencing software Zoom. The most pertinent reason for the attendance in terms of data collection was to allow the researcher to get familiarised with the interviewee's way of communication. This helped in gaining understanding about how to conduct the interview in a way that took into account the individual characteristics of the interviewee.

Allowing the interviewee to state what they consider to be relevant can aid in directing the content of the interview. Displaying interest towards what the interviewee has to say





can also make the interviewee feel more at ease. (Hart 1991, 194–195.) Immediately before the interview was conducted, the interviewee was consulted about how general or specific the interview questions ought to be. This was done due to the inexperience of the researcher in conducting interviews, This consultation was also done with the aim of gaining some level of insight regarding the preferences of the interviewee when it comes to the way of answering the questions. As an example, before starting the interview, it was inquired whether question 1, “In general, what are the challenges of intercultural communication?”, was overly broad in scope. The interviewee answered that broad questions, the aforementioned question among them, are suitable since they enable the interviewee to give open-ended answers. The interviewee contrasted this with the possibility of the scope of the answers being overly limited if the questions were to be overly specific to be answered much beyond a simple “yes” or “no.”

### **5.3.1 Case description**

The author was given access to three global virtual teams’ project data, which have been collected by Turku School of Economics researchers (Turku School of Economics 2022) (for more information on the project, see <https://www.utu.fi/en/university/turku-school-of-economics/international-business/research>). The case study is based on data on one of the teams.

The project, or learning laboratory, has been active since 2014, and its purpose is to aid international business students at multiple universities and countries in developing their professional and personal competencies, as well as managerial practises in facing global challenges. The students develop these competencies and practises by solving international business strategy challenges in GVTs in simulated situations involving real multinational organizational structures, as well as by reflecting on their experiences. The researchers have collected both qualitative and quantitative data on the students’ learning using various methods. Data is collected every year. The learning laboratory involves industry partners, and colleagues at partner universities, as well as three courses. (Einola 2017, 80–84; Aleem 2021, 27–28, 98, 106; Zettinig et al. 2022.)

The case data is based on data collected in 2016 from students participating in an international business strategy course. The GVTs consisted of students who were enrolled in master’s degree programs, as well as in executive business education groups. There were five or six members in each GVT. The students had varying amounts of work experience. Some had none, some a few years, while others had substantial work experience in executive positions. Most of the students did not know one another before their collaboration in GVTs. They represented eleven nationalities and were located in Finland, Russia, Latvia, and Estonia. They also represented different age groups. A tutor

was assigned to each team. The tutors were a professor responsible for the course, and two doctoral researchers. The tutors supervised and supported the students, controlled team formation, ensured the teams were diverse, as well as provided feedback. However, they did not interfere with the teams' internal processes. (Aleem 2021, 27, 97–98, 103–106.)

The teams completed five collaborative assignments problem solving in international settings. The first assignment was a team organising exercise and the other four were assignments on industry problems in collaboration with various industries. After each of those four assignments, the students were asked to conduct an individual reflection on organising, managing, and leading a GVT in terms of how task-related, relational, organisational, and sociocultural processes gradually developed during working on a given assignment. The reflections were based on semi-structured questionnaires. (Aleem 2021, 101–102, 104; Zettinig et al. 2022.) The assignments were in the form of “cases”, to which the members referred in their reflections. The case study data included Word documents of each team member's four individual reflections and peer-evaluations related to team level assignments. Data on the introductory assignment was not included.

In the learning laboratory, over the years, teams have faced challenges characteristic in GVTs, and related to cultural, lingual and contextual diversity. Teams have often failed to manage diversity and social interactions. They have also had issues, for instance, due to time zone differences and the management of time, as well as a lack of communication cues. (Einola 2017, 93; Zettinig et al. 2022, 539, 544.)

In the data from 2016, the communication and collaboration in the teams were influenced by virtuality, and the use of multiple communication tools for different purposes. The teams used, for example, Skype, Google Docs, the phone, SMS, WhatsApp and Facebook. Communication was further affected by members' individual abilities and characteristics. Furthermore, teams varied in their approaches to communication and collaboration, for example, in terms of communication frequency, and trust development. Teams also faced task and interpersonal conflicts related to communication and collaboration. However, whereas open communication could allow task conflict to lead to positive relationship development, relational conflicts harmed relationship development. There were also sub-group formations due to conflicts caused by cultural differences or disagreements. For some members, cultural differences were a cause for a lack of trust. However, in some teams, open communication through the discussion of extracurricular activities was used to create a conducive work environment in the presence of members with different cultural backgrounds. (Aleem 2021, 151–182, 191.)



### 5.3.2 *Case selection*

The researcher asked the expert interviewee for access to data for use in this study. Majid Aleem, D.Sc. pre-screened three teams based on their relevance for the study of intercultural communication behaviours<sup>14</sup> and challenges in a global virtual team. The data the researcher was given access to were Word documents containing the individual reflections of the three teams' members. The documents also included the members' numerical peer evaluations. However, the evaluations were deemed unnecessary for the purpose of the case study.

Only one team was selected as the case study due to time constraints. The data of the single team consisted of four individual reflections by each of the five, mostly millennial, members for a total of twenty individual reflections. The case was selected based on its suitability to the research question, and ease of access. The case was suitable since the data was reflective of descriptions of communication and collaboration, as well as of related challenges in a GVT. In addition, some of the challenges were influenced by cultural differences, and some were due to virtuality. Furthermore, to most of the challenges, the team members found solutions corresponding to ICC application. Therefore, the selected case study data reflected the purpose of this thesis. For the sake of anonymity, the team number and nationalities of team members in the case study are not revealed.

The following operationalisation table was created to illustrate the data collection framework used in this study (table 8). The table illustrates the links between this study, the literature, and the case study.

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<sup>14</sup> Before conducting the case study, “intercultural communication behaviours” was reformulated to “intercultural communication competence” to reflect an existing theoretical framework.

Table 6 Operationalisation table

<b>Research question</b> <i>How can intercultural communication competence be applied in a global virtual team?</i>						
Sub-questions	Main categories	In literature (section numbers)	In case study reflections			
			1	2	3	4
What are the challenges of intercultural communication in a global virtual team?	Diverse communication	1, 2, 3, 4	x	x	x	x
	Virtual communication	1, 3	x	x	x	x
	General communication	3				
What are the challenges of intercultural collaboration in a global virtual team?	Diverse collaboration	1, 2, 3, 4	x	x	x	x
	Virtual collaboration	2, 3, 4	x	x	x	x
	General collaboration	3	x		x	x
How can intercultural communication competence be applied to communication challenges in a global virtual team?	Intercultural awareness	4.2.1	x		x	
	Intercultural sensitivity	4.2.2	x	x	x	x
	Intercultural effectiveness	4.2.3	x	x	x	x
How can intercultural communication competence be applied to collaboration challenges in a global virtual team?	Intercultural awareness	4.2.1	x		x	
	Intercultural sensitivity	4.2.2	x	x	x	x
	Intercultural effectiveness	4.2.3	x	x	x	x
			1	2	3	4

The operationalisation table includes the research question, sub-questions, the main sections of this study where challenges were described, the subsections where the aspects of ICC were described, and the individual reflections of the students in the case study. The reflections where one or more challenges related to a given main challenge category were described, and where one or more ways of applying ICC reflecting the aspects of ICC were described, are marked with “x”.

Personal data were processed in the conduction of this study. This study was conducted in compliance with the European Union General Data Protection Regulation (GDPR) and the Finnish Data Protection Act. The processing of personal data is lawful if at least one of the points of article 6.1 of the GDPR applies. The lawfulness of the processing of personal data in the conduction of this study is in part based on the consents of the data subjects to such processing for one or more particular purposes in accordance with point (a) of article 6.1 of the GDPR. The lawfulness is also based on the necessity of the processing for performing a task, which is carried out in the public interest in accordance with point (e) of article 6.1 of the GDPR. Finally, the lawfulness is based on 4.3 § of the Finnish Data Protection Act. 4.3 § specifies that the processing may be done in accordance with point (e) of article 6.1 of the GDPR if it is necessary for scientific research purposes, and if it is in proportion to the goal that is pursued in the name of public interest. (General Data Protection Regulation 2016; Tietosuojalaki 2018a; 2018b.)

In this study, the interviewee, who was one of the data subjects, consented to the processing of his personal data for one or more particular purposes. As per article 7.3 of the GDPR, the interviewee was aware of his right to withdraw his consent at any time. In addition, it is as easy for the interviewee to withdraw his consent as it was to give it. The purpose of the processing in this study was to conduct scientific research. In terms of the interview, a more specific purpose was to increase the trustworthiness of the study by disclosing the name and academic title of the interviewee, Majid Aleem, D.Sc. Regarding the case study, the study subjects have previously given their consents for their personal data's being processed for research purposes. However, they have not given their consents explicitly for the research purposes in this thesis. Regardless of whether such explicit consents were required in order to fulfill the lawfulness of the processing of their data in accordance with point (a) of article 6.1 of the GDPR, the processing of their data was still lawful in accordance with point (e) of article 6.1 of the GDPR, and 4.3 § of the Finnish Data Protection Act. (General Data Protection Regulation 2016; Tietosuojalaki 2018a; 2018b.)

Nevertheless, regarding the case study, the researcher made an agreement with the representatives of the data subjects in the form of a permission to conduct research involving the processing of the personal data of the data subjects. The purpose of the processing of the personal data of the data subjects in the case study was to conduct scientific research.

This study was conducted in accordance with the ethical principles for research with human participants. These include the following three general ethical principles: the researcher respects the rights, dignity and autonomy of all human research participants; material and immaterial cultural heritage and biodiversity are respected, and; the research is conducted in a way that does not cause risks, damage or harm to participants or any other research subjects. In addition, this study complies with the guidelines on responsible conduct of research by the Finnish National Board on Research Integrity TENK. There are three central ethical principles that ought to be followed for processing research data that includes personal data. The principles are that the processing is planned, responsible, and complies with the law. (TENK 2019.) This study fully followed these principles. The processing of personal data was in accordance with law, as previously described.

In the case study, the planning of the processing of data included that the researcher considered the risks of the processing to the data subjects and others. The risks included revealing the identities of the data subjects and the information pertaining to them. In order to minimise the risks, the aforementioned data-sharing and usage agreement stipulated the careful protection of the data and compliance with the GDPR. The terms of the agreement were fully followed. Furthermore, regarding the case study, as per article 4.5 and point (a) of article 32.1 of the GDPR, the personal data were pseudonymised (General Data Protection Regulation 2016). The researcher pseudonymised the names of the team and its members. The processing of the personal data of the members, and the presentation of the findings of data analysis were performed in ways that do not allow the identification of the data subjects without additional information. Such information was kept separately.

In this study, the personal data were processed only to the extent that was necessary for conducting research pertaining to this master's thesis. The research data was stored on the two hard drives of the researcher's personal computer due to convenience. The researcher considered this appropriate due to the lack of sensitive personal information collected from the participants of the study. After the research had been conducted, the researcher deleted the research data following the terms of the previously described data-sharing and usage agreement, and due to the data's containing personal data.

The responsibility of the processing of personal data was ensured by the researcher's compliance with legislation and with the data protection guidelines of Turku School of Economics and the University of Turku. This responsibility applied to the whole duration of the researcher's conduction of the study and being in possession of the research data. To further ensure the responsibility of the processing, the decisions concerning personal data processing were justified and clearly documented. A data management plan was made and submitted to a registry of the University of Turku. It is possible for authorities or the data protection officer of the University of Turku to check the data processing decisions that were made in this thesis.



## 5.4 Data analysis

There is no single correct way that one ought to organise, analyse or interpret qualitative data (Hart 1991, 197). In this study, the method of data analysis is a qualitative content analysis. Content analysis is characterised by the analysis of documents through a classification of words found in text into content categories which ought to result in a broad yet concise description of a phenomenon in a systematic and objective way (Elo & Kyngäs 2008, 107–109). The words, or codes, represent key concepts or thoughts (Hsieh & Shannon 2005, 1279; Graneheim et al. 2017, 32). Categories can include things, experiences, perceptions, attitudes, or opinions, and describe similarities and differences. Categories, the smaller subcategories, and the larger main categories are used to identify and define code groups with similarities. Qualitative content analysis is used to analyse qualitative data which includes that the researcher interprets what the most probable meaning of text is. The method can be applied to both similarities and differences found in text. (Graneheim et al. 2017, 29, 32–33.) In this study, qualitative content analysis was deemed a relevant method since it enabled a systematic way to identify, categorise and describe communication and collaboration challenges and ways of applying ICC in a GVT. Thus, the method was suitable for achieving the purpose of this thesis. Furthermore, the method is suitable in the analysis of both similarities and differences. While there can be similar ways of applying ICC in a GVT across the data, some ways may be different.

According to Elo and Kyngäs (2008, 109, 113), content analysis has three phases. These are preparation, organising, and reporting. In the preparation phase, one selects the unit of analysis, which can be, for example, a letter, a word, a sentence, a theme, or an interview. One also reads the data multiple times to form an understanding of it. In this study, communication and collaboration challenges, and ICC application as their solutions were analysed.

The organising phase consists of using an inductive or deductive approach to organise data. In inductive content analysis, one derives codes from the data, and places them into categories based on the relations and links among different codes. This ought to result in meaningful clusters of codes, the subcategories within categories. One ought to identify exemplars of every code and category from the data. In deductive content analysis, one categorises all text that represents a phenomenon using predetermined codes based on existing knowledge, which can be a theory or a model. (Heikkilä & Ekman 2003, 138; Hsieh & Shannon 2005, 1279–1282; Elo & Kyngäs 2008, 109–112.)

In this study, the inductive approach was used to identify and categorise communication and collaboration challenges in a GVT based on the literature used in this thesis. Exemplars of codes/subcategories were also identified (appendix 3). First, based on the subquestions of this thesis, the main challenge categories, ‘Communication’ and ‘Collaboration’, were formed. Next, the categories ‘Diverse’ and ‘Virtual’ were created

based on whether a given communication or collaboration challenge mostly stemmed from diversity or virtuality, respectively. The choice to categorise based on diversity and virtuality was due to their being influences characteristic in a GVT. The challenges that did not stem from either diversity or virtuality were categorised as 'General'. Finally, similar challenges were placed in subcategories, each of which pertained to a specific aspect of communication or collaboration, although some challenges could have been categorised differently since they were related to other challenges or categories. The following table 7 illustrates the categorisation of communication and collaboration challenges in a global virtual team.





Table 7 Communication and collaboration challenges in a global virtual team

<b>Main category: Communication</b>		
<b>Category: Diverse communication</b>	<b>Category: Virtual communication</b>	<b>Category: General communication</b>
<i>Subcategories</i>	<i>Subcategories</i>	<i>Subcategories</i>
Communication styles (B)	Lack of cues (B)	Information sharing (B)
Cultural and linguistic diversity (C)	Communication frequency (B)	Emotions (A)
Familiarity (C)	Communication delays (B)	
Values (C)	Communication technology (B)	
Power (B)	Appropriateness of medium (A)	
Language proficiency (B)	Information sharing (B)	
Information sharing (B)		
<b>Main category: Collaboration</b>		
<b>Category: Diverse collaboration</b>	<b>Category: Virtual collaboration</b>	<b>Category: General collaboration</b>
<i>Subcategories</i>	<i>Subcategories</i>	<i>Subcategories</i>
Individual diversity (C)	Emotions (A)	Emotions (A)
Assumptions and generalisations (C)	Coordination (B)	Conflicts (A)
Cultural diversity (C)	Performance (B)	Conflict management style (B)
Emotions (A)	Trust and cohesion (B)	Coordination (B)
Performance (B)	Unique team context (C)	
Conflicts (A)		
Coordination (B)		
Trust and cohesion (B)		
Unique team context (C)		

As illustrated by table 7, a deductive approach was used to classify the challenges as being mostly cognitive (C), affective (A) or behavioural (B). The deductive approach was based on a combination of information found in Chen's triangular model of ICC and in the cognitive-behavioural theoretical framework of human functioning. However, the classification of the subcategories is quite generalised, and its purpose was mostly to aid in the determination of which ICC category/ability could be the most relevant to a particular challenge. The challenge categorisation was used in the qualitative content analyses of the interview and case data, wherein challenges were identified, and placed in the most relevant subcategory.

A deductive categorisation based on Chen's triangular model of ICC was used to analyse the interview and case data in terms of GVT members' ways of applying ICC as solutions to communication and collaboration challenges in a GVT. Applying ICC requires that one has ICC. In this study, it was assumed that everyone possesses a certain degree of ICC. In addition to Chen's model, 'effective intercultural workgroup communication theory' (IWCT) was considered for the theoretical framework in this thesis (Oetzel 2009, 327). However, IWCT would have required information of team and individual factors that could have jeopardised the anonymity of the GVT members in the case study. Thus, IWCT was omitted.

The deductive categorisation included three main categories: 'Intercultural awareness'; 'Intercultural sensitivity'; and, 'Intercultural effectiveness'. The categorisation and the operationalisation definitions regarding Chen's triangular model of ICC are presented in table 8. The researcher attempted to make the operational definitions succinct yet adequately comprehensive in order that they capture the whole nature of their conceptual definitions. The researcher created the table based on information found in the literature used.



Table 8 Intercultural communication competence (Hammer et al. 1978; Cegala et al. 1982; Chen 1992; 1997; 2007; 2009; 2014, 2017; 2021; Chen & Starosta 1998; 2000; Cegala 2009; Portalla & Chen 2010; Ting-Toomey & Dorjee 2017)

<b>Intercultural communication competence</b>		
<b>Intercultural awareness</b>	<b>Intercultural sensitivity</b>	<b>Intercultural effectiveness</b>
<b>Cultural understanding</b> Having and seeking knowledge and understanding of culture's effect on communication, thinking, and behaviour	<b>Empathy</b> Taking another person's point of view in order to think and feel in the same way the other person does	<b>Message skills</b> <i>Communication codes</i> <i>Oral message evaluation</i> <i>Basic speech communication skills</i> <i>Human relations</i>
	<b>Interaction involvement</b> <i>Attentiveness</i> <i>Perceptiveness</i> <i>Responsiveness</i>	
	<b>Suspending judgment</b> Avoiding hastily judging others' inputs based on insufficient information; Sincerely listening to others	<b>Interaction management</b> Ability to start and end an interaction, and take turns based on others' needs and desires
	<b>Open-mindedness</b> Willingness to openly and appropriately explain oneself; Appreciating others' explanations, ideas, and views; Receptiveness to others' needs and differences	<b>Behavioural flexibility</b> Adapting within an interaction by changing one's behaviour to be appropriate to the situation
	<b>Self-monitoring</b> Knowing and modifying how one and one's behaviour appear to others in order to achieve communication behaviour appropriate to the situation	<b>Relational cultivation</b> Ability to form a mutually satisfying relationship, which allows achieving positive collaborative outcomes through communication
	<b>Self-esteem</b> Having an optimistic outlook; Positive conception of oneself and others	<b>Identity management</b> Supporting the social perceptions one has of oneself and others have of themselves, thus avoiding negative emotions and conflicts

The cognitive main category ‘Intercultural awareness’ only consists of one rather general category, ‘Cultural understanding’. The application of the category was analysed with a culture general approach. Compared to ‘Intercultural awareness’, the affective and behavioural main categories ‘Intercultural sensitivity’ and ‘Intercultural effectiveness’, respectively, consist of multiple categories that pertain to more specific abilities.

In this study, ‘Interaction involvement’ refers to participating in interaction through the three subcategories ‘Attentiveness’, ‘Perceptiveness’, and ‘Responsiveness’, which were defined as in section 4.2.2. ‘Message skills’ refers to English language ability since English was the language that the GVT members in the case study used in order to communicate. ‘Message skills’ consists of four subcategories: ‘Communication codes’, ‘Oral message evaluation’, ‘Basic speech communication skills’, and ‘Human relations’, which were defined as in section 4.2.3. However, although some of the subcategories of ‘Message skills’ appear to refer to oral communication, in this study, the subcategories have been extrapolated to also refer to written communication.

