

**Communicating complex technical information in virtual teams  
of a multicultural global organization**

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<p>Variant communication is used in the case organization to refer to information and interaction related to variant creation, meaning the customization of the mobile phones according to network operator's or country's specific requirements. Variant communication is a process of communicating complex technical messages through electronic communication channels to a multicultural audience.</p> <p>In this thesis the aim is to get a comprehensive understanding how the intercultural, virtual and technical aspects of the communication create challenges in this unique environment and how the communication can be improved despite these different elements and challenges.</p> <p>The thesis begins with the introduction of variant communication and the Customization Sales Support team, the team responsible for variant communication. The objectives of this thesis as well as the research questions are outlined. After explaining the action research method process in this thesis and the semi-structured interviews conducted during April 2014, the literature review introduces the intercultural and technical communication along with theories about communication in virtual environments.</p> <p>The main challenges of intercultural variant communication are caused by the amount of information and fast changing nature of the communication along with intercultural challenges of different locations and cultural differences in the interpretation of communication. Complex technical information should be communicated using a controlled language such as Simplified Technical English in order to be effective, culture free and culture fair. The strengths of variant communication include the team strengths (team's service-minded attitude, trust, team spirit, diversity, ambition for continuous development and most of all the team's ability to understand the "big picture"), established communication channels and the team's unique position between the customers and the company's research and development teams, which enables the team to give valuable information to the both sides.</p>	
<p><b>Keywords</b> Intercultural communication, technical communication, virtual teams</p>	

## Table of contents

1	Introduction.....	1
2	Variant creation and communication in case organization .....	3
2.1	Variant creation .....	4
2.2	Variant communication.....	5
2.3	Challenges in variant communication.....	7
3	Definitions of terms and objectives of the research .....	8
3.1	Definitions of terms.....	8
3.2	Objectives of the research and research questions.....	9
4	Intercultural communication.....	10
4.1	Intercultural communication at work.....	12
4.2	Ethnocentrism and communication .....	14
4.3	Cultural categorizations .....	15
4.4	Cross-cultural communication styles.....	19
4.5	Intercultural non-verbal communication .....	19
4.6	Intercultural competence .....	20
5	Communication in virtual environments.....	23
5.1	Trust.....	24
6	Technical communication.....	26
6.1	Controlled languages.....	27
6.2	Simplified English .....	28
7	Conducting research: method and data.....	30
7.1	Research method.....	30
7.2	Data collection.....	31
7.2.1	Interviews .....	32
7.3	Interpreting and analysing the results.....	34
7.4	Action research as a process .....	34
7.5	Reliability and validity .....	37
8	Discussing the findings.....	39
8.1	Challenges in intercultural variant communication .....	39
8.2	Communicating complex technical information.....	42

8.3	Strengths of variant communication .....	46
8.4	Communication roles in a virtual team .....	50
9	Conclusions.....	55
9.1	Limitations .....	58
	References .....	60
	Attachments.....	64
	Attachment 1. Intercultural communication presentation .....	64
	Attachment 2. Simplified English presentation .....	67
	Attachment 3. Communication presentation .....	69
	Attachment 4. Semi-structured interview themes.....	71
	Attachment 5. Glossary.....	72

# 1 Introduction

In the mobile phone manufacturing business, the companies customize their mobile phones for different markets, countries and network operators. These customized mobile phones are referred to as variants within the industry. The variants are created for several different reasons depending on the network operator or the country. Some variants need to be created because the countries may have different legal requirements for the mobile phones, e.g. local emergency phone numbers, which must be uploaded to the mobile phones. Other variants are created based on customer or market requirements, e.g. certain applications or operator theme colors are preloaded to the mobile phone in the factories.

Variant communication is used in the case organization to refer to information and interaction related to variant creation, i.e. the customization of the mobile phones. Variant communication consists of two-way interaction between virtual Customization Sales Support team and approximately 200 specialists in 50 different locations all around the world.

Most variant information is relayed through electronic communication channels such as internet meeting service, email, internal social media and instant messaging. The information which is conveyed via these channels is technical, e.g. complex instructions, such as process descriptions, guidelines and customization requirements. Since the communication takes place in a multicultural environment, also the intercultural differences have an effect on the interaction. Although the communication process is undeniably important, the emphasis in this thesis is in the meaning of the communication and the interpretation of the messages due to the intercultural context.

This thesis aims at creating a comprehensive understanding on the intercultural, virtual and technical aspects of the variant communication and the challenges in this unique environment. The thesis research will create improvement suggestions with the objective of diminishing the misunderstandings caused by the different elements of

variant communication. The research is carried out as an action research process, as described in Chapter 7.

If the variant communication fails, in the worst case, it may delay sales start of a mobile phone in a certain country or with a certain network operator. That will result into reduced sales, decreased or cancelled orders by the network operator, which indicates the importance of the successful variant communication.

The thesis begins with the introduction of variant communication and the organization, which is responsible for the customization i.e. the variant creation. Furthermore the objectives of the thesis as well as the research questions are presented. Followed by the introduction of the research method and the process.

The recent research literature on communication theories includes intercultural and technical communication along with theories about communication in virtual environments. This thesis combines all those three elements in a unique multicultural environment. The intercultural communication theories are presented to show the increased complexity of communicating between people from different cultures. The phenomenon of virtual teams is described along with factors that make virtual team work successful. The chapter on technical communication concentrates on controlled languages, of which Simplified Technical English is the most common.

Finally the findings of the action research process are discussed in relation to the literature and the research questions. The conclusions are presented along with improvement suggestions followed by the limitations of the study.

## 2 Variant creation and communication in case organization

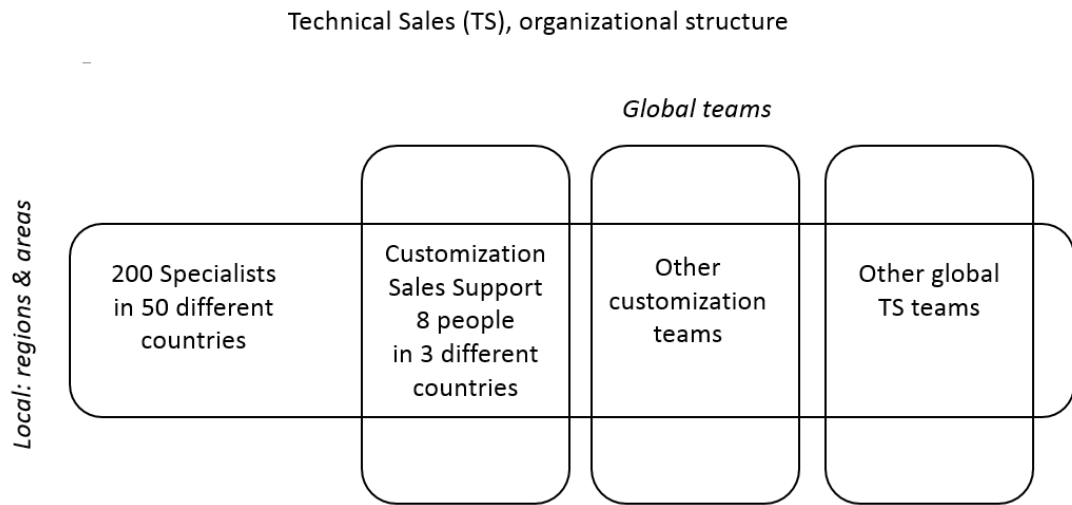


Figure 1. Technical Sales organization includes global Customization Sales Support (CSS) team and the local specialists.

In the case organization, Technical Sales (TS) is responsible for creating country and operator variants. Technical Sales has approximately 370 virtual team members in 50 different locations. The virtual team means that functionally and culturally diverse team members are geographically distributed, and their interaction relies on electronic forms of communication (DeSanctis & Monge 1998, 4).

The global TS teams support local teams in the variant creation by supplying the customization interface including technical tools, project management and guidance. The global teams prepare and test the tools, set the boundaries what can and cannot be customized and instruct and train how the customization can be done for each mobile phone.

The local teams are responsible for creating and testing the variants in co-operation with the customer. The customers can be either network operators or distributors. The specialists in the local teams discuss and agree with the customer how they want to customize the mobile phone e.g. where their logo or company colors need to be visible

and which applications they want preloaded into the mobile phone. Then the specialist enters the customer values and the country requirements into the customization tools and prepares a variant for the customer testing and approval.

Technical Sales is a highly specialized technical organization with vast amount of detailed technical information such as customization requirements, testing instructions, process descriptions, tools, as well as platform or product specific instructions. All this information is communicated from the global teams to the local team members via different communication channels. Relaying constantly changing and complex technical information through various modern communication channels to multicultural team members poses its challenges.

## **2.1 Variant creation**

In the mobile phone manufacturing business, the companies customize their mobile phones for different markets. These customized mobile phones are referred to as variants within the industry. The variants are created for several different reasons depending on the network operator or the country. Some variants need to be created because countries or network operators have different requirements for the mobile phones. Some of these are legal requirements, e.g. in Germany certain radio frequencies need to be reserved only for authorities, and others are market or customer requirements, e.g. network operator wants to have their own applications or theme colors preloaded into the mobile phone.

Depending on the product platform, i.e. the operating system which is used in the mobile phone, the variant creation processes are different. Each operating system has a different variant creation process with different customization tools and customization offering, meaning what can and cannot be customized.



## **2.2 Variant communication**

Customization Sales Support (CSS) team concentrates on supporting other teams with variant communication, by creating and communicating all variant related information to the technical specialists in different local teams. The CSS team consists of eight persons on three different locations / time zones: China, U.S.A. and Finland.

The CSS team creates all customization instructions to Variant Portal intranet site, where all the information related to variant creation is posted. The team posts all new instructions first in TS Variant News social media site, where the interested specialists can get the information right away, even several times per day. The team sends out Variant News email newsletters 2 – 5 times per week, but during new product launches the newsletters may be sent out even more frequently. Regular Variant Info Calls are arranged monthly, but also when need arises e.g. an important issue or a change requires more explanation. Two different sessions are always arranged for every Variant Info Call to accommodate the different time zones. The same applies to the online trainings, which are arranged with the internet meeting service, for larger entities of information, such as new processes.

In order for the case organization to comply with ISO9001 quality management standard and other certification regulations, the CSS team must ensure that they offer e.g. new customization process training for all employees related to the customization. In addition, the CSS team monitors, evaluates and changes the global variant processes to meet the latest customer needs all over the world.

The team receives email, chat, phone or personal support contacts related to variant creation from the local specialists. During 2013 the CSS team received over 9600 support contacts by email. Personal, chat or phone support contacts are not included in this number. The support contacts vary from cases where the instructions haven't been read or have been misinterpreted to flawed processes, tools or instructions.

Table 1. CSS team’s communication channels

Channel	Medium	Type of communication	Frequency
Variant Portal	Intranet site	One-way	Daily
TS Variant News	Social media site	Two-way	Daily
Variant News	Email newsletter	One-way	2 – 5 / week
Variant Info Call	Internet meeting service	Includes two-way Q&A	Monthly
Trainings	Internet meeting service	Includes two-way Q&A	On need basis
Variant Support	Resource mailbox	Two-way	Daily
Instant messaging	Instant messaging tool	Two-way	Daily

The team works according to “follow the sun” method e.g. when China team member starts working on a support contact and is not able to provide the solution during normal working hours, the Chinese team member then transfers the issue to Finnish team which continues to work on solving the issue. With this method the team wants to ensure continuous support for different time zones.

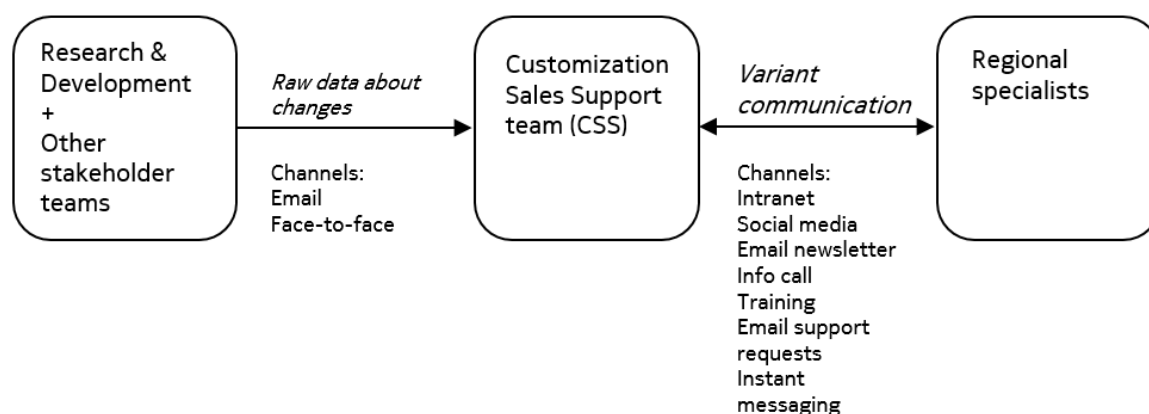


Figure 2. Variant communication process.

