



CHALMERS
UNIVERSITY OF TECHNOLOGY

Cultural Differences affecting Virtual Team Communication during Meetings

A Case Study at an Automotive Industry Company

Master's Thesis in the Master's Programme International Project Management

REBECKA ÖSTERGREN

MASTER'S THESIS BOMX02-17-39

Cultural Differences affecting Virtual Team Communication during Meetings

A Case Study at an Automotive Industry Company

Master's Thesis in the Master's Programme International Project Management

REBECKA ÖSTERGREN

Department of Architecture and Civil Engineering

Division of Construction Management

CHALMERS UNIVERSITY OF TECHNOLOGY

Göteborg, Sweden 2017

Cultural Differences affecting Virtual Team Communication during Meetings
A Case Study at an Automotive Industry Company

Master's Thesis in the Master's Programme International Project Management

REBECKA ÖSTERGREN

© REBECKA ÖSTERGREN, 2017

Examensarbete BOMX02-17-39/ Institutionen för Arkitektur och
Samhällsbyggnadsteknik
Chalmers tekniska högskola 2017

Department of Architecture and Civil Engineering
Division of Construction Management

Chalmers University of Technology
SE-412 96 Göteborg
Sweden
Telephone: + 46 (0)31-772 1000

Department of Architecture and Civil Engineering, Göteborg, Sweden, 2017

Cultural Differences affecting Virtual Team Communication during Meetings
A Case Study at an Automotive Industry Company

Master's thesis in the Master's Programme International Project Management

REBECKA ÖSTERGREN

Department of Architecture and Civil Engineering
Division of Construction Management
Chalmers University of Technology

ABSTRACT

Using virtual teams have become more common as this creates an opportunity to work together placed at different locations in the world. The collaborations therefore also come across cultural diversities within the team. Though, this kind of team constellation brings challenges with it as well. The team members do not have the same opportunity to meet in real life and therefore virtual meetings become an important part in the everyday work. The *purpose* of the research is to clarify how cultural differences can affect virtual team communication during meetings. Therefore the aim of this research is to define challenges and success factors for virtual team meetings. A qualitative research design was chosen as the *method* for the research and includes a case study performed at an automotive industry company placed in Gothenburg which consist of two main national cultures, Sweden and China. A self-completion questionnaire, observation and semi-structured interviews were carried out with participants from different virtual teams at the case company. The *empirical findings* show that there are many challenges within a team consisting of two very different national cultures. Therefore the *conclusion* drawn from the research, shows that it is important to understand and accept the cultural differences. If an understanding for the other culture can be created, it will improve the collaboration between the team members. This will in turn improve the communication and also the meetings. However, the case company's identified technical issues have to be solved first so the colleagues can communicate properly in order to manage the other challenges. A *recommendation* for the case company is to make sure that the Swedish and Chinese colleagues will have an opportunity to meet early in the project in order for them to create a relationship between each other. The relationship will create a better communication and by that more effective meetings.

Key words: Virtual Teams, Virtual Team Meetings, Communication, Culture Dimensions, Cross-Cultural Differences, Teamwork, International Projects

Den kulturella påverkan på Virtuella Teams kommunikation under möten
En Fallstudie utförd på ett bilindustri företag

Examensarbete inom masterprogrammet International Project Management

REBECKA ÖSTERGREN

Institutionen för Arkitektur och Samhällsbyggnadsteknik
Avdelningen för Construction Management
Chalmers tekniska högskola

SAMMANFATTNING

Användandet av virtuella team har blivit mer vanligt eftersom det möjliggör ett globalt samarbete då team medlemmar inte behöver vara placerade på samma plats. Detta innebär att samarbetet också kommer innehålla kulturella olikheter bland medlemmarna. Dock medför den här typen av team konstellation utmaningar. Medlemmar inom ett virtuellt team har inte samma möjligheter att träffas i verkligheten och därför blir de dagliga virtuella mötena mellan medlemmar extra betydelsefulla. *Syftet* med arbetet är att klargöra hur kulturella skillnader kan påverka kommunikationen i ett virtuellt team, med focus på möten. Målet med undersökningen kommer därför att vara att definiera utmaningar och framgångsrika faktorer för virtuella team möten. En kvalitativ *undersökningsmetod* valdes att användas till den här undersökningen, där en fallstudie har blivit utförd på ett företag inom bilindustrin som är placerad i Göteborg. Företaget består främst av två kulturer, vilka är Sverige och Kina. Ett frågeformulär, observationer och intervjuer användes för att samla in data för undersökningen där medverkande var från olika virtuella team på det valda fallstudie företaget. *Resultatet* från de olika dataundersökningsmetoderna visar att det finns många utmaningar i ett team som består av mer än en kultur. Därför blir *slutsatsen* att det är viktiga att förstå och acceptera olika kulturella skillnader. Om en förståelse för de kulturella skillnaderna kan skapas kommer samarbetet mellan kulturerna att förbättras. Vilket också kommer generera till en förbättrad kommunikation och bättre möten. Dock måste de tekniska problemen lösas först så att kommunikationen mellan de anställda fungerar innan de kan påbörja de övriga utmaningarna. *Rekommendationen* för företaget är att möjliggöra för anställda att träffa varandra i början av projekten för att kunna ge chansen till att skapa en relation mellan båda parter. Relationen kommer att generera en bättre kommunikation och mer effektiva möten.

Nyckelord: Virtuella team, Virtuella team möten, Kommunikation, Kulturella dimensioner, Kulturella skillnader, Lagarbete, Internationella projekt

Contents

ABSTRACT	I
SAMMANFATTNING	II
CONTENTS	III
PREFACE	VII
1 INTRODUCTION	1
1.1 Background	1
1.2 Theoretical Rational	1
1.3 Research Aim and Research Question	2
1.4 The context of the Dissertation Organization	2
1.5 Research Scope and Limitations	2
1.6 Research Methodology	3
1.7 Structure of the Thesis	3
2 THEORETICAL FRAME OF REFERENCE	5
2.1 Virtual Teams	5
2.1.1 Pure Virtual Teams and Hybrid Teams	5
2.1.2 IPO-model	6
2.1.3 Challenges of Virtual Teams	7
2.2 Communication	7
2.2.1 Communication in Virtual Teams	9
2.3 Virtual Team Meeting	10
2.3.1 Videoconferencing	10
2.4 Culture	10
2.4.1 Power Distance	12
2.4.2 Individualism vs. Collectivism	12
2.4.3 Masculinity vs. Femininity	13
2.4.4 Uncertainty avoidance index	13
2.4.5 Long Term vs. Short Term Orientation	13
2.5 Cross Cultural Communication in Virtual Teams	14
2.6 Summary	15
3 METHODOLOGY	17
3.1 Research Strategy and Research Design	17
3.1.1 Research Approach	17
3.1.2 Research Process	17
3.1.3 Literature Review	18
3.1.4 Case Study	18

3.2	Data Collection	19
3.2.1	Sampling in Qualitative Research	19
3.2.2	Participant Observations	19
3.2.3	Self-completion Questionnaire	20
3.2.4	Interviewing	21
3.2.5	Transcribing	21
3.2.6	Interview Settings and Context	22
3.3	Analyzing	22
3.4	Research Reliability and Validity	22
3.5	Research Ethics	23
4	CASE DESCRIPTION	25
4.1	National Culture of Sweden and China	25
4.1.1	Characteristics of Sweden's national culture	26
4.1.2	Characteristics of China's national culture	26
5	EMPIRICAL FINDINGS	29
5.1	Virtual Team	29
5.1.1	Vision of a Successful Virtual Team	29
5.1.2	Challenges of Virtual Teams	30
5.2	Communication in Virtual Teams	31
5.2.1	Language	31
5.3	Culture	32
5.3.1	Culture's effect on Decision Making	32
5.3.2	Relationship between Swedish and Chinese Colleagues	32
5.3.3	Culture Adaption	34
5.4	Virtual Team Meetings	35
5.4.1	Technical issues make the communication difficult	35
5.4.2	Same Perception of the Meeting	36
6	DISCUSSION	37
6.1	Vision of a Successful Virtual Team	37
6.2	Challenges of a Virtual Team	37
6.2.1	Time	37
6.2.2	Communication and Technical Issues	38
6.2.3	Culture	38
6.3	Cultural Understanding	39
6.3.1	Identified Cultural Differences	39
6.3.2	Relevance of Attitude	40
6.4	Successful Virtual Team Meetings	41
7	CONCLUSION	43
8	RECOMMENDATIONS AND PRACTICAL IMPLICATIONS	45

9	REFERENCES	47
	APPENDICES	51

Preface

In this research, the researcher has defined the challenges and success factors of cultural differences within virtual team communication during meetings. It has become more common for companies to work in the creation of virtual teams and by this multi-cultural teams can be created. The research has been performed to fulfil the dual award requirements of M.Sc. International Project Management at Chalmers University of Technology in Sweden and Project Management at Northumbria University in UK. The duration of the research concerns the time between January and June 2017.

I would like to thank everyone who in some way have contributed to this research, by data collection or support. First, I would like to thank my Supervisor at Chalmers University of technology, Petra Bosch-Sijtsema. Thank you for all of your support during this research. Our meetings and your fast email answers with inputs on how to improve the report have been very welcomed. Second, I would like to thank my supervisor at the case study company for his support during the research and all of the practical things in the beginning. Third, I would like to say thank you to all of you who participated in the interviews. Your experiences, knowledge, and thoughts have been a huge contribution to this research. I appreciate that you took time to answer my questions during the interviews.

Finally, I would like to say thank you to my family and friends who have encouraged, supported and motivated me in both ups and downs. Thank you so much.

Gothenburg, June 2016
Rebecka Östergren

List of figures

Figure 1: Input–Process–Output–Model of Virtual Teams. Culture differences, Communication, and Performance is marked as the main focus for further theory.....	6
Figure2: Research Process.....	18

List of tables

Table 1: Challenges of Virtual Teams and why it is a challenge.....	7
Table 2: Summary of Hofstede’s Cultural Dimensions at work place.....	11
Table 3: Where Sweden and China are placed in the cultural dimensions according to Hofstede.....	26

1 Introduction

The aim of this chapter is to give the reader an overview about the chosen topic. The chapter contain the background of why the topic was chosen, theoretical rational, research aim and research question, the context of the dissertation organization, research scope and limitations, research methodology and structure of the thesis.

1.1 Background

Today, global companies work in projects over borders, both across countries and cultures. Due to this, project teams contain members from different nationalities and by that also different cultures. This create both new possibilities and new problems. Working across nations include many challenges for a team as the only time for a face-to-face meeting will be through videoconferences.

Global companies can use the creation of global virtual teams as their project teams. Virtual teams are defined as “groups of geographically, organizationally and/or time dispersed workers brought together by information and telecommunication technologies to accomplish one or more organizational tasks” (Powell et al., 2004, p. 7). By applying virtual teams, a project team can be located at different places in the world but work towards the same goal. As Dow and Taylor (2010, p.55) claim “working with project teams can be challenging, but working with virtual teams is even more challenging”.

Culture, time, and location are identified as challenges that can be faced in the creation of virtual teams. These three can either be separated challenges or in a combination of each other. Furthermore, communication can be identified as a challenge as well (Verburg et al., 2013). By adding cultural difference and its influence to an already complicated teamwork, it can create an even bigger challenge since every culture is unique. However, it is important that the communication in a virtual team meeting works, even if there are a lot of different challenges. Therefore, this research, will focus mainly on virtual team communication during meetings.

1.2 Theoretical Rational

Collaboration between people located on different places in the world can be done through the configuration of a virtual team (Lipnack and Stamps, 2008). Today, most projects have become international projects and with the possibility to use virtual teams, project members do not have to be seated at the same location. Virtual teams are often very short lived because they are created to respond to a specific need (Powell et al., 2004). This kind of project team can be in the creation of a hybrid or a pure virtual team. Depending on how much the team members communicate face to face (Griffith and Neale, 2001), the configuration of the team may shift as well. However, the identified challenges of global virtual teams still remain on both constellations due to the fact that there are team members based on different locations.

Furthermore, as International projects cross nations they will also contain team members from different cultures. Ineffective communication and coordination difficulties can be two outcomes of cultural differences in a team (Powell et al., 2004).

Cultures can be divided into different geographical areas, depending on the behavior of its inhabitants. The cultural aspects reflect on behavior as people either are this or that (Boddy, 2001). However, the divide between cultures can be seen roughly but should be understood as a generalization of the different nations and the cultures' actions.

Communication can be seen as a problem within virtual teams since every individual communicates differently (Jarvenpaa and Leidner, 1998). By adding cultural differences to this, it can create an even bigger problem with the communication. Cultural differences can make communication between project group members difficult as the message may not be understood as it should (Lientz and Rea, 2012). By this, a common language has to be established in order to understand each other. Meetings can be hard to organize in international projects due to the fact that participants may not be in the same time zone or speak the same language (White, 2014).

1.3 Research Aim and Research Question

When combining cultural differences and virtual teams, problems and mistakes can easily occur. However, "the negative effect of cultural differences may be mitigated by an effort to understand and accept the differences" (Powell et al., 2004, p. 9). Therefore, the aim of this research is to define the challenges and the success factors for meetings where people from different cultures collaborate on an organizational level. The success factors will be where bridges can be built between the cultures in order to create a good collaboration of team work. The main research question for this research is as follows;

How can cultural differences affect virtual team communication during meetings?

Supporting questions to answer the main question;

RQ1 – What are the challenges within a virtual team in relation to multi-cultural communication?