In the reporting phase, the analysis process and the results are described. The results refer to the description of the contents/meanings of the categories through subcategories. (Elo & Kyngäs 2008, 112.) In this study, the expert interview findings were presented in conjunction with those of the case study. The presentation involved the categorisation of challenges and their solutions. Only the solutions that were interpreted as corresponding with potentially successful application of intercultural communication competence were presented. Furthermore, it was interpreted that some solutions were applicable to multiple challenges. The presentation of the findings began with these general solutions. The rest of the findings were presented in the order of the challenge categorisation. First one or multiple related challenges placed within a given subcategory were presented, then their solutions. Any given challenge was placed in the subcategory most descriptive of the challenge. Therefore, for instance, even if a challenge mostly pertained to communication, it was placed in a collaboration subcategory if there was no relevant communication subcategory, and vice versa. For the sake of brevity, solutions were each only placed in the single most relevant category or subcategory of ICC, although most of the solutions pertained to multiple, sometimes all, categories and subcategories.

In the organising of data, and presentation of research findings, tables can be helpful in, for instance, condensing and arranging data, as well as in succinctly, understandably, and convincingly communicating one’s findings (Cloutier & Ravasi 2021, 113–114, 124–127). In this study, tables were used in the aforementioned ways. They were especially helpful in summarising the reporting of the findings. The following figure 2 illustrates the organising and reporting of the study.



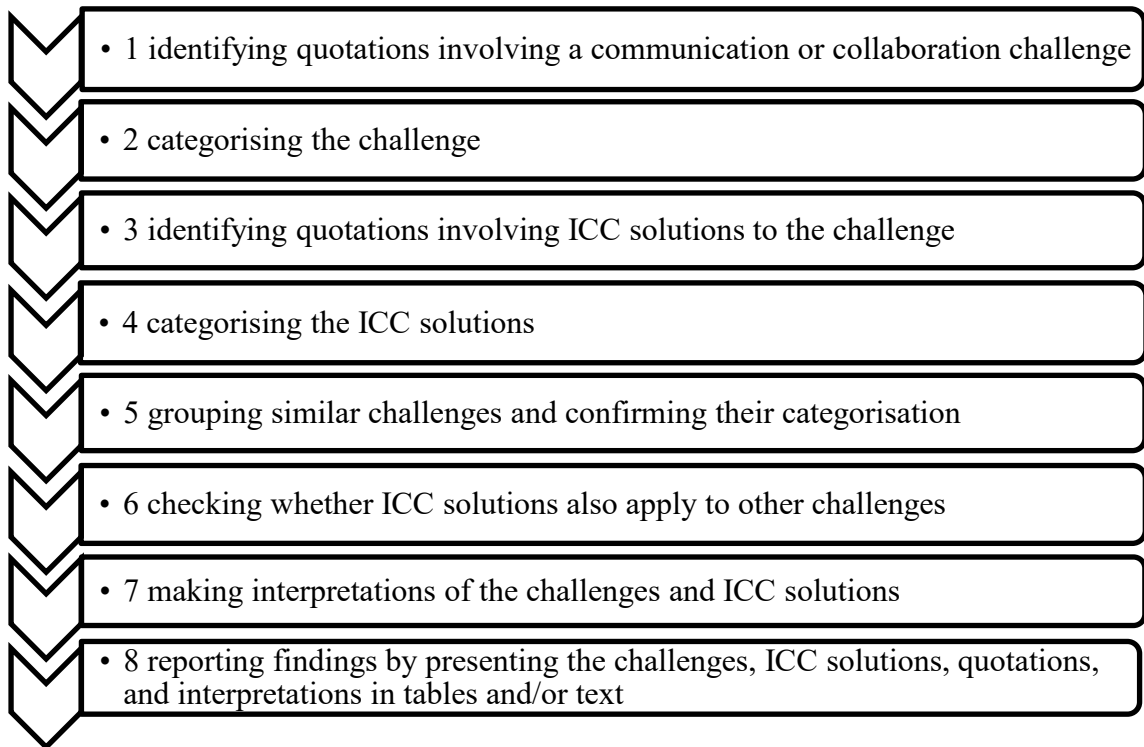


Figure 2 Organising and reporting of the study

The organising and presentation involved identifying and categorising challenges and ICC solutions. These were then presented in tables. Some of the quotations related to challenges were presented in tables, some in text. Quotations of the solutions were all presented in tables. In addition, interpretations of challenges and solutions were presented in text.

## 5.5 Trustworthiness

According to Cope (2014, 89), qualitative research is most commonly evaluated with the criteria by Lincoln and Guba (1985). These criteria are used in the evaluation of this study.

The trustworthiness of qualitative research can be evaluated using four criteria: credibility, transferability, dependability, confirmability. It should be noted that complete trustworthiness of qualitative research cannot be achieved. One can only attempt to persuade others of the trustworthiness of one's research by striving to satisfy the four criteria to the best of one's ability. (Lincoln & Guba 1985, 289–331.)

The researcher can strive to achieve credibility for the research by conducting the research in a way that increases the probability that others will consider the research findings and interpretations to be credible. Moreover, credibility is increased should the findings and interpretations be approved by those from whom the research data were collected. Triangulation is a technique that can be used to improve credibility.

Triangulation can be implemented by using different sources, methods or investigators in data collection. (Lincoln & Guba 1985, 289–331.) In this research, credibility was increased after having presented to the interviewee the findings and interpretations that were based on the interview, and the interviewee considered them suitable. Yet, the researcher later rewrote the findings and interpretations. This may have decreased credibility. However, the researcher strived to make interpretations that were more directly connected to what the interviewee stated compared to the previous interpretations. The name of the interviewee, Majid Aleem, D.Sc., was disclosed in order to increase the trustworthiness of the research, including credibility. The disclosure of the name revealed the academic status of the interviewee which could increase credibility. The credibility of the study was limited by the fact that the researcher of this thesis did not collect the case study data. The researcher also did not get the findings and interpretations approved by the case study data subjects.

Triangulation was used to increase credibility. This was in the form of using scientific literature as a data source in addition to the interview. A case study was also conducted. In the case study, to increase credibility, the data collection was revealed to have been done by a research team, which included Majid Aleem, D.Sc. The credibility of both the interview and the case may have been increased by the use of extensive quotations of what the interviewee and the GVT student members had stated. Thus, it is possible to discern which parts of the research includes findings, and which parts are the researcher's interpretations of those findings.

In order to achieve transferability, the researcher needs to provide a sufficient amount of descriptive data of the context of the research. Only then is it possible for another researcher to compare whether a different context is similar enough that the research findings can be applicable in that different context as well. (Lincoln & Guba 1985, 289–331.) In this research, to increase transferability, an attempt was made to provide a sufficient amount of descriptive data of the context of the research, including a brief description of the interviewee's background and the description of the scope and limitations to the scope of the research. In addition, the context of the case study was described.

Dependability can be achieved by having an auditor determine that the research process is acceptable. (Lincoln & Guba 1985, 289–331.) When it comes to the biases of the researcher, their extent ought to be considered in the evaluation of dependability (Lincoln & Guba, 1985, 324). In this research, concerning the interview, dependability was increased by the interviewee's acting as an auditor. It was deemed that the academic expertise of the interviewee enabled his being regarded as an auditor. In the case study, it is possible that the interviewee might also be able to act as an auditor if deemed necessary.

Confirmability is achieved when the auditor has examined the research data and determined that the data, findings, interpretations and recommendations are supported by



data and are internally consistent. (Lincoln & Guba 1985, 289–331.) Lincoln and Guba (1985, 300, 323) state that they consider confirmability to concern the emphasis put on the characteristics of data instead of the characteristics of the researcher. Nonetheless, they add that the degree and incidence of researcher bias should be evaluated by an auditor in the evaluation of confirmability.

In this research, in terms of the interview, confirmability was increased after the auditor reviewed and approved the researcher's output. Furthermore, no biases were identified. Yet, the researcher later rewrote the output. However, the researcher attempted to make less broad interpretations this time. Thus, the researcher is confident that the output is not more biased than previously. The interviewee's name was disclosed in order to increase confirmability. The disclosure made it possible for others to determine whether the academic status of the interviewee is accurate, and the possibility to ask the interviewee whether he indeed reviewed and approved the previous output of the researcher regarding the interview. In addition, the interviewee might agree to review the interview findings again if this was believed to be necessary. The same might hold true for the case findings since the interviewee is familiar with the source of the case data.

## **6 CHALLENGES AND INTERCULTURAL COMMUNICATION COMPETENCE IN A GLOBAL VIRTUAL TEAM**

### **6.1 Diverse communication**

Both the expert interviewee and the case study GVT members described challenges and solutions to them in a global virtual team. However, in some instances the researcher interpreted that, although certain solutions were not directly described as applicable to certain challenges, these solutions could still be relevant to them. While the expert and the GVT members also described consequences of the challenges and solutions, these were not focused on unless they involved other challenges and solutions. It was interpreted that the interview and case study findings included challenges related to twenty out of thirty-three subcategories that were previously identified (appendix 3).

The case study GVT initially had six members. However, one of the members ceased participation after the introductory assignment. This member's reflections were not included in the case study data. Some of the case study GVT members referred to the missing member in their individual reflections concerning assignments 1 and 2. In this case study, this member was referred to as X. The participating members' names were pseudonymised as Mary, Robert, Patricia, John, and Jennifer.

Some of the proposed solutions were interpreted as being general due to their applicability to multiple, or even nearly all, challenges. The following table 9<sup>15</sup> illustrates these solutions.

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<sup>15</sup> The numbers after the student names refer to assignment numbers. The numbers after "Expert" in other tables refer to interview question numbers (appendix 2). A division sign is used to separate the main categories, categories, and subcategories. However, in the solution categorisation, the main categories are indicated as (IA), (IS), and (IE) which refer to intercultural awareness, sensitivity, and effectiveness, respectively.





Table 9 General solutions

<i>Having an optimistic outlook (in the face of challenges)</i> Self-esteem (IS)
“I think [...] we all become better [...].” (Mary, 1); “[...] [W]orking together [...] never met [...] difficult, but also worth trying.” (Patricia, 1); “[...] [T]hough [...] lacking a member [...], hardly feel unmotivated and depressed [...].” (Patricia, 4)
<i>Appreciating challenges</i> Self-esteem (IS)
“[...] [E]verything went [...] wrong [...]. [...]. Nevertheless, it's a rewarding experience [...].” (John, 2); “If [...] everyone like machines do their job, perhaps [...] not [...] such a great experience [...].” (John, 4); “[...] [D]ifficulties [...] helped me to learn [...].” (Jennifer, 4)
<i>Appreciating others (and their abilities and behaviour)</i> Self-esteem (IS)
“[...] Jennifer is a great informal leader [...].” (John, 3); “Robert and John also impressed me [...], conscientious and working spirit, [...] much effort [...].” (Patricia, 4); “We tackled this task in a very professional manner, [...] everyone was doing their best [...].” (Jennifer, 4)
<i>Supporting others</i> Relational cultivation (IE)
“We [...] support each other [...].” (Patricia, 2); “[...] [M]y super helper was Jennifer, [...] took my calls day and night. We spent hours [...] in discussion [...].” (John, 3); “[...] [I]t felt that Jennifer and Patricia were a bit lost sometimes, so naturally I helped them out.” (Robert, 4)
<i>Encouraging others (to be attitudinally and behaviourally committed)</i> Relational cultivation (IE)
“[...] I [...] inspire others through tough time.” (Patricia, 1); “[...] I [...] motivate others to bring the best outcome to our group.” (Patricia, 2); “We [...] encourage each other to move forward.” (Patricia, 4); “[...] Jennifer [...] kept inspiring [...].” (Patricia, 4)
<i>Using complementary media</i> Behavioural flexibility (IE)
“[...] [I]f someone missed a meeting on Skype we acquainted the member with the member's duties in our [...] chat.” (John, 1); “[...] [E]mails [...]. [...] Facebook [...] informal and quick follow up.” (Jennifer, 3); “[...] Google Drive to discuss [...] supplement [...].” (Patricia, 4)
<i>Accepting the results one gets</i> Self-esteem (IS)
“[...] [I]t is your own experience, whether it is good or bad.” (Jennifer, 3); “We [...] accept the results we got [...].” (Patricia, 4)

Due to their broad applicability, and for the sake of brevity, the solutions illustrated in the table were only described in relation to a particular challenge when this was deemed relevant. Some other solutions also applied to two or three challenges yet these solutions

were described in relation to the challenges since the solutions' exemplars were partially specific to the challenge in question.

### ***6.1.1 Communication styles, and cultural and linguistic diversity***

As illustrated in table 10, the expert stated that cultural differences in the way of communication can lead to misinterpretations, which can in turn lead to a negative emotion, and realising there are such differences is important which was interpreted to be a solution.

The finding that culturally different communication styles can lead to misinterpretations is aligned with previous research (Aneas & Sandín 2009; Davis et al. 2009). The researcher surmises that while the findings also suggested that misinterpretation can lead to a negative emotion, it could be possible that a misinterpretation of an opposite type would lead to a positive emotion. However, even if one misinterpreted, for instance, that someone's communication style suggested something positive, such as amicability, which in turn led to positive emotion, the perceived amicability could in the long term prove to be unfounded which could in fact lead to a negative emotion, such as disappointment. However, it was interpreted that the solution realising there are cultural differences between communication styles may aid in preventing the misinterpretations. The following table 10 illustrates challenges and solutions related to communication styles, and cultural and linguistic diversity, which will be described after the table.

Table 10 Challenges and solutions related to communication styles, and cultural and linguistic diversity

<p><b>Culturally different communication styles</b> Communication / Diverse communication / Communication styles (B)</p>
<p>“[...] I thought that people are rude, which actually, they were not. [...] [T]his is a cultural thing. [...] [T]he way of communication is different. [...]. [...] I believed that people were [...] too direct and I was uncomfortable with that. [...] [T]hat is a challenge [...]” (Expert, 1)</p>
<p><i>Realising there are cultural differences in communication styles</i> Cultural understanding (IA)</p>
<p>“[...] [T]he way of communication is different. And, realising these kinds of differences is really, really important when it comes to intercultural communication.” (Expert, 1)</p>
<p><b>Communication risks in a multicultural team</b> Communication / Diverse communication / Cultural and linguistic diversity (C)</p>
<p>“[...] [M]y group members come from different cultures [...], we still surprisingly interact the same [...]. [...]. However, misunderstandings still happen when [a] member ignores and does not focus on what you are saying.” (Patricia, 4)</p>
<p><i>Being aware of and adapting to cultural and linguistic differences and risks</i> Cultural understanding (IA)</p>
<p>“I am aware of cultural diversification [...], better be open-minded and not equate our cultural customs with others. [...] I acknowledge the communication’s risks and norms that I have to figure out a proper way to work in a multicultural team.” (Patricia, 3)</p>
<p><i>Recognising and appreciating cultural differences</i> Open-mindedness (IS)</p>
<p>“[...] I recognize that my team members who come from [country A], [country B] always go straight to the point which greatly improves the conversation’s efficiency.” (Patricia, 3)</p>
<p><i>Not interrupting the one talking</i> Interaction management (IE)</p>
<p>“Although my group members come from different cultures [...], we still surprisingly interact the same [...]. For example, we never interrupt when one is talking.” (Patricia, 4)</p>
<p><i>Carefully listening to one another</i> Interaction involvement / Attentiveness (IS)</p>
<p>“[...] [M]isunderstandings still happen [...]. That is when we [...] remind him/ her of the importance of listening carefully to each other and staying as a team.” (Patricia, 4)</p>

Table 10 illustrates the challenges culturally different communication styles, and communication risks in a multicultural team, and their respective solutions. The latter challenge and its solutions will be described as follows.

Patricia acknowledged that there are communication risks in a multicultural team. Table 10 illustrates the related solutions, and that the risks include misunderstandings when a conversation is not focused on.

*“[...] I acknowledge the communication’s risks and norms [...] in a multicultural team.” (Patricia, 3)*

It was interpreted that communication in a GVT entails risks due to the influence of cultural diversity, which includes differences in cultural customs and communication norms. The risks include misunderstandings. The findings are aligned with previous research, which suggests that cultural and communication differences may lead to issues, such as misunderstandings within a GVT (Elron & Vigoda 2003; Yang 2018, 528).

The findings suggest that solutions to the communication risks could be related to cultural awareness and adaptation, not interrupting others, and concentrating on the conversation by carefully listening. Applying the aforementioned could arguably allow one to be able to have and gain cultural information that would be beneficial in preventing misunderstandings. They could also help in achieving more appropriate communication. Furthermore, the solution involving recognition and appreciation of cultural differences could increase one’s attitudinal commitment towards having and gaining cultural information and appropriateness.

### **6.1.2 Familiarity, power, and language proficiency**

Some of the GVT members stated that a lack of familiarity with team members makes collaboration difficult. Table 11 illustrates the related solution, and that the lack of familiarity also leads to inaccurate expectations.

*“The first time working together as a group of six people who have never met each other face to face is quite difficult [...].” (Patricia, 1)*

Previous research indicates that, in intercultural communication, there is only a limited amount of shared understanding, such as shared knowledge, norms and conventions of language (Kecskes 2015). However, professional familiarity is beneficial for teams (Maynard et al. 2019; Waring et al. 2020). On the other hand, the inconsistency between expectations and what actually happens may hinder a member’s team identification and satisfaction (Johnson & Avolio 2019).

Therefore, it was interpreted that since the members shared limited understanding and were not familiar with one another, they made assumptions based on insufficient



knowledge, which led to inaccurate, in this case optimistic, expectations, and consequently dissatisfaction when the expectations were not met. However, the members' dissatisfaction apparently also stemmed from the fact that some members were not behaviourally committed. Furthermore, due to a lack of professional familiarity, it was likely difficult for the members to take advantage of their strengths which may have hindered their work, and consequently further lowered their satisfaction. However, as suggested by the findings, increasing familiarity could aid in preventing the issues caused by the lack of familiarity. The following table 11 illustrates challenges and solutions related to familiarity, power, and language proficiency. Power, and language proficiency will be described after the table.

Table 11 Challenges and solutions related to familiarity, power, and language proficiency

<p><b>Lack of familiarity</b> Communication / Diverse communication / Familiarity (C)</p>
<p>“[...] [E]ven though [...] members seem [...] nice and motivated, it does not guarantee that they will actually participate.” (Jennifer, 1); “[...] [I]t was a mistake to rely on people without having supported these hopes with real knowledge.” (John, 4)</p>
<p><i>Increasing familiarity through introductions, discussions and questions</i> Relational cultivation (IE)</p>
<p>“[...] [I]ntroduce ourselves [...]. [...] [F]ind out more about others’ daily lives to better understand their personalities.” (Patricia, 1); “[...] [T]alk[ed] [...] to know them better.” (Jennifer, 1); “[...] [Q]uestions [...] more clear view with whom [...] working [...].” (John, 4)</p>
<p><b>Noninclusive decision-making</b> Communication / Diverse communication / Power (B)</p>
<p>“[...] [A]ttempts to adopt “not team” decisions, [...] behind the back. [U]nacceptable [...].” (John, 2); “Jennifer is [...] powertripping [...].” (Robert, 3); “I had to make decisions myself [...], neither [...] members nor the [...] leader showed wish or ability to do that.” (Jennifer 3)</p>
<p><i>Engaging in inclusive decision-making</i> Relational cultivation (IE)</p>
<p>“[...] [A]ll members organized a key meeting [...] to [...] reach a consensus [...].” (Patricia, 2); “[...] [E]veryone just offered his start-up idea and then we voted.” (John, 4)</p>
<p><i>Discussing the manner of decision-making</i> Message skills / Basic speech communication skills (IE)</p>
<p>“[...] [A]ttempts to adopt “not team” decisions [...]. Fortunately, in the process of discussing managed to avoid this scheme.” (John, 2)</p>
<p><b>Lack of language proficiency</b> Communication / Diverse communication / Language proficiency (B)</p>
<p>“[T]here are [...] issues related to how well a person can speak.” (Expert, 2.1); “[...] I have a hard time understanding Patricia’s text and argued points.” (Robert, 3); “[...] Patricia’s English turned into business jargon at times.” (Robert, 4)</p>
<p><i>Helping a person to express themselves</i> Relational cultivation (IE)</p>
<p>“[...] [W]e will work with you together. So, [...] let's [...] write [down] your ideas, [...] we will discuss [and] bring forth your ideas.” (Expert, 2.1); “Jennifer [...] helped Patricia with [the assignment] because Patricia’s English turned into business jargon at times.” (Robert, 4)</p>

Table 11 illustrates the challenges lack of familiarity, noninclusive decision-making, and lack of language proficiency, and their respective solutions. The last two challenges, and their respective solutions will be described consecutively as follows.