### **2.3 Challenges in variant communication**

The new instructions and the changes are coming faster, and the complexity of technology, products and country and network operator requirements are also increasing. Due to the workload, the CSS team must find new ways to improve the variant communication and restructure the work in order to reduce the incoming support requests and ease the workload.

The team communicates to the multicultural virtual team located around the world, so in order to reduce the number of support contacts, the team must communicate understandably technical complex information in an intercultural virtual environment.

If the teams' variant communication fails, it may cause, in the worst case scenario, delays with sales start of a mobile phone in either a specific country or with a specific operator and with a specific product. That will result into either reduced sales figures, smaller or cancelled orders by a network operator and / or reduction in customer (network operator or distributor) satisfaction.

### **3 Definitions of terms and objectives of the research**

This chapter presents the definitions of main communication related terms used in this thesis. The objectives of the research are introduced in the latter part of the chapter. The research questions have been formed based on these objectives.

#### **3.1 Definitions of terms**

Communication can be described as a process or as interpretation of meanings. The communication process can be divided into different parts such as sender of the message, receiver of the message, message, information, channel, disturbance, feedback, interaction and context. (Juholin 2009, 35; Åberg 2000, 27). For the representatives of semiotic cultural analysis, the communication is cultural interpretation of messages. Since the message is combination of signs, the message itself is a tool used to convey meanings and the interpretation of these meanings is important. (Åberg 2000; 34) Due to the intercultural nature of the thesis, the communication in this thesis emphasizes more the semiotic cultural analysis which is also evident from the following definition of intercultural communication.

Intercultural communication is a symbolic exchange process where people from different cultures negotiate shared meanings in an interactive situation (Ting-Toomey 1999, 16 – 17).

A virtual team is geographically distributed, functionally and culturally diverse group of people which are linked together by electronic forms of communication (DeSanctis & Monge 1998, 4).

Technical communication is the process of making complex technical information usable and easy to understand for all audiences. (Gurak & Lannon 2007, 4; Markel 2001, 4 – 5.)

### 3.2 Objectives of the research and research questions

The objective of this research is to find ways to improve the variant communication. This is done by investigating how detailed technical instructions and complex messages, such as process changes, can be communicated to specialists all over the world in such a way that the message would be understood the same way.

As a result, the CSS team will have new ways of communicating to ease up the workload in the organization and raise the job performance and satisfaction within Technical Sales. Also the customers (operators or distributors) will benefit from better variant communication and improved collaboration with regional specialists, since there will be less delays in the creation of their mobile phone variant.

Based on the objectives, the following research questions can be formed:

The main research question:

*How to improve the variant communication in the case setting?*

can be further divided into three sub-questions:

RQ1: What are the challenges of intercultural variant communication?

RQ2: How can complex technical information be communicated effectively?

RQ3: What are the characteristics of good variant communication?

## 4 Intercultural communication

Since the variant communication is intercultural by nature, intercultural communication is a key part of this literature review. Technical Sales specialists as well as CSS team members represent approximately 50 different cultures and native languages. The diversity in Technical Sales is present not only through different cultures and languages, but also through gender, educational background, religion and race.

In this chapter the aim is to convey the culture's irremovable influence in communication in general. The most important thing about culture is that it is visible in all communication, and that it has profound effect on the way we communicate and the way we interpret interaction with other people.

In today's global workplaces diversity plays an important role in the communication as well as in the behavior. This can either be a great asset for the organization or a hindrance, depending on how competent the employees or the managers are in interacting with people from different cultures.

People create their own understanding of themselves and others through communication. The communication also influences on the way people think as well as the way how they understand the world around them. (Samovar et al. 2012, 11; Neuliep 2009, 8; Ting-Toomey 1999, 26 – 27.) Culture is unconscious in the sense that it is not often verbalized, but it is the main cause for our actions (Trompenaars & Hampden-Turner 2012, 32).

Scientists agree that culture effects communication and communication is culture-bound. (Chaney & Martin 2006, 5, 111; Neuliep 2009, 214 – 215; Ting-Toomey 1999, 14 – 15; Varner & Beamer 2011, 26.) Ting-Toomey adds that language penetrates the social experience in all levels of the culture and neither culture nor language can be understood without knowledge of both. (Ting-Toomey 1999, 93.)

Intercultural communication is defined as the symbolic exchange process whereby individuals from two (or more) different cultural communities negotiate shared meanings in an interactive situation. (Ting-Toomey 1999, 16 – 17.)

The previous definition of intercultural communication is missing an important element: even though intercultural communication is a group phenomenon, it is still experienced by individual people (Neuliep 2009, 32, 184).

The need for intercultural communication arises from global diversity trends such as increasing global business, new communication technologies, domestic diversity trends such as tourists, sojourners, immigrants and refugees as well as cultural and ethnic diversity within countries and organizations. (Guirdham 2011, 7; Neuliep 2009, 6; Ting-Toomey 1999, 5, 234.) Neuliep lists healthier communities, increased commerce, reduced conflict and personal growth through tolerance as the benefits of intercultural communication (Neuliep 2009, 4).

The emerging concept of the world culture has created the understanding for the interdependence of cultures and the need to break cultural boundaries and learn ways of interacting with people from different cultures (Chaney & Martin 2006, 14). Several other concepts such as “globalization”, “global society”, “world community” and “homogenized culture” have been created to define the increased social and economic integration of different cultures and nations (Samovar et al. 2012, 4).

Our identities are continuously challenged by the cultural communication differences when working in diverse cultural situations (Ting-Toomey 1999, 57). Communication seems to be increasingly difficult when the interacting parties are from different cultures. Misunderstandings and conflicts are more common in intercultural communication since the meaning of the communication has to be negotiated between different cultural contexts and participants. (Guirdham 2011, 33, 218; Lewis 1999, 1; Neuliep 2009, 5; Ting-Toomey 1999, 16 – 17.)

Ting-Toomey has created a theory of identity negotiation. The theory is based on the motif of identity security-vulnerability in the intercultural encounters. The individuals have based their own identity on cultural, personal, situational and relational factors. The individuals learn their identities through the interaction with other individuals in their culture. These individuals feel secure when interacting with people from same cultural background, and experience vulnerability and anxiety when interacting with people who are unfamiliar or from different cultures. (Ting-Toomey 1999, 25 – 27.) Uncertainty avoidance is closely related with identity negotiation theory. Uncertainty avoidance means the degree of how threatened members of a certain culture feel when faced with uncertain or unknown situations or cultures (Neuliep 2009, 74 – 75).

This thesis studies the challenges caused by communication between people from different cultures as well as the misunderstandings caused by these challenges. The variant communication takes place inside Technical Sales: the communication can be from one to many or one-to-one. For example one CSS team member is communicating via email newsletter to group of specialists all over the world or one specialist is sending an email support contact to CSS team's resource mailbox and a CSS team member responds. The diversity of different cultural backgrounds in Technical Sales influences the way the TS team members understand and interpret the variant communication.

#### **4.1 Intercultural communication at work**

Due to the globalization trends and the increasing diversity at work places, the importance of intercultural communication at work is growing. (Chaney & Martin 2006, 2 – 4; Guirdham 2011, 33; Ting-Toomey 1999, 4 – 7; Varner & Beamer 2011, 2.) The diversity is proven to also increase the organizational effectiveness through diverse communication patterns, diverse values, attitudes and ideas (Guirdham 2011, 34).

Global companies, such as the case organization, have employees all over the world, and they need to find ways for intercultural interaction and collaboration in the most



efficient way. Only when employees know how to interact and co-operate with people from different cultures, can the diversity be an asset for the company.

Generally the way people communicate within a work place or an organization is affected by the communication style of one dominating cultural group (Guirdham 2011, 34). Varner disagrees by arguing that the participants of intercultural business communication combine their own cultures, creating a new transactional culture (Varner 2000, 44).

Organizations can be seen as mini-cultures, since they consist of a group of people with common values, goals, traditions, ways of working and even language. Sometimes the common organizational culture and mutual communication patterns can even surpass the differences of the communicating organization members. (Neuliep 2009, 343; Varner 2000, 48.)

The case organization's communication culture is based on its' Finnish organizational roots. When the company started to rapidly grow into a global company in the 1980's, the communication culture has evolved into more than Finnish communication culture, into its' own communication culture with elements from many different cultures. The working language in the case organization is English. The common language in the case organization has been influenced by technical terms, abbreviations, nicknames for mobile phone models as well as mixture of Finnish and English terms, commonly known within the company as "Finglish".

The management and the leadership are culture-bound as well. The culture is visible in the work place through the cultural differences of the employees, the different management and leadership styles affected by culture and most of all through the communication styles. (De Long & Fahey 2000, 114; Neuliep 2009, 343.) The international managers have to operate on different cultural levels at the same time: their own culture of origin, the culture in which they are working and the company culture (Trompenaars & Hampden-Turner 2012, 4).

Professor Philip Rosenzweig of Harvard University argues that successful cross-cultural management depends on the abilities of managers to communicate effectively. (Neuliep 2009, 343.)

There are several different kinds of competences in intercultural communication area which have an effect on organizational efficiency and functionality, these competences are presented in chapter 4.6.

## **4.2 Ethnocentrism and communication**

The ethnocentrism means that people perceive their own cultural backgrounds, values, beliefs and manner to be natural, reasonable, correct and even universally valid, and feeling that other cultures' values and manners are unnatural and incorrect. People also tend to favor their own culture, and avoid or feel reluctant co-operating with people from different cultures. (Chaney & Martin 2006, 9; Guirdham 2011, 150 – 151; Neuliep 173; Ting-Toomey 1999, 157.) Neuliep adds that the ethnocentric people have different attitudes towards people in their in-group than towards those who belong to out-group and that people are biased in favor of their own in-group (Neuliep 2009, 173).

The ethnocentrism affects all social contexts, including the organizational environments where people from different cultural backgrounds interact in their workplace (Neuliep 2009, 175). The inability to accept or understand different values and customs of another culture can also provoke feelings of ethnocentrism (Samovar et al. 2012, 13). In order to succeed, global companies must create intercultural organizational culture, which enables employee collaboration despite the employees' cultural background.

People in all cultures show some levels of ethnocentrism. Ethnocentrism is not learned but something we're born with. (Guirdham 2011, 150; Neuliep 2009, 173, 177; Ting-Toomey 1999, 158.) Since people are born ethnocentric, the ethnocentrism is inherently human (Neuliep 2009, 177).

The ethnocentrism is visible in intercultural communication in many ways. For instance Janet G. Lukens was interested in the relationship between ethnocentrism and language. She created in the 1970's a model of different communicative distances of indifference, avoidance and disparagement based on degrees of ethnocentrism. These communicative distances differ from the use of appropriate verbal and non-verbal messages into use of verbal sarcasm, hate filled speech or racist jokes in order to disparage the other interacting party. Individuals who learn how to be culturally sensitive in both their behavior and communication can reduce the unpredictability of the interaction and even promote trust between different interacting parties. (Ting-Toomey 1999, 158 – 159.)

William B. Gudykunst, an American Professor of Speech Communication, “points out that one’s cultural orientation acts as a filter for processing incoming and outgoing verbal and non-verbal messages. To this extent, all intercultural exchanges are necessarily, to a greater or lesser degree, charged with ethnocentrism”. (Neuliep 174 – 175.)

Ethnocentrism acts as a perceptual filter that affects not only the perceptions of verbal and non-verbal messages, but also perceptions of their source. (Neuliep 2009, 174 – 175.)

### **4.3 Cultural categorizations**

Geert Hofstede, a Dutch social psychologist, created in the 1980's cross-cultural value orientations with four cultural variability dimensions to illustrate differences between cultures and cultural values. The core value dimension is individualism – collectivism which is visible in cultures all over the world. The other main cross-cultural value dimensions are power distance, uncertainty avoidance and masculinity and femininity. (Guirdham 2011, 43; Neuliep 2009, 39; The Hofstede Center; Ting-Toomey 1999, 66.)