RQ2 – What are the success factors to create a better understanding for each other during multi-cultural meetings of a virtual team?

1.4 The context of the Dissertation Organization

The organization that takes part in this study is an automotive industry company that have employees both in Sweden and China. The company's virtual teams are used as a case study in this research in order to understand how the aspect of virtual teams and cultural differences can create issues during virtual meetings. Further presentation of the case is presented more detailed in Chapter 4 Case Description.

1.5 Research Scope and Limitations

The scope of this study is limited to the context of a single case, which means that the result will only be related to this single case. The case study will focus on a company within the automotive industry. The company is located in both Sweden and China which means that they apply virtual teams in most of their project. Focus will be on how bridges of similarities can be built between Sweden and China regarding their way of communicating during meetings and which bridges that have already been built by

adapting to each other's way of working because of the culture difference. Interviews will be held in Sweden with Swedish employees, therefore the study will have a Swedish perspective. The organizational position of the participants is not of interest in this research as the researchers focus is on the whole organization and not a specific position. Therefore, this will not be analyzed further.

1.6 Research Methodology

The social research design of the study is a qualitative approach. The theoretical framework is based on the key terms of; Virtual teams, Communication and Cultural differences. The chosen theory is based on the communication differences that can affect virtual teams during meetings.

The empirical data was obtained through a case study containing virtual team meetings at a company based in the automotive industry. Data was gathered by observations, self-completion questionnaire and semi-structured interviews with virtual team members. The self-completion questionnaire was done only to confirm the problems and issues identified during observations.

1.7 Structure of the Thesis

The second chapter will present the theoretical frame of reference. This includes characteristics of virtual teams which contains success factors and challenges for the constellation of a virtual team. The definition of Communication is explained and further connected to virtual teams. The chapter also brings up the aspects of cultural differences and summarizes it all in the subheading of summary.

The third chapter presents the methodology of the research performed. It contains the research strategy, data collection method, analyzing, research reliability and validity, and research ethics.

In chapter four a brief case description will be provided. The aim of this chapter is to give an overview of the chosen case and what it contains. This will include a description of an already existing project carried out by the company itself to which this research will be a complement to. It will also give further information about the company's two national cultures and their differences.

Chapter five presents the empirical findings of the semi-structured interviews and the researcher's observations.

In chapter six the empirical findings are further discussed in relation to the theoretical frame of reference with focus on answering the main and sub-research questions.

The final conclusion is presented in chapter seven where further research is suggested as well to the research performed.

Chapter eight will provide recommendations of practical implications for the addressed case company.

2 Theoretical frame of reference

The aim of this chapter is to present the theoretical framework that will be used in the study. The chapter contains three larger parts; virtual teams, communication, and cultural differences. It also brings up theory that is an essential background for the rest of the research. Therefore the theory is based on the main research question “How can cultural differences affect virtual team communication during meetings?”

2.1 Virtual Teams

A project team is a team where everyone are working towards a common goal (Lientz and Rea, 2002). A team can consist of two or more members who share the same goal but have different responsibilities (Boddy, 2001). There are many different types of project teams configurations that can be used in a project (Project Management Institute, 2013). The type of configuration of the project team depends on the project and the possibilities the organization have to carry out the project (Levi, 2015). The project team in this study will be in the creation of a virtual team.

Dow and Taylor (2010) claim that it is more challenging to work in a virtual team than a project team that is seated on the same location. The definition of a virtual team can therefore be defined as people who collaborate to achieve the same goals (Yael, 2013), and where team members can contribute from different locations and/or different time zones and/or have a different national culture than the other team members (White, 2014). Shortly, virtual teams can be described as teams that “work together apart” (Yael, 2013, p.29). Furthermore, a virtual team can be either permanent or temporary (Panteli and Davison, 2005). Powell et al. (2004, p. 7) explain that virtual teams are created to “assembled in response to specific needs” and because of this virtual teams can be short lived.

The constellation of virtual teams is introduced as a new way of working and by this it is still being investigated on how to work (Rafaeli and Ravid, 2003). As it is a new way of working it is also hard to give it a more precise definition (Fiol and O'Connor, 2005). The knowledge about virtual teams is continuously growing. Gilson et al. (2015) identified ten themes to success within virtual teams. While working with this they made the conclusion that there are still areas and new themes that can be added to the list since the technology continuously improves.

2.1.1 Pure Virtual Teams and Hybrid Teams

Virtual teams make it possible to work together with no face-to-face interaction (Nydegger and Nydegger, 2010). However, most virtual teams are not fully virtual and consist of hybrid teams in which a part of the team is collocated and others are distributed. The definition of how virtual a team is could be based on how much time team members spend face-to-face and/or physical distance between the team members. (Fiol and O'Connor, 2005). The virtualness concept is complex and therefore difficult to define (Griffith and Neale, 2001). Although, there are two types of virtual teams that have been defined, hybrid team and pure virtual team.

Pure virtual team

A pure virtual team is a team where there is no face-to-face interaction (Fiol and O'Connor, 2005). Due to this, team members can be separated from the group and be seated alone. (Griffith and Neale, 2001).

Hybrid team

Compared to a pure virtual team a hybrid team has more face-to-face interaction between each other than a pure virtual team (Fiol and O'Connor, 2005). This means that the team can be divided into smaller groups located on different places (Griffith and Neale, 2001).

Global virtual team

Another type of virtual team is the global virtual team, which takes cultural differences into consideration. A global virtual team exists when team members “work and live in different countries and are cultural diverse” (Powell et al., 2004, p. 8).

Furthermore, this study will refer virtual team to a virtual team with a global hybrid team configuration due to delimitations for the study see Section 1.5 Research scope and limitations.

2.1.2 IPO-model

In order to visualize and understand the process of a virtual team an input-process-output (IPO) model can be used. The model gives an opportunity to review virtual teams and to give an overview of its process. The model explains the lifecycle of virtual teams (Powell et al., 2004). However, this model was initially developed for co-located or face-to-face teams but it has later been applied to study virtual teams. The model, includes sub-categories and elements in the categories that are essential for virtual teams (Dulebohn and Hoch, 2017). The IPO-model in Figure 1 is a simplified version of Dulebohn and Hoch (2017) IPO-model. Due to limitations presented in 1.5 Research Scope and Limitations, further theory that will be presented are based on cultural differences, communication, and performance connected to virtual teams.

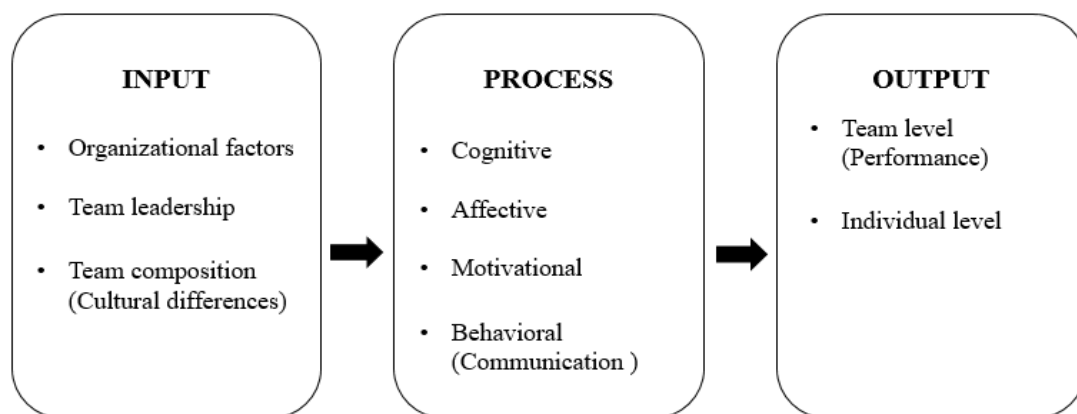


Figure 1. Input – Process – Output – Model of Virtual Teams. Culture differences, Communication, and Performance is marked as the main focus for further theory

Powell et al. (2004) also use an IPO-model to give an overview of the lifecycle for virtual teams. However, in comparison to Dulebohn and Hoch (2017) their IPO model

has a divided process section. The two new sections are named social emotional processes and task process. Though, it should be mentioned that the content of the two sections is similar to the united section in Dulebohn and Hoch (2017) IPO model. However, Powell et al. (2004) split up in the process section shows that emotions and task related categorize can be divided as it brings up two sides of team effectiveness.

2.1.3 Challenges of Virtual Teams

The factors; time, location, and culture, create challenges for virtual teams (Verburg et al., 2013), see Table 1. Cultural has also been identified as an element in input of the IPO-model, see Figure 1. The three challenges can either be separately or in combination of each other. Due to this, communication, technology tools, trust, and leadership issues are identified as challenges by Verburg et al. (2013). Research on cultural differences in virtual teams show that cultural differences appear to create obstacles for effective communication (Powell et al., 2004). A virtual team needs technology that can help team members to operate across time, distance and culture. (Cousins et al., 2007).

Table 1. Challenges of Virtual Teams and why it is a challenge.

Challenges	Why?
Time	Different time zones
Location	Located in another part of the world
Culture	Cultural diversity between team members such as language and behavior etc.

According to Dow and Taylor (2010), there are many pressure points that can go wrong. White (2014) says that challenges as language, location, time, and culture have to be taken into account when arranging a virtual team. These four challenges are similar to what Verburg et al. claims as challenges. Though, language is an effect of cultural diversity, which make them even more similar. However, White (2014) argues that adding and removing team members can be a challenges as well. It can even have a negative impact on a virtual team. By changing an original team the dynamics and levels of trust will also change. These parts will also decide if the project will be successful or not. Thus, the critical success factors that can be connected to this are therefore;

- Communication
- Awareness of cultural differences among members
- Collaboration between team members

2.2 Communication

The statement; “how effective a group or team will be is the quality of communication” (Nydegger and Nydegger, 2010, p. 71) shows that communication is a challenge and a critical success factor in projects.

Communicare, which means “to make common”, is the Latin word for communication. With other words a common understanding is/can be created with communication (Zulch, 2014). However, the definition of communication is difficult as it is a multidimensional concept.

Dainty et al. (2007) suggest to break down the communication concept so it would be more understandable and easier to define. As mentioned, communication can have different forms and therefore it can be seen as different concepts as well. However, Dainty et al. (2007) conclusion of the defined different concepts, says that communication is about transferring knowledge in some way. Furthermore it is explained that communication is a two way process of which the message has to go from the sender through a transmitter to the receiver and then in some way back to the sender. This is so the sender will know if the communication has been successful or not (Dainty et al., 2007). Zulch (2014) add to this that the communication outcome mainly depends on the sender, whom has to write or speak understandable to avoid further misunderstandings.

A communication model can help to visualize the process of communication and what it contains. The mathematical communication model made by Shannon and Weaver (1998) contains:

- Information source
- Transmitter
- Communication channel
- Receiver
- Destination

“In the process of being transmitted, it is unfortunately characteristic that certain things are added to the signal which were not intended by the information source” (Shannon and Weaver, 1998, p.7). This could be different things depending on what kind of communication it is. It could be a sound, or static, or errors in the transmitter etc. Thus, affecting the quality of the transmitter and by that also the communication process (Dainty et al., 2007). The process has to work in order to make the communication successful. If one of these components do not succeed with its mission, the communication has failed (Zulch, 2014).

Sharing information is considered essential in order for teams to be valuable. The benefit of having a team is to share unique information to each other based on different background and competence. If not, the benefit of using team will be lost (Levi, 2015). According to Dow and Taylor (2010, p. 11) there are three different ways of communicating in projects, which are:

- Verbal: speaking to one another
- Written: writing documents or memos
- Visual: Presentation, body language, and video.

It is important to develop a common understanding of effective communication in a project team in order to use the most appropriate means for the purpose (Otter and Emmitt, 2007).

2.2.1 Communication in Virtual Teams

Nydegger and Nydegger (2010) describe communication as one of the fundamental differences in virtual teams as this determines how effective the team will be due to the quality of the communication process. Therefore frequent ongoing communication is essential for success (Anderson et al., 2007). Thus, communication between team members in virtual teams can be seen as a challenge (White, 2014). Communication is identified in the IPO-model as a process to make virtual team more effective (Dulebohn and Hoch, 2017). Team members have to work together and communicate effectively in order for the project to succeed. As mentioned in Section 2.1 Virtual Teams, it is important for team members to develop a common sense of the purpose. Though, this can be a problem in virtual teams since the communication is less intensive and there is less face-to-face interaction between team members than a team who are based on the same location (Anderson et al., 2007).

One challenges of virtual teams mentioned by White (2014) is language, see Section 2.1.3 Challenges of Virtual Teams. Language will be used in both verbal and written communication. English has been seen as a language to use in virtual teams since most of the world's population understands it. However, White (2014) claims that attendants from different countries will understand spoken English as a second or even third language better than by a native English speaker. Native English speakers tend to use complex sentences.

Other challenges, see Section 2.1.3 Challenges of Virtual Teams, identified by both White (2014) and Verburg et al. (2013) are location and time. As a consequence, communication can be done in different ways.

Synchronous and Asynchronous Communication

Different types of communication technology have to be used due to the different locations of virtual team members. Members based on the same location do not have to use the same type of communication technology as when they communicate with members located at other places (Panteli and Davison, 2005).