Sometimes only one person or a part of the team made, or attempted to make, team-level decisions. Exemplars of this and the related solutions are illustrated in table 11.

*“Those who participated in the chat discussions and Skype meetings were the ones making decisions.”* (Jennifer, 1)

It was interpreted that the members had different understandings of acceptable behaviour in decision-making. Some believed it was acceptable that the ones participating in meetings were the ones who could make the decisions. Another view was that this was unacceptable. Furthermore, in assignment 3, one member believed it necessary to make decisions by oneself.

Previous research indicates that the perceived appropriateness of communication behaviours may vary among cultures (Lockwood 2015, 128). It is arguably possible that the same is true for the appropriateness of other behaviours, such as decision-making. There are likely also related individual differences. However, team-level decisions made in secret are likely quite universally perceived negatively. When members engage in such behaviour, they likely assume that it is accepted by all that decision-making belongs to those who participate in discussions and meetings. It is argued that it would likely be helpful to discuss, in the beginning of teamwork, what is acceptable in order to avoid negative emotions. Although, sometimes it could be harmful for the completion of the task if decisions are not allowed to be made without the acceptance of all team members. An example of such an instance is when a member does not respond to messages or participate in a meeting. Without decisions, it may not be possible to further the task at hand.

It could also be possible that noninclusive decision-making could be an attempt to manage uncertainty, which can be experienced due to some members' lack of behavioural commitment. If some members' future commitment, and consequently the satisfactory completion of future assignments, was uncertain, making decisions without those members could make the committed members feel more certain that work on the assignments progressed.

The expert stated that a team member can have spoken language proficiency issues. Table 11 illustrates the related solution, and that, in the student GVT, at least sometimes, Robert found it hard to understand Patricia's written communication, and perhaps spoken communication as well. This could be interpreted as either Robert's or Patricia's lack of language proficiency.

*“[...] [S]omebody is struggling in terms of speaking up, for example, that, they are not so proficient in spoken English, for example, if that is the language of collaboration [...].”* (Expert, 2.1)

The findings are aligned with previous research, which indicates that team members' language proficiencies can vary or be lacking which may cause issues (Peltokorpi & Clausen 2011). As the findings suggest, helping people to express themselves may increase information sharing, and communication clarity. This will also likely improve relationships. The following table 12 illustrates the synthesis of challenges and solutions in diverse communication.

Table 12 Challenges and solutions in diverse communication

Diverse communication: <b>Challenges</b>	Diverse communication: <i>Solutions</i>
Communication styles (B) <b>•Culturally different communication styles</b>	<i>•Realising there are cultural differences in communication styles</i>
Cultural and linguistic diversity (C) <b>•Communication risks in a multicultural team</b>	<i>•Being aware of and adapting to cultural and linguistic differences and risks •Recognising and appreciating cultural differences •Not interrupting the one talking •Carefully listening to one another</i>
Familiarity (C) <b>•Lack of familiarity</b>	<i>•Increasing familiarity through introductions, discussions and questions</i>
Power (B) <b>•Noninclusive decision-making</b>	<i>•Engaging in inclusive decision-making •Discussing the manner of decision-making</i>
Language proficiency (B) <b>•Lack of language proficiency</b>	<i>•Helping a person to express themselves</i>

Table 12 illustrates the challenges in diverse communication in the left column, and their respective solutions in the right column.





## 6.2 Virtual communication

### 6.2.1 Lack of cues, and communication technology

The expert stated that cues, such as body language gestures, are difficult to perceive in a virtual environment. This prevents the formation of a complete view of someone.

*“[...] [B]ody language gestures, [...] having eye contact, we have a tone [...]. And, [...] all these things, they're difficult to collect in the virtual environment. Even though we have videos, still, you will not have the whole outlook of the person. (Expert, 1.1)*

Jennifer stated that it was difficult to manage the virtual team. One reason for this was the geographical distance between members which led to a lack of cues in interactions with certain members. Exemplars of the lack of cues and the related solutions are illustrated in table 13.

*“[...] [T]his virtual team is [...] difficult to manage, [...] partly because of the geographical distance between us, so we do not have eye-to-eye contact with [certain] members [...].” (Jennifer, 1)*

The findings are aligned with previous research, which indicates that there is a lack of cues in a virtual environment, and cues are required for conveying information, which allows clear understanding (Marlow et al. 2017, 583; Hassett et al. 2018, 167; Schotter 2021, 346). The findings suggest that, if cues are lacking, GVT members ought to analyse one another's communication for a longer duration. It was interpreted that this aids in preventing misunderstandings since one can form a more accurate understanding of what others mean by something they say or gesture. The findings also suggest that having an optimistic outlook could help in gaining a more positive, attitudinally committed mindset in facing challenges related to virtual communication and collaboration such as members' geographical distribution and the resultant lack of cues. However, while having an optimistic outlook may positively affect the human mind, it does not address the limitations of technology such as the lack of cues. It is difficult to directly address the challenge lack of cues. Perhaps, in the future, more advanced technology could allow the transmission of more cues than is currently feasible. The following table 13 illustrates challenges and solutions related to lack of cues, and communication technology, which will be described after the table.

Table 13 Challenges and solutions related to lack of cues, and communication technology

<b>Lack of cues</b>
Communication / Virtual communication / Lack of cues (B)
“So, the nonverbal part of communication, which is really important, [...] vanishes or is reduced.” (Expert, 1.1); “[...] [I]n a virtual environment, [...] [w]e just see this head and few of the physical cues.” (Expert, 2)
<i>Extending the time of analysing one another’s communication</i>
Suspending judgment (IS)
“[...] [I]n virtual environment, the time spans [...] to [...] analyse each other's communication, should be a bit more extended. [...]. [...] [N]ot make [...] assumptions so quickly. Because [...] [w]e cannot see [...] body language [...], just [...] few of the [...] cues.” (Expert, 2)
<i>Having an optimistic outlook (in the face of challenges)</i>
Self-esteem (IS)
“[...] [E]ven though we [are] [...] in different countries with different backgrounds, [we] can find a common goal, an understanding [...]. [...] [W]e [...] believed we could make it!” (Robert, 1); “[...] [T]eam proved that the distance doesn't threaten our work [...].” (John, 1)
<b>Communication technology issues</b>
Communication / Virtual communication / Communication technology (B)
“[...] [T]echnology [...]in GVTs [...] reduces [...] positive [...]. [...] [E]nhances [...] many of the negativities [...] not visible in face-to-face communication.” (Expert, 5); “[...] [C]omputer often freezes [...], desperately struggling with the technology [...].” (Jennifer, 2)
<i>Being clear when communicating in virtual environments</i>
Message skills (IE)
“[C]ommunication [...], intercultural communication in particular, is the binding force when it comes to GVTs. Because, the more clear we are in virtual environments, in terms of our communication, the better it is for the overall team.” (Expert, 5).
<i>Recognising the differences between face-to-face and GVT communication</i>
Interaction involvement / Perceptiveness (IS)
“[...] [D]ifferences [...]. [...] [T]his extra layer of technology [...] in GVTs [...]. [...] [N]egativities [...] not visible in face-to-face communication. [...] [I]t's really important that these differences are realised at the team level and at the individual level” (Expert, 5).

Table 13 illustrates the challenges lack of cues, and communication technology issues, and their respective solutions. The latter challenge, and its solutions will be described as follows.

The expert stated that if people in a GVT collaborate while in different geographical locations, the influence of culture is not the main issue in people’s minds. Instead, as illustrated in table 13 along with the related solutions, communication via technology is



a pertinent challenge that may hinder communication. The table also illustrates that Jennifer stated one member struggled with frequent computer malfunctions.

*“[...] [I]f we are working in a GVT, [...] a Finnish participant of the GVT is in Finland. A person from Vietnam [...] is sitting in Vietnam [...], it becomes really difficult to even [...] [think] that your culture is too different than mine.” (Expert, 1.1)*

Mary stated that some members of the team had technical issues with group calls. However, this was not stated by others.

*“Our communication was primarily done again in Facebook and some of us had still problems with voice so we couldn’t have group calls again.” (Mary, 2)*

A general solution applied by the team was using complementary media in order to overcome the shortcomings of technology. For instance, when a virtual meeting medium was not functioning properly, or it was difficult to partake in a meeting, other media were used.

The findings are aligned with previous research, which indicates that electronic communication may hinder team communication (Gilson et al. 2015, 1324; McLarnon et al. 2019, 209; Abarca et al. 2020, 168934). The researcher interpreted that intercultural communication described by the expert as the “binding force” refers to communication’s role in enabling GVT collaboration. Since technology-mediated communication can have disadvantages compared to face-to-face communication, it is important for members to be clear in their communication. It is also important that the differences between these types of communication are recognised. Furthermore, clarity in intercultural communication is likely more difficult to achieve due to the members’ different cultural backgrounds which may lead to different interpretations of what is being said. The researcher adds that, in spoken communication, pronunciation issues and different accents could hinder the clarity of communication. However using complementary media, for instance, switching to a text-based medium, could help to overcome some of the communication clarity issues, such as those related to pronunciation and accent.

### **6.2.2 Information sharing in virtual communication**

The team was often lacking in their information sharing. Exemplars of this and the related solutions are illustrated in table 14. The members also applied the general solution using

complementary media, which allowed them to improve their information sharing and collaboration.

*“We [...] have not talked to each other for a couple of days.”* (Patricia, 1)

Furthermore, one statement made by Mary in the individual reflection on assignment 4 was interpreted as being both the challenge lack of information sharing and the solution sharing information.

*“[...] [W]hen the course started, I spoke with my teammates that I will be away [...] and I will participate more with the first three cases.”* (Mary, 4)

The statement reflected the challenge lack of information sharing since Mary informed others of Mary’s oncoming absence only several weeks before the absence, and apparently not again after that. Thus, the others had apparently forgotten about the information Mary had shared.

*“Mary, our team leader mind you, did not chime in even once, during the entire time.”* (Robert, 4)

*“Unfortunately, Mary decided not to participate in case 4, so once again, 4 members had to shoulder the responsibilities.”* (Patricia, 4)

However, despite the apparent insufficiency of the frequency of information sharing in this instance, Mary still had shared information. Thus, Mary’s statement was also interpreted as being the solution sharing information.

The finding that the GVT members often lacked information sharing is aligned with previous research, which indicates that distance between people, as in a virtual team, reduces the likelihood of information sharing (Hinds & Weisband 2003, 27). On the other hand, the members also stated that they did, in fact, often share information. Apparently, their information sharing issues were intermittent. The solution that most directly addressed the issues was simply sharing information. Another solution was communicating frequently, which may be helpful if the information shared is relevant to the completion of the tasks. However, a high communication frequency may also be harmful if it entails irrelevant communication (Marlow et al. 2017). The solution using a different medium to share information was apparently helpful since the information shared via the medium led to the team’s adopting the plan proposed. Although, it could be argued that propositions do not constitute information per se, it was nonetheless interpreted that sharing one’s plan with others constitutes information sharing. Since the



solution involved suggesting dates for meetings to share information, the solution was at least indirectly helpful in potentially increasing further information sharing. Finally, guiding, and answering questions was interpreted as likely involving information sharing since the solution suggests that one has information others do not have. The following table 14 illustrates the challenge and solutions related to information sharing.

Table 14 Challenge and solutions related to information sharing

<b>Lack of information sharing</b>
Communication / Virtual communication / Information sharing (B)
“Patricia and John keep quiet to the most part, not adding anything to our Facebook discussions or chat [...]” (Robert, 2); “[...] [L]ack of discussions and idea sharing [...]. [...] [M]essages were not replied [...]” (Jennifer, 3)
<i>Communicating frequently</i>
Message skills / Basic speech communication skills (IE)
“The FB-chat run hot [...]” (Robert, 1); “[...] [O]ur [...] power is [...] instant communication day and night [...]” (John, 1)
<i>Sharing information</i>
Message skills / Basic speech communication skills (IE)
“[...] [W]e regularly share our findings and figures [...]” (Patricia, 1); “[...] [S]hare all needed info [...]. I post[ed] [...] information [...]” (Jennifer, 1); “[W]e could share with the other members.” (Patricia, 3)
<i>Guiding, and answering questions</i>
Message skills / Basic speech communication skills (IE)
“[...] Jennifer [...] was voted [...] to guide and clear up queries from others.” (Patricia, 1)
<i>Using a different medium to share information</i>
Behavioural flexibility (IE)
“Taking into account previous lack of [...] idea sharing [...], I change the strategy and used email to propose [...] topics [...] and suggest dates for meetings to share obtained knowledge and agree on further actions [...]. [...] [W]e adopted the plan [...]” (Jennifer, 3)

Table 14 illustrates the challenge lack of information sharing and its solutions. These, and the previously described challenges lack of cues, and communication technology issues, and their respective solutions, are synthesised in the following table 15.

Table 15 Challenges and solutions in virtual communication

Virtual communication: <b>Challenges</b>	Virtual communication: <i>Solutions</i>
Lack of cues (B) • <b>Lack of cues</b>	<ul style="list-style-type: none"> <li>•<i>Extending the time of analysing one another's communication</i></li> <li>•<i>Having an optimistic outlook (in the face of challenges)</i></li> </ul>
Communication technology (B) • <b>Communication technology issues</b>	<ul style="list-style-type: none"> <li>•<i>Being clear when communicating in virtual environments</i></li> <li>•<i>Recognising the differences between face-to-face and GVT communication</i></li> </ul>
Information sharing (B) • <b>Lack of information sharing</b>	<ul style="list-style-type: none"> <li>•<i>Communicating frequently</i></li> <li>•<i>Sharing information</i></li> <li>•<i>Guiding, and answering questions</i></li> <li>•<i>Using a different medium to share information</i></li> </ul>

Table 15 illustrates the challenges in virtual communication in the left column, and their respective solutions in the right column.

## 6.3 Diverse collaboration

### 6.3.1 Individual diversity

As illustrated in table 16, the expert stated that people's skill levels in using technology and working in a virtual environment differ. Some of the team members expressed that they lacked technological skills. Some considered the differences between individual characteristics to be the cause of some problems, such as the lack of proper communication. The team members also had individually different task quality goals. Jennifer and John had higher ambitions for the quality of work compared to Robert. Jennifer stated that it is not efficient to distribute responsibilities without taking individual strengths and desires into account. The solutions illustrated in the table apply to all of the challenges related to individual diversity. In addition to those solutions, the team also applied various general solutions to the challenges related to individual diversity. The solutions pertained to, among others, appreciating or supporting others, and accepting the results one gets.



It was interpreted that the members had disagreements concerning task quality goals, what the quality of work ought to be like. Thus, the team faced task conflict (Kankanhalli et al. 2006, 240; Kuriakose et al. 2018, 463). It was interpreted that both the attitude towards individuals' skill levels and the skill levels themselves can affect communication and collaboration. The same could be said concerning individual characteristics, strengths and desires. Previous research indicates that attitudes, perceptions, and skills affect the use of communication technology in virtual teams (Rhoads 2010, 115, 118; Laitinen & Valo 2018, 12–13, 19). However, having a positive attitude, and taking advantage of people's different capabilities likely improve communication and collaboration, as well as relationships. The following table 16 illustrates challenges and solutions related to individual diversity.

Table 16 Challenges and solutions related to individual diversity

<p><b>Individually different skill levels</b> Collaboration / Diverse collaboration / Individual diversity (C)</p> <p>“[...] [N]ot everybody is an expert in terms of utilising technology or working in a virtual environment.” (Expert, 2); “I am terrible at technology.” (Patricia, 1); “[...] [A]dditional difficulties with export of the video [...], took me more than an hour to fix.” (Jennifer, 3)</p>
<p><b>Individually diverse characteristics</b> Collaboration / Diverse collaboration / Individual diversity (C)</p> <p>“[...] [A]fter that everything went in the wrong way. [...]. [...] [G]iven the different mentalities, age, qualification[s] [...], inevitable.” (John, 2); “[...] [T]eammates do not communicate properly, [...] it depends much on personal norms and values [...].” (Jennifer, 3)</p>
<p><b>Individually different task quality goals</b> Collaboration / Diverse collaboration / Individual diversity (C)</p> <p>“For Jennifer, the ‘content’ was lacking [...].” (Robert, 2); “[...] [N]ot everyone [...] is cheering for qualitative achievement goals and it's hard for active participants [...].” (John, 2); “[...] [O]thers do not accomplish their part [...].” (Jennifer, 3)</p>
<p><b>Not taking individual strengths and desires into account</b> Collaboration / Diverse collaboration / Individual diversity (C)</p> <p>“[...] I realized that every person actually is good at something specific and it is not efficient for a team to simply divide the task into equal parts [...]. [...] [I]f you give people the task they enjoy, they will do their best.” (Jennifer, 4)</p>
<p><i>Being understanding towards others in terms of their skill levels</i> Open-mindedness (IS)</p> <p>“[...] [B]e open to the others in terms of their skill level. Give them the space.” (Expert, 2).</p>
<p><i>Sharing work based on individual strengths and desires</i> Relational cultivation (IE)</p> <p>“[...] [E]very person actually is good at something specific [...]. [...] I noticed that, when people do what they think they are good at, they can do this work better than others would do. [...] [I]f you give people the task they enjoy, they will do their best.” (Jennifer, 4)</p>

Table 16 illustrates the challenges individually different skill levels, individually diverse characteristics, individually different task quality goals, and not taking individual strengths and desires into account, as well as two solutions, which apply to all four challenges.





### 6.3.2 Assumptions and generalisations

The expert emphasised the significance of ‘thin ice’, assuming without knowing, as the basis of intercultural communication challenges. Furthermore, as illustrated in table 17, along with related solutions, making assumptions includes assumptions based on cultural stereotypes.

*“[...] [T]hin ice [...] explains the basis of all the challenges, which intercultural communication poses. [...] [T]hin ice [...] means that I, coming from another culture, think that I know what you're talking about. [W]hen I assume [...] instead of actually knowing [...], then it causes big problems in terms of how I interact with you.” (Expert, 1)*

Jennifer described how assumptions concerning the behaviour of culturally different people may not be correct. In addition, there can be individual differences, which influence behaviour.

*“I expected different behaviour from our [nationality] member, as we had defined that common [nationality] culture implies [...] but in reality behavior of [nationality] people differs very much depending on people’s background and motivation.” (Jennifer, 4)*

These findings are aligned with previous research, indicates the negative influence of stereotypes, including inaccurate expectations and serious misunderstandings (Vuckovic 2008, 50; Stahl & Maznevski 2021). It should be noted that, the interviewee seemed to emphasise the importance of the challenge assumptions, although this did not seem to be emphasised in literature on GVT communication. Perhaps, in the literature, assumptions is considered to be merely one challenge stemming from cultural diversity, which is of more interest due to its potentially being a general source of multiple challenges. The researcher interpreted that assumptions could be characterised as beliefs based on inaccurate or overly generalised information such as stereotypes. In order to know instead of believing, GVT members ought not to make assumptions, and instead allocate time to reflect on what they believe vs. know. The members could also increase their cultural knowledge, for instance, by discussing assumptions.