In addition to Hofstede's main value orientations, Trompenaars' cultural differences categorizations are introduced and compared against Hofstede's dimensions. The different categorizations include cultural categorizations with respect to peoples' relationships, attitudes towards time and environment.

Hofstede's main dimension, the IC (individualism – collectivism) dimension relates to the people's degree of integration to groups and also to how people relate to one another. (Guirdham 2011, 44; The Hofstede Center.) Individualism emphasizes individual identity, individual needs, personal responsibilities and individual autonomy while collectivism emphasizes person's interdependence with others (group), collective needs, social obligatory reciprocity and co-operation. (Guirdham 43; Neuliep 2009, 40 – 41; The Hofstede Center; Ting-Toomey 1999, 67.) Wealthy, urban and industrialized societies seem to be more individualistic while rural, traditional and developing societies are more collectivistic oriented (Ting-Toomey 1999, 68). However, none of the Asian cultures were high on individualism (Guirdham 2011, 44).

A Dutch cultural scientist, Fons Trompenaars, has also created his own cultural categorizations based on dimensions of human relationships. Trompenaars' individualism and communitarianism is similar to Hofstede's individualism-collectivism categorization. Trompenaars does not see his dimension as opposing but rather complementary. The dimension of individualism and communitarianism focuses more on the conflict between the person's individual goals and needs and interests of the group to which the person belongs. (Guirdham 2011, 49 – 50; Trompenaars & Hampden-Turner 2012, 11, 65 – 67.)

Hofstede's power distance (PD) dimension represents the extent to which people in certain culture accept or expect that power is not distributed equally. For example in small PD cultures the subordinates can contradict their superiors, unlike in large PD cultures. The large PD cultures, such as Arab countries, Malaysia, Guatemala and Philippines, the communication is asymmetrical and formal. (Guirdham 2011, 44 – 45; Neuliep 2009, 67; The Hofstede Center; Ting-Toomey 1999, 69 – 71.) In the work place large PD is visible e.g. in the way how subordinates expect specific instructions

(Ting-Toomey 1999, 70). PD also influences non-verbal communication e.g. in large PD cultures persons of lower social status are taught not to make eye contact with persons of higher social status (Neuliep 2009, 72).

Trompenaars has also categorized cultures based on how people accord status. His cultural categorization is based on either the people in a certain culture according status based on individual achievements; the achieved status, or people ascribing the status based on e.g. age, social class, gender, education; the ascribed status. (Guirdham 2011, 50; Trompenaars & Hampden-Turner 2012, 12, 125 – 127.)

Hofstede's uncertainty avoidance (UA) refers to the culture's tolerance of ambiguity and uncertainty. On a general level, the Western cultures tolerate uncertainty whereas the Eastern cultures prefer certainty. (Guirdham 2011, 45; Neuliep 2009, 75; The Hofstede Center; Ting-Toomey 1999, 71.) Cultures use different communicative strategies to reduce the uncertainty. Even interaction with different cultures can be avoided due to the uncertainty avoidance. (Neuliep 2009, 74.)

In work life the UA differences are visible in risk taking and innovation, which are tolerated and even promoted in weak UA cultures, when the strong UA cultures prefer strict guidelines and procedures. (Guirdham 2011, 45; Ting-Toomey 1999, 71 – 72.) The low/weak UA cultures also tend to accept people from different cultures as well as conflicting or different opinions better than the strong UA cultures. (Guirdham 2011, 45; The Hofstede Center.)

Trompenaars does not have a similar cultural categorization to Hofstede's uncertainty avoidance dimension. Trompenaars created other categories that are universalism-particularism, neutrality-affectiveness and specificity-diffuseness. Universalism versus particularism is seen as the dimension which describes how we judge other people's behavior and what is our relationship with rules. Universalism means obligation to abide by certain rules. Particularism means the obligations are encountered through the relationships with people and particular situations, meaning we adhere the rules only because of the relationship, putting the relationship before the rules. (Trompenaars &

Hampden-Turner 2012, 11, 41 – 42.) Neutral and affective cultures refers to display of feelings, meaning are we emotionally neutral in our approach or do we show our emotions freely. Specificity and diffuseness is based on people's sense of public and private aspects of life and how they should be separated. (Guirdham 2011, 50; Trompenaars & Hampden-Turner 2012, 11 – 12, 101 – 104.)

Hofstede's masculinity – femininity (MAS) value dimension defines the quality of life issues as well as the distribution of the gender roles and the associated values within a culture. (Guirdham 2011, 46; The Hofstede Center; Ting-Toomey 1999, 72 – 73.) The high MAS / masculine cultures have strict or complementary gender roles, endorse competition, emphasize achievements, and people in these cultures “live in order to work”. The low MAS / feminine cultures have more flexible gender roles and they emphasize more values that are seen as more feminine such as environmental issues and work-life balance. (Guirdham 2011, 46; Ting-Toomey 1999, 73.)

In Hofstede's research, Japan was rated highest on the MAS variable along with other countries such as Austria, Venezuela, Italy, Mexico and China, while four Northern European countries, including Finland were highest on the feminine side. (Guirdham 2011, 46; Ting-Toomey 1999, 73.)

There are also other ways of categorizing cultures than values, for example relationships or rules how we understand time or environment. Few examples of cultural categories based on our attitudes towards time are: future versus past orientation, linear versus cyclical time or polychronic versus monochronic time. (Guirdham 2011, 49 – 51; Trompenaars & Hampden-Turner 2012, 13, 147 – 159)

Edward T. Hall's introduced already in 1959 the monochronic-polychronic time orientation. The monochronic (M-time) time emphasizes time as measurable units of time, schedules and doing one thing at a time whereas polychronic (P-time) sees time as relational and less tangible, disregarding schedules and doing several things at a time. (Guirdham 2011, 50; Neuliep 2009, 140; Ting-Toomey 1999, 135.)

The environmental categorization differentiates the cultures based on their desire to either control or harmonize with the environment and nature. (Guirdham 2011, 51, Trompenaars & Hampden-Turner 2012, 13 – 14, 173 - 176.)

#### **4.4 Cross-cultural communication styles**

High- and low-context communication is one of the most well-known theories in intercultural communication, therefore it is introduced here as an example of the cross-cultural communication style categorizations. Edward T. Hall created terms high-context communication (HCC) and low-context communication (LCC) to differentiate cultural communication styles. In LCC the primary source of information is the verbal content of the message, while in HCC the verbal message conveys little information and the non-verbal elements and the cultural aspects are extremely important. (Chaney & Martin 2006, 95; Guirdham 2011, 57; Neuliep 2009, 51 – 52; Ting-Toomey 1999, 100.)

In low-context communication the speaker is responsible for communicating the intention or the meaning in a clear (verbal) message, but in the high-context communication the receiver of the message is responsible for interpreting and decoding the non-verbal elements and nuances of verbal message correctly. (Guirdham 2011, 57; Neuliep 2009, 53; Ting-Toomey 1999, 100 – 101.)

Except for few exceptions, most collectivistic cultures, such as China, Japan, many Arab and African cultures, use high-context communication and most individualistic cultures, e.g. Nordic countries, USA, UK and Germany, use low-context communication. (Neuliep 2009, 53; Ting-Toomey 1999, 101.)

#### **4.5 Intercultural non-verbal communication**

Non-verbal communication can be used to improve, emphasize, replace or even contradict the meaning of verbal communication. (Neuliep 2009, 247; Ting-Toomey

1999, 114.) Non-verbal communication is used to communicate emotions, attitudes and relationships, while the verbal message conveys information or intentions. (Guirdham 2011, 96, 98; Ting-Toomey 1999, 114, 116.) Samovar et al. emphasize that non-verbal communication often communicates more meaning than verbal communication (Samovar et al. 2012, 15).

Non-verbal communication channels include tone, body, gestures, eye contact, touch, space, time, dress and smell. When a person uses for example his/her body to send messages, several small elements such as the use of hands, arms, legs and face can influence the combined non-verbal message. (Neuliep 2009, 249 – 250; Ting-Toomey 1999, 116.)

Culture not only influences the use of the non-verbal behaviors, but also the meanings assigned to these behaviors. Through culture, people learn how to use non-verbal communication and which non-verbal behavior is proper for different social interactions. (Samovar et al. 2012, 15 – 16.) Since the non-verbal communication differs greatly between cultures, the lack of knowledge on another culture's non-verbal communication patterns may cause misunderstandings or even conflicts between persons from different cultures. (Chaney & Martin 2006, 117; Ting-Toomey 1999, 114 - 115, 194 – 195.)

In variant communication some of the non-verbal communication elements are missing because the communication mainly takes place through electronic communication channels, such as email and social media. However some non-verbal elements still remain in this communication e.g. tone of voice, pitch, intonation, pauses and silences.

#### **4.6 Intercultural competence**

Guirdham lists the core competences in intercultural work communication: ability to balance conflicting demands of global integration and local responsiveness, ability to



work in diverse teams and ability to manage or work with diverse people (Guirdham 2011, 34).

Most of the communication competence models consist of cognitive, affective, and behavioral components (Spitzberg 1997, 379 – 380). Neuliep’s model of the intercultural competence is based on Spitzberg & Cupach’s model from 1984. In addition to the knowledge (cognitive), affective and psychomotor (behavioral) components, Neuliep has added a fourth component, the situational features, to the model. The knowledge component refers to person’s knowledge about communication and cultures. The affective component represents the person’s motivation or willingness to communicate with people from different cultures. The psychomotor component stands for the real interaction, the actualization of knowledge and affective components. And the fourth element, the situational features represent how changes in the environment, e.g. previous contacts, status differences or third-party intervention change or even diminish the intercultural communication competence. (Neuliep 2009, 27, 394 – 399.)

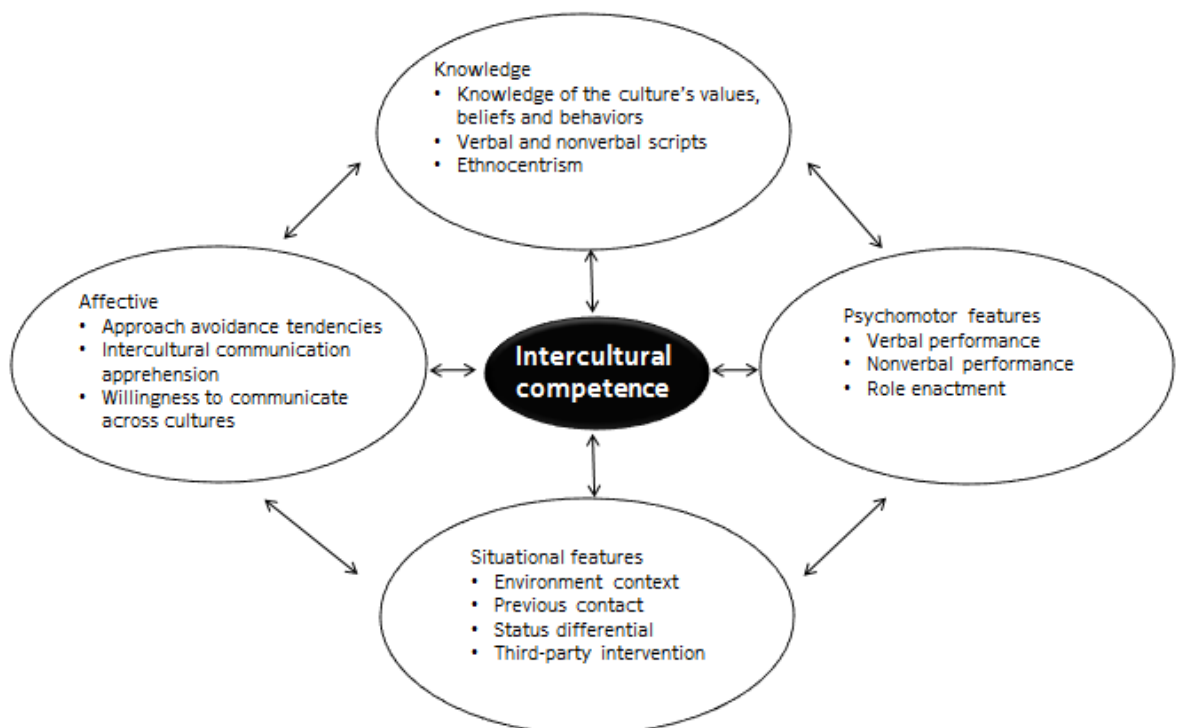


Figure 3. Model of Intercultural Competence (Neuliep 2009, 394).