The communication technology can be divided into two types; synchronous and asynchronous. Synchronous communication takes place when team members use face-to-face communication or communication that include that they are online at the same time. When team members are located at different places, can IT, such as videoconferencing and chat, be used (Otter and Emmitt, 2007). Videoconferencing as a virtual team meeting will further be explained under Section 2.3 Virtual Team Meeting. Therefore it is seen as a social way of communicating since participants communicate at the same time. While the contrary asynchronous communication is a delayed conversation between the participants as they are not online at the same time. Asynchronous communication contains IT, such as emails and discussion boards (Hrastinski, 2008).

Otter and Emmitt (2007) claim that effective teams use both synchronous and asynchronous communication. However, the use of the two types vary depending on when it is needed in the project. Synchronous communication can be seen as more effective, though asynchronous communication allows virtual teams to exchange information over an extended period of time (Lin et al., 2008). Although, a combination

of both types should be seen as necessary, especially in a team that have members on different locations.

2.3 Virtual Team Meeting

Virtual team meeting is a part of synchronous communication as it is a technology applied for communication that happens at the same time for both parties, see Section 2.2.1 Communication in Virtual Teams.

Individual team members who do not report to the same manager are the most common reason for lack of progress in virtual teams (White, 2014). During meetings everyone will be anxious to play their part but when reporting back to their manager they may find out that their work in the virtual team is not highly prioritized by their manager especially in multinational organizations. Due to this, it is challenging to manage a team as this between meetings (White, 2014).

There are four elements of language skills during a meeting in virtual teams (White, 2014, p. 113), which are;

- The ability to speak,
- The ability to understand what is being said,
- The ability to write,
- The ability to read.

Each team member will have different skills in each of these four areas. “Making an assumptions to the contrary could lead to major problems with understanding and with decision making” (White, 2014, p. 113).

Face-to-face communication between team members should be introduced early in a project. This will create a closer interpersonal relationship between the team members and can have an impact of the team’s performance (Powell et al., 2004).

2.3.1 Videoconferencing

Creating some sort of relationship will be easier as face-to-face communication is possible during videoconferencing (Panteli and Davison, 2005). Videoconferences can increase the quality of decisions because of the ability to have face-to-face meetings. As for this the levels of performance and trust can increase (Verburg et al., 2013). Face-to-face meeting is more efficient than asynchronous communication, due to the fact that texts in a message may not include the same amount of information (Lin et al., 2008). A face-to-face meeting with a video link provides opportunity be more spontaneous and can by this contribute to answer other questions as well (Panteli and Davison, 2005).

2.4 Culture

Culture is identified as one of the challenges in virtual teams, see Section 2.1.3 Challenges of Virtual Teams. It is important to understand that “understanding people means understanding their background, from which present and future can be predicted” (Hofstede, 1994, p.1). Furthermore Hofstede (1994) explains that culture can be defined as different categories of people, such as; national culture, gender

culture, age group and generation culture, occupational culture, and organizational culture. However, the culture in this chapter and further in this report will be defined as national culture, which consider how people act and behave based on the country they are from. It is important to identify what is meant by the culture that is being used (Hinds et al., 2011).

Culture differences exist in many of today's companies and can be frustrating because cultures can be both confusing and unpredictable (Gesteland, 2002). "People from some cultures tend to be open and creative in solving problems. Others tend to stay within their area of special expertise" (Boddy, 2001, p. 109). Hofstede (1994) has identified five dimensions that can explain the differences between cultures, and they are as follows;

- Power Distance
- Individualism vs. Collectivism
- Masculinity vs. Femininity
- Uncertainty Avoidance index
- Long term vs. short term orientation

These dimensions will further be explained together with Gesteland (2002) answer to cultural differences. Though, it is important to understand that these two authors have their conclusion based on different research methods. Hofstede's dimensions are based on case studies while Gesteland's cultural dimensions focus on business culture and are based on his own experiences. Table 2 summarize each of Hofstede's (1994) dimensions with focus on "at work place".

Table 2. Summary of Hofstede's culture dimensions at work place (Hofstede, 1994)

Dimensions at work place		
1	<i>Power distance, small</i> Hierarchy means an inequality of roles, established for convenience. Subordinates expect to be consulted. Ideal boss is resourceful democrat	<i>Power distance, large</i> Hierarchy means existential inequality. Subordinates expect to be told what to do. Ideal boss is benevolent autocrat (good father)
2	<i>Collectivism</i> Value standards differ for in-group and out-groups: particularism. Other people are seen as members of their group. Relationship prevails over task. Moral model of employer-employee relationship	<i>Individualist</i> Same value standards apply to all: Universalism. Other people seen as potential resources. Task prevails over relationship. Calculative model of employer-employee relationship
3	<i>Feminine</i> Assertiveness ridiculed. Undersell yourself. Stress on life quality. Intuition	<i>Masculine</i> Assertiveness appreciated. Oversell yourself. Stress on careers. Decisiveness
4	<i>Uncertainty; weak</i> Dislike of rules - written or unwritten. Less formalization and standardization	<i>Uncertainty; strong</i> Emotional need for rules - written or Unwritten. More formalization and standardization
5	<i>Long term orientation</i> Looking forward to the future.	<i>Short term orientation</i> Tend to look back, favor of tradition.

2.4.1 Power Distance

The definition of power distance is in the equality among people. This means if the nation values equality, the nation has a small power distance (Hofstede, 1993). High power distance is when hierarchy exists. Though, power distance can be seen differently depending on the situation, such as if it exists in a family or organization (Hofstede, 1994).

Formal vs. informal

Gesteland (2002) calls his version of this dimension as formal vs. informal. Cultures difference where status and power are reflected is called formal cultures. Both sides should be aware of the differences in their culture, otherwise misunderstandings between the two parties could easy occur.

2.4.2 Individualism vs. Collectivism

Individualism and Collectivism are if people prefer to act individually or if they prefer that a member in a group decides (Hofstede, 1993). This is related to how individuals integrate in a group. At the work place, collectivism are those people which are relationship focused rather than task focused. Here it is important to have a feeling of being a part of a group. As to the opposite, individualism see people around them as potential resources, it does not have to be a member of the group. They is more focused on task rather than relationship. Cultures are somewhere between these two extremes. Collectivism can also be presented as a particularism, which is a way of thinking. A person should be treated after what kind of group or category they belong to. Opposite to this is universalism where the way of thinking is connected to that everyone should be treated the same way (Hofstede, 1994).

Deal vs. Relationship Focused

Gesteland's (2002) version of this dimension is his "great divide" that brings up the differences between relationship focused and deal focused oriented people. Business cultures all over the world can be divided into two parts, relationship focused and deal focused which can with other words be described as the great divide. The definition of relationship focused people are those whom prefer to deal with persons or groups that are well known to them, such as family and friends, which can be seen as Hofstede's Collectivism. Relationship focused people do not like to do business with strangers, especially foreigners, due to the fact that they may not be trusted. Therefore they are "less comfortable discussing important issues in writing or over the telephone" (Gesteland, 2002, p. 29). Relationship focused people can be understood as more people-oriented. The contrary to this is deal focused, or individualism as Hofstede calls it, which are people who are fundamentally more task-oriented and by this can do business with strangers only after a few minutes from the first meeting. Gesteland (2002) suggests that the first approach should depend on if the other person is deal- or relationship focused. Further, Gesteland (2002) has more culture diversities and dimension like Hofstede, but one of them can be directly connected to Gestelands deal- and relationship focused oriented people.

Direct vs. Indirect Language

Relationship- and deal focused people communicate differently. Deal focused people tend to be more straightforward in their language, while relationship focused people

would like to maintain harmony and promote smooth interpersonal relations (Gesteland, 2002).

2.4.3 Masculinity vs. Femininity

The third dimension describes what is expected of the two genders. These two roles have always been separated through history, however the two roles have different relationships depending on the cultures (Hofstede, 1993). Hofstede describes female and male behavior, competitiveness, and values as different. He argues that women in a feminine country have the same values as men. However the opposite, a masculine country divides the two gender's value and creates a gap between them, which allows to understand them differently (Hofstede, 1994). Gesteland does not have any reply to this dimension.

2.4.4 Uncertainty avoidance index

Hofstede (1993, p.90) defines his fourth dimension as the “degree to which people in a country prefer structured over unstructured situations”. Weak uncertainty avoidance or unstructured situations as it also can be called, is when people try to have as few rules as possible. People within this type of culture are not expected to show emotions (Hofstede, 1994).

The opposite too this, high uncertainty avoidance or structured situations, are cultures where people have a higher need to express themselves emotionally. Compared to weak, high uncertainty strives to have strict laws and rules that they can follow without any problems (Hofstede, 1994). The rules can both be written and unwritten due to the country's traditions (Hofstede, 1993).

Expressive vs. Reserved

Gesteland's (2002) answer to this is his expressive vs. reserved cultures where he refers to how cultures communicate. Interpersonal communication can be divided into three types, which are as follows;

- Verbal communication – words and the meaning of them.
- Paraverbal language – how loud someone speaks, the meaning of silence, and conversational overlap.
- Nonverbal communication – body language

Paraverbal and nonverbal can both be connected to expressive and reserve cultures. However, expressive culture is more extreme in paraverbal and nonverbal communication than reserved culture, which is seen as the direct opposite to expressive culture (Gesteland, 2002).

2.4.5 Long Term vs. Short Term Orientation

Long term orientation refers to values when looking forward towards the future. The opposite to this is short term orientation where people tend to look back, and find values in tradition and the past. Short term oriented people see a value in present as well.

Rigid-Time vs. Fluid-Time

Gesteland's rigid-time versus fluid-time refers to how cultures value their time in the present. Punctuality is an important part in rigid-time culture. Schedules and agendas are fixed, and interruption during business meeting is not accepted. This type can with other words be called monochronic. The direct contrast are fluid-time cultures, or polychronic as it also can be called, where people are not as obsessed with deadlines as the monochronic. Though, Hofstede and Gesteland have different focuses on this, both refer to the value of time and what it is for different cultures.

2.5 Cross Cultural Communication in Virtual Teams

Cultural differences in a team can both have advantages and disadvantages, though as mentioned before, culture is a challenges within virtual teams. Barinaga et al. (2007) argue that cultural differences do not always have to have a negative impact on a team since team members can solve a complex task in more than one way due to the influences of cultural differences. Though, Hofstede (1994) says that in order to understand how people work, you have to understand their background and where they are from.

Team members' different levels of understanding and opinions depend on their cultural background (Otter and Emmitt, 2007). The communication is not only verbal in a virtual team, it can also be nonverbal. Around the world the aspect of nonverbal communication differs as well. People with different cultural backgrounds misunderstand body language as easy as spoken or written words. However, it is easier to learn other cultures nonverbal language than their verbal language (Gesteland, 2002). Therefore, it is important to find paths where cultures can work together effectively. There is a set of norms that has to be developed by the team on how they should work together, which includes (Boddy, 2001, p. 131);

- Developing a common language – a mutually understood terminology.
- Group boundaries – who is in, and who is beyond the margin?
- Power and status – how these are allocated within the group – by success or rank?
- Relationships – how authority and peer relationship should be managed.

This set of norms does not take cultural differences into account which it should since cross cultural differences in a virtual team can create many issues, due to the fact that cultures behave and act differently within certain situations.

However, it is not always the cultural differences that is the cause of it. White (2014) claims that lack of common communication protocols can be an issue instead. On the contrary, based on their observations, Ely and Thomas (2001) claim that there is no such thing as cultural diversity that can influence a group behavior, there are only the attitude and the decisions people make from that. (Ely and Thomas, 2001)

“Communication is a tool that directly influences the social dimensions of the team” (Lin et al., 2008, p. 1039). Cultural differences in virtual teams will have an impact on projects because of the facilitation of communication and the building of work relationships among members. This will then decides if there can be a project management success (Verburg et al., 2013, Lin et al., 2008). Culture and

communication are two of the identified challenges of virtual teams and both of these can be seen as success factors as well.

If a virtual team will have team members located in another country, the possibility of cross cultural differences increase (Jarvenpaa and Leidner, 1998). This means that the verbal and nonverbal communication behavior can be different within the team (Shachaf, 2008). The cultural differences may cause misunderstandings in the communication chain, see Section 2.2 Communication, since the message may not be understood as it should (Lientz and Rea, 2012). People with more knowledge about cultural differences tend to explore more than others, which can help them during dialogs with team members with another culture background. This can in return create trust between team members and by that also avoid future misunderstandings (Jarvenpaa and Leidner, 1998).

Hofstede (1993) claims that national cultures change very slowly contrary to organizational cultures which can change very fast even though it is not necessary.

2.6 Summary

A further explanation of communication as a challenge and as a critical success factor is that “without good team meetings a virtual team is very unlikely to achieve its objectives and so particular care should be taken in developing guidelines for virtual meetings and for facilitating feedback” (White, 2014, p. 117). As for this, there are other factors that are needed in order to succeed in virtual team meetings, which are as follows;

- People have different levels of understanding each other in speaking, reading, and writing depending on where they are from. Participants needs to know how to speak the same language (White, 2014).
- The level of understanding cultural behavior (Hofstede, 1994).

The challenges of virtual teams are mainly connected to cultural differences. As both the challenges in virtual teams and in cultural differences have its similarities to each other.

As mentioned before, Powell et al. (2004) IPO-model have two process sections. One where relationship is in focus for team effectiveness and the other, which is more task and communication oriented for team effectiveness, see Section 2.1.2 IPO-model. These two sections become even more clear if Gesteland's (2002) Deal vs. Relationship Focused is taken into consideration.

