Let’s turn on the cameras, it becomes so much more personal then

- A study on digital natives in global virtual teams

Master’s Thesis 30 credits
Department of Business Studies
Uppsala University
Spring Semester of 2016
Date of Submission: 2016-05-27

Robin Kilander
Adam van Zeebroeck
Supervisor: Desireé Holm
Abstract

The aim of this study is to develop items in the form of statements that may be used in future more extensive quantitative studies. This to enable future researchers to investigate trust development for digital natives (individuals who grew up surrounded by information and communications technology) in global virtual teams. This is done by conducting a case study on a firm with both quantitative and qualitative data collecting methods. Theories from previous research regarding digital nativeness, trust, normative actions, communication and cultural openness are used in order to develop constructs and a new research model. Items from previous research are modified to better fit into the settings in which global virtual teams work. New items are also developed to measure the constructs that have not been brought up in previous research, that the authors believes affect trust development in global virtual teams. After analyzing data gathered from interviews, face validity test and a pilot survey, the paper concludes with a further modified list of relevant items.

Key words: digital native, digital immigrant, global virtual teams, internet savvy, trust, communication, culture.
## Table of Contents

1. **INTRODUCTION** ......................................................................................................................... 3

   1.1 **PROBLEM FORMULATION** ................................................................................................... 5

   1.2 **THE PURPOSE OF THE STUDY** ........................................................................................... 6

2. **THEORY** .................................................................................................................................... 8

   2.1 **GLOBAL VIRTUAL TEAMS** ................................................................................................... 8

   2.2 **DIGITAL NATIVES** ............................................................................................................... 9

      2.2.1 **Digital immigrants** ........................................................................................................ 9

   2.3 **THE CONCEPT OF TRUST** .................................................................................................. 11

      2.3.1 **Constructs 1, 2 - Cognition and affect based trust** ......................................................... 12

      2.3.2 **Construct 3 - Normative actions** .................................................................................... 13

      2.3.3 **Construct 4 - Communication** ....................................................................................... 14

      2.3.4 **Construct 5 - Cultural openness** .................................................................................... 15

   2.4 **THEORETICAL LIMITATIONS** ............................................................................................ 17

   2.5 **THEORETICAL SUMMARY** ................................................................................................ 18

   2.6 **THE STUDY’S HIERARCHICAL STRUCTURE** ..................................................................... 19

      2.6.1 **Operational definitions of the constructs** ....................................................................... 20

   2.7 **RESEARCH MODEL** ............................................................................................................ 21

3. **METHOD** ................................................................................................................................... 25

   3.1 **DATA COLLECTION** ............................................................................................................. 25

   3.2 **QUALITATIVE DATA COLLECTION - INTERVIEWS** ............................................................ 26

      3.2.1 **Sampling for the interviews** ........................................................................................... 27

      3.2.2 **Purpose of the interviews** .............................................................................................. 27

      3.2.3 **Questions asked in the interviews** ................................................................................ 28

   3.3 **QUANTITATIVE DATA COLLECTION** .................................................................................. 29

      3.3.1 **Sampling for survey** ...................................................................................................... 29

      3.3.2 **The items** ....................................................................................................................... 29

   3.4 **FACTOR ANALYSIS** .......................................................................................................... 34

   3.5 **OPERATIONALIZATION OF THE MODEL** ........................................................................... 34

4. **RESULTS** ..................................................................................................................................... 36

   4.1 **RESULTS FROM THE INTERVIEWS** .................................................................................... 36

   4.2 **FACE VALIDITY TEST** ......................................................................................................... 39

   4.3 **RESULTS FROM THE SURVEY** ........................................................................................ 42

   4.4 **FACTOR ANALYSIS** .......................................................................................................... 44

5. **ANALYSIS** ................................................................................................................................. 48

   5.1 **THE INTERVIEWEES & CUPONATION** .............................................................................. 48

   5.2 **FACE VALIDITY** .................................................................................................................. 50

   5.3 **FACTOR ANALYSIS** .......................................................................................................... 52