Based on the literature review of intercultural communication in this thesis, the challenges of intercultural variant communication that stand out are cultural differences in behavior, work place conduct and communication, ethnocentrism and intercultural competence of the organization members.

## 5 Communication in virtual environments

The variant communication takes place inside Technical Sales, which is a global virtual organization with culturally diverse members in different geographical locations. The creator of variant communication messages, the CSS team can also be considered as a virtual team with team members in three locations.

The aim of this chapter is to describe the benefits and the challenges of virtual organizations. The chapter also gives insight of what makes virtual team communication successful in ever evolving technical and global society.

A virtual organization is a collection of geographically distributed, functionally and / or culturally diverse entities that are linked by electronic forms of communication and rely on lateral, dynamic relationships for coordination. (DeSanctis & Monge 1998, 4.)

The virtual organization provides a metaphor for considering an organization design that is held together, literally, by communication. (DeSanctis & Monge 1998, 6.)

With global virtual teams, the organizations can gather the best experts regardless of their geographical location and virtual teams are able to work more quickly and efficiently than the regular teams as well as switch roles between the different time zones. The virtual communication enabled by fast developing technology gives organizations the competitive advantage in an international environment. (DeSanctis & Monge 1998, 5; Grosse 2002, 24 – 25; Shachaf 2008, 131.) The diversity of the team can strengthen the team by different approaches, broader range of expertise, resources and diverse perspectives (Grosse 2002, 32).

The challenges with global virtual teams, in addition to finding of a common language for all, are missing verbal and non-verbal cues due to distorted communication

mechanisms, more complex logistics and leadership of the team, low individual commitment, role ambiguity and increased complexity due to both the technology and the diversity. (Järvenpää & Leidner 1999, 791, 810; Shachaf 2008, 131.)

Computer-mediated communication can give team members more time to construct their messages and the lack of the non-verbal elements and the social cues can even reduce the miscommunication caused by the cultural differences. (Grosse 2002, 27; Järvenpää & Leidner 1999, 811; Shachaf 2008; 135 – 136.) Shachaf concluded in her exploratory study that cultural differences limited the range of potential effective media channels, so the culturally different virtual teams have a limited number of communication channels at their disposal. E-mail was most preferred communication channel in this study. (Shachaf 2008, 138 – 140.)

## **5.1 Trust**

Trust has been proven to affect positively on performance, decision quality and effectiveness. The ideal combination for effective virtual team work and communication is trust coupled with high performance. (Altschuller & Benbunan-Fich, 2010, 27 – 28) Trust has been referred to as the “glue” that can hold a team together or the only thing that can prevent geographical distances from becoming psychological barriers between the virtual team members. (Altschuller & Benbunan-Fich 2010, 28; Järvenpää & Leidner 1999, 791 – 792.) However creating trust and high performance within a virtual team is not an easy task.

Altschuller & Benbunan-Fich suggest the interaction experiences and the interpersonal perceptions to improve the virtual team interaction. The interaction experiences include the self-disclosure and the positive impression formation. The self-disclosure means that people share something personal about themselves and as a result reciprocal trust is being created. The positive impression formation is based on the idealization of communication partners and the feelings of similarity. The interpersonal perceptions consist of the public self-awareness and the perceived virtual co-presence. The public self-awareness means that normally when people are using the computer-

mediated communication method, they tend to focus more on themselves and overestimate their contribution to the project or task. The lower public self-awareness can on the other hand be created by the inability to identify the originator of the message or idea and the freedom of computer-mediation that enables creating messages without personal identification. The virtual co-presence can be defined as a connection between the virtual team members or a subjective feeling of co-existing in a virtual environment. Out of these elements Altschuller & Benbunan-Fich concluded that the most influential element in creating trust and superior performance was the virtual co-presence. (Altschuller & Benbunan-Fich 2010, 30 – 34.)

Järvenpää & Leidner have concluded that social communication, communication conveying enthusiasm, coping with technical and task uncertainty, individual initiative, predictable communication, substantive and timely response, leadership, transition from procedural to task focus along with phlegmatic reaction to crisis are most important behavioral elements creating trust within virtual teams. In their research, Järvenpää and Leidner showed that the first four behaviors (social communication, communication conveying enthusiasm, coping with technical and task uncertainty and individual initiative) facilitate trust in the early stages of virtual teams and the latter five behaviors (predictable communication, substantive and timely response, leadership, transition from procedural to task focus and phlegmatic reaction to crisis) facilitate trust later on in the trust development. (Järvenpää & Leidner 1999, 806 – 809.)

## 6 Technical communication

Most of the variant communication messages contain complex technical information which are sent through the electronic communication channels to the multicultural recipients, most of which are non-native English speakers.

This chapter focuses on the area of technical communication. It presents some of the solutions which have been created to make the written technical documentation less complex and more understandable, especially for non-native English speakers.

Technical communication is the art and science of making complex technical information accessible, usable and relevant to a variety of people in a variety of settings. (Gurak & Lannon 2007, 4.)

Technical communication can be considered as a process of finding and sharing technical information and as the applications of technical communication, i.e. the technical documents. It is a process of creating, designing and transmitting technical information so that people can understand it easily and use it safely and efficiently. (Markel 2001, 4 – 5.)

The tendency in the Western countries is to assume that American Standard English is a norm, and that the cultural and linguistic differences are identified only when there is a communication failure. Bokor claims that since English is the language used mostly in technical communication to convey information and knowledge about the Western technology, the Western perspective along with its' cultural nuances and values create problems in intercultural technical communication. He also concluded in this research that technical communication is not linguistically neutral. (Bokor 2011, 113 - 114, 117, 135.)

Technical communication should be culture free and culture fair in order to be effective. Culture free means that there should be no figurative or cultural language or wordplay while culture fair means that the message does not include any cultural

communication styles, i.e. it is easy to understand regardless of the reader's culture. (Weiss 1998, 253 – 254.) Hunsinger disagrees with culture-free communication by saying that most attempts at universality in communication have led to ethnocentrism despite the intentions, and that the cultural identity is important area of study in intercultural technical communication (Hunsinger 2006, 32).

## **6.1 Controlled languages**

A controlled language (CL) is restricted subset of a conventional language with specific rules on lexicon, grammar and style. The controlled languages are used with all kinds of technical documentation, such as manuals, operating instructions and user guides. (Nyberg et al. 2003, 245.) The creation of a controlled language can also be referred to as language planning (Hoft 1995, 212).

There is no single controlled language for e.g. English, which would be widely approved by some global authority, but there are several different kinds of controlled languages such as Caterpillar Fundamental English (CFE), Smart's Plain English Program (PEP), J. I. Case's Clear and Simple English (CASE), Perkins Approved Clear English (PACE) along with ASD Simplified English. (Bokor 2011, 119; Nyberg et al. 2003, 250 – 251.) These controlled languages can be categorized as national, industrial, proprietary and commercial languages (Bokor 2011, 119; Hoft 1995, 213).

The purpose of the controlled languages is to reduce the complexity and the ambiguity of the technical documentation and increase the comprehensibility. The usage of the controlled languages results into improved quality in the technical documentation. (Nyberg et al. 2003, 245, 247 – 248.)

The use of the controlled language improves the comprehensibility and the readability of the technical document with simplified vocabulary, lesser synonyms and clear writing rules. This advantage is especially relevant for complex information and for non-native readers. The uniformity of word choice, consistency, the reusability of the

text as well as easier translation possibilities (both human and computer translation) are the other benefits of the controlled languages. (Nyberg et al. 2003, 248.)

Since the producer of the CL text must abide by the CL rules, the writing process may be more time-consuming than with natural language. The writer may also experience restrictions in the linguistic expression, but on the other hand the checking phase, meaning the time needed for text revision, is considerably reduced. (Nyberg et al. 2003, 248 – 249.)

## **6.2 Simplified English**

European Association of Aerospace Industries (AECMA, now ASD, Aerospace and Defense Industries Association of Europe) researched the readability of the maintenance documentation in the aircraft industry in the 1970's. The end result of this research was the AECMA Simplified English Guide, new controlled language, first released in 1986. (ASD 2013, i.)

Simplified Technical English (STE) was designed to help the users of the technical documentation to understand better the English-language documentation especially in the multinational programs. (ASD 2013, i.) Nowadays the STE is commonly used around the world across industries and it is the most commonly used controlled language. (Disborg 2007, 13; Nyberg et al. 2003, 251; Unwalla 2004, 34.)

Here is a real example from aerospace industry, which shows the clarity of a text written in Simplified Technical English. Here is the original text written by an aerospace engineer:

It is equally important that there should be no seasonal changes in the procedures, as, although aircraft fuel system icing due to water contamination is more often met with in winter, it can be equally dangerous during the summer months. (Barthe 2004, 9.)



Here is the same text written by a technical writer using Simplified Technical English:

Use same procedures all the time because water in the fuel system can freeze during summer or winter. (Barthe 2004, 10.)

According to Disborg's thesis, Schubert et al. (1995) researched whether technical documents written with the STE are easier to understand than texts with conventional English. When the STE version was used, the results showed a significant improvement in performance with both native and non-native English speakers. The study proved that the comprehensibility and the identification of content location of complex documentation was significantly improved by the STE. (Disborg 2007, 15.)

Disborg's own research shows that due to the information reiteration the STE is more suitable for procedural writing. The concise and concrete writing reduces the risk of misunderstandings within the technical documents. The STE also improved the readability and comprehensibility of the technical documentation. The results also showed that even though using the STE rather than conventional English takes more time, the time needed for reviews is diminished. (Disborg 2007, 29 - 30, 34 - 35.)

Simplified Technical English was introduced to the CSS team during the team workshop. The STE was chosen because it is the most widely used controlled language throughout different industries. (Disborg 2007, 13; Nyberg et al. 2003, 251; Unwalla 2004, 34.) The team began with few exercises to see how the STE transforms the text into more understandable form than traditional English without any restrictions.

Based on the literature review of technical communication in this thesis, complex technical information can be communicated most effectively to non-native English speaking audience using the controlled languages e.g. Simplified Technical English since the STE has proven to increase the readability and the comprehensibility of the written technical documentation.

## **7 Conducting research: method and data**

In this chapter the research method is presented, and the justification for the choice of method. Action research approach, data collection and semi-structured interviews are the main focus in this chapter. Action research process is presented in detail not only to describe the thesis process but also to certify the reliability and the validity of the research.

### **7.1 Research method**

Action research was first introduced in the 1970's as a research approach where participation of the research subjects or the practitioners was introduced. The research itself was still conducted by the external researchers, although the research subjects were allowed to participate more in the research process, contrary to earlier role of a passive research object. Currently action research has evolved into community based action research. (Whitehead & McNiff 2006, 20.)

Action research is based on the idea that the generalized solutions do not apply to specific situations or groups of people or organizations. Since the context always depends on the situation, action research's purpose is to find an appropriate solution for a particular case, a group of people in a certain situation. (Stringer 2007, 1.)

The practitioner involvement is seen necessary in action research because the problems are normally part of a complex cultural system of certain group, organization or community, hence the participation of its' members is crucial in the attempt to solve the problem (Stringer 2007, 67).

Involving the CSS team to the research was vital from the beginning. The team guided the research throughout the process, starting from the beginning where the challenges related to variant communication were discussed, all the way to the meeting where the results of the interviews were shared and discussed.

Kock describes the organizational action research as the “process of helping the organization overcome its daily challenges and perform stronger in specific areas”. Within the organizational context, action research has two goals: to improve the situation in the organization and to generate academic knowledge. (Kock 2004, 265 – 267.)

Action research includes three different steps which are often repeated in the process of the research: look (gather data, define and describe), think (explore and analyze, theorize) and act (report, implement and evaluate) (Stringer 2007, 8 – 9).

The cyclical research process influenced also the selection of this particular approach. The industry, the company and the team evolve constantly and the cyclical steps of look, think and act illustrate the development model within the team. The CSS team constantly self-monitors its’ communication and actions, by e.g. surveys, in order to improve and strive for better performance and communication.

## **7.2 Data collection**

In action research the data can be gathered through interviews, focus groups, participant observation, self-monitoring, questionnaires, documents, records, reports, surveys and innovative methods (Holmberg 2013; Stringer 2007, 68).

In this research, the observation was used to monitor CSS team meetings, Variant News email newsletters, Variant Info Calls, trainings and the team in general. The researcher used a research journal to make notes of the observations regarding the variant communication and the communication management within the team. The documents, such as training materials, Variant News emails, variant creation instructions in the Variant Portal, were used to form a basic understanding on how the CSS team communicates and about the variant communication in general.