If team members can understand and accept the cultural differences among team members, it can minimize the negative effect the cultural differences (Powell et al., 2004). Therefore it should be seen as essential to understand and accept each other's cultures and by that create a more effective work. The challenges will mitigate if this can be achieved.

3 Methodology

This chapter aims to present how the research strategy, research process and data collection have been carried out. Ethical considerations involved in the research will be described as well.

3.1 Research Strategy and Research Design

In order to increase the validity and reliability of a research it is important to choose the most appropriate research strategy for the occasion. The chosen research methodology then needs to support the research questions. This research study applies a qualitative research approach which will support answering questions as “Why” and “How?” and contributes to an understanding of the underlying issues related to the subject. A qualitative research strategy is chosen to create an understanding of the social world which is an advantage compared to a quantitative research strategy (Bryman, 2012). However, Bryman (2012) explains that there is criticism about applying a qualitative strategy, such as it is seen to be too subjective. This criticism focuses on the personal relationship the researcher has with the people that are being studied.

It should be mentioned that there are two larger types of research strategies, these are qualitative and quantitative research. The biggest different between qualitative and quantitative research is that “quantitative researchers employ measurements and qualitative researcher do not” (Bryman, 2012, p. 35). Another difference between these two are that a qualitative study can be hard to replicate as the researcher can draw conclusions during the work. Therefore it becomes complicated to do the exact same research twice as the researcher makes conclusions from his/her own perspective and conclusions during the study. The qualitative research is based on what the researcher observes and the chosen focus of that.

3.1.1 Research Approach

An inductive approach was chosen as this research focuses on the relationship between theory and research, as the theory is generated from the research. “The process of induction involves drawing generalizable inferences out of observations” (Bryman, 2012, p. 26). Further, the epistemological position of this research is described as interpretivist. This means that focus is in understanding the social world. This would be done through an examination of the interpretation of the world by its participants. Furthermore, the ontological position of this research is of the one described as constructionist meaning that the “social properties are outcomes of the interaction between individuals” (Bryman, 2012, p. 380).

3.1.2 Research Process

To avoid potential problems during the research, a research process should be made. Bryman (2012) argues that it is essential for the researcher to do this as it would give others an understating of the study as well. Therefore, a research process description was done in order to increase the replicability of a qualitative research. According to Bryman (2012) a research process is made to give the researcher an overview on what should be done as well as where and when. A research proposal was made in order to define the research question and to describe what the study would contain. Relevant

literature was reviewed in the decided area. Three observations were made in order to identify challenges. Further, a descriptive self-completion questionnaire was made based on literature and observations to assure that upcoming interviews will have the right focus. By this, the interviews brought up areas that the participants already knew were a problem area. A fourth observation was made during the hand out of the self-completion questionnaire. 10 interviews were carried out after a review of the interview guide. Obtained data from interviews were transcribed to certain extent. All findings were then analyzed and presented in discussion and conclusion of the research report. Figure 2 visualizes the simplified research process for a better understanding of how the research was carried out.

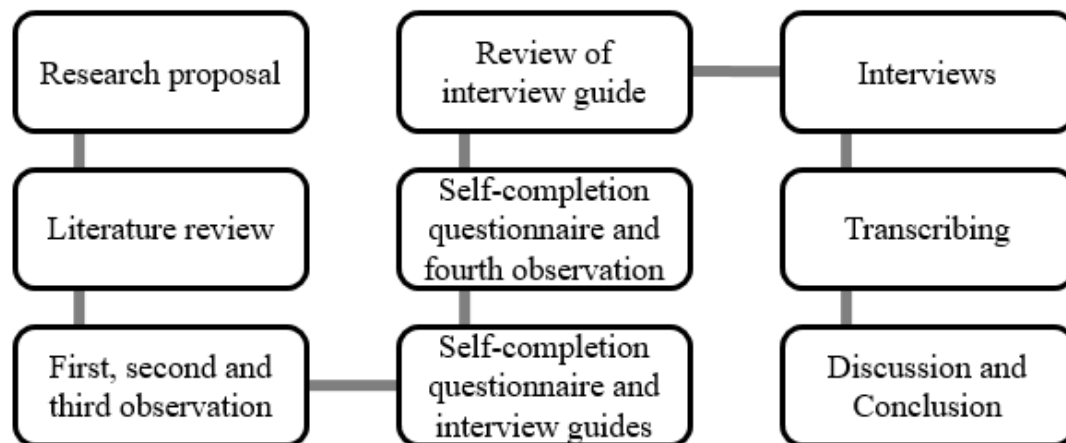


Figure 2. Research Process

3.1.3 Literature Review

The literature review was carried out to identify already existing literature about the subject, such as challenges in virtual teams when it comes to cultural diversity and communication during meetings. The literature identified communication and cultural differences as two challenges of virtual teams. Further theory that was collected brought up the challenges within communication and dimensions of culture. Furthermore a summary of these and together with further literature of virtual team meeting was made. The collected information about virtual teams, communication and cultural differences was the base for the interview questions for the selected case organization.

The literature review was based on the following key words; *virtual teams*, *virtual team meetings*, *communication*, *culture dimensions*, *cross-cultural differences*, *teamwork*, *international projects*. The literature have been sought at Google Scholar and Chalmers Library.

3.1.4 Case Study

A case study design was chosen to study how cultural differences can affect virtual team meetings. The goal of a case study research is to understand the selected case in depth. The term case study involves an exploration of a specific case, such as community, organization, or even a person. According to Bryman (2012) case studies are often seen as research methods. However, when the case study is chosen, a research method or methods are needed to collect data. He explains that methods are needed in

order to collect data, and this can be done through interviews, observations, etc. Bryman (2012) says that this mean that data will not be provided when a case study is chosen, the methods are still needed. The methods chosen for collecting the data for this research are observations, self-completion questionnaire, and interviews.

3.2 Data Collection

Empirical data has been collected in three ways; observations, self-completion questionnaire and semi-structured interviews. This research needs a strategy that embrace both self-completion questionnaire and semi- structured interviews. However, the self-completion questionnaire will only be carried out to identify the challenges and issues. Furthermore, the identified challenges and issues will then be the base for after coming semi-structured interviews. The self-completion questionnaire is made to confirm the observations that have been carried out. This is to ensure that what are seen as critical should be handled first. Therefore, the overall research strategy for this research will be qualitative research strategy and its data collecting methods. The purpose of the observations were to understand how meetings work and what can be the challenges. The self-completion questionnaire then confirmed the observations. Due to this semi- structured interviews could be performed.

3.2.1 Sampling in Qualitative Research

A purposive sampling was used for this qualitative study. The meaning of purposive sampling is that the participants were not randomly chosen. Participating organization and people are used because of their relevance to the main research question (Bryman, 2012). The type of purposive sampling that is used in this study is theoretical sampling. The concept of theoretical sampling is that the researcher can make decisions on what data to collect next during the whole data gathering process. Due to this, respondents are selected based on the themes that needs to be examined within the research, and also because they are able to answer the main research question.

3.2.2 Participant Observations

Participant observation is one of the methods that can be used to understand the nature of phenomena, which is the goal in a qualitative research (DeWalt and DeWalt, 2011). Participant observations were carried out in order to gather data. The first observations became the foundations for self-completion questionnaire and interview questions. Though, it is seen common for the observer to gather further data through interviews and collection of documents (Bryman, 2012). Bryman (2012) explains participant observations as the participant observer, which here is the researcher, put herself in a group for an extended period of time to observe behavior and conversations. Participant observations allow the observer to collect the data that is of interest for her/him (DeWalt and DeWalt, 2011).

Participant observations were performed during meetings at the case company. In the beginning of each meeting the researcher was briefly presented for the attendances of the meeting. Due to ethical consideration, the attendances of the meeting have the right to know why an observation will be carried out and at the same time receive essential information about the study. During each meeting, the researcher sat in the back of the

room in order to not disturb the meeting agenda. However, according to Bryman (2012) the participating observer is allowed to ask questions if it suit the situation.

The first and second participant observation was carried out on the 27th of February 2017 and 2nd of March 2017. The first observation was carried out to understand how the company's meetings works and identify notable challenges. The second meeting observation was carried out to understand how the virtual team meeting works. This observation was also the foundation for the self-completion questionnaire questions. Focus during this meeting were the participants' behavior. The third observation's focus was to ensure that the self-completion questionnaire questions were appropriate for virtual team meetings. The findings of the three observations were findings of three different project team meetings. The self-completion questionnaire was carried out during the fourth observation on the 28th of March 2017. The study's semi-structured interview questions are based on all previous meetings and answers from the self-completion questionnaire. Furthermore, the case study findings will refer to this meeting as well. However, the answer of the self-completion questionnaire are from the Swedish attendances during this meeting as the Chinese colleagues did not arrive. The overall summary of the participating observation during the meeting can be seen in Appendix D.

3.2.3 Self-completion Questionnaire

A self-completion questionnaire is a type of survey and is usually a part of quantitative research as it is easy to code the result (Bryman, 2012). However, as explained in Section 3.2 Data Collection, it is used in this research as a form of confirmation of observations. Self-completion questionnaires are identified in their fixed set of questions. With other words, the questions are very specific and offer the interviewee a fixed range of answers. A fixed set of questions and answers are easy to code afterwards. The difference between a structured interview and self-completion questionnaire is that in a self-completion questionnaire the respondents are responsible to answer it by themselves. However, this can result in a poor response rate as the interest in answering may not be high (Bryman, 2012).

The self-completion questionnaire, which can be seen in Appendix A, was handed out during a meeting 28th of March 2017. As there only were attendances from the Swedish side, the self-completion questionnaire was handed out in paper form. Though it should be mentioned that the self-completion questionnaire was available online as well. However it was not needed as there were no members participating from China. It should be mentioned that the attendance of Chinese colleagues was brought up by the Swedish attendance before the meeting because there are rarely Chinese people participating during the meetings.

The self-completion questionnaire was unfortunately not successful as the response rate was low. Only five out of 13 meeting participants answered the self-completion questionnaire. Due to the poor response rate, the answers from the questionnaire were excluded in Chapter 5 Empirical Findings. However, the responses on one of the questions indicated that the distance between China and Sweden should be seen as an issue in the virtual team aspects because members cannot meet face-to-face on regular basis. A few of the interview questions were therefore based on the availability of seeing members face-to-face.

3.2.4 Interviewing

A common method to collect empirical data is interviewing, though this can be done differently depending on the chosen research strategy. Qualitative research applies unstructured interviews and semi-structured interviews while quantitative research use structured interviews. The differences between these are that qualitative interviews allow more flexibility while quantitative interviews have a more strict set of questions. The researcher has a larger interest in the interviewee's point of view in a qualitative research. In a quantitative structured interview the researcher is interested in answers that can be coded easy (Bryman, 2012). One advantage with interviews in general, according to Bell (2014), is its adaptability. A disadvantage mentioned by Bryman (2012) is that interview as a method is very time consuming, as it contains prepare, perform and analyze (Bryman, 2012).

The chosen interview type for this research was semi-structured interview as it allows to have an interview guide that can be flexible and that the questions are open-ended questions. Open-ended questions minimize the chance of getting a yes or no answer. "Qualitative researchers are frequently interested not just in what people say but also in the way they say it" (Bryman, 2012, p. 482). This makes the researcher willing to ask questions even if it is not in the interview guide (Bryman, 2012). Bryman (2012) explains that the researcher should consider what should be asked in order to answer the research question. The guide should therefore contain a certain amount of topic areas, so each question will be connected to a topic. By formulating questions in forehand the researcher will get answers that will match the research question and by that hopefully answer it.

One set of guided interview questions were prepared on forehand, which is presented in Appendix B. These set of questions are based on self-completion questionnaire answers, observations, literature review and the research question. There were three themes of the guided interview questions. Which were; virtual teams, culture, and communication during meetings. Ten interviews were performed with three system managers and seven system engineers from different groups within the company. Interview participant from different groups can contribute to a more general result for the company. The interview length was between 30-45 minutes for 9 of the interviews. The 10th interview lasted for more than 1 hour as there were a lot of side tracks that came up during the interview.

The flexibility of semi-structured interview was used when the researcher followed up by a "why?", and/or "how?" question when a yes/no answer was given from the participant. The interview guideline is presented in Appendix B. All interviews were recorded to be transcribed after. An overview information is presented in Appendix C.

3.2.5 Transcribing

Transcribing interviews mean translating spoken words into written words. The interviews that have been performed during the research study have also been transcribed to a certain extend. This means that the researcher after the interviews made notes and wrote down quotes while listening to the recording that was performed during the interview. These notes and quotes were then later used in Chapter 5 Empirical Findings. The advantages of transcribing the interviews are that it helps the researcher

to remember, aid when searching for similar answers from other interviewees, and the answers can be analyzed multiple times (Bryman, 2012).

All interviewees were asked if the interview could be audio-recorded as they had to give their permission before the recording of the interview could be carried out.

3.2.6 Interview Settings and Context

Ten semi-structured interviews were carried out in the research. From the studied case organization ten people were interviewed, three system managers and seven system engineers. As mentioned in Section 3.2.4 Interviewing, the participants were randomly selected in the company as this will give a more general result for the company. The position they had in the company was less relevant, but important was that they worked with virtual teams consisting Chinese colleagues, see Section 1.5 Research Scope and Limitations.

The language used in the interview was Swedish as the researcher and all of the interviewees have Swedish as their native language. All of the interviews were recorded as the participant gave their permission for it. The interviews were carried out between the 6th to the 20th of April and all of them were held face-to-face in a booked meeting room at the company.