   5.4 **ITEMS** ............................................................................................................................... 54
6. DISCUSSION & CONCLUSIONS .................................................. 60
6.1 CONCLUSIONS .................................................................. 61
6.2 CONTRIBUTIONS ............................................................... 62
6.3 SUGGESTIONS FOR FUTURE STUDIES .................................. 62

7. REFERENCES .......................................................................... 64

APPENDIX.1 .............................................................................. 70
INTERVIEW GUIDE ................................................................. 70

APPENDIX.2 .............................................................................. 71
REMAINING SURVEY RESULTS .................................................. 71
1. Introduction

Multinational corporations in the 21st century are facing grand challenges in the ever changing external environment (Kayworth & Leidner, 2000). A response to the changes are the rapid advancements in informational and communicational technologies, which have laid the foundation from which the global virtual teams (GVTs) emerged (Jarvenpaa & Ives 1994; Jarvenpaa & Leidner 1999). According to Zander et al. (2012) “global virtual teams are typically defined as nationally, linguistically, and culturally diverse work groups. These teams coordinate most of their dispersed activities through the use of information and communication technologies”.

Martins & Schilpzand (2011) did a review over the academic literature on GVTs, and state that there is now a sizable body of research in this topic. Much of the previously conducted research within the field of GVTs so far has been focused around a few key areas such as issues regarding trust, leadership and success factors for high team performance (Martins & Schilpzand, 2011). Prevailing research questions related to trust within GVTs have for example been what the antecedents of trust are (Jarvenpaa, 1998), what are the challenges of creating and maintaining trust (Jarvenpaa & Leidner, 1999), and if trust develops in the same way as it does in collocated groups (Wilson et al., 2006). Regarding success factors, researchers have for example been investigating how team performance is affected by the impact of factors such as the culture of its members (Kayworth & Leidner, 2000) and GVT size (Bradner et al., 2005).

The research on GVTs has grown to become more prominent as the importance of GVTs increases in organizations. For instance, according to a study conducted by Forrester consulting on behalf of Brandman University, over 50 % of the respondents estimated that the number of GVTs were to increase significantly during the next three years. The respondents of the study were characterized as senior leaders or hiring managers from Fortune 500 firms and other major international corporations. The research also revealed that working within a virtual environment in these firms was not uncommon, since 40 %
of the respondents estimated that 40% or more of their employees work in virtual teams. (Vilet, 2012)

One of the most important success factors when working in GVTs is trust, which is sprung from relationship building and communication. Relating to this, Jarvenpaa & Leidner (1999) conducted a longitudinal case study with 350 master students from 28 universities from six continents. The authors’ aim was to research the relationship between trust and communication in GVTs. The students were assigned to come up with a business plan together with students from other universities. The students received questionnaires with statements regarding communication and trust levels within the teams, one in the beginning of the project and one at the close. The researchers also had access to an email archive and could monitor the interaction and level of communication among the students. (Jarvenpaa & Leidner 1999)

The authors detected four kinds of teams with various levels of trust in the beginning of the project and at the end of it. The best performing teams were those who developed a high level of trust and kept the level of trust high throughout the project. These teams were characterized with higher frequency of communications than the other teams. Additionally, their communication was of a more enthusiastic and positive nature than the other teams were, which according to the authors allowed them to become more efficient, effective and successful. (Jarvenpaa & Leidner 1999)

Martins & Schilpzand (2011) claim that many aspects are still unexplored within the field of GVTs. The authors identified research on how knowledge, skills and abilities of the individuals contribute to the team to be one such gap. One of those abilities is familiarity with using digital communication (Martins & Schilpzand, 2011). According to Martins & Schilpzand (2011), this familiarity could matter: “There is some indication in the reviewed literature that skills and familiarity with communication technology and/or teamwork may have a facilitating effect on team performance”. However, further research is needed to gain a better understanding of the effect of the variable on its own.

People born at the end of the 1980s and later grew up with using texting, email and instant messaging in their daily life. Is it plausible that this has had an impact of how they
use these communication methods in a work environment as well? Perhaps even more so as part of GVTs? It would be interesting to investigate this effect. Does it make the individuals more effective communicators? And do they interpret information differently? A significant amount of research have been conducted on this particular generation, commonly referred to as “digital natives” in the literature (Prensky, 2001; Kennedy et al., 2008; Vodanovich et al., 2010; Hoffmann et al., 2014). Exactly what constitutes a digital native has been a popular discussion, resulting in deviating definitions of the group. However, the core characteristic is that digital natives grew up in a world surrounded by widespread use of information and communications technology.