Innovative methods were used to involve the team in improving the variant communication. During the team workshop different exercises were conducted, for example a gallery walk which is an interactive discussion technique. In the gallery walk

pairs or smaller groups discuss different topics and present the results of their discussion to others. At the end with the entire group discusses and adds their opinions on all the discussion topics.

Semi-structured interviews were used to interview all CSS team members and eight local specialists on April 2014. The semi-structured interview method was chosen, with a framework of themes related to the research questions, not to restrict the interviewees and to enable the researcher to pursue further any themes which come up during the interview related to the thesis topic.

### 7.2.1 Interviews

Altogether 18 people were interviewed, resulting into 9 hours 55 minutes of interview material. The interviews were recorded using Microsoft's Lync internet meeting service and transcribed fully from the recordings.

All eight CSS team members, one temporary team member (on job rotation in the CSS team) and the team leader were interviewed for the research.

Table 1. CSS team interviewees:

<b>Country</b>	<b>Gender</b>	<b>Role</b>	<b>Duration</b>
Finland	Female	Team leader	50:03
Finland	Female	Team member A	32:39
Finland	Male	Team member B	44:31
Finland	Male	Team member C	33:00
Finland	Male	Team member D	22:27
Finland	Male	Team member E	21:16
USA	Female	Team member F	33:04
USA	Male	Team member G	49:00
China	Female	Team member H	53:09
China	Female	Team member I	31:27

Two specialists from each region, total of eight persons, were interviewed during the research. The regions are: Europe, IMEA (India-Middle East-Africa), APAC (Asia-Pacific) and Americas (North America-Latin America). In order to get a viewpoint of an average specialist involved with variant communication, the interviewees were selected on the basis of their activity in the variant communication, their location, time zone and experience.

Table 2. Specialist interviewees:

<b>Country / Region</b>	<b>Gender</b>	<b>Identifier</b>	<b>Duration</b>
Switzerland / Europe	Female	Specialist 1	43:38
Egypt / IMEA	Male	Specialist 2	39:33
South Africa / IMEA	Male	Specialist 3	31:58
Turkey / Europe	Male	Specialist 4	23:34
Colombia / Americas	Male	Specialist 5	17:47
Guatemala / Americas	Male	Specialist 6	21:51
Australia / APAC	Male	Specialist 7	24:45
Taiwan / APAC	Male	Specialist 8	21:20

Taking into account the interviewee’s activity in variant communication, the most active specialists, who are already involved with e.g. the Validation Group, an interactive regular meeting between CSS team and selected active specialists, or the ones who rarely contact CSS team for variant support were excluded. The location and time zone selection criteria included two perspectives 1) the remoteness of the specialist’s location in the sense that the specialist may be the only one from the unit in the location, thus receiving no support from colleagues and 2) the time zone, which can be different to CSS team members’ time zones, hence delaying the answers for the specialist’s support requests. In addition the experience was taken into account, because the specialists needed for this interview had to have experience on variant communication and variant creation. Some specialists have an extensive background in

research and development as well as variant creation and therefore interviewing them might not give a proper view on an average specialist using the variant communication information and channels.

### **7.3 Interpreting and analysing the results**

The analysis is a process of summing up all the research data to reveal the significant parts of the information with the end result of a set of concepts and ideas to help the stakeholders to improve the researched area (Stringer 2007, 95).

In the analysis of the interview material, the interview information was categorized and key elements were identified. The key data from the interviews was written in colorful post-it notes and arranged into different categories to identify the clear problem areas and strengths. This way of categorization also revealed the differences between the CSS team and specialist interview materials.

In enriching the analysis, the researcher posed series of interpretive questions regarding the research data to determine the purpose, focus or problem thoroughly along with the context. In addition a problem analysis was used to figure out the antecedent and the consequences. The interview results and the initial improvement suggestions which had arisen in the interviews were presented to the CSS team. After the presentation the findings were discussed and evaluated with the whole team and team members also created few additional improvement ideas.

### **7.4 Action research as a process**

At the beginning of this thesis work, the team got together with the researcher and shared their wishes for this thesis work. The team was willing to improve their work and was constantly active in seeking to improve their communication. One example of this culture of ongoing improvements is the Validation Group, an interactive joint meeting with the CSS team and the selected active specialists from each region. The

Validation Group, which was established approximately one year ago, discusses and makes decisions on different topics such as ongoing customization development projects, network operator trends and issues.

In the initial meeting with the team, the Beijing team member shared her challenges of working with whole APAC (Asia-Pacific) region support requests alone. These challenges were shared with the higher management level, and after few months the CSS team leader was able to hire another team member for Beijing team to share the workload. The CSS team was also given permission to arrange a face-to-face workshop for the first time during the team's history. The CSS workshop was arranged in Tampere Finland on March 2014. These were the first actions of the action research process.

Due to the limited communication training offering at the case organization, the team indicated their willingness to learn more about the related communication theories in hopes to implement new ideas and ways of working to improve the communication. After the initial observation of the team's work, their Variant News newsletters, TS Variant News social media group, Variant Info Calls and trainings as well as their virtual team meetings, the exploration of different communication areas and theories was begun.

Based on the theories in this thesis, the team was presented with few theories from intercultural communication, technical communication as well as communication barriers, factors which influence communication behaviour, rhetorical communication strategies and few tips for better presentation skills during the team workshop. The team also had discussions to draw the connection from these theories to their everyday work e.g. the team members took part in a gallery walk to consider how the intercultural nature of their communication is visible in their work and should be taken into account. More over the team members carried out individual exercises based on Simplified Technical English, a controlled language which was suggested to be used in variant communication to produce more comprehensible and readable messages for the intercultural recipients of variant communication.

After the workshop the team was given time to evaluate what parts of the theories they are able to take into use in their variant communication. The interviews were scheduled approximately one month after the CSS team workshop to get feedback from the team members on what they had learned and implemented in their communication.

The results of the specialist and the CSS team member interviews along with the improvement ideas both from the interviews and the conclusions of the research were shared with the team in a virtual team meeting and discussed. Few actions based on the interviews and thesis findings have already been decided and the implementation is on the way. The team will continue the path of continuous learning and self-improvement.

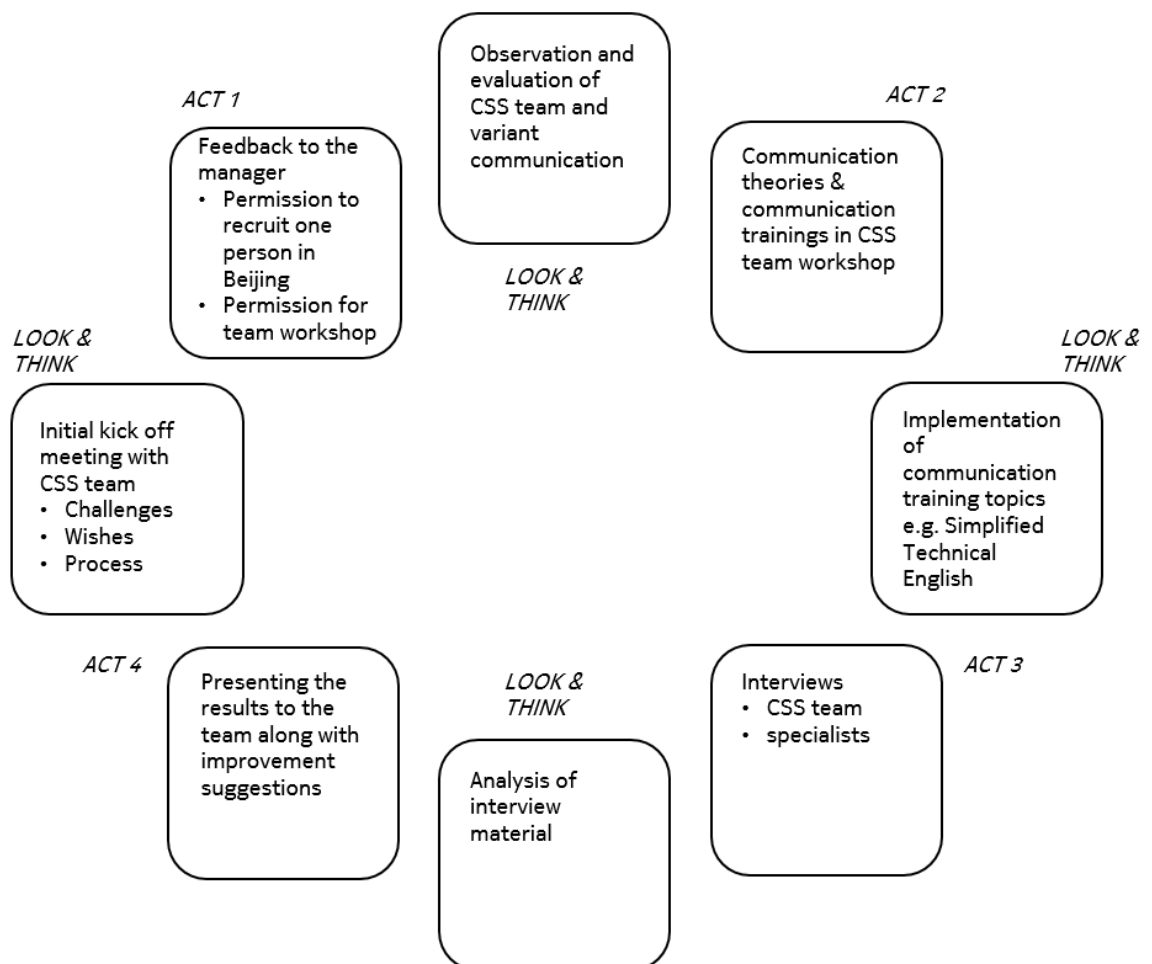


Figure 4. Action research process in this thesis.



## 7.5 Reliability and validity

Reliability means how reliable the findings of the research are, meaning that if the research was replicated, it would result the same findings. In qualitative research triangulation, peer examination and audit trail are used to determine “whether the results of a study are consistent with the data collected.” (Merriam 1995, 55 – 56.)

Internal validity means how well the findings correspond with reality and external validity refers to how well the findings can be applied to other situations, meaning generalizability of the research. Internal validity is considered by triangulation, member checks and peer or colleague examination, statement of researcher’s experiences and submersion in the research area. Working hypothesis, concrete universal generalizations and user generalizability are alternative constructs of external validity. Generalizability or external validity can be investigated with description, multi-site designs, model comparison and sampling within strategies. (Merriam 1995, 53 - 54, 57 – 58.)

Stringer suggests in action research checks for trustworthiness: credibility, transferability, dependability and confirmability. Credibility in this context means plausibility and integrity of the study, transferability means the possibility of applying the outcomes of the study to other contexts, dependability stands for clearly defined research procedures and confirmability signifies the evidence that the described procedures actually took place as stated. (Stringer 2007, 57 – 59.)

In this thesis the credibility of the work has been reached with prolonged engagement and persistent observation of the CSS team and variant communication, meaning that the researcher has immersed herself in interviews, observation and research area. Member checking and participant debriefing has taken place with team members as well as the team leader throughout the research, so the participants have been given opportunities to review the interview results and discuss them. Throughout the thesis, the research process has been rigorously described in order to provide transparency to the thesis work.

The validity or the transferability of the outcomes becomes evident through the detailed description of the context and the activities during the thesis work. The colleague examination has been conducted by the CSS team leader and the submersion of the researcher has been reached by the participation in CSS team meetings and the proximity of the Finnish CSS team.

The reliability or the confirmability can be established by e.g. research journal, interview recordings, interview transcripts and communication training materials. With this data the researcher is able to confirm that the decribed actions have actually taken place.

The researcher is not part of Customization Sales Support team, but has been working for approximately four years in Technical Sales. This unique position gave the researcher good observation possibilities, but enabled the researcher to make objective observations about the CSS team.

## **8 Discussing the findings**

The aim of this chapter is to discuss the findings of the thesis. The chapter gives the answers to the main research questions as well as the sub-questions in the following three chapters: challenges in intercultural variant communication, communicating complex technical information and strengths of variant communication. The final chapter, communication roles in a virtual team, describes how the communication roles and tasks are divided among the CSS team members and how virtual and intercultural environment impacts the team work and communication.

### **8.1 Challenges in intercultural variant communication**

The biggest challenges in the variant communication according to the interviews are caused by the information itself and the intercultural issues. Amount of information is a challenge, but in addition the information seems to change in a fast pace which causes challenges for the specialists as well as the CSS team. The intercultural issues were related to the challenges caused by different locations and time zones as well as the cultural differences in the interpretation of the variant communication messages.