All of the participant got a brief information email about the interview before the interview was carried out to inform but also to ensure that the participant has contact with Chinese colleagues.

3.3 Analyzing

How the conclusions were drawn in a qualitative study can be difficult to understand as the process of analyzing data in qualitative studies can be unclear (Bryman, 2012). Data can be analyzed through different kinds of computer software's such as Nvivo. However the researcher chose to not use any computer software as she took notes and quotes while relistening to the audio-recordings, although Bryman (2012) suggests to use a computer-assisted qualitative data analysis software. Though, if the research would have contained more interviews, the researcher would consider to use such software as it would be too much data to keep track on.

Most common criticism towards qualitative coding according to Bryman and Bell (2015), is that the context might be lost of what is being said as part of text will be taken out of its own context. Therefore, quotes are used in Chapter 5 Empirical Findings. The quotes are all connected to the context of the theme they are under. These quotes thereby reflect of the context of where they have been found.

3.4 Research Reliability and Validity

It is important to reflect on the research reliability and validity. Bryman (2012) discusses that there are different types of reliability and validity. External reliability concerns the degree of which the study can be replicated. As mentioned before in chapter 3.1 Research Strategy and Research Design, this research can be hard to replicate as it is a qualitative research and that the researcher can make conclusions

during the process. These conclusions may not be the same for another researcher. However, according to Bryman (2012) the reliability mostly concerns how the researcher explains the research procedures, which refers to external reliability. The external reliability was reviewed and approved by the supervisor. The chosen topic for the research was approved early in the process by both the supervisor at Chalmers University of technology and by responsible teacher at Northumbria University.

Internal reliability is brought up when there is more than one researcher. This research includes one researcher which makes internal reliability unimportant. Internal validity refers to whether there is a match between the theoretical ideas of researcher and the researcher's observations. Internal validity is definitely a part of this study as it contains a large amount of literature review and observation. External validity refers to how generalized findings can be across social settings which will also be taken into consideration as it contains a case study and interviews.

Though, it can be discussed whether or not validity of the result can be accepted in order for the result to be generalized as it contains a small amount of interviews. Furthermore the case company has a complex organization which can make the result of the research less generalized. Therefore, the validity of the research result should not be seen as a correct generalization of the research topic.

3.5 Research Ethics

Before the start of each interview, the researcher provided information regarding both the purpose of the research and how the interviews would affect and contribute to the research (Bryman, 2012). This means that the researcher described what the research was about and how answers from interviews will be used and that the participants will have a pseudonym in order to be anonymous in the research study. This was done through an informed consent form. The participants of the interviews also had to give their permission for the researcher to audio-record the interviews, which according to Wiles (2013) is a must. As for the interviews, the members of the observed meetings were also informed about the research and how the observations would be used. However this information was only given verbally. Bryman (2012) discusses that it is important to give as much information as possible to the participants so they before can make a decision whether they wish to participate or not. In this research report, the participants of the interviews are named "SM 1-3" and "SE 1-7". As mentioned before this is done in order for the participants to be anonymous. The case study company has approved that there are no confidential information in the research before it was published.

4 Case Description

The case examined in the study focus on meetings where two groups of people from two different national cultures participate, these groups of people can be seen as members in virtual teams as they work within the same project but are seated at different locations in the world. The case considers virtual team meetings in an automotive industry company. The fast-growing company with over 2000 employees has a clear vision to develop cars for a different tomorrow. The company's headquarter is located in Sweden but the production of their own car is based in China. This means that the Swedish employees need to have daily communication with their Chinese colleagues in China. Except for this, the company also develops parts for Sweden's largest car brand company.

A new project will be carried out at the company with focus on cultural differences in order to improve the ability to cooperate and communicate within the company and its different nationalities. The aim of the project is to make a common corporate culture where collaboration and trust are the foundations. The purpose of the project is to build bridges between the two national cultures of Sweden and China. This research can therefore be seen as a part of this project as it aims to understand the cultural differences in virtual meetings between the two national cultures.

As this is a company which works in two countries, they need to communicate with each other which can be done through virtual meetings. The people who participating in the study work within different projects, however they all need to communicate through virtual team meetings in some way. The size of each participants own virtual teams in the research vary as they work with different projects and different teams.

4.1 National Culture of Sweden and China

The company consist of many different national cultures. However, China and Sweden can be seen as the largest national cultures in the company. The projects are often carried out with both Swedes and Chinese people involved, therefore their collaboration can be seen as a virtual team collaboration. Both Chinas and Sweden's national cultures will be described below from the theory's point of view. Table 2 in Section 2.3 Culture reshapes into where the Swedish and Chinese cultures would fit in in Hofstede (1994) five dimensions, see Table 3.

China and Sweden are two very different cultures when they are related to Hofstede's dimensions. However there is one dimension were according to Hofstede (1994), China and Sweden are alike. Both cultures are seen as they have weak uncertainty avoidance which means that no one of them favors to show emotions. This can also be linked to Gesteland (2002) expressive vs. reserved, presented in Section 2.3.4 Uncertainty avoidance index. A reserved culture is less extreme in both verbal and nonverbal communication.

Table 3. Where Sweden and China are placed in the cultural dimensions according to Hofstede (1994)

Dimensions at work place		
1	<i>Power distance, small</i> Sweden	<i>Power distance, large</i> China
2	<i>Collectivism</i> China	<i>Individualist</i> Sweden
3	<i>Feminine</i> Sweden	<i>Masculine</i> China
4	<i>Uncertainty; weak</i> Sweden and China	<i>Uncertainty; strong</i>
5	<i>Long term orientation</i> China	<i>Short term orientation</i> Sweden

4.1.1 Characteristics of Sweden's national culture

According to Hofstede's (1994) five dimensions, Swedes work together were colleagues are seen as equal. The ideal boss for Swedes is a resourceful democrat. The opposite of this is to have a hierarchy organization. The definition of hierarchy is that it is a system that shows inequality which is established for convenience.

Swedes see people around them as potential resources, by this, Swedes do not have to create a relationship in order to give out or get new tasks to people they do not know (Hofstede, 1994). Gesteland (2002) explains that Swedes are task-oriented and that they are willing to do business with strangers, with other words they are very open-minded when it comes to work with strangers.

Sweden is defined as a feminist country by Hofstede (1994) which means that everyone in Sweden see each other as equals, i.e. men and women share the same values.

Sweden is seen as a short term orientation country which means that they value tradition and how things have been done in the past. This means that Swedes do not prefer changes in their life.

4.1.2 Characteristics of China's national culture

Hofstede (1994) places the Chinese culture in the large power distance folder. This means that hierarchy exist within the Chinese culture. In a hierarchy organization, decisions can only be taken by you depending on your level and position in the organization. People are expecting to be told what they should do from people higher up in the hierarchy.

For Chinese people it is seen important to create a relationship with the people you work with. Relationship prevails over task which is the contrary to the Swedish culture,

which means that they value relationship very high. If the relationship is good then so are the teamwork.

Hofstede (1994) defines China as a country where men and women do not share the same values. The two genders also have different behavior and competitiveness which can create a gap between them and are therefore not seen as equal.

According to Hofstede (1994) China is a country that does not look back. They have their vision set on the future and by that they are not afraid to change things if it is necessary and if the decision is made by someone higher up in the hierarchy.

5 Empirical Findings

The aim of this chapter is to outline the findings of the research, such as what has been identified during interviews and observations. The chapter contains four main areas which represent virtual teams, communication, culture and virtual team meetings. Each area contains data and quotes collected from executed interviews and observations connected to the research topic.

5.1 Virtual Team

The chosen case company consists of many different virtual teams as they are divided into different subcategories. Though within these groups they work towards the same goal. The problem, which they are aware of, is the collaboration between the two major cultures, China and Sweden. There are arguments in how to work in a team but there are also statements in how it actually works today.

The issue of the collaboration between the two cultures became very clear during the researchers first observation as *“this is not the European way to do it”* was brought up when the Swedish and Chinese colleagues could not agree on how to proceed with the project.

One of the System Engineers believes that there are many colleagues in Sweden that may think they understand the Chinese culture.

SE 2 – *“We believe that we understand the Chinese culture, but we do not”*

Though, the System Engineer continues to explain that one of the huge advantages of having Chinese colleagues in the team is that one of the company’s market focus is China. He explains that it is good to have people in the team that actually understand the culture as they have it as their own.

5.1.1 Vision of a Successful Virtual Team

The teamwork has to work in order to succeed in a project and one of the System Engineers describes good functional teamwork as;

SE 1 – *“When the deliverables are planned and are followed without that much changes and can be delivered in time. That everyone knows what the other team members can do and not, and that the team can together create a common goal that is achievable”*

Good teamwork can also be seen from another perspective, more as a relationship and understanding of each other. One of the System Managers explains that patency is the most important aspect in a team, which includes;

SM 2 – *“You should be able to say ‘I do not understand’, ‘how do you mean’, and ‘what are your thoughts’ (...) you should be able to ask and to understand”*

The interviewed participants’ vision of a future successful virtual team includes therefore;

- A teamwork where everyone deliver their tasks in time

- Are aware about each other's weaknesses and strengthens
- Always working towards a common goal
- Willing to ask and answer questions
- Willing to share knowledge
- Have an understanding for each other's way of acting and behavior
- Have knowledge in each other's cultures

5.1.2 Challenges of Virtual Teams

In order to reach their vision of a successful virtual team they have to pass the challenges that exist. Some of them will take more time and are considered to be more difficult than others.

Many of the interviewed participants argue that the time zone difference is something that should be seen as an advantage instead as a challenge. This because it creates the opportunity for the project to be active during the night as well. Therefore;

SE 1 – *“You can start the day with the new information they have send you during the night”*

Though, one of interviewed participants discusses it as both a positive and as a negative aspect;

SM 1 – *“The positive aspect is that we actually together get longer work days, they can work five hours before we go up in the morning and then we can start where they stopped (...) then I can send them a task in the afternoon. The work time could be really effective if it could work like this. Though, the negative aspect for this is that the communication does not work because there is almost no time to communicate with each other during the day. There are a limited amount of time that you can communicate on due to the different time zones”*

However, the distance is explained as a more negative factor as it claims to be easier and better to communicate face-to-face. It is seen to be easier to understand each other when you can see them. This gives the opportunity to observe each other's body language and by that it can be easier to understand the information that is given verbally. Even if it is a challenge to communicate when colleagues are located at different places, the distance have a positive aspect as well. The Chinese colleagues will be close to the company's suppliers, as the car will be produced and launched in China first. The advantage of this is that they share the same culture and speak the same language.

Other identified challenges noted during the interviews are the cultural differences and language. Everyone agree that culture and language are the two most significant issues of the collaboration between colleagues in Sweden and China. These cause confusions and misunderstandings between the team members. Communication can therefore also be seen as an identified challenge of these virtual teams.

One challenge that every participant brought up that is not caused by the collaboration is the technical issues that exist. It is more common that the technique does not work than that it works as it should.

5.2 Communication in Virtual Teams

One of the System Engineers explains the communication with his Chinese colleagues as an ongoing project in itself. It is easy to contact the Chinese colleagues when there is a project running and they contribute to solve problems but when it is solved it is very hard to get in touch with them again.

All interview participants agreed that communication is an important factor in their everyday work. This includes emails, chat, telephone, and video meetings with their colleagues in China. Employees usually use emails as this is seen to be the easiest way to communicate on. Though, it might not be what everyone prefer but it is argued to be the communication channel with the minimum technical issues and misunderstandings. Most preferable is to communicate with each other face-to-face in real life.

5.2.1 Language

The language is identified as one of the challenges in the collaboration between the Chinese and Swedish colleagues and can be confirmed as a problem based on observations made by the researcher. One of the System Engineers answers to the question, what a good functional team is as;

SE 2 – *“A good team is when someone asks a question and will receive an answer that is understandable. Communication is 80% of the project success”*

However, in order to reach the 80%, the language has to be understandable between the team members. The language during meetings should be English but there are unfortunately only a few in China that actually speaks English. Mandarin is instead used between the Chinese colleagues during meetings with Sweden. There are some Chinese colleagues that are more comfortable to speak English. The message from a Chinese person to a Swede can therefore sometimes be expressed in Mandarin to then be translated to English before the actual receiver in Sweden can understand it or that the information has to be translated from English to Mandarin. Another of the System Engineers explains it as;

SE 1 – *“When the subcontractors speaks, they never talk English and therefore someone has to translate it and because of this, some information can get lost during the translation”*

On the interview questions regarding if there is a language that everyone understand, the answer from one of the System Managers was;

SM 1 – *“No, there is not. Chinese speak their language to each other and we speak our language to each other. It is unfortunately very common to do this, though we try to keep it to English most of the time but it is always easier to communicate in your native language. (...) Though, when we translate the information we will likely miss some information. I have been to meetings in China where they sit and speak their native language for 20 minutes and I do not understand anything. Then they explain to me what they have said during these 20 minutes, though it takes only one and a half minute to fill me in. So I am sure that I have missed a lot of important information”*

However, the language knowledge is seen to be hard to do something about as it is up to each individual to learn the language better.

5.3 Culture

There is no doubt that there are problems in understanding each other and that the culture difference is one of the causes of that. The interview participants all agree that there are differences that may not be easy to overcome. However, they all have the intuition to learn how they should work to make the overall collaboration with Chinese colleagues better and more effective.