1.1 Problem formulation

Zander et al. (2012) brought up this topic as a suggestion for further research within the field of GVTs: “Popular belief has it that younger generations, computer and internet savvy from an early age, do not feel as inhibited when communicating electronically as older generations do. If this is so, then will members of the younger generation be better, more effective and efficient, global team leaders?”. As Zander et al. (2012) mentions, there is an interesting gap within the field, do digital natives obtain a communicational advantage in virtual settings? And if so, do they easier develop trust towards other GVT members due to this advantage?

We believe the optimal way to test this would be in a large scale quantitative study. However, there is currently a lack of constructs and items (statements) from previous studies that fully capture the concept of trust in GVTs. Therefore, there is a need for developing and testing items that capture these constructs specifically for the GVT context, before conducting more extensive quantitative studies. Well designed items are critical since it will directly affect the reliability and validity of the collected data (Saunders et al., 2009). The items that will be developed and tested in this study can be used in future research to eventually answer the question about how trust building is affected by digital nativeness when working in global virtual teams.
1.2 The purpose of the study

We argue that there are several reasons for why this research topic is interesting. First, it fills a gap in an area of research that is very relevant for how many companies work today and in the future. GVTs are a phenomenon that is likely to become more common in businesses worldwide (Vilet, 2012), and potentially more effective as the technology develops further. As an example of the research interest in the field, The Hawaii International Conference on System Sciences (2016) is dedicating a minitrack focused on trust in digital environments in 2017, led by none less than Sirkka Jarvenpaa, a guru within the field of GVTs. They are currently looking for papers that can advance the understanding within the area (Hawaii International Conference on System Sciences, 2016).

This study resulted list of items that may be used in future extensive quantitative studies within the field of GVTs, to statistically test the correlation between digital nativeness, and the components of trust brought up in this paper. Furthermore, when the study was conducted there was not a widely established way to measure digital nativeness, therefore we have put forward one way to measure it. Trust and its components have been measured before in several ways in other research fields. However, our suggested measurements are adapted specifically to the GVT context.

Practically, the knowledge about the effect of digital nativeness generated from the future research based on our survey may have implications for human resource departments in firms worldwide and assist them with hiring decisions. Furthermore, the understanding of potential differences between digital natives and non-natives (henceforth referred to as “digital immigrants”) can help leaders of GVTs to identify various communication problems that may exist within their team. Leaders of current GVTs can use the results from the study in order to validate the need for training programs for the team members. Individuals that can associate themselves to the researched segment might be interested in the result of the study since it may increase their chance for future work in GVTs. Lastly, we would like to quote Martins and Schilpzand (2011): “It is of utmost importance that researchers and managers develop a sound understanding of how to design, train, support,
and manage Global Virtual Teams”. We believe this paper can contribute to that understanding.
2. Theory

Under this theoretical section the reader will be provided with relevant theories that are necessary to use in order to investigate digital nativeness’ impact on trust in global virtual teams (GVTs) and develop the items. First, we define GVTs, digital natives and digital immigrants. After this, theories regarding the concept of trust are presented. This is followed by theories regarding how the constructs cognition based trust, affect based trust, normative actions, communication and cultural openness are affecting the concept trust in GVTs. In the end of the section the reader is provided with theoretical limitations, a summary of the theory section and an operationalization of the research model. Propositions about possible linkages between digital nativeness and the other areas are presented throughout the chapter.

2.1 Global virtual teams

In Martins & Schilpzand’s (2011) in-depth literature review, they propose that GVTs should be defined as “a group of individuals located in two or more countries, working on an interdependent task, using information and communication technology as a primary means of interaction”. Furthermore, “GVTs vary in their extent of globalness, virtualness, and teamness, thus making a team more or less of a GVT depending on its location in a three dimensional space defined by the three continua.” GVTs have by now been extensively studied, and Martins & Schilpzand uses an Inputs-Mediators-Outputs framework to classify the different aspects of GVTs that have been studied. This paper will go through the most commonly studied areas to give an overview over what components GVTs can be said to consist of and affect their performance.