In the CSS team interviews, it came apparent that one of the biggest issues for them is the massive inflow of information. Information is pouring in from different stakeholders inside and outside the company in a fast speed. What is right information at this minute, might be outdated and incorrect in a few hours. This leads into situations where the CSS team has to communicate information what is accurate at that time without knowing if the information will change soon after. Most of the team members are concerned that due to this fast changing information, the specialists' workload is increased because the instructions are changing so frequently that the specialists have to redo their work due to the updated information. The specialists from Europe region confirmed this concern in their interviews. As a result, the CSS team members fear losing the trust, which the specialists have bestowed upon the variant communication, if the reliability of the information continues to be an issue due to fast changing information.

Another part of the information challenge is the different customization processes for each product platform. As the CSS team leader describes it, “*the amount of details which is caused by the several different product platforms and each of them following different rules, processes and details*”. These different processes create additional complexity with parallel divergent instructions, customization tools and offerings. As a result of these parallel processes, the specialists are reporting fragmented issues, i.e. support contacts to Variant Support resource mailbox concerning different product platforms and different regions and areas. This means that the CSS team and the specialists have to master a vast and complex areas of parallel information which changes constantly, therefore it is a great challenge for both the CSS team and the specialists as well as the variant communication.

One peculiar coincidence is that despite of all the information coming in from different sources, the CSS team sometimes still suffers from the lack of information. For instance some current issue needs guidance and new instructions need to be created, but there is no reliable information on the topic or even the stakeholders are struggling to understand the whole issue with dependencies and implications to other areas.

The challenges of working and communicating with people from different countries was evident due to two different issues: the different time zones or locations and the fact that people from different cultures do not understand the messages in the same way, but misunderstand the content of the message. The CSS team members have clearly considered what causes these misunderstandings.

Since the CSS team has to communicate and serve people from all around the world, it is hard to construct a clear picture what is happening in each region or country. The differences in the time zones may increase the response time for the support contacts, although, according to the interview results, the slow replies only seemed to be an issue for the IMEA (India-Middle East–Africa) region specialists. Many specialists proposed that round-the-clock service in the variant related issues would ease their work

substantially. These specialists hadn't experienced the CSS team's "follow the sun" working method with their issues.

The Chinese and American CSS members thought that working in different time zones is a challenge both inside the team and in the communication with the specialists. The CSS team member G adds that *"urgency can be impacted by time zone simply by the fact that we have different groups in different parts of the world doing different functions inside same process."* Surprisingly none of the Finnish team members brought up this challenge.

The Finnish CSS team members had noticed the challenge that people from different countries or cultures seem to understand the content of the message differently than what was intended by the creator of the message. Also few non-native English speaking specialists emphasized that the variant communication messages must be read carefully and even repeatedly in order to understand the meaning of the message and not to miss any of the details. Culture free and culture fair technical communication written with Simplified Technical English could improve the comprehensibility of non-native English speaking specialists. (Disborg 2007, 29 – 30; Nyberg et al. 2003, 248; Weiss 1998, 253 – 254) A language barrier between the Finnish CSS team and the Chinese stakeholder teams was mentioned as well. The poor English skills of some of the Chinese collaborators cause delays and misunderstandings in variant communication.

Despite the knowledge of cultural differences, communication styles and categorizations, the team still finds it hard to prove that a certain cultural difference or communication style would cause the misunderstanding in the interaction. Communication does seem to be easier when the interacting participants share the same culture (Guirdham 2011, 33). The diverse backgrounds in history, customs and traditions, as well as culture's communication style, interfere with the comprehension of the message (Lewis 1999, 1).

Regarding the communication channels, almost all specialists complained that it is hard to find information from the Variant Portal and the navigation structure is not clear.

The same specialists had noticed that the information in the Portal is not always up-to-date. Almost half of the CSS team members also corroborated in their interviews that Variant Portal contains quite a bit outdated information and that due to the amount of information in Variant Portal, it is also hard to keep updated.

Half of the CSS team recognized the constantly increasing workload, according to them the workload has been high for quite some time. They also understand that the increased workload causes increased risk to the variant communication, i.e. that things may not be done properly because of precipitation and stress.

In response to RQ1: What are the challenges of intercultural variant communication, the data from the interviews reveals that the biggest challenges are the amount of information and the complexity of the information along with the intercultural issues. The problem that the specialists have with searching for information in Variant Portal intranet site is part of these information related challenges. These issues result into increasing workload which was identified as a big risk for effective variant communication. The multicultural aspect of the communication cause challenges with different time zones and people from different countries understanding messages differently. This supports the findings from the intercultural communication theories where cultural differences in behaviour, work place conduct and communication stood out as possible problem areas.

## **8.2 Communicating complex technical information**

The intercultural communication theories categorized and gave names to some of the occurrences which the CSS team members have already witnessed during their years of experience working with people from different cultures. In the interviews the CSS team members didn't think that intercultural communication training in the team workshop changed their behaviour or communication, but rather gave them the insight and the reminder of the differences between cultures and communication styles. Nevertheless the team members admit being more aware of the cultural differences when communicating after the communication trainings.

During the team workshop, the innovative method, the gallery walk forced CSS team to draw conclusions from the communication theories to their own everyday work and the team members came up with several different ways to improve their daily communication. The team members understand and recognize the differences between cultures: Hofstede's individualism-collectivism, MAS-variable resonated mostly to the team, while with power distance, only the Chinese team members did recognize the non-verbal communication elements as familiar behaviors in their culture. Also the team recognized the uncertainty of interacting with different cultures, but they felt that when exposed to other cultures, the tolerance is increased and therefore the team did not completely agree with Hofstede's UA dimension.

During the CSS workshop discussion the team also recognized the main differences in the communication styles: the Finns are direct while Chinese are indirect and the Americans are in the direct category but using elaborate code more than others. American team members also felt that they are the most M-time oriented people in the team, while they admitted that other team members also represent the M-time spectrum. The main learning that the CSS team members gained from the workshop was that the individuals who learn how to be culturally sensitive in their behavior and communication can reduce the unpredictability of the interaction and even promote trust between different interacting parties. (Ting-Toomey 1999, 158 – 160.)

The team also discussed in great length about the non-verbal elements and how much of those come through to the audience via the electronic communication channels. The team came to conclusion that many of the non-verbal communication elements are present in the trainings and the Info Calls despite the internet meeting service, a computer-mediated channel. For example the facial expressions (smile comes through when you speak), tone of voice and use of silence or pauses were the elements that the team wanted to pay more attention to in the future. However a lot of attention was given to the discussion of avoiding the non-verbal elements which may be understood differently in other cultures. Some of the practical ideas which the team produced

during the gallery walk were localized trainings and checklists for the Variant Info Call and training facilitators.

Simplified Technical English (STE), one of the controlled languages, was introduced for the team during the team workshop. The CSS team members were given a month to practice and implement Simplified Technical English along with other communication theories presented in CSS communication trainings to their everyday communication.

The initial reactions of the CSS team members to the Simplified Technical English were enthusiastic and highly optimistic. The examples and the exercises on the STE showed the team members how clear and effective STE can be when used correctly.

Most of the CSS teams stated in their interviews that implementing the STE into their daily communication has proven to be harder than expected. If not used regularly, most of the team members saw themselves falling into old habits of writing and disregarding the STE. Team member A, who is normally responsible for compiling the final Variant News email newsletter, was the only one who had been using the STE regularly after the trainings. She, as well as other team members, admitted that learning to write with the STE takes time. However, almost all team members thought that the newsletter articles seem much clearer with the STE. Disborg concludes in her research about the implementation of the STE that the learning time for the STE differs greatly between the writers. She also found out that the STE was considered to be more useful by writers with technical background. (Disborg 2007, 35.)

Team member A tries to balance between the time pressure and spending more time on writing with STE: *“it’s balancing that now the facts are correct, but it might be bit hard to understand, but what is the benefit if I spend more time on that.”* Despite the difficulties all team members admitted reviewing their messages more carefully after the communication trainings and the introduction of STE, and that they strive for clear and concise messages. Few team members also told that they had started using the rhetorical



communication strategies presented in the team workshop, to produce explicit and rational messages.

The specialists thought that the variant communication messages e.g. in newsletters are most of the time understandable. A native English speaker thought that messages are quite clear although he commented that *“we’re all pretty good at reading Finglish”*, referring to case organization’s own language originated from the company’s Finnish employees. But non-native English speakers confess that although mainly they feel that variant communication is clear, they sometimes have difficulties understanding the message. The case organization’s common features, such as long organizational culture, language and vocabulary can sometimes overcome the differences of communicating organization members. (Neuliep 2009, 343; Varner 2000, 48.) Also the limitation of communication channels into electronic communication channels may be beneficial, since lack of non-verbal and social cues can reduce miscommunication in an intercultural environment. (Järvenpää & Leidner 1999, 811; Shachaf 2008, 135 – 136.)

In response to RQ2: How can complex technical information be communicated effectively, the theory gives quite a clear answer that a controlled language such as the Simplified Technical English helps especially non-native English speakers comprehensibility and readability of the text. The interviews reveal that taking the STE into use has been much harder than the team members anticipated. Even though writing with the STE takes more time and learning how to use it is not fast, it has been proved to produce more understandable text and that the time needed for reviews is diminished in turn.

The CSS team members learned in the team workshop to avoid displaying any cultural elements of the language in the messages, and confirm in their interviews that they focus more on clarity in their communication as well as quality. As Weiss (1998, 253 – 254.) claimed that technical communication should be culture free and culture fair to be effective, the CSS team members strive to keep their messages both culture free and culture fair by using STE, rhetorical communication strategies and other team workshop learnings.

### 8.3 Strengths of variant communication

In the CSS team interviews three main strengths of variant communication stood out: team strengths, communication channels and the team's unique position between the company's research and development teams and the customers.

One of the most important team strengths was the team's attitude. *"The team cares about the end-users of the information"*, says Interviewee G. The team has built trust and good team spirit over the years and the members of the team approach the communication task with service minded approach, always striving to be better. Trust is according to many scientists the main factor of successful virtual team performance. (Altschuller & Benhunan-Fich, 2010; Grosse 2002; Järvenpää & Leidner 1999; Shachaf 2008.)

The team also has a good way of working. There are two different sub-teams (China & USA) to serve different time zones. Also "follow the sun" method has been created, where another sub-team continues to work on resolving the issue when another team's work day ends. As a result, the collaboration between the team members seems to be fluent and easy. Few team members also emphasized the importance of good relationships between the colleagues and the humor used to lighten the tough situations. As Järvenpää & Leidner conclude, social communication along with virtual team members who are verbalizing their commitment, excitement and optimism, strengthens the trust in a virtual team (Järvenpää & Leidner 1999, 811). The team's constant self-monitoring and ambition to develop themselves and their work has produced a modern team which continuously produces new ways of working and progressive team members.

The diversity is visible not only with 200 specialists all over the world, but also in the CSS team since the team members represent four different cultures as well as different educational backgrounds and experiences. The diversity of the team itself helps the team members understand and communicate with different others also building their intercultural competence. (Guirdham 2009; Neuliep 1997; Spitzberg 1997; Ting-Toomey 1999.)

The single most important CSS team strength is the team's ability to "*understand the big picture*". The team is able to determine from all the incoming information what is important, how it is important, what the implications are and how it relates to the other pieces of information. Thus the team is able to determine what and when to communicate to the specialists in the regions. Several specialists thought that the major strength of the variant communication was sending the right information out at the right time. This confirms the CSS team's strength of being able to understand "the big picture" and knowing what and when to communicate. The specialists trust the information that they receive from the CSS team and that the team will always help them via Variant Support resource mailbox.

The communication channels were also seen as a strength within variant communication area. The channels have already been established several years ago, therefore the stakeholders know to use them to get their variant related messages through to the relevant people, and the specialists have learned to trust the information they get via these channels from the CSS team.

*Other stakeholders frequently ask us to communicate through our channels, I think that means that is an acknowledgement to the work from outside.*

Team member B

The Variant News email newsletter and the Variant Support operations were especially highlighted from all the communication channels. Almost all of the interviewed specialists regarded the Variant News email newsletters as the best and the most important channel for them to get the information related to variant creation, as Specialist 8 says: "*the information from the newsletters is easier to understand than the Variant Portal*". Although some of the CSS team members feel that they are sending out too many newsletters, most of the specialists felt that the newsletters are their main source of information. As Specialist 1 puts it: "*I don't mind getting five newsletters a day if they're clarifying things*" and Specialist 7 agrees: "*As long as it's giving me information, I don't mind receiving those emails at all.*"

Even though not all the newsletters are relevant for all regions, and during the product launches or the introduction of new tools or processes the newsletters may be sent out more frequently, the specialists do not mind, since they crave for that information.