The researcher interpreted that one basis for the challenge assumptions can be a lack of cues, which leads to a lack of information, and assumptions without informational basis can cause interaction problems. Therefore, it was interpreted that extending the time of analysing one another’s communication aids not only in the challenge lack of cues but also in the challenge assumptions since one can have more time to gain information that

can aid one in ascertaining the accuracy of one's assumptions. When one's assumptions are more accurate, there are less interaction problems. This is aligned with previous research, which indicates that gaining a larger amount of detailed information or having more opportunities to gain information can increase understanding (Marlow et al. 2017, 583; Eisenberg et al. 2021, 5). The following table 17 illustrates the challenge and solutions related to assumptions and generalisations.

Table 17 Challenge and solutions related to assumptions and generalisations

<b>Assumptions</b>
Collaboration / Diverse collaboration / Assumptions and generalisations (C)
“[...] [S]tereotypes [...] basis of your communication [...] puts you on a thin ice [...].” (Expert, 1); “[...] [A] moment [...] [virtually] working together, [...] not [...] enough time to process [...] what [...] person meant [...] heightens [...] assumptions [...].” (Expert, 1.1)
<i>Discussing assumptions</i>
Message skills / Basic speech communication skills (IE)
“[...] [I]t's really important that [...] assumptions [...] are brought up openly. [...] [T]alk about them [...].” (Expert, 1.2)
<i>Extending the time of analysing one another's communication</i>
Suspending judgment (IS)
“[...] [I]n virtual environment, the time spans [...] to [...] analyse each other's communication, should be a bit more extended. [...]. [...] [N]ot make [...] assumptions so quickly. Because [...] [w]e cannot see [...] body language [...], just [...] few of the [...] cues.” (Expert, 2)
<i>Not making assumptions</i>
Suspending judgment (IS)
“[...] [D]on't make too many assumptions.” (Expert, 4)
<i>Being aware of the possible inaccuracy of one's assumptions</i>
Cultural understanding (IA)
“[...] [B]eing aware of walking on the thin ice.” (Expert, 4); “[...] [R]ealize that we often use stereotypes, whereas people are very different within one nation [...].” (Jennifer, 3)

Table 17 illustrates the challenge assumptions, and four solutions to it.

### 6.3.3 Cultural diversity

The expert expressed that members of different cultures can have different interpretations of matters which is why cultural diversity can contribute to either problems or solutions.



*“[...] [B]eing from a different culture, [...] look at the problems differently, [...] might have solutions, [...] or [...] bring some problems [...].” (Expert, 6)*

Due to culturally different interpretations, Patricia had to carefully listen to others. While having to listen was interpreted to indicate a challenge, listening was interpreted to be a solution, as illustrated in table 18 along with other solutions. As another challenge, Patricia expressed difficulties in getting used to culturally different working styles, which is also illustrated in table 18, along with the related solution.

The finding that diversity, including cultural diversity, may be a source of challenges or positive effects is aligned with previous research (Griffith & Harvey 2001, 95; Cohen & Gibson 2003, 8; Garrison et al. 2010, 27–41; Marlow et al. 2017, 579–580; Abarca et al. 2020, 168935; Velez-Calle et al. 2020, 283; Stahl & Maznevski 2021). Furthermore, the negative influences of cultural diversity on GVTs includes a possibility for misunderstandings (Velez-Calle et al. 2020, 283). It was interpreted that without carefully listening to others, cultural differences between interpretations may more easily lead to misunderstandings. If one does not understand what others are saying, one may not be able to take their opinions into account which could in turn lead to the others' becoming offended.

Furthermore, in order to improve intercultural collaboration, one could strive to be open towards cultural differences in order to better be able to benefit from culturally different interpretations which could lead to new solutions in intercultural collaboration. Being open to differences and behaviourally flexible could allow one to better adapt to, or even adopt, a culturally different working style which could have benefits, such as improved efficiency. The researcher argues that adapting to, or adopting, other culturally different matters could lead to other benefits, which could be related to tasks or relationships, or to communication or collaboration. For instance, one could, perhaps situationally, assume a more indirect communication style in order to improve communication not only with culturally different people using the indirect style but also with people using a more direct style. For instance, if one is a subordinate addressing a person in a position of authority, said person may expect that their position permits them a more direct style yet their subordinates ought to be more indirect when addressing the person. One would probably better learn a new communication style in interaction with people using the style. The following table 18 illustrates the challenges and solutions related to cultural diversity.

Table 18 Challenges and solutions related to cultural diversity

<b>Culturally different interpretations</b> Collaboration / Diverse collaboration / Cultural diversity (C)
“[...] [C]ultural diversification as each member differently perceives all questions and issues, in which I have to take time to listen carefully to others’ opinions [...]” (Patricia, 1)
<i>Looking past intercultural differences and having intercultural communication skills</i> Open-mindedness (IS)
“[H]aving [...] sensitivity [...], skills of intercultural communication [...] helps [...] to find innovative solutions. [...] [O]nly [...] possible if [...] look past the intercultural differences and develop the [...] skills [...] [to be] [...] comfort[able] to work with each other.” (Expert, 6)
<i>Gaining insight into cultural diversity by participating in a global virtual team</i> Cultural understanding (IA)
“Participating in a global virtual team has provided me with a deeper insight into cultural diversification [...]” (Patricia, 1)
<i>Carefully listening to culturally different team members’ opinions</i> Suspending judgment (IS)
“[...] [C]ultural diversification as each member differently perceives all questions and issues, in which I have to take time to listen carefully to others’ opinions, rather than making my own decision conservatively.” (Patricia, 1)
<b>Culturally different working styles</b> Collaboration / Diverse collaboration / Cultural diversity (C)
“[...] [M]y team members who come from [country A], [country B] [...]. I was not used to their working style at first [...]” (Patricia, 3)
<i>Adapting to, or adopting, a culturally different working style</i> Behavioural flexibility (IE)
“I was not used to their working style at first, but now I even practice and remind myself to do so to save time and energy.” (Patricia, 3)

As illustrated in table 18, the challenges culturally different interpretations, and culturally different working styles have different solutions.

#### 6.3.4 Emotions, and conflicts

As illustrated in table 19, along with the related solution, the expert stated that a person, who belongs to a disadvantaged group such as one related to gender or ethnicity, will always be slightly scared in a GVT. The finding that a member of a disadvantaged group



can be scared in a GVT is aligned with previous research, which indicates that individuals can feel anxiety and fear in interactions with different or unfamiliar people (Aneas & Sandín 2009; Glikson & Erez 2020). Making a scared person feel relaxed, included and respected as proposed by the expert is likely an effective way that other GVT members can apply ICC to the challenge. It could also be helpful if the scared person themselves strived to become acquainted with the other members in order to relieve the anxiety and fear stemming from unfamiliarity. The following table 19 illustrates challenges and solutions related to emotions, and conflicts, which will be described after the table.

Table 19 Challenges and solutions related to emotions, and conflicts

<p><b>Being scared due to belonging to a disadvantaged group</b> Collaboration / Diverse collaboration / Emotions (A)</p>
<p>“[...] [A] person who belongs to that particular [disadvantaged] group [...] will always be a bit scared in the GVT” (Expert, 2.1)</p>
<p><i>Making a scared person feel relaxed, included and respected</i> Identity management (IE)</p>
<p>“The others, their job is then to make it possible for that particular person to feel relaxed. [...] And, tell them that [...] here we are together, and we respect you equally, we respect your creativity and the skills” (Expert, 2.1).</p>
<p><b>Conflicts due to different ways of working</b> Collaboration / Diverse collaboration / Conflicts (A)</p>
<p>“Any objections should have been raised during the previous team meeting [...]. [...] [W]e did not expect our sudden ideas tortured everyone else’s effort.” (Patricia, 1); “[...] [I]f we make deadlines, then they should respect that.” (Mary, 3)</p>
<p><i>Raising objections before, instead of after, a decision is made</i> Interaction management (IE)</p>
<p>“Any objections should have been raised during the previous team meeting, not after the decision had been made [...].” (Patricia, 1)</p>
<p><i>Respecting different ways of thinking</i> Open-mindedness (IS)</p>
<p>“[...] [W]e [...] do not forget to respect others’ ways of thinking.” (Patricia, 1)</p>
<p><i>Respecting others’ time by focusing, contributing, and being open to suggestions, criticism</i> Relational cultivation (IE)</p>
<p>“During a team meeting and discussion, we are highly aware that we are using the time of each other, so we try to focus, contribute our ideas and always be open to suggestions, welcome criticism sometimes as well.” (Patricia, 1)</p>

Table 19 illustrates the challenge related to emotions, being scared due to belonging to a disadvantaged group, and its solution. The table also illustrates the challenge conflicts due to different ways of working, and its solutions which will be described as follows.

The team faced conflicts due to different ways of working. This was related to the previously described challenge related to individual diversity, individually different task quality goals. Apparently, Jennifer wished for relatively significant behavioural commitment towards the assignments to be demonstrated not only by Jennifer but others as well. Jennifer seemed to be committed to both quality and quantity of work. However, since not all others were quite as committed, this led to conflicts. In addition, Jennifer was apparently committed to work in Jennifer's own way to the extent that Jennifer engaged in non-inclusive decision-making, and disregarded the deadline in assignment 2. However, Jennifer's way was not the only cause of conflicts related to different ways of working. Exemplars of this and the related solutions are illustrated in table 19. In addition to those solutions, the team also applied the general solution having an optimistic outlook.

*“[...]Jennifer [...] is expecting [...] groundbreaking research [...]. This translates into [...] unrealistic workloads [...]. [...]. When I tried to explain [...], I was met with unsympathetic responses. I tried to explain that [...] we would not have enough time [...]. [Jennifer] would have none of that and decided it was best to disregard the deadline and finish it [Jennifer's] way.” (Robert, 2)*

It was interpreted that the GVT members' experienced disagreements in the way their assignments ought to be completed. Thus, they faced process conflict (Kuriakose et al. 2018, 463). The process conflict in turn led to interpersonal issues which is why they also faced relationship conflict (Kankanhalli et al. 2006, 239–240; Papenhausen & Parayitam 2015; Kuriakose et al. 2018, 463; Johnson & Avolio 2019, 848). Previous research suggests that cultural and linguistic differences in working practises can lead to conflicts (Au & Marks 2012). However, the findings did not clearly indicate that the GVT members' working practise differences were related to culture or language. Thus, they could also have been individual differences. Nonetheless, some of the GVT members proposed or applied solutions involving taking the timing of raising objections into account, respecting others' way of thinking as well as the time spent in collaboration with them, politeness, and positive feedback. These solutions can arguably aid in the prevention and alleviation of conflicts. However, the solutions do not directly address differences in working styles. The researcher suggests that one solution could be that members discussed their preferred ways of working, and assessed the compatibility of these ways. They could also attempt to decide on commonly accepted ways and norms of working.



### **6.3.5 *Trust and cohesion, and unique team context***

The expert described how there are cultural differences between the initial levels of trust. While the expert did not directly state a solution to the challenge, the researcher interpreted there to be three solutions that could be applied to the challenge. The challenge and the solutions are illustrated in table 20.

It was interpreted that the culturally different initial levels of trust could be a challenge since this could create dissatisfaction. For instance, member A, who assumes there to be initial mutual trust, can be dissatisfied if member B is unwilling to agree A's undertaking some task due to B's lack of trust in A. This interpretation is aligned with previous research, which indicates that a mismatch between expectations and what actually happens may hinder team identification and satisfaction (Johnson & Avolio 2019). Furthermore, member diversity can be characterised as a related challenge since previous research indicates that member diversity may hinder mutual trust and identification with the team (Cohen & Gibson 2003, 9; Au & Marks 2012).

The solutions to the different levels of trust are arguably reflective of improving relationships, and consequently trust. To wit, previous research indicates that relational-oriented communication, becoming acquainted with others, and increasing mutual understanding may improve trust formation (Davis et al. 2009, 78–79; Marlow et al. 2017, 581). The following table 20 illustrates challenges and solutions related to trust and cohesion, and unique team context, which will be described after the table.

Table 20 Challenges and solutions related to trust and cohesion, and unique team context

<p><b>Culturally different initial levels of trust</b> Collaboration / Diverse collaboration / Trust and cohesion (B)</p>
<p>“[...] [I]n Finland [...], the level of trust is really high in the start. [...] In the US culture, it's more like, first you have to prove yourself, and then I will trust you.” (Expert, 2.1)</p>
<p><i>Forming personal connections through communication</i> Relational cultivation (IE)</p>
<p>“[...] [G]et to know [...] people [...] from culture X. [W]hat do they know about your culture? It will provide [...] something [to] connect [with].” (Expert, 1); “[...] [B]ring all those things and talk about them, so that people [...] [connect] [...] at a personal level.” (Expert, 1.2)</p>
<p><i>Extending the time of analysing one another's communication</i> Suspending judgment (IS)</p>
<p>“[...] [W]e give others the benefit of the doubt. We take our time to make any kind of assumptions.” (Expert, 2)</p>
<p><i>Looking past intercultural differences and having intercultural communication skills</i> Open-mindedness (IS)</p>
<p>“[H]aving the sensitivity and [...] skills of intercultural communication [...] help people from different societies to gel with each other [...]. [...] [L]ook past the intercultural differences and develop the [...] skills [...] [to be] [...] comfort[able] to work with each other.” (Expert, 6)</p>
<p><b>Unique team context</b> Collaboration / Diverse collaboration / Unique team context (C)</p>
<p>“[...] [R]eally context dependent what the major [...] and the minor challenges are.” (Expert, 2.1); “[...] [T]he skills [...] to overcome the cultural challenges would be [...] [needed] at a lesser level in a team [with] less cultural distance among the members.” (Expert, 3)</p>
<p><i>Realising what the extent of cultural distance among GVT members is</i> Cultural understanding (IA)</p>
<p>“[...] [T]he starting point would be the realisation of [...] how much cultural distance exists among the members of a particular virtual team. That would set the path for defining or utilising the skills to overcome the challenges of intercultural communication” (Expert, 3).</p>

Table 20 illustrates the challenges culturally different initial levels of trust, and unique team context, and their solutions. Unique team context will be described as follows.

The expert stated that the challenges, and the magnitudes thereof, faced by GVTs differ based on the given GVT's context. Furthermore, the challenges determine the solutions and skills required. Some of the exemplars, and the solution to the challenge unique team context are illustrated in table 20.





*“[...] [I]f there is the GVT A, what would be their intercultural challenges? What would be [those] of GVT B [...]? And, only that can then reveal what kind of solutions we are looking for, what kind of skills are needed to solve the problems [...] from context A versus context B.”*  
(Expert, 3)

The finding that the team context influences the challenges faced is aligned with previous research (Velez-Calle et al. 2020). It was interpreted that a unique team context may be a challenge since the variation of challenges between GVTs makes it difficult to have a prepared set of suitable skills or solutions to the challenges. The proposed solution involved having knowledge of the extent of cultural diversity in the GVT. However, cultural diversity may not be the greatest challenge in a GVT for millennials (Velez-Calle et al. 2020). Nonetheless, the researcher argues that cultural diversity in a GVT may in fact be an important challenge through its influence on multiple aspects of communication and collaboration. For instance, as described in relation to conflicts, members may have different ways of working. This could also be characterised as a coordination challenge stemming from individual diversity. However, even if this characterisation was largely correct, the work habits could nonetheless be influenced by cultural diversity. It has been argued in previous research that people do not always recognise cultural differences (Stahl et al. 2010, 693; Stahl & Maznevski 2021, 6). Therefore, awareness and understanding of cultural differences is likely important in many different GVTs. The following table 21 illustrates the synthesis of challenges and solutions in diverse collaboration.

Table 21 Challenges and solutions in diverse collaboration

Diverse collaboration: <b>Challenges</b>	Diverse collaboration: <i>Solutions</i>
Individual diversity (C) • <b>Individually different skill levels</b> • <b>Individually diverse characteristics</b> • <b>Individually different task quality goals</b> • <b>Not taking individual strengths and desires into account</b>	• <i>Being understanding towards others in terms of their skill levels</i> • <i>Sharing work based on individual strengths and desires</i>
Assumptions and generalisations (C) • <b>Assumptions</b>	• <i>Discussing assumptions</i> • <i>Extending the time of analysing one another's communication</i> • <i>Not making assumptions</i> • <i>Being aware of the possible inaccuracy of one's assumptions</i>
Cultural diversity (C) • <b>Culturally different interpretations</b>	• <i>Looking past intercultural differences and having intercultural communication skills</i> • <i>Gaining insight into cultural diversity by participating in a global virtual team</i> • <i>Carefully listening to culturally different team members' opinions</i>
• <b>Culturally different working styles</b>	• <i>Adapting to, or adopting, a culturally different working style</i>
Emotions (A) • <b>Being scared due to belonging to a disadvantaged group</b>	• <i>Making a scared person feel relaxed, included and respected</i>
Conflicts (A) • <b>Conflicts due to different ways of working</b>	• <i>Raising objections before, instead of after, a decision is made</i> • <i>Respecting different ways of thinking</i> • <i>Respecting others' time by focusing, contributing, and being open to suggestions, criticism</i>
Trust and cohesion (B) • <b>Culturally different initial levels of trust</b>	• <i>Forming personal connections through communication</i> • <i>Extending the time of analysing one another's communication</i> • <i>Looking past intercultural differences and having intercultural communication skills</i>
Unique team context (C) • <b>Unique team context</b>	• <i>Realising what the extent of cultural distance among GVT members is</i>



Table 21 illustrates the challenges in diverse collaboration in the left column, and their respective solutions in the right column.

## 6.4 Virtual collaboration

### 6.4.1 Emotions

The team experienced various negative emotions. These included sadness, hopelessness, nervousness, stress, anxiety, frustration, dissatisfaction, suspicion, as well as feeling offended, upset or devastated. For instance, Patricia stated that some members' lack of behavioural commitment led to the other members' having to deal with a large amount of work, which in turn led to negative emotion, and Patricia's thought that the team structure would possibly have to be changed. In this context, changing the team structure was interpreted as possibly referring to removing members from the team.

*"[...] [W]e sadly think that we have to find out whether they still want to contribute to our group or not, then change the team structure. [...] [W]ithout their help and participation, we feel [...] a little bit depressed handling such a huge amount of work and information."* (Patricia, 2)

The members also expressed tiredness and lack of attitudinal commitment. Although these are arguably not emotions, they were considered to be related to emotions. Exemplars of the challenges and the related solutions are illustrated in table 22.

*"[...] [N]o inner motivation [...] because everyone is so busy with outside work. [...] [F]eel drained."* (Robert, 3)

Many of the negative emotions experienced by the GVT members were apparently due to some members' lack of behavioural commitment. Other reasons included the lack of time, and a generally difficult situation. The finding that negative emotions are challenges is aligned with previous research, which suggests that managing emotions and emotionality is a major challenge regarding virtual teams (Hassett et al. 2018, 167). Furthermore, it was interpreted that the negative emotions, and tiredness and lack of attitudinal commitment often indicated that the team experienced conflict caused by interpersonal issues. Thus, they experienced relationship conflict (Kankanhalli et al. 2006, 239–240; Kuriakose et al. 2018, 463; Johnson & Avolio 2019, 848).

The team's solutions were interpreted to suggest that at least some of the members were able to manage their emotions, and maintain an optimistic outlook and attitudinal commitment, as well as support and encourage others. In addition, while the team often experienced negative emotions, they also experienced positive ones, and strived to create a positive atmosphere, which however, was apparently more difficult to achieve after assignment 1. This may have been due to the later assignments' being more difficult, which was compounded by some members' lack of behavioural commitment which led to the behaviourally committed members' workload to become uncomfortably high, especially since the team completely lacked one member starting from assignment 1. The following table 22 illustrates challenges and solutions related to emotions.