SE 6 – *“I think the collaboration is okay. I think that the people who work at the company are aware of the cultural collaboration and that we need it. I believe that there is a will to learn how to do it among colleagues but I also think that there are frustration about the technical issues that have become a problem for our communication and that our different culture make us not always think alike (...) but I think that there is a lot we can learn from cultural exchanges between our two business cultures”*

5.3.1 Culture’s effect on Decision Making

Decisions have to be made during the project process, though this is seen as problematic for some of the interview participants. The awareness of that Sweden and China does not make decisions in the same way exist among the interviewed participants. The knowledge about that the existing hierarchy in China can change the decision frustrate the Swedes as they always are unsure if a decision will stand or not.

SE 1 – *“Decisions can change during the process. It is not sure that the decision from a meeting will stand, which is because someone with a higher position in the organization can say something else, and therefore the decision does not stand anymore”*

Another of the System Engineers explains that the culture aspect gives an uncertainty if the decision will stand or not.

SE 2 – *“You can talk to one of the Chinese colleagues who says that he/she have the authority to make a decision. Though, they still go and speak to their boss about it afterwards who can change the decision, so apparently they cannot make the decision themselves”*

The differences between the two cultures are shown when they divide in how to work becomes clear. Even if the interviewed participants possess the knowledge about the differences between the cultures in how to make a decision, they still find it hard to understand how a decision can change that drastic.

5.3.2 Relationship between Swedish and Chinese Colleagues

All the interviewed participant agreed that a relationship has to be created in order to work better across the cultural boundaries. The relationship will help the employees to

better understand each other and why the other person act as they do. The cultural boundaries or differences can be easier to understand if a relationship between the two cultures is created, this will also improve the collaboration between them.

One of the system managers has found a way in order to receive and discuss information with his Chinese colleagues. The System Manager explains it as each person has to find their counterpart in the other culture. This means; find someone with a similar title and a similar position in the organization. If a Swede and a Chinese have the same level in the organization, they will have a more successful relationship and collaboration. He continues to explain that this is because it is harder to get an answer from a Chinese colleague who has a higher or lower level in the organization than him. Which he believes is a consequence of the Chinese hierarchy business culture. His conclusion is that if you can create a good relationship with a colleagues with the same position in the organization, the amount of issues and problems in the collaboration will minimize.

In general, all the interviewed participants consider that they have a good relationship with their Chinese colleagues. Though some of them give the impression of having a more negative attitude towards it when they talk about the relationship. The younger interviewed participants tend to have a more positive attitude towards working with Chinese people. Although there are issues in the collaboration between Sweden and China, the participants with a positive attitude show a willingness to learn how these issues can be solve or improved. However some of the older interviewed participants with a less positive attitude towards the collaboration with China did not show the same interest in learning the Chinese culture. Instead they were more focused on understanding it and how to work around existing issues.

SE 5 – “You have to understand that they have another business culture compared to us and accept it and do the best you can based on the situation. After that you need to build up a relationship because then everyone will be a lot more accommodating (...) it is important for everyone to understand that cultures have different business cultures as well”

The System Engineer continues to argue that it is important to meet face-to-face in order to build a good relationship, which will then improve the communication between them. This statement is supported by another System Engineer who claims that face-to-face meetings are important in the beginning of a project, then after sometime the communication can go over to be through telephone, email or even chat. Although, in order to do this they need to understand each other's backgrounds and business cultures.

One of the System Managers has created a more personal relationship with one of his colleagues in China which furthermore has been successful in projects. The relationship developed as they spent time together outside working hours. This relationship has developed trust between them and helps them to communicate better. One of the System Engineer has created a relationship with her Chinese colleagues only through email and meetings as she has not had the opportunity to meet them in real life. She thinks that it is important to create some sort of relationship with the Chinese colleagues in order to improve the collaboration. She also gives the impression of the willingness to learn more about the Chinese culture in order to develop and improve her collaboration with Chinese colleagues even further.

The conclusion that can be made after the interviews is that it is very important to create a good relationship in the virtual team. This will minimize communication issues and misunderstanding that the cultural differences can cause. A good relationship may not need virtual video meetings. One of the System Managers connects relationship to respect to one another and this will in return give a better collaboration and communication.

SE 7 – You have to meet them face-to-face. After that it will be much easier because then you have gained respect (...) the best thing is to do this over a video link or in real life. If it is not possible to meet them in the beginning of a project some kind of face-to-face meeting has to be done during the project (...) It is much easier for us that have been to China or the Chinese people who have been here to communicate with each other.

Face-to-face meetings over a video link are seen as an important part in the communication for all of the interviewed participants. However, as mentioned above, the meetings in real life are also seen as important, in order to improve the collaboration even further.

SM 3 – “I had the privilege to travel to China to meet my Chinese colleagues which have made our communication to the better. If we have the opportunity to get to know each other, it would be much easier to communicate afterwards.”

5.3.3 Culture Adaption

In order for the collaboration to work the two cultures have to adapt to each other's cultures. They need to work together in one way instead of two different ways. This is therefore seen as a success factor among the interviewed participants.

However, the interviewed participant did not agree on how to minimize the differences between the two cultures. Some suggested that people based in Sweden have to adapt to the Chinese culture as it is a very complex business culture according to them. Though, one of the System Managers who claims to have a very good relationship and collaboration with the Chinese colleagues says;

SM 2 – “I think that it is best for both cultures to meet in the middle, as it would be as much give and take for both sides and both sides will be equally involved and equally excited about it. If it is more adjustments for one side it can be irritation among team members and energy will be wasted on wrong things. (...) I think the cultures can meet in the middle if both sides can explain their pros and cons of ideas and thoughts, and how problems can be solved. By this we can take the best from both sides”

This opinion is supported by the other participants as well. They claim, like the System Manager, that it is important to take the best part of each business culture in order to make a successful collaboration between the two cultures.

SE 4 – “We might think that we have the best business culture here in Sweden because other production companies in Sweden have been very successful. (...) Though, when two different business culture have to work together you want to take the best parts from both. You will leave what is less good about each business culture. However, an

understanding about the other culture has to be developed in order to be able to adapt it. (...) I think that we have already started to meet in the middle and that we have started to adapt to each other's business cultures without knowing it"

Another System Engineer argues that the best would be to meet in the middle but it can be difficult, as her general impression of her own Swedish culture finds changes difficult. She describes Swedes as very traditional, though she believes that;

SE 5 – *"A hybrid of both business culture would be the best, or at least try to understand each other's priorities"*

5.4 Virtual Team Meetings

The overall impression from both the researcher's observations and answers from interviewed participants' shows that today's meetings between Sweden and China does not work as they should and can be improved a lot.

There are arguments that the cultures do not always understand each other, both when it comes to communication and culture. The participants during meetings do not always understand how the cultural influences affect the other national cultures behavior. One of the System Engineers explains it as;

SE 3 – *"They probably think it is strange that everyone in Sweden speaks during meetings as we think it is strange that everyone are quiet there"*

The meetings have and can create frustration among employees because of different challenges and problems that occur during meetings. The willing to have more effective and better meetings from the interviewed participants is high. Though in order to do this there are some factors that needs to improve immediately. The challenges in working in a virtual team are the same as having virtual team meetings. Though, the technical tools are consider to be more important during a meeting as colleagues have to be online at the same time. The other challenges of a virtual team has already been brought up in Section 5.1.2 Challenges of virtual teams.

5.4.1 Technical issues make the communication difficult

Technical issues are seen as the biggest issue in today's virtual team meetings at the addressed case company. The technical issues in turn create more issues in the problem areas of virtual teams.

SE 7 – *The technical issues affect all meetings. I would say that the technical issues are our biggest problem.*

The meetings between Sweden and China do not always have the opportunity to be with both sound and video, and sometimes none of them. For one of the System Engineers the technique usually works as it should. The System Engineer says that it can be hard to have a virtual meeting with China as there are so many technical issues before the meeting has even started. The connection between China and Sweden is interrupted as the sound and video link often does not work as it should. The System Engineer explains the situation and solution as;

SE 2 – *“We start after 10-15 minutes due to technical issues, however it usually ends up with that we close the meeting and start sending emails instead”*

During some of the meetings it is unfortunately only possible to get sound as there are technical issues with the video link. The answer about this from one of the system engineers is that;

SE 1 – *“It always feels better when you can see the Chinese colleagues during meetings. If you can see them it becomes a better meeting because we can get a better communication. The feeling of the meeting is more positive”*

For some of the interview participants it is enough to have sound instead of both sound and video, as they have created a good relationship with their Chinese colleagues already. Though, all of the interviewed participant brought up that it is always good to be able to visualize presentations or other kinds of information. By this it will be easier to describe and show what is meant during the meeting.

SE 3 – *“It would be easier to communicate if both sides would be able to draw on the screen and share it without any technical issues. It would facilitate if everyone would be able to see the face of all the participants in the meeting as well”*

5.4.2 Same Perception of the Meeting

It is suggested by two of the System Managers to send out some sort of confirmation after a meeting about what have been said and decided during the addressed meeting. This can help to avoid misunderstandings among the colleagues if someone had a different perception or opinion about the meeting. Though, before each meeting it is suggested to have a very structured agenda so everyone know what will be brought up during the meeting, as well as participants can follow the agenda during the meeting. The System Managers argue that agendas are seen as a tool to make sure that everyone know which subject is being discussed at the moment during the meeting.

6 Discussion

This chapter aims to discuss and answer the addressed research questions. In order to do this, both the empirical findings and theoretical frame of reference are used.

6.1 Vision of a Successful Virtual Team

The definition of a virtual team is a team which is working together towards the same goal while they are located at different places and in different time zones (Lientz and Rea, 2002, Boddy, 2001). If it concerns a global virtual team the cultural differences have to be taken into consideration as well (Powell et al., 2004). The collaboration between cultures can be seen as something successful as the influence of another culture can help to solve complex tasks (Barinaga et al., 2007). The definition of a global virtual team resembles what the chosen case company's vision of their own virtual team should be like. However, cultural differences in a virtual team can create issues if team members are not aware of each other's cultural differences (Hofstede, 1994) it can also create obstacles for effective communication (Powell et al., 2004).

Today, the cultural differences prevent the case company to achieve their vision of a successful team as the knowledge among employees was not good enough. Therefore, a better understanding of the cultural differences and how to work with it can be seen as the missing piece in reaching the company's vision of their successful virtual team. Even though the employees were fully aware of the other existing issues and challenges, it is hard to overcome them as the cultural differences are one of the biggest challenges but also one of the case company's identified success factors.

If the company learns how to take the best part from each culture they will definitely have an advantage compared to other companies in the same business, as they will gain knowledge about the different national markets as well. The vision of what the virtual team should accomplish and how they should work together is strong. However, it is argued to be a bigger challenge to work in a virtual team than an ordinary project team (Dow and Taylor, 2010), which can make the path long towards the company's future vision.

6.2 Challenges of a Virtual Team

Identified challenges of virtual teams are considered to be; time, location, and culture (Verburg et al., 2013). Effective communication is considered to be a challenge as well, as this becomes more difficult with cultural differences (Powell et al., 2004). These challenges were confirmed in the case study in which culture is defined as one of the main issues of the collaboration between Chinese and Swedish colleagues. Another identified challenge was the technical issues that primarily occur during meetings which prevent the communication from working. Technical tools are seen as something that is needed in virtual teams in order for them to reach all its members (Cousins et al., 2007).

6.2.1 Time

Time is identified as a challenges of virtual team as team members can be in different time zones if they are located in different places of the world (White, 2014). However,

different time zones in a global virtual team give a project the opportunity to be active 24h every day, as team members are located around the world (Carmel et al., 2010). Most of the interviewed participants did not see time zones as a challenge, instead they saw it as an advantage and an opportunity for a more effective work. The time zone differences, as already mentioned, give the case company the opportunity to work more hours than a normal workday and the company can use more time over less amount of days. By that, the project total amount of time can be shortened compared to a team that shares the same time zones.

Even though the team members did not see many challenges concerning different time zones, the implication for the virtual team is that they only have a few hours to communicate together. These few hours should be used effectively in order for the advantage to be successful. Due to the other identified challenges by the interviewed participants this cannot yet be seen as an advantage as there are many issues to overcome during meetings. These include; communication, technical issues, and understanding for the other culture. When these challenges are handled, the time zone differences can definitely be seen as a proper advantage.

6.2.2 Communication and Technical Issues

One of the advantages of having a team with different background and competence is that they can share unique information to each other (Levi, 2015). However, in order to do this the communication chain has to work and if one of the components will fail with its mission the communication will be failed as well (Zulch, 2014). The main existing communication issue for the addressed case company is the language. Some of the employees has better knowledge in English than others. Even if it is claimed to be easier to understand someone with English as their second or third language (White, 2014), the knowledge in English for certain employees were too poor. Therefore, the communication has to first go through translation before it can reach its final destination. Cultural difference can create issues for effective communication (Powell et al., 2004) and language can be seen as one of them, as the translation can affect the communication negatively and important information can therefore be lost. Though, it was argued by the interviewed participants that the communication challenge can be easier to manage if there is an understanding of each other's way of communication.

In order to operate across time, distance and culture virtual teams need support from technology (Cousins et al., 2007). However, the technical issues that existed within the case company prevented them from having effective meetings and communication with each other. This is a challenge that effect all of the other challenges, as technology is the tool for colleagues to contact each other.