Inputs describe the initial conditions and resources that the team consists of. Among other aspects, these are the characteristics and skills of its members, the technology used for communication, and the organization of the team and its environment. Within this, the national culture of members is seen as one of the most important ones and has received a
great deal of academic attention. How much it matters appears to be unclear, and conflicting results have been found. Other inputs that have received interest and therefore deemed relevant are knowledge, skills, abilities and demographic differences of team members, although not to the same degree as cultural differences. Types of information technologies used have also been a research focus. Mediators describe team processes and emergent states. For processes, most attention has been given to conflict and conflict management, communication and collaboration, relationship building, feedback, group development, learning, knowledge transfer, influence and politics. Well researched emergent states within GVTs include trust, cohesion, and team identity. Outputs are end results of the team's work, and major research attention has been given to performance, effectiveness and satisfaction. (Martins & Schilpzand, 2011)

2.2 Digital natives

There have been several ways to try to categorize the people who grew up with the internet and the applications the technology enables, and conceptualize their relationship to using it in different ways. Different research papers have studied how this group approaches subjects, and it has been defined in several ways (Prensky, 2001; Kennedy et al., 2008; Vodanovich et al., 2010; Hoffmann et al., 2014). The established term for this group is “digital natives”, and the core characteristic is that digital natives are grown up in a world surrounded by widespread use of information and communications technology. This is contrasted by “digital immigrants”, that had to start using and learn these technologies later in life as adults.

Using digital natives to describe this generation of people was first made popular by Mark Prensky (2001). He claimed that people who grew up surrounded by digital technology “think and process information fundamentally differently” and that they are “native speakers” of the digital language of computers, video games and the Internet.”. Prensky describes how this can manifest itself: “Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. … They function best when networked. They thrive on instant gratification and frequent rewards”. Prensky (2001) did however not make any distinction among people within the digital natives group when it comes to their competence and skills. Other researchers have been
critical against this assumption that new university students (which was the focus of Prensky's articles) have a generally similar “digital upbringing”. Kennedy et al. (2008) write: “Such generalisations risk overlooking a more complex mix of technology based skills, knowledge and preferences among the student population”. They made a study based on surveys sent to students born after 1980 but an overwhelming majority of respondents were born between 1985 and 1988. The results showed that whilst many students in this age group are tech-savvy in the sense that they have “unrestricted access” to computer and many other technologies, the use and familiarity of technologies beyond the most common ones like computers, mobile phone and email had considerable variation. This indicates that digital natives are far from a homogenous group when it comes to technology use. Vodanovich (2010) also states that “it may be the case that there is a continuum between digital natives and digital immigrants and some people exhibit more digital nativity than others”.

Other factors like growing up in a time when the technology exists and is widespread does not necessarily mean that individuals used it in a significant way, and different countries have adapted it later than others. For example, according to Brown & Cherniewicz (2010), in South Africa “the notion of a generation of ‘digital natives’ is inaccurate: those with such attributes are effectively a digital elite”. Furthermore, having grown up with something does not necessarily mean that individuals are “savvy” with it. This could make an approach of categorization purely based on year born problematic. When Hoffmann et al. (2014) set out to investigate if digital natives acted differently from others regarding trust towards online services, they did not base the categorization solely on year of birth. Instead, they divided the sample group into the categories of “digital natives” “digital immigrants” and “naturalized digitals” based on age, web experience and education. In this categorization, naturalized digitals is somewhere in between natives and immigrants: too old to be considered natives but too active using the internet to be considered immigrants. Hoffman et al. (2014) argue that it therefore makes more sense to use more groups than to put them together with the people with significantly less internet experience. Nevertheless, the result still shows a significant correlation between age group, internet behavior and attitudes, and that there is a general difference between digital natives and digital immigrants.
What we show in this section is that most definitions of digital natives consider them as members of a generation grown up in a world surrounded by widespread use of information and communications technology, and that this generation consists of people born after 1980, at least in Western countries. Within this generation, members are however not homogeneous in their use and experience of technologies. Hoffmann et al. (2014) are in some ways viewing digital nativeness more like a skill set, something that can be learned. However, this concept goes away from the core principle that Prensky (2001) argued for: that natives are fundamentally different in the way they process information because they grew up with the technology around. One aspect that has not really been explored in the literature is the possibility that the generation born in the 1990s has an even more different relationship to technology. Whilst many in the “first generation of digital natives” of the 1980s got regular access to computers in their teenage years, people born in the 1990s commonly got access as young children.