Specialist 8 says about the relevancy: *“the environment of variant creation differs quite a lot from country to country and sometimes the information found in certain countries is not necessarily useful for others.”*

Another highlighted communication channel was the timely support responses from the Variant Support resource mailbox. Only IMEA region specialists felt that the responses to their support contacts sometimes come too slowly. Most of the specialists saw that CSS team’s resource mailbox is one of the most valuable information channels for them. Few specialists also complimented on the knowledge of CSS team members, although at the same time pointed out that the Chinese CSS team members are not yet on the same competence level.

Also the relevant and informative trainings were seen beneficial with good timing and interactive questions and answers section as well as discussion at the end of each training. Despite the informative nature of the trainings, the specialists want more practical trainings with demo sessions in addition to the regular training presentations.

Not only the channels, but timely and reliable communication by the CSS team creates trust between the CSS team members and the specialists, the senders and the recipients of the variant communication. The characteristics of the communication channels influence the communication behaviors, however the predictability and the quality of the communication are most critical for effective functioning (Järvenpää & Leidner 1999, 811).

Finally the team’s unique position between the company’s R&D teams and the customers was recognized. The team is keen on bringing the customer’s voice to the research and development area, and the value of this activity is recognized also by the other stakeholders such as other global Technical Sales team, Sales leadership team and

research and development teams. The Validation Group, the collaborative meeting between the specialists and the CSS team, was highlighted as one and the CSS team's attendance in the regional team meetings as another method to get the valuable feedback from the regions and customers.

In response to RQ3: What are the characteristics of good variant communication, the CSS team strengths are one of the main characteristics. The team members' ability to form "the big picture" helps them to decide what and when to communicate. Their good way of working is a result of team's diversity, good working relationship and humour, which helps them to overcome the pressure caused by the information overflow and the increasing workload. The team's service-minded and caring attitude helps build trust inside the team but also outside the team, with the specialists. The continuous evaluation and development of the team is sign of a productive and progressive team.

This relates to Järvenpää & Leidner's conclusion of social communication, communication that conveys enthusiasm, individual initiative, predictable communication, substantive and timely responses and leadership creating trust among virtual team members (Järvenpää & Leidner 1999, 806 – 809). High-levels of trust within a virtual team were interconnected with high performance (Altschuller & Benbunan-Fich 2010, 42).

The established communication channels and timely and reliable communication by the CSS team create trust between the senders and recipients of variant communication. The team's unique position between the customer front and the research & development and other product teams produces valuable information of customer needs and requirements compared to technical possibilities and mobile phone characteristics.

#### 8.4 Communication roles in a virtual team

During the thesis work, the researcher has noticed that Technical Sales' technical specialists, engineers, seem to have their own way of communicating, concentrating solely on the communication of technical details. This way of communicating is not only unique for Technical Sales, but engineers in general. Markel explains it through technical communication roles: an engineer is a person who communicates about engineering, but professional communicator is a person who communicates with others about the technical subject with a cultivated message (Markel 2001, 4).

Due to the small size of the CSS team, all team members are expected to participate in all communication tasks and everyone is held responsible for the communication they do. Since the variant communication area is vast and complex to handle, the team cannot afford its' members to specialize in certain areas without the knowledge in other areas.

*From my point of view, I look at the team, current roles and responsibilities in a way that everyone who is a member of the team is on specialist or on expert level and therefore responsible of their own work. And that gives one expectation that when you're in higher competence and expectation level in your role, everyone is responsible and accountable of their own actions. So that gives one management aspect that instead of having one person who clearly controls and explains and filters communication, everyone in their role are responsible of what they are either creating by themselves or pass on from others.*

CSS team leader

As the CSS team leader points out, the CSS team members are also experts in their own fields and due to their different work experiences, the team members have special expertise areas that they are mostly responsible for, e.g. one team member is involved with the new customization concepts which are designed to improve the customization work. In the same manner team member A is mostly responsible for writing or editing the Variant News email newsletters and organizing the Variant Info Calls when needed. However the whole team contributes to these newsletters either by writing

articles or editing and reviewing other's articles. The facilitation of the Variant Info Calls is divided by the regions, someone from each time zone will facilitate one conference call. Whether it is creating the communication messages or editing or reviewing other's messages, all CSS team members see themselves actively contributing to the variant communication.

*I want to think ourselves as teachers, we need to make sure that people understand, because we'll see the same question from the same people multiple times, so we need to identify who needs more help than just an answer.*

CSS team member G

The CSS team leader sees the team's role from another perspective: *"we could be more critical and challenge the messengers (stakeholders) and double and triple check that the facts are correct and what is the risk level and based on that maybe protect our audience from miscommunication."*

During the CSS team workshop, the team discussed about these cross-cultural communication styles and agreed that the Finnish and the American team members represent the LCC while the Chinese team members use the HCC. During the years the team members have learned to respect and understand others' different communication styles. The team also recognized that these communication styles have a great impact on the variant communication, and they brainstormed together on how to create either uniform messages or how to utilize the different communication styles to their advantage.

Regardless of the accord with CSS team members, the Chinese and American CSS team members thought that Finnish team members get more attention or respect as well as tasks, partly due to the convenient location, being located in the same site as other customization and research and development teams. Therefore it is easier and faster for the Finnish team members to get technical resolutions to support requests from these stakeholder teams that are located in the same site.

Although almost all the team members praise the team work and communication within the team, few of the team members outside Finland, mentioned that the Finnish team sometimes forgets to include them in their communication.

*Especially because we are remote, and it's an effort to be always to be always heard and to make sure that others involve you.*

Team member F

*As far as the work distribution, I get the sense that people in other areas prefer to work with someone close by, and it is understandable.*

Team member F

This highlights not only the challenges of the virtual teams, but the role division of this particular virtual team. Even though the team members work together well in general, there are instances that bring up the difficulties in working with other locations and time zones, and create an unequal division between the team members. Part of this can be explained with the convenience of same geographical location, but also another explanation is ethnocentrism, i.e. the preference to co-operate with someone from one's own culture. (Chaney & Martin 2007, 9; Guirdham 2011, 150 – 151; Neuliep 2009, 173; Ting-Toomey 1999; 157.)

The ethnocentrism was a new term for the CSS team, when introduced in the team workshop, but the team members were familiar with the concept. They concluded that since a person is born and raised in one's own culture, the person learns to appreciate and understand the customs and values of the culture and therefore all the other cultural ways and manners seem unnatural or even inferior. The team members also admitted recognizing the ethnocentrism in their work environment and even in the communication.

During the CSS team workshop and interviews, the CSS team members brought up several ways how they gather knowledge on other cultures. All team members have been working in a multicultural work environment for several years, interacting and



collaborating with people from many different cultures. The most of the team members have travelled extensively either on business or during their free time and few of the team members have even lived abroad for longer periods. Since the CSS team members communicate daily with people from different cultures, they learn more and are increasing their intercultural competence significantly with each interaction. Even though some cultural scientists claim that one can never understand other cultures (Trompenaars & Hampden-Turner 2012, 1), the CSS is growing its' intercultural competence.

The CSS team interviews also revealed that the team members are keen on interacting with people from other cultures and they are becoming more confident in the intercultural interaction with their increasing experience. More knowledge one has about other cultures, the more like one is to engage in intercultural communication (Neuliep 2009, 397 – 398).

The CSS team leader has received general manager trainings offered by the company, but has not been offered or attended any intercultural leadership or management trainings. However, she has 15 years of experience in working with colleagues from different cultures. The cultural definition of a manager's role specifies the manager's structuring activities and the tendency to include employee input (Guirdham 2011, 72). International managers have to take into account their own cultural background, organizational culture and the culture in which they are working (Trompenaars & Hampden-Turner 2012, 4), but also the subordinates' cultural backgrounds in order to be able to lead them effectively (Ting-Toomey 1999, 66 – 82.)

During the observation of the CSS team, the researcher has witnessed that all team members displayed several of the behaviors mentioned in Järvenpää & Leidner (1999) research. The team has a lot of social communication which also conveys enthusiasm and humor. The team members continuously take the initiative in many tasks and issues even outside their regular tasks. The team communication is predictable and timely because of the rules that the team has agreed upon. During the interviews it became evident that although all team members are expected and prepared to

communicate anything in their team's domain, the team members have natural talent and experience on certain areas and therefore have unspoken division of tasks based on these special areas.

During the team workshop discussions several CSS team members also mentioned how constructing a message using a virtual communication channel, especially email or social media gives time to plan and review the message with the help of other members of the team. Shachaf agrees in her study that non-native English speakers were able to express themselves better in e.g. emails. Also the email message can be reviewed and spell checked which will improve the accuracy and decoding of the message. (Shachaf 2008, 135 – 136.)

## 9 Conclusions

In response to the main research question: How to improve the variant communication in the case setting, this chapter describes the main findings and gives suggestions on how to develop variant communication in the future.

Based on this research, it is evident that there are difficult challenges in the intercultural variant communication. One of the biggest challenges was related to variant information. Since the technology and tools are evolving in fast speed, the amount of information is probably going to continue to be a problem also in the future. As the team leader suggested in her interview, the team members should challenge the originator of the information more and double-check the information from an alternative source, if possible. This way the team could feel more confident with the information communicated to the specialists, and that the team has done everything possible to confirm the accuracy of the information.

What comes to the fragmented issues reported to the Variant Support resource mailbox due to the several parallel customization processes, the harmonization of the processes would be ideal. Since the parallel customization processes are the result of the different product platforms and the research and development teams working separately, the harmonization of the processes and the way of working between these platforms is going to be difficult and enormous effort to achieve. The ongoing change situation caused by the company's acquisition can create an opportunity to harmonize some currently separated processes in the customization area.

The color coding of Variant News email newsletters could help specialists distinguish what product platform or mobile phone is the main topic of the newsletter. This would enable the specialists easily disregard the newsletters that do not concern them and focus on the ones that are relevant for their region or area. This coding could also be extended to Variant Portal and the other communication channels. Distinguishing the type of information for instance the Variant News email newsletter contains at one glance would make information gathering for specialists easier.

The Variant Portal was the only communication channel which was highlighted as a problem area by the majority of the specialists due to a difficult structure and outdated information. The situation with the Variant Portal will be improved by the implementation of new information database. This new information database is connected directly to the primary customization tool. This enables the specialists to get information related to the functionality of the tool directly from the customization tool, without having to search from the Variant Portal. However this will be only a partial solution for the Variant Portal problems.

In addition, the TS organization has now begun a project to improve the product specific information in the Variant Portal by creating a template for the mobile phone model instruction sections. Together, these two initiatives will improve quite a large portion of information available in the Variant Portal. When presenting the interview results to the team, the team also came up with a plan to add an index to the Variant Portal to facilitate the search of specific topics.

Intercultural or location and time zone based issues, especially the specialists' requests for localized or 24 hour variant support reveal that the CSS team's "follow the sun" method doesn't seem to work in all situations. It seems that this method is applied only with exceptional cases. The CSS team member A pointed out: *"People working in countries, they have so different type of work in each country that we don't know exactly what they are working on."* There may be urgent cases for a particular country or a network operator which would also require a quick answer to a support request, but the CSS team does not realize the urgency. Due to the remoteness of the country or unfamiliar network operator or some other reason, the support request does not get the "follow the sun" service and the fast resolution. In order to get the benefits out of the "follow the sun" method, clear rules on what support requests are handled with this method should be immediately defined and shared among the team.

Since the complaints about slow responsiveness to variant support emails came from non-native English speakers in IMEA region, the language barrier may be one answer

to the slowness of the support request answers. If the CSS team members do not understand the question, it makes correct and timely responding hard. The researcher found it difficult to interview specifically one IMEA specialist who claimed to be fluent in English, but misunderstood all interview questions and responded off-topic. Also the poor language skills of some Chinese stakeholders was brought up by a CSS team member, which explains further why some resolutions for certain support request take more time. When discussing the interview results, the team members suggested a phone call should be initiated instead of numerous emails to figure out and solve the issues faster when the language skills are an issue.