6.2.3 Culture

Cultural differences exist for companies who across the globe. The cultural diversity that exist among team members can be frustrating, since cultures are confusing and unpredicted (Gesteland, 2002). It is important to develop an understanding for each other's cultural backgrounds in order to understand the person's behavior (Hofstede, 1994). However, in the case company the understanding of each other's cultural background was not well developed and the attitude towards the cultural diversity was not that positive for some of the interviewed participant. It was argued by themselves

that in order for the collaboration to be successful a better understanding for the cultural differences has to be developed.

6.3 Cultural Understanding

A cultural relationship between the two cultures has to be developed in order to understand each other's differences and similarities. If an acceptance and understanding of the different cultures can be made it can improve the negative outcome of cultural diversities (Powell et al., 2004). This will then help to improve understanding of each other's differences in speaking, reading and writing (White, 2014) and by that, overcome the obstacles of cultural differences affecting effective communication (Powell et al., 2004). Cultural influences help to solve complex task (Barinaga et al., 2007) if team members understand how to use it.

The issues that existed in the case company lead back to the lack of knowledge and understanding of the other culture. A relationship between the colleagues has to be developed to overcome these issues and challenges. It was argued by most of the interviewed participants that the cultural understanding is important for the communication.

6.3.1 Identified Cultural Differences

There were many differences between the two national cultures of Sweden and China. These two cultures need to collaborate in order for the addressed case company to be successful. Though, as Powell et al. (2004) say, you need to have knowledge about the other culture in order to understand why people do as they do. The Swedish employees were aware about the differences but the knowledge behind it was missing.

Two of the most discussed issues between the two cultures were the Chinese organizational structure and the relationship between the virtual teams' colleagues. Both of these are already identified as differences by Hofstede (1994) in his cultural dimensions. Though there are other differences as well that have been identified by Hofstede (1994) between the two cultures. The remaining differences based on Hofstede (1994) cultural dimensions are; feminine versus masculine, and long term orientation versus short term orientation. These were however not seen as issues among the interviewed participants as they were not even brought up.

Though, there is one similarity between the Swedish and Chinese culture identified by Hofstede (1994) which is his fourth dimension; the uncertainty avoidance index which discusses into which degree people prefer structured or unstructured situations. Why this was not brought up as a similarity may be as there was not enough knowledge about it and that the issues are easier to focus on.

Organizational structure

The organizational structure can vary between cultures, which Hofstede (1994) first dimension, power distance, clarifies. The power distance defines the equality among people. Small power distance is a country who values equality and high power distance is a country where hierarchy exists (Hofstede, 1993). The case company's organizational power distance in Sweden is identified as small, while in China is identified as high (Hofstede, 1994). The two cultures need to collaborate in order to succeed, the

interviewed participants were aware of the organizational differences but found it hard to understand and adapt to it.

This type of hierarchy structure has an impact on the decision making in the addressed case company's virtual teams. When a decision has been made during a meeting it can later be changed by someone at a higher level in China. As Swedes are a very task oriented culture (Hofstede, 1994, Gesteland, 2002) they find it hard to change a decision when the process has already began. This can therefore create irritation among the Swedish employees as this was, according to them, not the right way to do it.

Relationship Focused

Hofstede (1993) second cultural dimension, individualism versus collectivism clarifies how individuals integrate in a group. The differences between these two are that one prefers to act individually and the other prefers to be a member of a group who can take the decision for you. For collectivistic people it is important to create a relationship with all the colleagues they work with. They are always after the feeling of belonging. The Chinese culture is identified as a culture who values relationship (Hofstede, 1994) more than what Swedes do. Therefore, it has become important for the Swedish employees to start to create a relationship with the Chinese colleagues.

This divide between the cultures also effect the communication, as it is defined to be different for individualism and collectivism. The individualistic people, or task focused people as they can be called, are identified to be more straight forward in there communication compared to collectivistic people, or relationship focused as they also can be called (Gesteland, 2002). With this relationship, it will become easier to communicate and discuss the project.

As the relationship is important for the Chinese colleagues, there is a need to develop a relationship between the Swedish and Chinese colleagues in order for the collaboration to work.

6.3.2 Relevance of Attitude

Cultural diversity does not influence a group's achievements, instead it is the decision people make and their attitude towards the group (Ely and Thomas, 2001). The attitude towards the cultural collaboration among the case company's interviewed participants varied. They all claimed they had a good relationship with their Chinese colleagues, though, when they talked about it their attitude about it gave another impression. The ones with a positive attitude said that they had problems with the communication sometimes because of the cultural differences but explained that they are willing to learn about the culture so that they can understand their colleagues better. Those with a less positive attitude put most of their energy in blaming the Chinese culture for the team's mistake. They gave the impression of not being willing to learn about the other culture, they only want to learn how to work around the existing issues. Though, a less positive attitude towards the collaboration can be understandable, as cultures can be both confusing and unpredicted (Gesteland, 2002).

The attitude aspect seem to differ over generations and the younger generation seems to be more open to new impressions and has an interest in cultural awareness. People who have the right attitude and possess knowledge about the cultural differences tend

to explore more. This can in turn create trust and avoidance of future misunderstandings between colleagues (Jarvenpaa and Leidner, 1998).

It becomes relevant that companies working with virtual teams crossing cultures take time to reflect about working attitudes and create an awareness and respect towards the cultures they are working with.

6.4 Successful Virtual Team Meetings

The most significant and important factor to succeed in virtual team meetings is to have an understanding of each other's way of speaking, reading and writing depending on the cultural background (White, 2014). Therefore, the level of understanding of cultural behavior (Hofstede, 1994) can as well be seen as important. It should be seen essential to accept and understand each other's culture.

It is argued to be easier to create a relationship when there is a possibility to communicate face-to-face (Panteli and Davison, 2005). However, if it is not possible to be seated on the same place this can be done through a video-link. The importance of having face-to-face communication in the beginning of a project is argued, as it creates a more interpersonal relationship between the colleagues, which in turn can affect the team's performance (Powell et al., 2004). A videoconference also creates the ability for the meeting to be more spontaneous which can contribute with other important information. Unfortunately, the possibilities for the addressed case company to have this sort of meeting is very low as the technical issues were too many. Though, the interviewed participants believed that if the technical issues would improve and if videoconferences would be available, the effectiveness of the meetings would also be improved. Face-to-face communication in an early stage of the project is seen as essential to develop a good relationship and to carry out effective meetings by both the interviewed participant and Powell et al. (2004).

7 Conclusion

The aim of this research was to define challenges and success factors for meetings where people with different cultural background participate. The use of a virtual team is very common today as many companies would like to expand worldwide and need knowledge and inspiration from other cultures. Though, not everything can be positive and there are challenges with working in virtual teams as well. It is even argued to be harder to work in a virtual team than in an ordinary project team, as there are other aspects to take into consideration. Literature concerning virtual teams, communication, and culture have been reviewed. A single case study has been performed with a self-completion questionnaire, observations, and interviews as the data collecting methods. The main finding for the research is; the cultural effect on virtual team communication. The supporting research questions are answered below, followed by an answer on the main research question and suggestions on further research on the subject.

Challenges for a virtual team in relation to multi-cultural communication

The challenges for the case company's virtual team are, as for all other virtual team; different time zones, distance and cultural diversity. Communication and language can be added to these challenges as well, as they were identified as challenges by both the theory and interviewed participants. Another challenge that comes with different time zones and distance, is technical issues which was something the addressed case company suffer of. The technical issues have to be solved before the other challenges can be managed.

Success factors for a better understanding for each other during multi-cultural meetings

A successful virtual team is a team where people know each other abilities and disabilities. A team that can communicate with each other without problems of distance, time zones, and language. A team that can take advantage of each other's cultural diversities. Many of these factors have previously been mentioned as challenges of a virtual team but should be seen as success factors when a relationship has been created between the colleagues. The success factors for a virtual team meeting will therefore be the same. If a relationship is created between the colleagues it will be a lot easier to discuss during meetings. The relationship for Chinese people is important and therefore it automatically becomes important for the Swedes as well, as everyone strives for a good and effective collaboration. Though, in order to do this the attitude has to improve for some of the employees, otherwise an effective collaboration could never be accomplished.

The more alike two cultures are the easier it would be to collaborate with each other. However, with two very similar cultures there are no success factor in the cultural diversity as this brings new solutions and new ideas.

Cultural differences affecting virtual team communication during meetings

There is no doubt that the cultural diversities in a virtual team will affect the collaboration and by that also the communication. Hofstede's (1994) cultural dimensions are a tool that can help to visualize the cultural differences between two or more cultures. The cultural affects lay in the cultural differences, which in turn will affect all of the virtual team's daily work, including meetings. An affecting factors of the cultural diversity in meetings for the addressed case company is language. Which

was something that affected the communication negative, as the knowledge in English varied among the colleagues. However, if an understanding can be created in how the different cultures work, it will be easier to understand how team members communicate and by that meetings can become more effective.

Sweden and China are two cultures that are very different from each other, the case company's issues can still be very general issues to other companies as well, though, with other cultures. Cultural differences need an understanding from its employees to make it work better.

The final conclusion of this research is that cultural differences have an effect on the virtual teams' communication during meetings. The differences exist in the daily work as well. The challenges of virtual teams will be clear everyday as long as the two cultures does not have fully understanding of each other's cultural differences. The successfulness will be achieved when there is an understanding for the different cultures. Not only in how to work with colleagues but also in the colleagues cultural background.

Research limitation and suggestions for further research

This research is considered to define challenges and success factors which are included in multi-cultural virtual teams. However, the assigned case company only provides two cultures that can be compared. Although these two cultures are considered to be very different it is not sure that the result from this research can be adapted on another company as the result are very precise for this company and industry. Another limitation that the reader should have in mind is that the findings are based on only one culture's perception and impression. The findings could be very different with answers based on the other culture or the two cultures together.

A suggested further research on this subject and within the case company should be to evaluate if the two cultures think alike when it comes to their collaboration issues and challenges. If both sides have the same perception of the collaboration. For example it would be interesting to interview the Swedish participants' counterpart in China and see if both sides have the same perception of their collaboration. To see if both sides identifies the same issues and advantages in their collaboration.

Another suggested further research is to look at two different virtual teams. One team which is considered to have a good collaboration and another team which is considered to have a poor collaboration. What resembles the two teams, what are the differences, and what are the similarities between the teams?

8 Recommendations and practical implications

The advantages that can be given from cultural differences should definitely be taken care of. New knowledge, ideas, and solutions should always be welcomed in a technical working company as this will develop the product. The cultural diversity gives the company an opportunity to be global as the team will consist of different nationalities and by that, different knowledge about what certain cultures are interested in on the market. Though, in order to do this, some practical implications are suggested for the addressed case company;

Education in cultural differences

Today the company have a lecture in cultural differences for all of their employees. Though, as there is a lack of understanding of the cultural differences within the company today, the amount of lectures may be possible to increase. These lectures may give a hint about how to foresee future challenges as employees will be aware how people act and behave. As it is important to know how others cultures act it is also important to understand your own culture, and why I act as I do.

Common language

The common language during meetings should be English, though there are people who feel less secure with speaking English. A suggestion to improve the knowledge in English is to hold lectures in it for those who feel that they need to improve it. This will in turn give a better confident to speak during meetings. As a positive consequence, no translation will be needed which will result in an improved communication chain.

Focus on relationship

The importance of creating a relationship between colleagues has been argued by all interviewed participants. Though, it is more important for the Chinese culture to create a culture than for the Swedish culture. However, as this is a collaboration across national cultures both sides have to give and take, therefore the relationship becomes important for the Swedish employees as well. In the beginning of a project, the relationship between the colleagues should be in focus. The team members should have the possibility of meeting face-to-face in real life. If this is not possible, due to economic issues, the team members should be able to have a video-link for all of their meetings in the beginning. Though, it should be mentioned that those with a better attitude towards the collaboration between Sweden and China had the opportunity to meet their Chinese colleagues in real life and got to know them more personally.

9 References

- Anderson, A. H., McEwan, R., Bal, J. & Carletta, J. (2007): Virtual team meetings: An analysis of communication and context. *Computers in Human Behavior*, 23, pp. 2558-2580.
- Barinaga, E. (2007); 'Cultural diversity' at work: 'National culture' as a discourse organizing an international project group. *Human Relations*, 60, pp. 315-340.
- Bell, J. (2014): *Doing Your Research Project: A guide for first-time researchers*, McGraw-Hill Education (UK).
- Bryman, A. (2012): *Social research methods*, New York Oxford university press.
- Bryman, A. & Bell, E. (2015): *Business research methods*, Oxford University Press, USA.
- Boddy, D. (2001): *Managing projects: building and leading the team*, Pearson Education.
- Carmel, E., Espinosa, J. A. & Dubinsky, Y. (2010): "Follow the Sun" Workflow in Global Software Development. *Journal of Management Information Systems*, 27, pp. 17-38.
- Cousins, K. C., Robey, D. & Zigers, I. (2007): Managing strategic contradictions in hybrid teams. *European Journal of Information Systems*, 16, pp. 460-478.
- Dainty, A., Moore, D. & Murray, M. (2007): *Communication in construction: Theory and practice*, Routledge.
- DeWalt, K. M. & DeWalt, B. R. (2011): *Participant observation: A guide for fieldworkers*, Rowman Altamira.
- Dow, W. & Taylor, B. (2010): *Project management communications bible*, John Wiley & Sons.
- Dulebohn, J. H. & Hoch, J. E. (2017): Virtual teams in organizations. *Human Resource Management Review*.
- Ely, R. J. & Thomas, D. A. (2001): Cultural Diversity at Work: The Effects of Diversity Perspectives on Work Group Processes and Outcomes. *Administrative Science Quarterly*, 46, pp. 229-273.
- Fiol, C. M. & O'Connor, E. J. (2005): Identification in Face-to-Face, Hybrid, and Pure Virtual Teams: Untangling the Contradictions. *Organization Science*, 16, pp. 19-32.
- Gesteland, R. R. (2002): *Cross-cultural business behavior: Marketing, negotiating, sourcing and managing across cultures*, Copenhagen Business School Pr.