Table 22 Challenges and solutions related to emotions

<b>Negative emotions</b> Collaboration / Virtual collaboration / Emotions (A)
“[...] [N]ervous concerning a lack of time.” (John, 1); “[...] [W]e felt left and offended because the rest [...] ignored the work. [...]” (Jennifer, 1); “[...] [V]ery frustrated with the situation [...]” (Robert, 2); “I suspect Jennifer [...] maneuvers behind our backs.” (Robert, 3)
<b>Tiredness and lack of attitudinal commitment</b> Collaboration / Virtual collaboration / Emotions (A)
“All of us are tired [...]” (John, 1); “[...] [W]ithout their help and participation, we feel rather unmotivated [...]” (Patricia, 2); “[...] [N]ot motivated enough [...]. [...] [T]heir inappropriate behavior is having a severe negative impact on everyone [...]” (Jennifer, 2)
<i>Relieving tension through jokes and cheering others up</i> category Relational cultivation (IE)
“[...] [C]annot be too stressed and serious [...]” (Robert, 1); “[...] [M]y responsibility [...] to ease the awkward atmosphere and cheer everyone up.” (Patricia, 1); “[...] [A]ll [...] joke for the healthy atmosphere [...]. [...] I try to relieve the tension [...]”. (John, 1)
<i>Having positive emotion and attitudinal commitment towards working</i> category Self-esteem (IS)
“[...] [M]embers feel the excitement and the desire to [work] [...]. [...] I don't want anything to change, only [...] to rejoice the work opportunities [...]” (John, 1)
<i>Having an optimistic outlook (despite negative emotions)</i> category Self-esteem (IS)
“[...] [W]e feel rather unmotivated and a little bit depressed [...]. However, in this situation, our team got strengthened more than ever. (Patricia, 2); “[...] I felt upset and devastated again, but I did not give up [...] as I still see room for improvement [...]” (Jennifer, 2)
<i>Maintaining one's attitudinal commitment despite negative emotions</i> Self-esteem (IS)
“Forcing myself to ignore the negative emotions and [...] nonexistent assistance [...]” (Jennifer, 2); “[...] I had to keep myself motivated despite feeling stressed and anxious.” (Jennifer, 4)
<i>Encouraging others to attitudinally and behaviourally commit (despite negative emotions)</i> Relational cultivation (IE)
“[...] [N]onexistent assistance [...]. [...] [D]espite frustration caused by their irresponsibility, I kept trying to motivate them.” (Jennifer, 2); “From this teamwork I learned how to encourage team members to participate in spite of their obvious reluctance.” (Jennifer 3)

Table 22 illustrates the challenges negative emotions, and tiredness and lack of attitudinal commitment, and their solutions.

### 6.4.2 Coordination

The lack of some members' behavioural commitment was an oft-cited challenge. Apparently, X did not participate at all after the introductory assignment.

*“[...] [N]one of the deadlines were met due to the difficulties in the execution and absence of individual team members. [...] [The leader] spends all the time on [...] personal business activities and family.”*  
(Jennifer, 2)

Furthermore, while some members did not always fully behaviourally commit to the assignments, Mary's, the official leader's, lack of behavioural commitment was pronounced, and nearly non-existent during assignment 4. Thus, the team also faced a leadership issue. In addition, there was apparently an issue with some members' lack of proactivity due to reliance on leader's initiative. Furthermore, as was previously described in relation to emotions in virtual collaboration, the lack of commitment also led to relationship conflict. Exemplars of the challenge and the related solutions are illustrated in table 23. In addition to those solutions, the team also applied general solutions, including using complementary media, encouraging and supporting others, as well as appreciating others.

*“[...] [D]isappointed by the neglect and not a sound from Mary and X [...].”* (Patricia, 1)

While the reasons for member X's lack of behavioural commitment are not known, due to Jennifer's investigating the reasons for Mary's lack of commitment, it was revealed that Mary was more committed to personal activities outside the teamwork. In student collaboration settings, it is difficult to enforce mandatory participation in meetings since the students know that the completion of team assignments is often possible with a limited number of meetings or even without them. Moreover, there may not be severe penalties for missing meetings or for only minimally behaviourally committing to team assignments. If the penalties are minimal or non-existent, it could be surmised that the likelihood of freeriding is increased. This can be contrasted with work settings where employees may lose their livelihood if they lack behavioural commitment.

Since the lack of behavioural commitment could have been influenced more by the student team setting than the virtual environment, it was not clear that the lack of commitment was mostly related to virtuality. However, the lack of commitment could have stemmed from the ease of engaging in freeriding in a virtual team due to not having to face other members' dissatisfaction in a future physical meeting, or anywhere if the



members are geographically distributed. In comparison, in a face-to-face student team setting, one may have to physically face one's peers in the future which could keep some of one's freeriding tendencies in control. In any case, it was interpreted that the ease of freeriding due to virtuality contributed to some members' lack of behavioural commitment.

The solution involving Jennifer's assuming leadership was apparently accepted and appreciated by the team. Since the official leader did not express disapproval of this, the solution was interpreted as being viable to the leadership issue. However, disapproval could have led to conflict. The researcher suggests that, in a similar instance, where the official leader is passive, team members could also discuss the leadership issue in order to determine whether the official leader ought to be more officially and clearly changed to a new one if the leader is busy with matters outside teamwork. The solution involving investigating the reason for the leader's absence was likely helpful in reducing the uncertainty felt by others concerning the absence. Reducing uncertainty can arguably relieve anxiety.

The solution involving starting an interaction is likely helpful when members lack behavioural commitment or proactivity. Regarding the members' lack of proactivity due to reliance on leader's initiative, the researcher suggests that team members could discuss whether it would be possible for the members to be more proactive and self-reliant. However, if they were, this could pose the risk that the team's efforts would be less coordinated, especially if other members were not consulted before the members decided to proactively engage in some activity or task. Furthermore, excessive proactivity could make others think that the members are making decisions behind others' backs which, in fact, was previously described as the challenge related to power, noninclusive decision-making. Nevertheless, it would likely be beneficial to determine the appropriate balance between reliance on leadership and member proactivity. The solution involving not making assumptions can arguably be helpful in managing one's emotions since one can avoid negative, possibly inaccurate thoughts concerning the association between others' lack of behavioural commitment and negative thoughts towards one. The following table 23 illustrates the coordination challenge lack of behavioural commitment, and its solutions.

Table 23 Coordination challenge lack of behavioural commitment, and its solutions

<b>Lack of behavioural commitment</b>
Collaboration / Virtual collaboration / Coordination (B)
“[...] [L]eader Mary [...] zero initiative [...]” (Robert, 2); “[...] Mary is not doing anything, John hops on and off [...]” (Robert, 3); “My participation [...] nearly zero [...]” (Mary, 4); “[...] [I]f people wait for you to lead [...], will not start any group process [...]” (Jennifer, 4)
<i>Assuming unofficial leadership by taking initiatives and guiding</i>
Behavioural flexibility (IE)
“[...] [T]his virtual team is [...] difficult to manage. [...] [...] I had planned [...]” (Jennifer, 1); “[...] Jennifer is taking the initiative required from a team leader [...]” (Robert, 2); “[...] Jennifer has totally taken the lead [...], patiently guides us [...]” (Patricia, 2)
<i>Investigating through discussion why a member lacks behavioural commitment</i>
Message skills / Oral message evaluation (IE)
“Having talked to the team leader, I concluded that [the leader] most probably does not have enough time to participate as [the leader] spends all the time on [...] personal business activities and family.” (Jennifer, 2)
<i>Starting an interaction in order to involve team members in collaboration</i>
Interaction management (IE)
“[...] I kept trying to motivate them. [...] [S]ome [...] started contributing [...]” (Jennifer, 2); “[...] I kept pestering the group chat until we decided to stick with one.” (Robert, 4); “[...] I decided to try again [...]. [...] [F]inally [...] one group meeting [...]” (Jennifer, 4)
<i>Not making assumptions based on others' lack of behavioural commitment</i>
Suspending judgment (IS)
“[...] [E]ven if people do not contribute to group work much, it does not mean that they disrespect you or underestimate the work you do.” (Jennifer, 4)

Table 23 illustrates four solutions to the challenge lack of behavioural commitment. The team also had trouble agreeing on the time of discussing their tasks, and finding time to improve their work. Apparently, these issues were due to some members' lack of behavioural commitment to teamwork and their assignments since they instead committed to activities outside the teamwork. Table 24 illustrates exemplars of the issues, and the related solutions. In addition, a general solution applied to the challenge was appreciating others.

“[...] [I]t is difficult to agree about time for discussion of our tasks and it's explainable because [...] some participants are working, someone [is] already [one's] own boss or conducts vigorous scientific activity.” (John, 1)





It was interpreted that the solutions creating a detailed schedule; and, being concise under time pressure address the team's time pressures in completing their assignment. The solution starting an interaction in order to involve team members in collaboration addresses the issue of not having been able to determine a time for a team-wide meeting. The following table 24 illustrates the coordination challenge time resource coordination issues, and its solutions.

Table 24 Coordination challenge time resource coordination issues, and its solutions

<b>Time resource coordination issues</b>
Collaboration / Virtual collaboration / Coordination (B)
“We neglected [...] improving the content, as we did not have time [...]” (Jennifer, 1); “[...] [S]ome of us just didn't hurry with their part of work [...]” (John, 2); “[...] [W]e did not have much time to talk [...]” (Jennifer, 4)
<i>Creating a detailed schedule</i>
Message skills / Basic speech communication skills (IE)
“[...] [M]y teammate Jennifer created a detailed schedule for us, to improve our communications and time-management. [...]” (John, 3)
<i>Being concise under time pressure</i>
Message skills / Basic speech communication skills (IE)
“[...] [W]e did not have much time to talk, so our discussions were quick and concrete, containing mainly exact questions and answers.” (Jennifer, 4)
<i>Starting an interaction in order to involve team members in collaboration</i>
Interaction management (IE)
“[...] I had to contact each member separately to ask them to clarify the analysis they provided and make corrections.” (Jennifer, 2)

Table 24 illustrates three solutions to the challenge time resource coordination issues. The team also faced issues related to responsibility distribution, such as unequal distribution of responsibilities. Some members had to work more than others due to some members' lack of behavioural commitment. Mary also stated that the distribution was unclear. John regarded the redistribution of responsibilities in assignment 3 as a personal challenge. Exemplars of the responsibility distribution issues, and the related solutions are illustrated in table 25.

*“[...] [W]e have to cover their parts heavily.” [...] [W]e feel rather unmotivated and a little bit depressed handling such a huge amount of work and information.” (Patricia, 2)*

It was interpreted that the behaviourally committed members did not agree with having to do a large amount of work caused by covering the responsibilities of the members who lacked commitment. Thus, it was interpreted that the team experienced process conflict (Kuriakose et al. 2018, 463). Previous research is aligned with the findings that a lack of behavioural commitment may be a virtual team challenge, which can lead to unequal responsibility distribution which in turn often leads to, even intense, conflict (Blackburn et al. 2003, 100). The only solution proposed that directly addressed the root cause of most of the responsibility distribution issues, lack of commitment, was to start an interaction in order to get others more involved. It was interpreted this solution pertained to responsibility distribution as well due to Robert’s statement that there were changes since Robert took control and started an interaction instead of Jennifer. The rest of the solutions mostly related to managing the consequences of the lack of commitment which included responsibility distribution issues. However, the solutions appeared to be effective since the behaviourally committed team members were able to redistribute the responsibilities among themselves. The following table 25 illustrates the coordination challenge responsibility distribution issues, and its solutions.



Table 25 Coordination challenge responsibility distribution issues, and its solutions

<p><b>Responsibility distribution issues</b> Collaboration / Virtual collaboration / Coordination (B)</p>
<p>“We divided the parts too unclearly.” (Mary, 2); “[...] [R]edistributed responsibilities, [...] a real challenge for me personally.” (John, 3); “[...] [S]ome people were busy with something more important for them than studies, [...] others had to do additional work.” (Jennifer, 4)</p>
<p><i>Distributing responsibilities clearly</i> Message skills / Basic speech communication skills (IE)</p>
<p>“[...] [A] clear allocation of responsibilities [...].” (John, 1) “We divided the parts too unclearly. [...] [W]e have to [...] formulate the topics/assignments better.” (Mary, 2)</p>
<p><i>Framing responsibility redistribution in a motivating manner</i> Empathy (IS)</p>
<p>“However, my teammates asked that maybe I would like to help with the analysis because it can give me more knowledge than creating a video. So, [...] a very tempting offer [...]. It is difficult not to agree.” (John, 3)</p>
<p><i>Starting an interaction in order to involve team members in collaboration</i> Interaction management (IE)</p>
<p>“Changes happened, I took the control for the last case instead of Jennifer. [...]. We did not as a team come to an understanding until I had skyped with them and explained the scenario (in the Skype call, there were me, Jennifer and Patricia).” (Robert, 4)</p>
<p><i>Sharing workload</i> Relational cultivation (IE)</p>
<p>“We [...] divided the tasks equally.” (Robert, 1); “However, in this situation, [...] [w]e [...] divide the tasks equally [...].” (Patricia, 2); “[...] [W]e [...] divided the task.” (Jennifer, 4)</p>
<p><i>Helping others with their work</i> Relational cultivation (IE)</p>
<p>“For me it was important [...] as much as possible to help each participant.” (John, 1); “Working together means a share of responsibility, relieving burden from each other and creating a shared value.” (Patricia, 2)</p>
<p><i>Agreeing to do more work</i> Relational cultivation (IE)</p>
<p>“[...] I was assigned by Jennifer to do a larger chunk of work [...]. I agreed because I do not want to cause commotion within the team.” (Robert, 3)</p>

Table 25 illustrates six solutions to the challenge responsibility distribution issues. Furthermore, the team described the assignments 2, 3 and 4 as being complicated, difficult, or labour intensive, as illustrated in table 26.

*“[...] [T]his case [...] was quite complicated, but so were the previous ones.” (Jennifer, 3)*

The findings are aligned with previous research, which suggests that coordination and shared understanding can be more difficult to achieve in virtual collaboration. Furthermore, the complexity of the team’s tasks may have been compounded by the influences of diversity and virtuality which can make teamwork more complex. (Cohen & Gibson 2003, 7; Gibson & Cohen 2003b, 409–410; Andres 2012, 75; McLarnon et al. 2019, 208–209.) However, as most of the team members were millennials, they may not have been affected as much as less digitally immersed generations by diversity and virtuality due to a lack of focus on cultural differences and due to being adept at technology use (Gilson et al. 2015, 1324; Velez-Calle et al. 2020, 279–280, 284). On the other hand, the researcher surmises that a lack of focus on cultural differences does not indicate a lack of issues related to cultural differences. Instead, it may in fact lead to a reliance on inaccurate cultural assumptions. In addition, being a millennial does not guarantee technological adeptness. As previously described in relation to individual diversity, some of the members did have problems with technological skills. Furthermore, even if all members were adept at all aspects of technology, they would still be subject to other issues related to virtuality, for instance, the lack of cues.

In terms of the solutions to task complexity, discussing, and engaging in more specific, problem solving could aid in making a task appear less complex, especially if it was divided into smaller, simpler parts. Appreciating others may allow one to maintain a positive mindset when faced with a large amount of work. Reading carefully could increase personal understanding of the task. Sharing this understanding with other members could increase shared understanding. In addition, responsibility distribution issues also involved labour intensiveness, and some of the same solutions could be applied to task complexity, for instance, sharing workload. The following table 26 illustrates the coordination challenge task complexity, difficulty, and labour intensiveness, and its solutions.



Table 26 Coordination challenge task complexity, difficulty, and labour intensiveness, and its solutions

<b>Task complexity, difficulty, and labour intensiveness</b> Collaboration / Virtual collaboration / Coordination (B)
“[...] [I]t was obvious that the task was labor intensive [...].” (Jennifer, 2). “[...] [A]ll the tasks seemed difficult.” (John, 3) “[...] Jennifer and Patricia were a bit lost sometimes [...].” (Robert, 4)
<i>Discussing, and engaging in more specific, problem solving</i> Message skills / Basic speech communication skills (IE)
“[...] [T]his time we have focused on solving the problems [...] at the very beginning of our talk, applying suitable models to answer the assigned question more specifically.” (Patricia, 2)
<i>Appreciating others (and their abilities and behaviour)</i> Self-esteem (IS)
“[...] [A] huge amount of work [...]. However, in this situation, [...] [w]e [...] complete our [...] video in the end like any other group. That is the reason why I am more appreciating of the great effort and enthusiastic contribution of the other members [...].” (Patricia, 2)
<i>Reading carefully</i> Message skills / Oral message evaluation (IE)
“[...] [W]e read the task carefully [...].” (Jennifer, 4)

Table 26 illustrates three solutions to the challenge task complexity, difficulty, and labour intensiveness.

#### 6.4.3 Performance, and trust and cohesion

The team faced task completion delays since the team members completed their individual tasks with a delay, and the team did not meet the deadlines for the team assignments. Exemplars of the delays and the related solutions are illustrated in table 27. The general solution having an optimistic outlook was also applied.

“[...] [W]e [...] never met deadlines for a group work.” (Jennifer, 4)

The task completion delays most likely stemmed from some members’ lack of behavioural commitment. Furthermore, since decreasing communication frequency was stated as a solution, there may have previously been some unnecessary communication, which hindered the focus on task completion. This solution was the only one that was

interpreted as directly addressing the delays. However, even the application of the solution did not result in the team's meeting the deadline of their team assignment. Nonetheless, it may well have reduced the severity of the delay. The solutions involving a positive conception of oneself, and expressing gratitude were related to being able to maintain a positive mindset, and striving to improve others' mindset, respectively. However, these solutions were applied only after having experienced the task completion delays. Nevertheless, the solutions were interpreted as being helpful in addressing the likely consequent disappointments felt due to the delays. The following table 27 illustrates challenges and solutions related to performance, and trust and cohesion, which will be described after the table.



Table 27 Challenges and solutions related to performance, and trust and cohesion

<b>Task completion delays</b> Collaboration / Virtual collaboration / Performance (B)
“[W]e were late again.” (Mary, 2); “Okey, once again we have failed our own deadline within our team, despite on Jennifer’s schedule [...]” (John, 3); “All individual tasks were completed with a delay, [...] less time for analysis. [...]. [...] [D]eadlines were not met.” (Jennifer, 3)
<i>Having a positive conception of oneself</i> Self-esteem (IS)
“Although the deadline was slightly unmet, I was proud of myself because I managed to accomplish the task myself.” (Jennifer, 3)
<i>Decreasing communication frequency</i> Behavioural flexibility (IE)
“When we organised minimum audio meetings and began communicating at a more official level, the work began to run faster.” (John, 4); “The main steps which were different this time include less activity from my side, one Skype discussion [...]” (Jennifer, 4)
<i>Expressing gratitude to others for their efforts and help</i> Message skills / Human relations (IE)
“I am very grateful to the members who tried hard and did their best despite missed deadlines and not perfectly done assignments. I also thanked them in group and personally, as I appreciate their help.” (Jennifer, 4)
<b>Lack of trust and cohesion</b> Collaboration / Virtual collaboration / Trust and cohesion (B)
“[...] I cannot rely on all the members [...]. [Our] [...] weaknesses are a lack of motivation and togetherness.” (Jennifer, 3); “I had to rely on people who I do not trust, because they several times disappointed me with unmet deadlines and disappearance [...]” (Jennifer, 4)
<i>Forming a meaningful team identity, a good team atmosphere, a collective understanding</i> Relational cultivation (IE)
“Together we have formed a meaningful identity and good group chemistry. [...] I believe [...] [f]orming a collective understanding [...] will serve us when we tackle the next case [...]” (Robert, 1)
<i>Being grateful for team membership and support</i> Self-esteem (IS)
“Thank you [team], for letting me be a part of you, helping me go through up and down situation [...]” (Patricia, 1)
<i>Being behaviourally committed and supportive</i> Relational cultivation (IE)
“We [...] care for each other.” (Patricia, 1); “[...] [E]very member took part in designing the content, [...] we really are a [...] close-knit team now.” (Patricia, 3); “[...] [T]he last day [...] the whole team works as a cohesive anthill, such mutual aid [...]” (John, 4)

Table 27 illustrates the challenge related to performance, task completion delays, and its solutions. The table also illustrates the challenge lack of trust and cohesion, and its solutions which will be described as follows.