In order to communicate complex technical information effectively, based on previous research on technical communication, the use of a controlled language e.g. Simplified Technical English will produce more comprehensible and readable messages. The rigorous use of the STE will benefit especially with complex technical information and with non-native English speaking recipients. The use of the STE also enables the consistency in the text despite the number of writers and reuse of the text in other places. In this research there was not enough time for the CSS team members to fully learn and adopt the STE into their daily communication, so the learning process was longer than expected. However the team members already had time to notice that the messages created with STE produced clearer message, leaving less room for interpretation in their opinion. The continuous STE exercises are suggested for the whole CSS team in order for everyone to adopt the STE into daily use.

The characteristics of good variant communication bring the CSS team strengths to the focus. The team has developed a good way of working despite the challenges that they experience everyday in their work environment. The diverse team has the right service-minded attitude and succeeds because of their vigorous and constant self-monitoring and ambition to be better. The team's ability to understand the critical issues, their implications and dependencies, ability to construct "the big picture", results into timely communication since the team is able to decide what to communicate and when to do it. In order to be able to continue the active communication and the good performance, the team will need to have continued focus on their variant

communication challenges and improvement suggestions. They will need support and trainings to develop themselves and their work, and to overcome the obstacles in the way of excellent variant communication.

The established communication channels and the CSS team's unique position between the customer front and the research and development would not be strengths without the team's knowledge, capabilities and way of working. Since the team is aware of these strengths, they know how to utilize the information and the channels. Although the stakeholders already respect the CSS team's communication, the team has to figure out how to get even more credibility and weight so that they can influence other stakeholders with their valuable insight on the customization issues.

If the CSS team's workload challenges can be relieved in the future, the high-performing team is able to further develop their ways of working and continue in the path of producing good variant communication. With the use of STE in variant communication, there are likely to be less misunderstandings. This would result into fewer support contacts and diminish the CSS team's workload. This research has given the team knowledge and few tools to be used with variant communication. Even if these steps would not ease the workload situation immediately, the research has brought insight for the team on the challenges as well as suggestions on how to tackle them.

## **9.1 Limitations**

In order to research the variant communication, the sample of eight specialists from the group of 200 specialists is not big enough to draw reliable conclusions of the whole intercultural specialist pool. Due to the nature of the specialists' work, most of the specialists are extremely busy creating variants of several mobile phone models and for several different countries, it was hard to schedule even these eight interviews. Agreeing the interview times was problematic and half of the interviews needed to be rescheduled and one interviewee needed to be replaced due to a urgent workload

situation. In addition the changes in the company's ownership caused uncertainty and increased workload for most of the interviewees.

Determining the benefits of the controlled languages is difficult. As Nyberg et al. claim, assessing the controlled language is problematic due to a large number of variables which are hard to quantify (Nyberg et al. 2003, 257). Therefore the evaluation of the STE, which was introduced only one month before the interviews, was not possible. The specialists would not had time to analyze the differences in previous variant communication messages without STE and the new ones with STE. However almost all non-native CSS team members thought that the messages with STE seemed much clearer and understandable. Also the learning process of the STE was longer than anticipated, so during the interviews most of the CSS team members admitted needing more time and practice to master the STE.

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# Attachments

## Attachment 1. Intercultural communication presentation



**Intercultural communication**  
Heidi Moksén  
March 5 - 6, 2014

- Definitions
- Culture - communication
- Intercultural comms at work
- Ethnocentrism
- Cross-cultural value dimensions
- Cross-cultural communication styles
- Non-verbal communication
- Intercultural competence
- Intercultural communication behaviors
- Intercultural communication processes

**Agenda**

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### Definitions

- **CULTURE** is a complex frame of reference that consists of patterns of traditions, beliefs, values, norms, symbols, and meanings that are shared to varying degrees by interacting members of community
- **INTERCULTURAL COMMUNICATION** is symbolic exchange process whereby individuals from two (or more) different cultural communities negotiate shared meanings in an interactive situation
  - Group phenomenon experienced by individuals
- "Cross-cultural" is used in communication literature to refer to communication process that is comparative in nature

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### Relationship between culture & comms

- Language/communication influences
  - how people think
  - how people perceive the world around them
  - how people perceive themselves & other people
- Neither language nor culture can be understood without the knowledge of both
- Culture shapes communication – communication is culture-bound
- Examples how culture affects different languages

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### Intercultural comms at work

- Communication is always easier when people are similar
- Colleagues' communication is influenced by their work roles and organizational culture as well as their own cultural backgrounds
- Organizations as minicultures
- Shared communication culture can, in some cases, override cultural differences

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### Ethnocentrism

- Biased set of assumptions in favor of one's own in-group (ethnic group)
- Everyone is, to some extent, ethnocentric
- Universal and innately human



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## Cross-cultural value-dimensions

- Individualism – collectivism
- Power distance (PD)
- Uncertainty avoidance (UA)
- Masculinity – femininity (MAS dimension)

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## Cross-cultural communication styles

- Direct – Indirect
- Restricted – elaborated code
- High-context communication system (HCC)
- Low-context communication system (LCC)
- Monochronic – polychronic time orientation

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## Non-verbal communication

- In every social encounter 2/3 of the interaction is non-verbal
- Expressing emotions and attitudes
- Continous meanings, intentional & unintentional, multiple channels
  - Tone (paralinguistics)
  - Body (kinesics)
  - Eye contact (oculesics)
  - Touch (haptics)
  - Space (proxemics)
  - Time (chronemics)
  - Smell (olfactics)

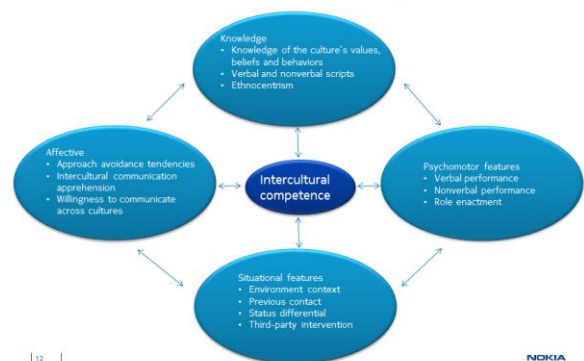


11

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## Model of intercultural competence



12

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## Intercultural communication behaviors

- Intercultural social perceptiveness
- Tolerating ambiguity
- Being non-judgemental
- Being mindful
- Having positive expectations
- Showing empathy
- Self-monitoring
- Communicating relationship as well as task
- Being resourceful as a communicator

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## Intercultural communication processes

- Grounding
- Communication accommodation
- Adapting in initial intercultural encounters
- Appreciative inquiry
- Managing uncertainty and anxiety in intercultural encounters
- Conflict resolution
- Mutual conversational improvement strategies
  - Asserting a point of view
  - Open-mindedness
  - Avoidance
  - Giving in
  - Interaction management
- CQ (cultural intelligence)

14

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## Gallery walk

What intercultural communication behaviors can you see in your team?

What intercultural aspects should be taken into account in CSS / variant communication?

What non-verbal elements are present in variant communication and how are they affected by culture?

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## Sources

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## Attachment 2. Simplified English presentation



### ASD Simplified English

- Created in the beginning of 1980's for the aerospace industry
- developed to help the users of English-language documentation quickly and accurately understand what they read
- Original aim was to make it easier for non-native English speakers working with English documentation
- ASD (AeroSpace and Defence Industries Association of Europe)

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### Simplified English in short

→ Controlled language, a subset of conventional English  
→ Used only for written communication

- A restricted base of vocabulary (about 1000 words)
- A large set of technical names and technical verbs (unlimited in number and user-defined)
- Restrictions on grammar and style (about 60 rules)

### Benefits of Simplified English

- Increased readability and comprehensibility
- Increased safety and efficiency
- Reduced legal liability
- Fewer customer complaints or questions
- Easier to translate

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### Rules in short

- Use only active voice (no passive sentences)
- Use simple verb tenses (past, present, future)
- Use articles such as "a/an" and "the" whenever possible
- The maximum length of sentences is 20 words
- Vary the sentence length
- Restrict the length of noun clusters to no more than 3 words
- Restrict paragraphs to no more than 6 sentences
- Avoid slang and jargon while allowing for specific terminology
- Make instructions as specific as possible
- Write sequential steps as separate sentences
- Put commands first in warnings and cautions, with the exception of conditions
- NOTE: you may have to change the word order!

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## Example

"It is equally important that there should be no seasonal changes in the procedures, as, although aircraft fuel system icing due to water contamination is more often met with in winter, it can be equally dangerous during the summer months."

IN SIMPLIFIED ENGLISH:

Use same procedures all the time because water in the fuel system can freeze during summer or winter.



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## Attachment 3. Communication presentation



# Communication

Heidi Moksén  
March 5 - 6, 2014

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# Agenda

- Communication barriers
- Factors influencing communication behavior
- Rhetorical comms strategies
- Good spokesperson
- International audience
- Cultural checklist to giving presentations

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### Communication barriers

- = obstacles to effective communication
- Physical – time, environment, needs, channel
  - Cultural – ethnic, religious, social differences
  - Perceptual – viewing what was said from your own mindset
  - Motivational – listener's mental state
  - Experiential – lack of relevance to own experiences
  - Emotional – listener's personal feelings
  - Linguistic – native/non-native language, not just vocabulary but also comprehension
  - Nonverbal – contradicting or conflicting non-verbal messages
  - Competition – listeners attention

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### Factors that influence communication behavior



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### Rhetorical comms strategies

- Description: to describe in detail
- Narration: to relate an event
- Illustration: to provide specific instances or examples
- Division – classification: to divide something into parts or to group related things into categories
- Process analysis: to explain how something happens or how something is done
- Comparison – contrast: To point out similarities and/or dissimilarities
- Cause – effect: to analyze reasons and consequences
- Definition: to explain the meaning of a term or concept

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### Good spokesperson

- Professionalism**
- Expert, but also a good presenter
  - Pre-prepare and practise
- Trustworthiness**
- Credibility, authority
  - Know your limits, if you don't know, find out
- Goodwill**
- Interest in what audience wants & needs
  - Collaborative attitude
- Dynamism**
- Enthusiasm & commitment
  - Proactive approach

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## International audience

- Avoid idioms
- Speak more slowly and clearly than you might do with native speakers
- Stress important words, key points
- Make your structure clear for the audience
- Check whether the audience is following your arguments
- Support your arguments with visuals

## Cultural checklist: giving presentations


- Language: formal or informal (level of audience)
- Structure: linear or winding. Explicit or implicit.
- Content: general or detailed
- Delivery: rehearsed or improvised
- Timing: fixed or flexible
- Audience: oriented to audience or speaker
- Dress: formal or informal
- Behavior: serious or relaxed

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Language is a sign of attitude!

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### Food for thought

- What are the most important factors that influence my communication?
- How can I use rhetorics to influence my audience?
- What is the communication environment and level of motivation in the team?
- How much do I value communication? Do I give enough time for communication?

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## Questions?

## Attachment 4. Semi-structured interview themes

### Common questions:

- Education
- Native language
- Experience in variant communication / variant creation

### Topics for CSS team interviews:

- Experience on other cultures / communicating with other cultures
- Previous communication training / skills
- Management of communication within the team
- Your role in the team / in variant communication
- Strengths of variant communication / CSS team
- Problem areas / challenges in variant communication
- Communication trainings during team workshop

### Topics for specialist interviews:

- What communication channels do you use to get information on variant creation
  - Variant newsletter
  - Variant Portal intranet site
  - Variant info calls / trainings
  - Variant News socialcast group
  - Variant support resource mailbox
  - Chat with variant support team
- Strengths of variant communication
- Problem areas in variant communication
- Recent visible improvements in variant communication
- Improvement suggestions

## Attachment 5. Glossary

CSS	Customization Sales Support team, responsible for variant communication.
Customization interface	Customization instructions, offerings, project management, guidance and technical tools etc. that enable the variant creation.
Customization offering	Definitions of what can and cannot be customized in the mobile phones of a certain product platform.
Product platform	Operating system which is used in the mobile phone e.g. Microsoft operating system.
Q&A	Questions and Answers section at the end of each Variant Info Call or training.
Specialist	Person in charge of creating variants with customers in countries.
Support contact	Email, chat or phone call, where CSS team is contacted with regards of variant communication and creation related problem or question.
TS	Technical Sales organization, responsible for creation of country and operator variants. Includes global CSS team and local specialists.
Validation Group	An interactive joint meeting with CSS team and selected active specialists from each region, which was established approximately one year ago. The Validation Group discusses and makes decisions on different topics such as ongoing customization development projects, operator trends and issues.
Variant	Product which is modified to suit specifically either country or customer.