Gilson, L. L., Maynard, M. T., Young, N. C. J., Vartiainen, M. & Hakonen, M. (2015): Virtual teams research 10 years, 10 themes, and 10 opportunities. *Journal of Management*, 41, pp. 1313-1337.

Griffith, T. L. & Neale, M. A. (2001): 8. Information processing in traditional, hybrid, and virtual teams: From nascent knowledge to transactive memory. *Research in organizational behavior*, 23, pp. 379-421.

Hinds, P., Liu, L. & Lyon, J. 2011. Putting the Global in Global Work: An Intercultural Lens on the Practice of Cross-National Collaboration. *The Academy of Management Annals*, 5, 135-188.

Hofstede, G. (1993) Cultural constraints in management theories. *The Executive* 7, 81.

Hofstede, G. (1994): The business of international business is culture. *International Business Review*, 3, pp. 1-14.

Hrastinski, S. (2008): Asynchronous and synchronous e-learning. *Educause quarterly*, 31, 51-55.

Jarvenpaa, S. L. & Leidner, D. E. (1998): Communication and trust in global virtual teams. *Journal of Computer-Mediated Communication*.

Levi, D. (2015): *Group dynamics for teams*, Sage Publications.

Lientz, B. P. & Rea, K. P. (2012): *International project management*, Routledge.

Lientz, B. P. & Rea, K. P. (2002): *Project management for the 21st century*, San Diego, Academic Press.

Lin, C., Standing, C. & Liu, Y. C. (2008): A model to develop effective virtual teams. *Decision Support Systems*, 45, pp. 1031-1045.

Lipnack, J. & Stamps, J. (2008): *Virtual teams: People working across boundaries with technology*, John Wiley & Sons.

Nydegger, R. & Nydegger, L. (2010): Challenges In Managing Virtual Teams. *Journal of Business & Economics Research*, 8, pp. 69.

Otter, D. A. A. & Emmitt, S. (2007): Exploring effectiveness of team communication: Balancing synchronous and asynchronous communication in design teams. *Engineering, Construction and Architectural Management*, 14, pp. 408-419.

Panteli, N. & Davison, R. M. (2005): The role of subgroups in the communication patterns of global virtual teams. *IEEE Transactions on Professional Communication*, 48, pp. 191-200.

Project Management Institute (2013): *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)—Fifth Edition*, Newton Square, Pennsylvania, Project Management Institute, Inc

Powell, A., Piccoli, G. & Ives, B. (2004): Virtual teams: a review of current literature and directions for future research. *ACM Sigmis Database*, 35, pp. 6-36.

Rafaeli, S. & Ravid, G. (2003): Information sharing as enabler for the virtual team: an experimental approach to assessing the role of electronic mail in disintermediation. *Information Systems Journal*, 13, pp. 191-206.

Shachaf, P. (2008): Cultural diversity and information and communication technology impacts on global virtual teams: An exploratory study. *Information & Management*, 45, 131-142.

Shannon, C. E. & Weaver, W. (1998): *The Mathematical Theory of Communication*, University of Illinois Press

Verburg, R. M., Bosch-Sijtsema, P. & Vartiainen, M. (2013): Getting it done: Critical success factors for project managers in virtual work settings. *International Journal of Project Management*, 31, pp 68- 79.

White, M. (2014): The management of virtual teams and virtual meetings. *Business Information Review*, 31, pp. 111-117.

Wiles, R. (2013): *What are qualitative research ethics?*, New York; London,, Bloomsbury Academic.

Yael, Z. (2013): *Manager's Guide to Virtual Teams*, AMACOM – Book Division of American Management Association.

Zulch, B. G. (2014): Communication: The Foundation of Project Management. *Procedia Technology*, 16, pp. 1000-1009.

Appendices

Appendix A: Self-completion questionnaire

Participants located in Sweden

My name is Rebecka Östergren and I am very interesting in your thoughts about this meeting. "How can cultural differences affect virtual team communication during meetings?" is the research question of my master thesis. This survey was made to point out the challenges that a virtual team, as this, can face because of the cultural differences between China and Sweden.

Your involvement:

1. Did you have any goals for participating in this meeting? If yes what kind of goal (you can choose more than one);

- ☐ Decision
- ☐ New task
- ☐ Inform others
- ☐ Get informed
- ☐ Present
- ☐ _____
- ☐ _____

2. Where these goals fulfilled?

- ☐ Yes, all of them
- ☐ Yes, some of them
- ☐ Don't know
- ☐ No, but next time
- ☐ No

3. Did you ask any questions during the meeting?

- ☐ Yes, I had prepared questions before the meeting
- ☐ Yes, I came up with questions during the meeting
- ☐ No, someone else asked it before me
- ☐ No, I didn't have any questions

4. If you presented anything during the meeting, what was it for? (you can choose more than one)

- ☐ Inform what has been done
- ☐ Present and inform about the current situation
- ☐ Inform about risks
- ☐ Next steps
- ☐ Decision
- ☐ After the presentation be given a new task
- ☐ _____

5. Were you pleased with the outcome of this meeting?

- ☐ Yes I was pleased with the outcome, I received all the answers I needed
- ☐ Yes, I am pleased but I still miss some information

☐ Neither pleased or displeased
☐ No, I was not pleased with the meeting at all. Could have done other things instead.

6. Did you receive a new task from one of the participants based in China?

- ☐ Yes, a task I expected I would do
- ☐ Yes, a task I didn't expect that I would do
- ☐ No, I didn't receive a new task

7. Did you hand out a task to one of the participants based in China?

- ☐ Yes, I planned this before the meeting
- ☐ Yes, I came up with it during the meeting
- ☐ No

8. Could you see the face of all participants in China on the TV-screen during the meeting?

- ☐ Yes, I saw all of the participants during the meeting
- ☐ No, I didn't see everyone but I think that it is helpful to see the faces of all participants
- ☐ No, I didn't see everyone but I think it is not necessary

Virtual teams:

9. Theory says that two challenges of working in virtual teams are Time (working in different time zones) and Location. Which one, according to your opinion is the biggest challenge of these two?

- ☐ Time, because of the different time zones.
- ☐ Location, because of the difficulties of meeting face-to-face.
- ☐ Both of them
- ☐ Neither of them

10. Do you know any other challenges that need to be considered? (you can choose more than one)

- ☐ Language
- ☐ Culture
- ☐ _____
- ☐ _____

11. Were there any technical issues during the meeting?

- ☐ Yes, we had technical issues in Sweden
- ☐ Yes, they had technical issues in China
- ☐ No technical issues at all.

Communication:

12. Were there any difficulties in communicating verbally during the meeting?

- ☐ Yes, there were a lot of problems, we didn't understand each other at all today
- ☐ Yes, I had a problem to understand some of the participating members
- ☐ No, there were some smaller issues with the language but it didn't disturb the meeting

☐ No problem at all

13. Was there any problems in understanding the presented power point slides?

- ☐ Yes, they were all unclear, there should be a standard template for presentations
- ☐ Yes, some of them where unclear
- ☐ No, I understood everything but it would be easier if there was a standard template
- ☐ No, no problem at all in understanding the presentations

14. Do you find it hard to express yourself in English?

- ☐ Yes, I find it hard to express myself in English
- ☐ Yes, but I can manage it with some help
- ☐ No, I don't have any problem with the language at all

15. Do you think that there are other colleagues that struggle with English?

- ☐ Yes, mostly colleagues based in Sweden
- ☐ Yes, mostly colleagues based in China
- ☐ Yes, both in China and Sweden
- ☐ No, everyone can speak English fluently

Cultural differences:

16. Would you say that there are cultural differences between the Swedish and Chinese participants of this meeting?

- ☐ Yes, two very different cultures
- ☐ Yes, but not so many differences
- ☐ No, it is the same type of culture

17. Do you see cultural differences as a challenge in your work with Chinese colleagues?

- ☐ Yes, it is a huge challenge to work with Chinese people
- ☐ Yes, but I can manage it
- ☐ No, but misunderstandings appear sometimes
- ☐ No problems at all

18. And lastly, would you be willing to participate in an interview?

- ☐ Yes
- ☐ No

Your name: _____ Phone: _____

Thank you for your time!

Appendix B: Interview guide for all ten interviews

General questions:

- Could you please introduce yourself shortly? Your role/position
- How frequently are you participating in meetings with Sweden/China?
- What is your overall experience of these meetings with Sweden/China?
- Do you have good contact/relationship with your Swedish/Chinese colleagues?

Virtual team:

- What is good functional team work according to you?
- What do you see as advantages of virtual teams based on your own experiences?
- What do you see as disadvantages of virtual teams based on your own experience?

Culture:

- According to your experiences, what are the characteristics of the Swedish culture during meetings?
- According to your experiences, what are the characteristics of the Chinese culture during meetings?
- Could you give me some examples of how you collaborate with your Swedish/Chinese colleagues? What works well and what doesn't?

Communication during meetings:

- Can you shortly explain how a typical meeting with Sweden/China works?
- Are there any misunderstandings or miscommunications during meetings? Is there a language that everyone understands during the meetings?
- Do you think that both sides have the same thoughts about the meeting afterwards?
- What works well during the meetings?
- What could be improved during these meetings?

Ending question:

- What do you think has to change to make virtual team meetings more effective than what it is today?
- Do you have something you want to add or comment about cultural differences in virtual team meetings?

Appendix C: Overview interview participants

Label	Role in the organization	Meetings with china	Interview duration	Interview type	Date of interview
SM 1	System Manager	2-3/week	35min	Face-to-face	2017-04-07
SM 2	System Manager	2-3/week	30min	Face-to-face	2017-04-10
SM 3	System Manager	1-3/week	40min	Face-to-face	2017-04-18
SE 1	System Engineer	2/week	30min	Face-to-face	2017-04-06
SE 2	System Engineer	2-3/week	40min	Face-to-face	2017-04-07
SE 3	System Engineer	Every day	30min	Face-to-face	2017-04-10
SE 4	System Engineer	2-3/week	35min	Face-to-face	2017-04-11
SE 5	System Engineer	3-5/week	45min	Face-to-face	2017-04-12
SE 6	System Engineer	1 biweekly	40min	Face-to-face	2017-04-13
SE 7	System Engineer	Every day	65min	Face-to-face	2017-04-20

Appendix D: Summary of all participant observations

– Researcher's notes from observations

Observation 1

It starts with some technical problems. The meeting starts later than plan due to this.

There is no connection to China over video. Though, one of the participant in meeting room is from China. During the meeting he is very focused on where china is involved and when Swedes claim that the Chinese people has done something wrong he says that they have to contact someone higher up in the system than him.

One time during the meeting it was brought up that “this is not the European way to do it” as it was something the Swedes and the Chinese man disagreed on.

The Swedish side was very clear with what they have done, what are the risks and problem, and what should be done next. Although, every Swede presented these things, the way of presenting it varied a lot.

Observation 2

It starts with some problems with the technology, but this time it was even more problem than last time. Though the problem was in China. The meeting was postpone with 20min due to this, which I heard later on was common during video meetings.

The only one in China who talked wasn't Chinese, he was from Mexico. In the beginning of the meeting there was three people on the screen, the Mexican and two Chinese people. Though there was more Chinese people in the room but they were positioned so the camera couldn't see them.

The Swedish side discussed with each other during the meeting in English so everyone would understand. However when the Chinese people discussed it was in mandarin, unfortunately not even the Mexican could understand it so their discussion didn't reach anyone else than the Chinese people.

The presentation was clear from the Swedish side, this is what we have done, here are the problems and this is what we will do next. Although, the only presentation made by a Chinese employee didn't bring up anything that was known to the Swedish side. It was something new and different that was presented during the meeting. This made the Swedish side questioning the changes but they couldn't get any clear answer to how or why the change has been made. Due to this, some irritation grew.

It was very clear that the Chinese people didn't want to answer questions or even participate. The Mexican guy had to answer everything.

The biggest different was that everyone in Sweden participate compared to China where there were only one that was in the discussion and he was not even Chinese. As observation 1 this meeting had as well variations in the presentations.

Observation 3

This meeting was controlled in China which means that they controlled the tv-screen. Four out of five participant in Sweden were only there to observe and to get informed. Even though the verbal language was mandarin the Swedish participant could follow the meeting on the tv-screen as the Chinese side filled in documents in English.

There was no presentation during the meeting but you could hear how they discussed about different things.

The English is sometimes hard to understand, luckily two of the participants in china spoke Swedish so they could explain it more in detail in Swedish.

The meeting were supposed to carry on for two hours, but ended after 45min.

Observation 4

There should have been Chinese participant during this meeting, but no one showed up. However, the self-completion questionnaire was handed out and got five answers out of the 13 papers that was handed out during the meeting to people located in Sweden. The answers from the self-completion questionnaire gave an implementation for what the interview questions should bring up.

The meeting over all was a bit irritating for the participants as they couldn't get all the answers they wanted, because there was people missing. There was some question marks about who should be contacted and who is responsible for what.