Jennifer expressed lack of trust and cohesion with the team. As illustrated in table 27, along with the related solutions, Jennifer stated that the team lacked togetherness, and Jennifer did not trust all the members. The lack of trust was due to their having disappointed Jennifer with their lack of timely results and behavioural commitment.

Although the solution forming a meaningful team identity, a good team atmosphere, a collective understanding is rather vague, it was nonetheless interpreted as being conducive to trust and cohesion formation, as were the other solutions. Being grateful for team membership and support was interpreted to indicate a positive conception of others, and a feeling of connection with the team. The solution likely also indicates affective, yet not necessarily cognitive, trust in others (Breu & Hemingway 2004, 191, 199–201; Webber 2008, 746–750; Golden & Raghuram 2010, 1061, 1065–1079; Abarca et al. 2020, 168935). The reasoning for this is that affective trust involves emotional bonds, which could be difficult to experience without a positive conception of others and a feeling of connection. However, the solution may not necessarily be indicative of cognitive trust due to not clearly involving beliefs of others' reliability, dependability or competence.

Regarding the final solution, when all of the members were behaviourally committed, and when they were supportive towards one another, this was experienced by the members as increased cohesion. It was interpreted that when the members can see that others are behaviourally committed, this also increases cognitive trust since there is proof that others can be counted on to carry out their part of the assignment. The following table 28 illustrates the synthesis of challenges and solutions in virtual collaboration.





Table 28 Challenges and solutions in virtual collaboration

<p><b>Emotions (A): Negative emotions &amp; Tiredness and lack of attitudinal commitment</b></p> <ul style="list-style-type: none"> <li>•Relieving tension through jokes and cheering others up</li> <li>•Having positive emotion and attitudinal commitment towards working</li> <li>•Having an optimistic outlook (despite negative emotions)</li> <li>•Maintaining one’s attitudinal commitment despite negative emotions</li> <li>•Encouraging others to attitudinally and behaviourally commit (despite negative emotions)</li> </ul>
<p><b>Coordination (B): Lack of behavioural commitment</b></p> <ul style="list-style-type: none"> <li>•Assuming unofficial leadership by taking initiatives and guiding</li> <li>•Investigating through discussion why a member lacks behavioural commitment</li> <li>•Starting an interaction in order to involve team members in collaboration</li> <li>•Not making assumptions based on others’ lack of behavioural commitment</li> </ul>
<p><b>Coordination (B): Time resource coordination issues</b></p> <ul style="list-style-type: none"> <li>•Creating a detailed schedule</li> <li>•Being concise under time pressure</li> <li>•Starting an interaction in order to involve team members in collaboration</li> </ul>
<p><b>Coordination (B): Responsibility distribution issues</b></p> <ul style="list-style-type: none"> <li>•Distributing responsibilities clearly</li> <li>•Framing responsibility redistribution in a motivating manner</li> <li>•Starting an interaction in order to involve team members in collaboration</li> <li>•Sharing workload</li> <li>•Helping others with their work</li> <li>•Agreeing to do more work</li> </ul>
<p><b>Coordination (B): Task complexity, difficulty, and labour intensiveness</b></p> <ul style="list-style-type: none"> <li>•Discussing, and engaging in more specific, problem solving</li> <li>•Appreciating others (and their abilities and behaviour)</li> <li>•Reading carefully</li> </ul>
<p><b>Performance (B): Task completion delays</b></p> <ul style="list-style-type: none"> <li>•Having a positive conception of oneself</li> <li>•Decreasing communication frequency</li> <li>•Expressing gratitude to others for their efforts and help</li> </ul>
<p><b>Trust and cohesion (B): Lack of trust and cohesion</b></p> <ul style="list-style-type: none"> <li>•Forming a meaningful team identity, a good team atmosphere, a collective understanding</li> <li>•Being grateful for team membership and support</li> <li>•Being behaviourally committed and supportive</li> </ul>

Table 28 illustrates the challenges in virtual collaboration in bold. Under each challenge, there are its solutions. The coordination challenges are separated by a dash-dotted line.

## 6.5 General collaboration

The team faced conflicts involving negative emotions and a lack of communication due to some members' lack of behavioural commitment, as illustrated in table 29, along with the related solution. The general solutions appreciating others, and having an optimistic outlook were also applied. The team also had a disagreement, as illustrated in the table, along with the related solution.

The team members' interpersonal issues due to the two members' lack of behavioural commitment indicated they faced relationship conflict (Kankanhalli et al. 2006, 239–240; Kuriakose et al. 2018, 463; Johnson & Avolio 2019, 848). It was not clear what the ultimate causes of the two members' lack of behavioural commitment was. One cause could have been the ease of freeriding since the team was virtual or since the team consisted of students, whose livelihood did not depend on being behaviourally committed. Regardless of the ultimate cause of the lack of commitment, it led to conflict.

However, due to the arguably higher uncertainty for the reasons behind the lack of behavioural commitment in a virtual environment, there can be more assumptions made in a virtual team, and inaccurate assumptions could result in more severe conflict. In addition, since it is arguably easier to freeride in a virtual team, the extent of the freeriding may be larger, and the conflicts consequently more severe. However, there are nonetheless freeriding problems in other types of teams as well (Velez-Calle et al. 2020). Moreover, while it is possible that some members' lack of behavioural commitment related to the virtual collaboration setting, the fact that the lack of commitment may result in conflicts is not dependent on the working environment since it is most likely that there can be a lack of commitment, and it can lead to conflicts, in any environment.

The proposed solution, staying calm, is arguably quite helpful in addressing the direct consequences of the conflicts, negative emotions, since by staying calm one manages one's own emotions which can also make it easier for others to calm down. Calmness arguably aids in the de-escalation of conflicts.

Furthermore, it was interpreted that the team as a whole initially lacked behavioural commitment towards assignment 4, and also had a disagreement regarding how to complete it. This disagreement indicated that the team also faced a process conflict (Kuriakose et al. 2018, 463). The solution involving explanations can arguably be effective in overcoming process conflict if the disagreement is due to others' lack of understanding of the task. The following table 29 illustrates challenges and solutions related to conflicts.



Table 29 Challenges and solutions related to conflicts

<b>Conflicts due to some members' lack of behavioural commitment</b>
Collaboration / General collaboration / Conflicts (A)
"[...] [A] conflict truly arose when the team was lacking two members. We were all depressed [...] and have not talked to each other for a couple of days." (Patricia, 1); "[...] [C]onflicts still arose sometimes when one member was away and we could not contact them." (Patricia, 3)
<i>Staying calm</i> Self-Monitoring (IS)
"[...] [A] conflict truly arose when the team was lacking two members. [...]. [...] When we stay calm and think back for a moment, I guess the other members will do the same, and we are ready to be back to the game." (Patricia, 1)
<b>Process conflict</b>
Collaboration / General collaboration / Conflicts (A)
"Nobody had done anything in regards to our [assignment] [...]. [...] We did not as a team come to an understanding [...]." (Robert, 4)
<i>Explanations via video- or audio-conferencing</i> Message skills / Basic speech communication skills (IE)
"We did not as a team come to an understanding until I had skyped with them and explained the scenario (in the Skype call there was me, Jennifer and Patricia)." (Robert, 4)

Table 29 illustrates the challenges conflicts due to some members' lack of behavioural commitment, and process conflict, and their respective solutions. Although the solution to the challenge process conflict involves virtual communication, the challenge itself was considered to be independent of virtuality.

## 6.6 Synthesis of the findings

The following table 30 illustrates the synthesis of the challenges in the findings.

Table 30 Challenges in the findings

<b>Main category: Communication</b>		
<b>Category: Diverse communication</b>	<b>Category: Virtual communication</b>	<b>Category: General communication</b>
<i>Subcategories</i>	<i>Subcategories</i>	<i>Subcategories</i>
Communication styles (B)	<b>Lack of cues (B)</b>	Information sharing (B)
<b>Cultural and linguistic diversity (C)</b>	Communication frequency (B)	Emotions (A)
<b>Familiarity (C)</b>	Communication delays (B)	
Values (C)	<b>Communication technology (B)</b>	
<b>Power (B)</b>	Appropriateness of medium (A)	
<b>Language proficiency (B)</b>	<b>Information sharing (B)</b>	
Information sharing (B)		
<b>Main category: Collaboration</b>		
<b>Category: Diverse collaboration</b>	<b>Category: Virtual collaboration</b>	<b>Category: General collaboration</b>
<i>Subcategories</i>	<i>Subcategories</i>	<i>Subcategories</i>
<b>Individual diversity (C)</b>	<b>Emotions (A)</b>	Emotions (A)
<b>Assumptions and generalisations (C)</b>	<b>Coordination (B)</b>	<b>Conflicts (A)</b>
<b>Cultural diversity (C)</b>	<b>Performance (B)</b>	Conflict management style (B)
Emotions (A)	<b>Trust and cohesion (B)</b>	Coordination (B)
Performance (B)	Unique team context (C)	
<b>Conflicts (A)</b>		
Coordination (B)		
Trust and cohesion (B)		
Unique team context (C)		



Table 30 illustrates the case study challenges in the findings in bold. The following challenges were only stated by the expert: communication styles in diverse communication; and, emotions, trust and cohesion, and unique team context in diverse collaboration. The rest of the challenges not in bold were only found in the literature, or were not as relevant as similar challenges.

The findings indicated that most of the challenges were related to diversity or virtuality in one way or another, although this was expected since the data pertained to intercultural communication and collaboration in a GVT. The findings suggested that cultural diversity may lead to problems or solutions. Similarly, studies on the influence of diversity and cultural diversity on GVTs have yielded mixed results on whether the influence is positive or negative (Stahl et al. 2010; Velez-Calle et al. 2020, 283). The challenge assumptions was emphasised by the expert. This challenge was related to cultural diversity. However, the findings suggested that the greatest challenges faced by the millennial GVT, in terms of their ability to complete their assignments, related to coordination, whereas cultural diversity was not a pronounced challenge. This is aligned with previous research (Taras et al. 2013, 424–425; Velez-Calle et al. 2020, 285–289). However, the effects of cultural diversity on team performance vary based on differences in context, including team size, distribution of team members in different locations, the complexity of the team's task, and the amount of time team members have spent together. Cultural diversity may have an indirect effect on team performance. (Stahl et al. 2010; Stahl & Maznevski 2021.) The GVT arguably faced challenges related to all of the aforementioned. Furthermore, the researcher argues that assumptions can be a significant challenge since it may be difficult for one to realise that one is making assumptions, and thus difficult to prevent them which can then easily lead to misunderstandings.

The challenges, as well as the solutions were quite numerous. Some of them were described in connection with one another as follows. It appeared that the communication and collaboration challenges faced by the team were in large part due to the coordination challenge some members' lack of behavioural commitment. This was the most significant challenge since it led to a lack of contribution to the team assignments, as well as to numerous other challenges, for instance, negative emotions, which were themselves a rather common and significant challenge. The lack of commitment led to the committed members' having responsibility distribution issues, which included, for instance, having a large workload. Both the lack of behavioural commitment and the workload appeared to cause conflicts, negative emotions, lack of trust and cohesion, and task completion delays. However, this last challenge was also due to communication technology issues. These issues were in turn sometimes caused by the dysfunctioning or lack of performance of the technology, and sometimes by individuals' lack of technical skills.

The findings suggest that possible ways of applying ICC to the challenge lack of behavioural commitment could be, for instance, starting an interaction in order to involve

team members in collaboration, and investigating through discussion why a member lacks behavioural commitment. Starting an interaction with a member who is not behaviourally committed can be applied when one wishes to attempt to encourage said member to commit. If the member started to commit, there would no longer be the challenge of lack of behavioural commitment. In addition, if this challenge was overcome, other challenges would be prevented. These could include, for instance, the aforementioned responsibility distribution issues, and negative emotions.

Investigating through discussion why a member lacks behavioural commitment could be beneficial since this would allow the team to better know how to proceed with their collaboration. For instance, if the information revealed it was certain that the member could not behaviourally commit in a particular task, the other members would know to distribute said member's workload among the rest of the members who could behaviourally commit. In addition, if the members believed that the reason for the lack of behavioural commitment was justifiable, their emotions might improve if they previously believed that there was no justifiable reason. However, if the reason was revealed to be one considered unjustifiable by the members, they might develop negative emotions, or even stronger negative emotions than they experienced before gaining the information. Yet, the solution would still be beneficial for the planning of future collaboration. Previous research indicates that sharing information, and being aware of other members' progress and availability to work, as well as increasing familiarity, is beneficial for the virtual team and its coordination (Hinds & Weisband 2003, 26–27; Maynard et al. 2019, 4–6).

However, the lack of behavioural commitment was likely also one reason for the challenge lack of information sharing. However, a lack of cues likely also contributed to difficulties in sharing information due to increased possibility for misinterpretations. The lack of cues may also have contributed to misunderstandings and negative emotions, and consequent conflicts.

It should be noted that a lack of communication or collaboration may not always indicate a lack of attitudinal or behavioural commitment since there can be communication technology issues. Solutions to this include using complementary media, which may help in overcoming the shortcomings of a particular medium. For instance, if the other member has not been able to use an audio- or videoconferencing tool, the member applying the solution could communicate or share information with this member by using another type of medium such as chat. Sharing information with the member could allow the member to better contribute to the team's task. The member might also regard this as a demonstration that the member applying the solution takes care of the member. This could in turn evoke positive emotion in the member, and be beneficial for relationship development. Thus, there could be both team- and individual-level benefits.



The team also had difficulties in organising meetings and in succeeding to communicate with others. One reason for this was the aforementioned lack of behavioural commitment. The lack of behavioural commitment was perhaps caused by a lack of attitudinal commitment. However, Mary also stated communication technology difficulties as a reason, although Jennifer concluded, after a discussion with Mary, that Mary was more interested in spending time on personal activities than on the assignments. A lack of information sharing was also a challenge for the team. This was also likely caused by a lack of commitment. Interestingly, while Robert and John believed in assignment 1 that a high communication frequency was a positive matter, John believed in assignment 4 that decreasing communication frequency increased the team's working pace. However, a high communication frequency may be detrimental to performance if there is a large amount of irrelevant communication (Marlow et al. 2017). In addition, familiar teams can achieve effective performance with reduced communication (Marlow et al. 2017, 584). Since the members had worked on multiple assignments together, they had at least some level of familiarity with one another.

The team also faced challenges related to power. These stemmed partly from a lack of behavioural commitment, which led to in-group and out-group formation where the in-group were the committed members, who sometimes made the decisions concerning their assignments. They had to make the decisions in the absence of the out-group members since they had to divide their individual responsibilities in order to start working on the assignments, for whose completion they were lacking time resources. Challenges related to power also partly stemmed from members' individually different task quality goals. For instance, Jennifer had higher expectations of the quality of the results of their assignments which sometimes led to Jennifer's disregarding team-decisions.

The members' lack of trust and cohesion was not only due to a lack of behavioural commitment but also also due to a lack of familiarity with one another. The lack of familiarity made the achievement of trust and cohesion difficult. Furthermore, the members were not fully aware of which responsibilities in the assignments should have been given to particular members to achieve high attitudinal commitment and quality of work.

It can be concluded that the web of challenges faced by the team was somewhat intricate. Nonetheless, the members came up with, or demonstrated, application of ICC solutions. Usually, the more specific a solution was to a particular challenge, the less broad the possible range of application of the solution was. For instance, the solution helping a person to express themselves was specific to the challenge lack of language proficiency, which was related to diverse communication. As another example, the solution being aware of and adapting to cultural and linguistic differences and risks was specific to the challenge communication risks in a multicultural team, which was related to cultural and linguistic diversity in diverse communication. However, this solution

could arguably also be applied to similar challenges such as those related to cultural diversity, communication styles, or assumptions and generalisations.

However, some solutions were somewhat specific yet applied to multiple challenges. For instance, the solution relieving tension through jokes and cheering others up was somewhat specific. Yet, this solution was still interpreted as applying to all of the challenges related to emotions in virtual collaboration. Furthermore, this solution could also be applied to a lack of trust and cohesion in virtual collaboration since the solution involves relational interaction (Marlow et al. 2017, 579).

Some of the solutions were more general. The researcher interpreted that these solutions could be used for multiple different challenges. For instance, the solution having an optimistic outlook could be applied to nearly any challenge. This solution was in fact a part of the description of the category self-esteem. In addition, while broadly useful, the solution clearly has limited utility since it has a rather static nature, and in itself is arguably often inadequate. However, there were variations of the solution which were more specific to particular types of challenges. As an example, having an optimistic outlook (despite negative emotions) was clearly related to negative emotions. However, it should be noted that the negative emotions were themselves caused by different challenges.

The solutions most commonly pertained to self-esteem (IS), relational cultivation (IE), message skills subcategory basic speech communication skills (IE), suspending judgment (IS), and cultural understanding (IA). However only one or no solution mostly pertained to empathy (IS), all interaction involvement subcategories (IS), self-monitoring (IS), message skills subcategories communication codes, and human relations (IE), and identity management (IE). Yet, probably not much can be concluded based on the frequency of the categories since for most solutions there were multiple, sometimes even equally, relevant categories. However, the common categories relational cultivation (IE) and message skills subcategory basic speech communication codes (IE) are deemed rather central to ICC since they directly pertain to relationship development, and communication, respectively.

In terms of the trustworthiness of the findings, it should be noted that it is possible that the GVT members did not recognise the origins or nature of particular challenges in a GVT (Velez-Calle et al. 2020). This uncertainty of the members' ability to identify challenges, and likely solutions, could have affected the accuracy of the identification and categorisation of both the challenges and solutions. For instance, there may have been challenges stemming from cultural diversity yet the influence of cultural diversity was not recognised. However, it is also possible that the members were not affected much by cultural differences.

The interpretation of the case study findings was limited by the fact that the researcher of this thesis only analysed the team members' individual reflections. Thus, the researcher





did not get the full outlook of the members' interpretations of their communication and collaboration in a GVT. This limited the verifiability of the challenges and ways of applying ICC described by the members. The members' may have, for instance, changed their interpretations of their teamwork after having received feedback from their peers and supervisors, or discussed their interpretations with the peers and supervisors at the end of the course they were participating in. Therefore, perhaps some of the members' misinterpretations that had formed during the teamwork were later clarified.

The verifiability of the descriptions of the way of applying ICC was limited by the fact that it was not always possible to verify whether a member was competent in the way and degree the member described oneself to be, or how effective their proposed solutions were. The member may also have misinterpreted others' application or level of competence. In addition, some members may have been highly self-critical or modest, or the opposite of such attributes.

Furthermore, the members' interpretations of their communication and collaboration during their teamwork likely led to some of their communication and collaboration challenges, and ways of applying competence in response to the interpreted challenges. In addition, a misinterpreted challenge may have led to unwarranted and misguided application of competence which may itself have led to an actual challenge.

The uncertainty of the truthfulness of claimed technological failures also made the assessment of ICC more uncertain. When a communication technology failed for one team member, the other team members may have blamed the member for a lack of communication and fulfillment of duties even if the failure of technology was to blame. However, it was also possible that a team member claimed that a technology failed, even though it did not, in order to have had an excuse not to spend time on communication or fulfillment of duties.

Finally, a limitation in the analysis and interpretation was that they were based, at least partly, on the limited ICC of the researcher of this thesis. One likely needs to have ICC in order to be able to identify it. To wit, according to Portalla and Chen (2010, 27), an individual's intercultural sensitivity likely influences how well the individual can determine the behaviours that are the most appropriate ones when interacting interculturally.

## 7 CONCLUSIONS

### 7.1 Theoretical contributions

The purpose of this thesis was to answer the research question: *How can intercultural communication competence be applied in a global virtual team?* The focus of the study was to describe the application in terms of how individual GVT members, and the GVT as a whole, can apply ICC to their individual, and the team's collective, intercultural communication and collaboration challenges within the team. Four sub-questions facilitated the achievement of this purpose. These sub-questions sought to describe those challenges, and the application of ICC to the challenges. Challenges were described based on the literature used in this thesis, the interview, and the case study. Applying ICC to both communication and collaboration challenges was described based on the findings of the expert interview and the case study. Chen's triangular model of ICC served as the theoretical framework of this thesis (Chen 2009, 530–531; 2014, 19; 2017, 357). The model was the basis for the identification and categorisation of the application of ICC.

The research question, and the sub-questions are answered with the help of tables. Based on the literature used in this thesis, the following tables 31 and 32 illustrate the challenges of communication and collaboration in a GVT, respectively. The challenges in bold were arguably all faced by the millennial student GVT in this study.



Table 31 Communication challenges in a GVT

<b>Main category: Communication</b>		
<b>Category: Diverse communication</b>	<b>Category: Virtual communication</b>	Category: General communication
<b>Subcategories</b>	<b>Subcategories</b>	Subcategories
<i>Communication styles</i> misunderstandings	<b><i>Lack of cues</i></b> <b>reduced information exchange</b>	<i>Information sharing</i> a lack of unique information sharing
<b><i>Cultural and linguistic diversity</i></b> <b>team communication and management challenges</b>	<i>Communication frequency</i> difficult to achieve suitable frequency	<i>Emotions</i> being afraid of appearing incompetent
<b><i>Familiarity</i></b> <b>a lack of common history and experience</b>	<i>Communication delays</i> hindered virtual team coordination and planning processes	
<i>Values</i> different understandings and interpretations of information	<b><i>Communication technology</i></b> <b>communication difficulties</b>	
<b><i>Power</i></b> <b>misunderstandings and hindered coordination due to power hierarchies</b>	<i>Appropriateness of medium</i> cultural incompatibility with an inappropriate medium	
<b><i>Language proficiency</i></b> <b>language proficiency differences</b>	<b><i>Information sharing</i></b> <b>reduced information sharing and acknowledgement in a virtual team</b>	
<i>Information sharing</i> high diversity may reduce information sharing		

Table 32 Collaboration challenges in a GVT

<b>Main category: Collaboration</b>		
<b>Category: Diverse collaboration</b>	<b>Category: Virtual collaboration</b>	<b>Category: General collaboration</b>
<b>Subcategories</b>	<b>Subcategories</b>	<b>Subcategories</b>
<i>Individual diversity</i> <b>communication technology use is affected by attitudes, perceptions, and skills</b>	<i>Emotions</i> <b>uncertainty due to perceived lack of technical skills</b>	<i>Emotions</i> potential unethical behaviour with a utilitarian orientation and high psychological safety
<i>Assumptions and generalisations</i> <b>out-group categorisation can lead to disagreements</b>	<i>Coordination</i> <b>virtual team coordination development slow</b>	<i>Conflicts</i> <b>conflict may reduce team performance and satisfaction</b>
<i>Cultural diversity</i> <b>cultural differences can lead to misunderstandings and discord</b>	<i>Performance</i> <b>virtuality may hinder team performance</b>	<i>Conflict management style</i> conflict management style affects whether conflict decreases performance
<i>Emotions</i> uncertainty and anxiety due to cultural diversity and unfamiliarity	<i>Trust and cohesion</i> <b>trust development and team identification more difficult in virtual team</b>	<i>Coordination</i> coordination problems common in many types of teams
<i>Performance</i> hindered virtual team performance due to diversity	<i>Unique team context</i> GVT members can be unfamiliar with their unique team context	
<i>Conflicts</i> <b>conflict and decreased social integration due to high cultural diversity</b>		
<i>Coordination</i> coordination issues due to cultural diversity		
<i>Trust and cohesion</i> hindered mutual trust and identification with the team due to diversity		
<i>Unique team context</i> different aspects of diversity can present different teams with different challenges		



The following challenges in the tables 31 and 32 were only stated by the expert: communication styles in diverse communication; and, emotions, trust and cohesion, and unique team context in diverse collaboration. The following table 33 illustrates all of the communication challenges and solutions based on the findings.

Table 33      Diverse and virtual communication challenges and solutions in a GVT

<p><b>Communication styles (B): Culturally different communication styles</b></p> <ul style="list-style-type: none"> <li>•Realising there are cultural differences in communication styles</li> </ul>
<p><b>Cultural and linguistic diversity (C): Communication risks in a multicultural team</b></p> <ul style="list-style-type: none"> <li>•Being aware of and adapting to cultural and linguistic differences and risks</li> <li>•Recognising and appreciating cultural differences</li> <li>•Not interrupting the one talking</li> <li>•Carefully listening to one another</li> </ul>
<p><b>Familiarity (C): Lack of familiarity</b></p> <ul style="list-style-type: none"> <li>•Increasing familiarity through introductions, discussions and questions</li> </ul>
<p><b>Power (B): Noninclusive decision-making</b></p> <ul style="list-style-type: none"> <li>•Engaging in inclusive decision-making</li> <li>•Discussing the manner of decision-making</li> </ul>
<p><b>Language proficiency (B): Lack of language proficiency</b></p> <ul style="list-style-type: none"> <li>•Helping a person to express themselves</li> </ul>
<p><b>Lack of cues (B): Lack of cues</b></p> <ul style="list-style-type: none"> <li>•Extending the time of analysing one another's communication</li> <li>•Having an optimistic outlook (in the face of challenges)</li> </ul>
<p><b>Communication technology (B): Communication technology issues</b></p> <ul style="list-style-type: none"> <li>•Being clear when communicating in virtual environments</li> <li>•Recognising the differences between face-to-face and GVT communication</li> </ul>
<p><b>Information sharing (B): Lack of information sharing</b></p> <ul style="list-style-type: none"> <li>•Communicating frequently</li> <li>•Sharing information</li> <li>•Guiding, and answering questions</li> <li>•Using a different medium to share information</li> </ul>

Table 33 illustrates the diverse and virtual communication challenges and solutions. The diverse and virtual communication are separated by a line in bold. The following table 34 illustrates the diverse collaboration challenges and solutions based on the findings.

Table 34 Diverse collaboration challenges and solutions in a GVT

<p><b>Individual diversity (C): Individually different skill levels</b></p> <p><b>Individual diversity (C): Individually diverse characteristics</b></p> <p><b>Individual diversity (C): Individually different task quality goals</b></p> <p><b>Individual diversity (C): Not taking individual strengths and desires into account</b></p> <ul style="list-style-type: none"> <li>•Being understanding towards others in terms of their skill levels</li> <li>•Sharing work based on individual strengths and desires</li> </ul>
<p><b>Assumptions and generalisations (C): Assumptions</b></p> <ul style="list-style-type: none"> <li>•Discussing assumptions</li> <li>•Extending the time of analysing one another's communication</li> <li>•Not making assumptions</li> <li>•Being aware of the possible inaccuracy of one's assumptions</li> </ul>
<p><b>Cultural diversity (C): Culturally different interpretations</b></p> <ul style="list-style-type: none"> <li>•Looking past intercultural differences and having intercultural communication skills</li> <li>•Gaining insight into cultural diversity by participating in a global virtual team</li> <li>•Carefully listening to culturally different team members' opinions</li> </ul> <p><b>Cultural diversity (C): Culturally different working styles</b></p> <ul style="list-style-type: none"> <li>•Adapting to, or adopting, a culturally different working style</li> </ul>
<p><b>Emotions (A): Being scared due to belonging to a disadvantaged group</b></p> <ul style="list-style-type: none"> <li>•Making a scared person feel relaxed, included and respected</li> </ul>
<p><b>Conflicts (A): Conflicts due to different ways of working</b></p> <ul style="list-style-type: none"> <li>•Raising objections before, instead of after, a decision is made</li> <li>•Respecting different ways of thinking</li> <li>•Respecting others' time by focusing, contributing, and being open to suggestions, criticism</li> </ul>
<p><b>Trust and cohesion (B): Culturally different initial levels of trust</b></p> <ul style="list-style-type: none"> <li>•Forming personal connections through communication</li> <li>•Extending the time of analysing one another's communication</li> <li>•Looking past intercultural differences and having intercultural communication skills</li> </ul>
<p><b>Unique team context (C): Unique team context</b></p> <ul style="list-style-type: none"> <li>•Realising what the extent of cultural distance among GVT members is</li> </ul>

In table 34, the two solutions to individual diversity challenges apply to all of the four challenges. The three solutions under culturally different interpretations only apply to that cultural diversity challenge. Similarly, the one solution under culturally different working styles only applies to that challenge. The following table 35 illustrates the virtual collaboration challenges and solutions.



Table 35 Virtual collaboration challenges and solutions in a GVT

<p><b>Emotions (A): Negative emotions &amp; Tiredness and lack of attitudinal commitment</b></p> <ul style="list-style-type: none"> <li>•Relieving tension through jokes and cheering others up</li> <li>•Having positive emotion and attitudinal commitment towards working</li> <li>•Having an optimistic outlook (despite negative emotions)</li> <li>•Maintaining one’s attitudinal commitment despite negative emotions</li> <li>•Encouraging others to attitudinally and behaviourally commit (despite negative emotions)</li> </ul>
<p><b>Coordination (B): Lack of behavioural commitment</b></p> <ul style="list-style-type: none"> <li>•Assuming unofficial leadership by taking initiatives and guiding</li> <li>•Investigating through discussion why a member lacks behavioural commitment</li> <li>•Starting an interaction in order to involve team members in collaboration</li> <li>•Not making assumptions based on others’ lack of behavioural commitment</li> </ul>
<p><b>Coordination (B): Time resource coordination issues</b></p> <ul style="list-style-type: none"> <li>•Creating a detailed schedule</li> <li>•Being concise under time pressure</li> <li>•Starting an interaction in order to involve team members in collaboration</li> </ul>
<p><b>Coordination (B): Responsibility distribution issues</b></p> <ul style="list-style-type: none"> <li>•Distributing responsibilities clearly</li> <li>•Framing responsibility redistribution in a motivating manner</li> <li>•Starting an interaction in order to involve team members in collaboration</li> <li>•Sharing workload</li> <li>•Helping others with their work</li> <li>•Agreeing to do more work</li> </ul>
<p><b>Coordination (B): Task complexity, difficulty, and labour intensiveness</b></p> <ul style="list-style-type: none"> <li>•Discussing, and engaging in more specific, problem solving</li> <li>•Appreciating others (and their abilities and behaviour)</li> <li>•Reading carefully</li> </ul>
<p><b>Performance (B): Task completion delays</b></p> <ul style="list-style-type: none"> <li>•Having a positive conception of oneself</li> <li>•Decreasing communication frequency</li> <li>•Expressing gratitude to others for their efforts and help</li> </ul>
<p><b>Trust and cohesion (B): Lack of trust and cohesion</b></p> <ul style="list-style-type: none"> <li>•Forming a meaningful team identity, a good team atmosphere, a collective understanding</li> <li>•Being grateful for team membership and support</li> <li>•Being behaviourally committed and supportive</li> </ul>

In table 35, coordination challenges are separated by a dash-dotted line. The following table 36 illustrates the general collaboration challenges and solutions, as well as all of the general solutions.

Table 36 General collaboration challenges and solutions, and general solutions, in a GVT

<p><b>Conflicts (A): Conflicts due to some members' lack of behavioural commitment</b></p> <ul style="list-style-type: none"> <li>• Staying calm</li> </ul> <p><b>Conflicts (A): Process conflict</b></p> <ul style="list-style-type: none"> <li>• Explanations via video- or audio-conferencing</li> </ul>
<p><i>General solutions applicable to all, or nearly all, challenges</i></p> <ul style="list-style-type: none"> <li>• Having an optimistic outlook (in the face of challenges)</li> <li>• Appreciating challenges</li> <li>• Appreciating others (and their abilities and behaviour )</li> <li>• Supporting others</li> <li>• Encouraging others (to be attitudinally and behaviourally committed)</li> <li>• Using complementary media</li> <li>• Accepting the results one gets</li> </ul>

In table 36, the general solutions apply to all, or nearly all, challenges in general, including but not limited to general collaboration challenges. Although the solution to the challenge process conflict involves virtual communication, the challenge itself was considered to be independent of virtuality. The general collaboration challenges are separated from the general solution with a line in bold.

While the findings of this study indicate that the most significant challenges faced by the millennial student GVT was a lack of behavioural commitment, and to a somewhat lesser extent, negative emotions, this does not suggest that this would be the case for all or most GVTs. Since GVTs consist of unique individuals in unique contexts completing unique tasks, the challenges and their respective solutions can reasonably vary quite a bit. It can be concluded that the communication and collaboration challenges faced by the members of a GVT, and the solutions devised to these by the members, are unique to the particular team and its members (Velez-Calle et al. 2020). In addition, the challenges can be linked to one another. One challenge can contribute to the severity or the formation of another challenge or multiple challenges. For this reason, it may sometimes be difficult to identify which of the challenges were the original challenges that led to the new challenges, and which of the challenges might not have been formed had the original challenges been addressed. The identification may be especially difficult under time pressure, as in a fast-paced GVT with deadlines, since one may not necessarily be able to take the time to analyse the situation one is in, and how it will evolve.

As an example of how the challenges can be linked, the lack of cues in virtual communication contribute to the inaccuracy of culturally diverse team members' assumptions of one another. This is also how the challenges of cultural diversity and virtuality can be linked. Both assumptions and the lack of cues are considered to be





potentially significant challenges. Assumptions can be treacherous since if one does not know that one does not know, one may more easily be overly confident in one's beliefs, and abilities of interpretation regarding what culturally different team members' speech, gestures, and behaviour indicate. However, there has been research suggesting that millennials, which the case study GVT members also mostly were, are not as affected by diversity and virtuality as less digitally immersed generations since they focus less on cultural differences, and skilfully use technology (Gilson et al. 2015, 1324; Velez-Calle et al. 2020, 279–280, 284). Nevertheless, it could be argued that not paying attention to cultural differences only makes it more likely that one does not recognise the differences, and consequently is more susceptible to inaccurate assumptions. Cultural differences may not always be recognised (Stahl et al. 2010, 693; Stahl & Maznevski 2021, 6). Thus, one could believe a challenge stemming from cultural diversity stems from something else. Furthermore, even if one had high technological skills, the challenge lack of cues would persist.

A possible way of applying ICC to both the lack of cues and assumptions could be to extend the time of analysing one another's communication which is related to suspending judgment, not hastily jumping to conclusions. The conveyance of nonverbal cues, richness, is required for clear understanding (Marlow et al. 2017, 583). Furthermore, reading messages multiple times may increase understanding (Eisenberg et al. 2021, 5). It can be concluded that having more time to analyse cues likely also increases understanding since more total cues can be perceived, or the cues can be analysed more carefully. Extending the time of analysing communication may refer to the duration of a single virtual meeting. The researcher further posits that one could extend the time between sentences, or have a short pause after one's team member has finished a turn to speak. However, such measures might awkwardly disrupt the flow of discussion. The fluency of the pauses and turn-taking is likely affected by the interlocutors' competence in interaction involvement and interaction management (Chen 1992, 67–68; 1997, 8–9; Portalla & Chen 2010, 22–23).

Videoconferencing tools can convey nonverbal and vocal cues, and allow for nearly as rich, and consequently high quality, communication as face-to-face communication. On the other hand, if a medium is used that lacks nonverbal cues, for instance, email or telephone, understanding may be decreased since the cues often serve to confirm understanding. (Marlow et al. 2017). Therefore, it may be necessary for some GVTs that a medium that allows as rich communication as videoconferencing be one of the media typically used in order to achieve an adequate level of cues, which in turn allows a sufficient level of understanding, thus more accurate assumptions. The accuracy of assumptions may be important in the prevention of misunderstandings, thus one ought not to rely on cultural stereotypes. Stereotypes can create inaccurate expectations of the behaviour of a member of a cultural group (Vuckovic 2008, 50). Furthermore, making

generalisations from perceived cultural values to concrete situations can lead to misinterpretations and conflicts in intercultural communication (Chornet & Parr 2017, 3).

However, if high quality communication is achieved, it can be possible to benefit from diverse team members' unique perspectives, which may lead to novel approaches to tasks, and consequently increase team performance (Marlow et al. 2017, 579–580). It can likely be easier to reap potential benefits from different perspectives stemming from cultural diversity in a GVT if there are also open-mindedness, as well as ICC in general. Furthermore, participation in a GVT may allow one to gain insight into cultural diversity. This could arguably develop one's understanding of culturally different members' way of communicating and thinking, including how they interpret matters. However, mere participation might not be sufficient to develop cultural understanding (Elo et al. 2015, 38–39, 41; Ladegaard & Jenks 2015, 8; Söderberg 2017, 416, 423). Nonetheless, by carefully listening to others, one could be able to gain cultural knowledge and understanding which could aid in the prevention of intercultural misunderstandings.

Although, diversity and virtuality may contribute to conflicts and misunderstandings, conflicts may also stem from challenges common to many types of teams, for instance, freeriding (Velez-Calle et al. 2020). Freeriding could be characterised as a lack of behavioural commitment. This can lead to intense conflict (Blackburn et al. 2003, 100). Behavioural commitment is arguably the basis of all communication and collaboration. If one lacks it, one is not participating or contributing. Contributing, creating value is why GVTs exist. Therefore, the lack of behavioural commitment is arguably a severe challenge, and a potential source of numerous other challenges in any GVT, which has been formed with the intention that all members are behaviorally committed. It follows that knowing how to prevent this challenge from occurring, and how to alleviate its negative consequences when it does, is arguably important. The prevention should likely involve the deliberation on what the incentives to behaviourally commit are, and what the deterrents to lacking it are, and what their implemented extent ought to be. These are likely contextually and individually influenced.

However, it should be noted that the apparent lack of behavioural commitment may be due to, for instance, communication technology issues. This is why one ought to be wary of what one knows, and what one assumes. The alleviation of the negative consequences could include discussions involving reminding the behaviourally lacking member of their duties and the value of their contributions to the team which might encourage the member to resume commitment. In case the lack of commitment has resulted in the experience of negative emotions by the rest of the team, fostering a positive and optimistic attitude and team atmosphere, as well as engaging in mutual support and encouragement are likely helpful.

It may be difficult to ascertain which ways of applying ICC are conducive to any given challenge. Therefore, perhaps solutions to challenges ought to be based on broad



philosophies (Velez-Calle et al. 2020, 296). Or, perhaps, one could strive to determine a solution, or multiple solutions to a particular challenge whenever the challenge has been identified. Having knowledge of ways of applying intercultural communication competence might be helpful in being prepared for different challenges. This study may have described some of the ways of applying ICC that may be conducive to responding to intercultural communication and collaboration challenges in GVTs. This was likely a rather original approach, which may offer new insights into how, and in what contexts, ICC-based solutions to GVT challenges could potentially be studied, as well as successfully applied. This may have contributed to the extension of Chen's triangular model of ICC as a theoretical framework by describing the ways of applying ICC likely on a more specific level yet in a broader context than previously. One theoretical contribution in this study could also be that intercultural communication and collaboration challenges, and ways of applying ICC in a GVT were categorised in, likely at least partly, new ways. In conclusion, the descriptions and categorisations of challenges and ways of applying ICC in a GVT may advance the existing theoretical knowledge on the subject of challenges and ICC application in GVTs.

## **7.2 Managerial implications**

The description of challenges and ways of applying ICC to these communication and collaboration challenges in a GVT may be useful for companies and their employees that use a GVT work setting. Knowledge of these challenges and ways may provide them with insight into their own application of ICC to communication and collaboration challenges in GVTs. Employees can be provided with information on the potential challenges they will face in a GVT, as well as what solutions there can be to those challenges.

Important challenges in a culturally diverse virtual environment may be a lack of cues, assumptions, and the lack of behavioural commitment. The lack of cues is important since it leads to a lack of information relevant to the interpretation of the meaning of team members' visual and auditive cues in communication. This may result in misunderstandings, which are even more likely due to the cultural diversity present in a GVT since there are cultural differences in interpretation. Furthermore, virtual communication will always lack cues compared to face-to-face communication.

Assumptions is also important, and related to the lack of cues. Since the lack of cues leads to a dearth of information relevant to understanding communication, one's assumptions regarding the other team members and the influences of their respective cultural backgrounds are based on a smaller amount of information, and thus less accurate. Furthermore, it can be difficult to realise one is making assumptions since they may arguably happen quite automatically unless one stays aware of the possibility that

one is making them. A solution to the lack of cues, and also to the assumptions can be that the team members spend more time analysing one another's communication. This may allow them to gain more or improved information that increases mutual understanding. The members can also discuss their mutual assumptions by asking and answering questions regarding the others' cultures. This may also involve increasing personal or professional familiarity and discussion of how stereotypically the members themselves believe they represent their national cultures. This can increase cultural knowledge and understanding, awareness of the possible inaccuracy of one's assumptions, as well as be beneficial for relationship development, trust, and cohesion.

Finally, the lack of behavioural commitment is an important challenge since it can lead to multiple other challenges, and since without behavioural commitment one is not a contributing team member. Solutions to the challenge may include investigating through discussion why a member lacks behavioural commitment which can relieve uncertainty. Such investigation may also reveal that the member has an acceptable reason to temporarily lack behavioural commitment. Another solution may be to start an interaction in order to involve team members in collaboration. This way one may encourage others to behaviourally commit. One could also be well advised not to make assumptions based on others' lack of behavioural commitment. This could mean that one does not assume without proof, for instance, that others are lacking commitment due to negative emotions towards collaboration with one.

Although, the specific challenges and instances of collaboration that ICC can be useful for may be different for each GVT, practical examples of ICC application may be helpful in creating understanding of ICC beyond the often quite general and vague conceptualisations and descriptions of ICC. This understanding may guide companies' ICC training policies and employees' ICC development by making the guidelines of ICC development and application more concrete.

If the training policies and guidelines were successfully formulated and followed based on knowledge of the ways of applying ICC, the employees might improve the quality of their intercultural communication and collaboration. GVT members might also better be able to respond to, and prevent communication and collaboration challenges.

These increased abilities in communication and collaboration might consequently lead to task and relationship improvements in communication and collaboration at the individual and team level. It is concluded that these could in turn be favourable to the company employing the GVT members since the GVT, and consequently the company, might experience increases in task and relationship outcomes.



### **7.3 Limitations and suggestions for future research**

One limitation of this study was that it only had an intrateam perspective to global virtual team communication and collaboration. In addition, only one team was investigated in the case study. It is suggested that future research explore an interteam perspective. This would shed light on how global virtual teams communicate and collaborate together and how this differs from an intrateam setting. This study also had the limitation that the team members were students participating in a university course. Although the members had varying amounts of work experience, the applicability of the findings of this study to a professional GVT in a company context is limited. Moreover, this study did not focus on the longitudinal effects on communication and collaboration that might take place in continued collaboration with the same team members for a longer period of time than the duration of a single course, which lasts but few months. Future research could look into these longitudinal effects. For instance, it could be studied how different team conditions influence the development of the accuracy of interpretations made by team members of one another's communication. This could also be compared to teams with a shorter life-cycle.

Furthermore, this study was limited by the fact that the case study data was only based on the team members' individual reflections. Therefore, the researcher had no direct contact with the members, and triangulation was lacking. Future research could more directly study GVT members who are currently collaborating in a GVT. Demographic factors could also be better taken into account in future research. For instance, there could be comparative research on the differences and similarities, and the reasons for these, between different age cohorts in terms of their challenges and ways of applying ICC in a GVT.

The triangulation of the research methods was limited by the fact that the expert interviewee's answers in the interview were likely partly based on the same source material that was, in part, used by the researcher of this thesis in the case study. Another limitation of this study was that data collection and data analysis could not be conducted simultaneously for the case study. In addition, the data was collected for a purpose different from the one of this study.

Furthermore, the challenge categorisation framework was created by the researcher of this thesis. The challenge categories were also based on a limited number of scientific articles per challenge. Future research could strive to use an existing challenge categorisation, which is based on a more comprehensive range of academic literature. The data analysis was limited by the increased degree of interpretation required from the researcher since Chen's triangular model of ICC that was used in this study was likely applied to a broader context than it was meant for. The model may not be a suitable basis for the description of solutions to collaboration challenges, or to challenges related to

virtuality. Therefore, the researcher relied on interpretation to extend the model's intended sphere of influence. Consequently, the findings of this study are perhaps influenced more than is usual by the interpretations of the researcher. Future research could use a model that has been created with both communication and collaboration in mind, and that is specifically intended for the GVT context.

Future research could investigate other possible ways of applying ICC in the GVT, or in a different, context. It could also be useful to investigate how ICC is best applied in order to prevent the formation of challenges. Another suggestion is to investigate the universality vs. culture specificity of different ways of applying ICC in different intercultural contexts. This thesis points to a research gap in the identification of ways of applying ICC, and in the conceptualisation of ICC in the context of GVT communication and collaboration. Thus, the possibility of the extension of the concept of ICC to virtual environments, or specifically to a GVT, and to collaboration could be investigated due to the present and likely future salience of virtuality, and due to the close relation between communication and collaboration.

Future research could examine the links between challenges, and whether the addressing of some challenges ought to be prioritised. The research could investigate whether a given challenge ought to be addressed at a given point in time in order to achieve the greatest mitigation of the total potential negative impacts of all the challenges that are linked. The mitigation could also be aimed at the prevention of the formation of future challenges.

Finally, instead of attempting to describe the actual challenges and ICC application in a GVT, future research could seek to purposefully focus on the description of the members' differing interpretations of challenges and ICC application. Research could also focus on understanding how and why these interpretations come to be, or what the relationships between interpreted and actual challenges and between those of ICC application are.



## 8 SUMMARY

This study began with an introduction to the background for the study along with identifying a research gap in the related scientific literature. The purpose of this study was to answer the research question: *How can intercultural communication competence be applied in a global virtual team?* Answers to this question were found with the help of four subquestions. The first two subquestions involved the identification of the challenges in a global virtual team in terms of intercultural communication and collaboration, respectively. The last two subquestions pertained to the application of intercultural communication competence to the intercultural communication and collaboration challenges, respectively. The academic literature related to the subquestions pertained to intercultural communication, intercultural communication and collaboration in a global virtual team, and intercultural communication competence.

The research design of this study involved an expert interview as a data collection method. In addition, the researcher of this thesis gained access to data involving the individual reflections of a single global virtual team's members, who participated in a university course. The reflections pertained to the members collaboration on assignments, which were a part of the course. These reflections were the basis for a single case study. Qualitative content analysis was used as the method of data analysis in this thesis.

First, the academic literature used in this thesis was analysed with an inductive approach in order to produce categories pertaining to communication and collaboration challenges in a global virtual team. The challenges were placed in six main categories. These main categories consisted of diverse, virtual, and general communication and collaboration challenges. However, challenges related to diversity, especially cultural diversity, and virtuality were focused on in this thesis. The categorisation served as the basis for the analyses of the challenges of the expert interview and the case study data with a deductive approach. The solutions to said challenges in the form of ways of applying intercultural communication competence were analysed with a deductive approach. The categorisation of the solutions was based on Chen's triangular model of intercultural communication competence, which served as the theoretical framework in this thesis. The model consists of cognitive, affective, and behavioural aspects of such competence. The abilities representing these aspects formed the main categories of intercultural communication competence. These abilities are intercultural awareness, intercultural sensitivity, and intercultural effectiveness, respectively.

The analyses of the expert interview and case study produced findings involving intercultural communication and collaboration challenges in a global virtual team, as well as solutions to said challenges in the form of ways of applying intercultural communication competence. Nearly all of the challenges were placed in either the main categories pertaining to diversity, or to virtuality. Furthermore, to all of the challenges,

one or more solutions were identified. However, a lack of cues is an example of a challenge that is difficult, or even impossible, to completely solve due to the virtual work setting in a global virtual team. The solutions pertained to all of the main categories and categories, as well as to most of the subcategories of intercultural communication competence.

The expert interview focused on intercultural communication challenges. The interview findings indicated that making assumptions of culturally different others and their behaviour based on insufficient information was the basis of all intercultural communication challenges in a global virtual team. The findings of studies on the influence of cultural diversity on global virtual teams are mixed on whether the influence is positive or negative. The findings of this study indicated that the solutions, or ways of applying intercultural communication competence, to the challenge related to assumptions were discussing assumptions, not making assumptions, extending the time of analysing one another's communication, as well as being aware of the possible inaccuracy of one's assumptions.

The case study findings indicated that the most pronounced and common challenges faced by the global virtual team were related to coordination, and to a somewhat lesser extent, emotions. The significance of coordination and emotions as challenges is corroborated by academic literature on global virtual team collaboration. The most significant challenge related to coordination was some members' lack of behavioural commitment. This in turn led to other challenges. These included another challenge related to coordination, responsibility distribution issues, which included that some members had a high workload. The resultant challenges also included various challenges related to negative emotions. The case study findings indicated that solutions to the challenge lack of behavioural commitment could be, for instance, starting an interaction in order to involve team members in collaboration, and investigating through discussion why a member lacks behavioural commitment.

It was concluded that many of the challenges of intercultural communication and collaboration in a global virtual team can be related to one another. Furthermore, one challenge can lead to one or multiple challenges. It was also concluded that solutions in the form of ways of applying intercultural communication competence can be devised, if not to all, at least to nearly all communication and collaboration challenges faced in a global virtual team. In this study, the descriptions and categorisations of the challenges and ICC application may have been done slightly differently than previously. This may offer new theoretical perspectives to research involving investigation of GVT challenges and ICC-based solutions to such challenges. The description of ways of applying ICC on a more specific level yet in a broader context than before may have contributed to the extension of Chen's triangular model of ICC as a theoretical framework.





Finally, in terms of managerial implications, the description of challenges and ways of applying intercultural communication competence to these communication and collaboration challenges in a global virtual team may be useful for companies and their employees that use a global virtual team work setting. Knowledge of these challenges and ways may allow them to overcome and prevent intercultural communication and collaboration challenges, and improve their intercultural communication and collaboration in a global virtual team, as well as ultimately experience increases in task and relationship outcomes.

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## APPENDICES

### APPENDIX 1 GOOGLE SCHOLAR SEARCHES

In order to find out the extent of academic research involving descriptions of actualised application of ICC in a GVT, the researcher of this thesis conducted multiple searches in Google Scholar (Google 2022). The search parameters that were used in Google Scholar were the following: “Any time”; “include patents” unchecked; “include citations” unchecked; and, “anywhere in the article”. The three most relevant searches, in terms of resultant article content, yielded a total of 100 results, out of which 66 unique articles could be, and were, accessed and checked by the researcher. No relevant studies were found. It appears that it is likely that there are either no studies describing the actualised application of ICC in a GVT (or a virtual team), or the amount of studies is low, and these studies would be found with searches involving less commonly used terms for the concept of ICC. This indicates a research gap that corresponds with the purpose of this thesis. The following table includes 18 relevant searches categorised.



Table 37 Google Scholar searches

A: apply; applying; application of; applied B: use; using; use of; used C: utilise; utilising; utilisation of; utilised D: utilize; utilizing; utilization of; utilized E: implement; implementing; implementation of; implemented					
“with <b>all</b> of the words”:	virtual team				
“with the <b>exact phrase</b> ”:	virtual				
”with <b>at least one</b> of the words”:	"apply X" "applying X" "application of X" "applied X"				
	Results				
X	A	B	C	D	E
<b>Intercultural communication competence</b>	<b>2</b>	4	0	0	0
Intercultural communicative	3				
<b>Intercultural competence</b>	<b>35</b>	50	0	0	86
Intercultural competency	3				
<b>Cultural intelligence</b>	<b>63</b>	73	1	9	9
Cross-cultural competence	8				

The search terms that are verbs, or nouns conjugated from these verbs, correspond with letters, below which are the exact number of results yielded in conjunction with synonyms (or their truncated forms) of ICC. Below the verbs and nouns are the searches as they appear in Google Scholar “Advanced search”. However, the term “apply” and its conjugations are used as placeholders for all the other terms, and the synonyms that come after are replaced with X. Out of the 18 searches, the three most relevant searches, and their respective results numbers are in bold. These constitute the aforementioned total 100 results.

## APPENDIX 2 INTERVIEW QUESTIONS

0 What is your background, especially regarding global virtual teams?

1 In general, what are the challenges of intercultural communication?

1.1 What are the intercultural communication challenges that are specific to a global virtual team?

1.2 Should more focus be placed on some of these challenges in a global virtual team and why?

2 What are the intercultural communication skills that are needed in a global virtual team to respond to the communication challenges?

2.1 Are some of the intercultural communication skills more important than others, why?

3 How can the intercultural communication skills be used in a global virtual team to respond to the communication challenges?

4 Other than responding to the challenges, what other benefits of using the skills are there?

5 What is the most important role of intercultural communication skills in a global virtual team?

6 How important do you consider intercultural communication skills to be for the success of a global virtual team?



### APPENDIX 3 CODE LIST

The main challenge categories are ‘Communication’ and ‘Collaboration’. The challenges in the category ‘Diverse communication’ are related to the following codes/subcategories: ‘Communication styles’; ‘Cultural and linguistic diversity’; ‘Familiarity’; ‘Values’; ‘Power’; ‘Language proficiency’; and, ‘Information sharing’. The related exemplars are listed as follows.

- Communication styles: Cultures have different communication styles which can lead to misinterpretations (Aneas & Sandín 2009).
- Cultural and linguistic diversity: Words can often have different meanings based on local variations of language (Gluesing et al. 2003, 355).
- Familiarity: Information sharing can be negatively affected by virtual team members’ lack of history and experience with one another (Hinds & Weisband 2003, 21; Maynard et al. 2019, 6–7).
- Values: Virtual team members may have cultural and value differences, which can contribute to the members’ having different perspectives, and therefore different understandings and interpretations of the information presented (Marlow et al. 2017, 579).
- Power: Understanding a language gives one the power to provide or restrict access to information to those who do not understand the language (Peltokorpi & Clausen 2011).
- Language proficiency: Second language speakers contribute less ideas, are not as active in communicative interactions, change and simplify content, and ignore subjects that are difficult to express (Peltokorpi & Clausen 2011).
- Information sharing: If there is a high degree of diversity, team members may speak less. Thus, there may be less opportunities for members to clarify misunderstandings. In this way, diversity may contribute to a hindered common understanding, which may have a negative influence on performance. (Marlow et al. 2017, 580.)

The challenges in the category ‘Virtual communication’ are related to the following codes/subcategories: ‘Lack of cues’; ‘Communication frequency’; ‘Communication delays’; ‘Communication technology’; ‘Appropriateness of medium’; and, ‘Information sharing’. The related exemplars are listed as follows.

- Lack of cues: It is difficult to convey and observe nonverbal communication via communication technology (Schotter 2021, 346).
- Communication frequency: A high frequency may even be detrimental to performance if there is a large amount of irrelevant communication (Marlow et al. 2017).

- Communication delays: Virtual teams' lack of real-time communication can lead to longer task completion times compared to face-to-face teams (Marlow et al. 2017).
- Communication technology: One communication challenge can be a reliance on technology (Eisenberg et al. 2021, 2).
- Appropriateness of medium: High context people have lower levels of satisfaction when they use CMC tools that lack nonverbal cues and immediate response, for instance, email (Zakaria 2017, 352).
- Information sharing: GVT members' insufficient information sharing of their local cultural and workplace contexts can lead to misunderstandings and make the coordination of the members' efforts difficult (Gluesing et al. 2003).

The challenges in the category 'General communication' are related to the following codes/subcategories: 'Information sharing'; and, 'Emotions'. The related exemplars are listed as follows.

- Information sharing: A lack of unique information sharing may hinder team decision-making and team performance (Mesmer-Magnus & DeChurch 2009).
- Emotions: Team members commonly refrain from sharing their unique knowledge, which might contribute to learning. This is due to a fear that they will appear incompetent. (Edmondson 1999, 351–352.)

The challenges in the category 'Diverse collaboration' are related to the following codes/subcategories: 'Individual diversity'; 'Assumptions and generalisations'; 'Cultural diversity'; 'Emotions'; 'Performance'; 'Conflicts'; 'Coordination'; 'Trust and cohesion'; and, 'Unique team context'. The related exemplars are listed as follows.

- Individual diversity: An individual can represent multiple different cultures and cultural groups (Jian 2006, 408).
- Assumptions and generalisations: Making generalisations from perceived cultural values to concrete situations can lead to misinterpretations and conflicts in intercultural communication (Chornet & Parr 2017, 3).
- Cultural diversity: Cultural diversity may entail differences between team members' values, beliefs, and organisational behaviour. These differences may create discord in a team. (Velez-Calle et al. 2020.)
- Emotions: In the beginning of communication in a GVT, team members experience uncertainty due to cultural diversity and unfamiliarity (Glikson & Erez 2020).
- Performance: Performance may be negatively affected by the presence of different cultures and work practises, and by employee mobility (Zakaria 2017, 353–354).





- Conflicts: Teams characterised by higher cultural diversity experience higher creativity but also increased conflict and decreased social integration (Stahl et al. 2010).
- Coordination: Culturally diverse teams may have coordination issues, which may hinder effective communication (Garrison et al. 2010, 29).
- Trust and cohesion: In a virtual team, members can represent different cultures, as well as have different backgrounds and experiences. However, people are more likely to trust those who are seen as similar to themselves. (Cohen & Gibson 2003, 9.)
- Unique team context: Different aspects of diversity and differences between member characteristics can present different teams with different challenges (Velez-Calle et al. 2020).

The challenges in the category ‘Virtual collaboration’ are related to the following codes/subcategories: ‘Emotions’; ‘Coordination’; ‘Performance’; ‘Trust and cohesion’; and, ‘Unique team context’. The related exemplars are listed as follows.

- Emotions: Communication technology anxiety can reduce the member’s participation, the number of task-oriented messages, and introduction of novel topics, as well as lead the member to receive poorer ratings from other members (Laitinen & Valo 2018).
- Coordination: High diversity and virtuality can lead to high complexity and uncertainty of teamwork. These in turn make information processing and sense-making tasks more difficult. (Cohen & Gibson 2003, 7; Gibson & Cohen 2003b, 409–410.)
- Performance: Studies have usually either found that technology hinders virtual team performance or has no effect on it (Gilson et al. 2015).
- Trust and cohesion: Developing and maintaining trust in a GVT may be difficult due to irregularity, unpredictability and inequity of communication (Hassett et al. 2018, 166–167).
- Unique team context: In a GVT, team members can be unfamiliar with their unique team context. They may not know what challenges they should expect and what solutions they could have to the challenges. There can be several challenges of different types which can vary from team to team. Therefore it may not be possible to devise specific solutions to the different challenges beforehand. (Velez-Calle et al. 2020.)

The challenges in the category ‘General collaboration’ are related to the following codes/subcategories: ‘Emotions’; ‘Conflicts’; ‘Conflict management style’; and, ‘Coordination’. The related exemplars are listed as follows.

- Emotions: In teams with a utilitarian orientation, high psychological safety may be linked with increased likelihood of engaging in unethical behaviour (Pearsall & Ellis 2011, 401; Newman et al. 2017, 528).
- Conflicts: Conflicts in the workplace may be harmful to team effectiveness and satisfaction, as well as to the short-term and long-term well-being of employees (Kuriakose et al. 2018, 463).
- Conflict management style: A cooperative conflict management style may generally lead to more productive consequences than a competitive conflict management style, especially in terms of preventing a cognitive, or task, conflict from becoming an affective, or relationship, conflict (Papenhausen & Parayitam 2015).
- Coordination: Millennial GVTs mostly experienced challenges related to the task or the team which are common in many types of teams, for instance, goal selection problems, freeriding, and coordination problems (Velez-Calle et al. 2020).