2.2.1 Digital immigrants

On the other side, there are the digital immigrants. Digital immigrants are generally born earlier than digital natives and thus did not grow up with access to the internet and other advanced communication technologies. In the informations system area of research, there is a widespread underlying assumption that people who did not do that are resistant towards new technology. (Vodanovich, 2010).

Prensky (2001) compares adapting technology later in life to learning a language. Even when digital immigrants learn how to use it, they will keep an “accent”. This can manifest itself in ways like using the internet to gain information as a second step instead of a first, or printing out email. Hoffmann et al. (2014) found significant differences in how digital immigrants evaluate online shopping services compared to others. Digital immigrants trusted familiar brands and recommendations the most, whilst digital natives considered a large user base trustworthy. It was also found that digital immigrants most critically weighed the risks of a transaction against its benefits.
2.3 The concept of trust

It is believed that the concept of trust is based on human relationships which occur when an individual becomes part of a social network and learns about the various social norms, obligations and responsibilities (Bradach & Eccles, 1988; Powell, 1990; Jarvenpaa & Leidner, 1999). In other words, when an individual learns how to react to others’ behavior within his or her social group, other members of this group may start to trust the individual. It is also at this point the individual self may feel trust toward other members of the group. Dissimilarities in nationality, culture or geographical location are factors that may decrease the chance for trust development to occur (Bradach & Eccles, 1989; Mayer et al., 1995; Jarvenpaa & Leidner, 1999; Scott, 2013; Zander et al., 2013). Furthermore, if an individual lacks past association with other members of the social group and/or it is unlikely that the specific social group will remain for a longer period of time, the chance for trust to develop decreases significantly (Bradach & Eccles, 1989; Mayer et al., 1995; Jarvenpaa & Leidner, 1999).

There have been several studies investigating the relationship between trust and performance in virtual teams. This research strongly suggests that trust has a positive effect on performance. Edwards and Sridhar (2005) found that trust increased satisfaction, effectiveness and efficiency of the work done in the team. Breu and Hemingway (2004) found that a lack of trust among team members was detrimental to performance and knowledge sharing in the teams studied. When comparing the trust development between different groups, Coppola et al. (2002) found that the early development of swift trust was highly impactful for the performance of the assignments the groups performed.

Given what is stated at the end of the first paragraph of 2.3, members of GVTs should theoretically experience great difficulty in developing trust for each other. However, the concept of “swift” trust was introduced by Meyerson et al. (1996) for teams with similar characteristics as GVTs. “Such teams consist of members with diverse skills, a limited history of working together, and little prospect of working together again in the future. The tight deadlines under which these teams work leave little time for relationship building” (Meyerson et al., 1996; Jarvenpaa & Leidner, 1999). Therefore, in the unique
context of GVTs, swift trust is more likely to develop. Like regular trust, swift trust is sprung from interpersonal relationships, more specifically from a wide range of social structures and ultimately various actions in response to these social structures.

However, instead of organically creating trust over time by communicating with the team members, Jarvenpaa & Leidner (1999) argue that swift trust can be “imported” at the beginning of a project instead of being created over time. This trust is rather based on expectations of behavior from other situations the individuals have experienced than the relationships with the members of the new team. (Meyerson et al., 1996; Jarvenpaa & Leidner, 1999). Jarvenpaa & Leidner (1999) argue that one creates swift trust based on stereotypical impressions and cognitive components of the other team members, and that swift trust is maintained as long as the others are "highly active, proactive, enthusiastic". One could say that swift trust is a more temporary version of regular trust, one that still shares many aspects with it. From our perspective swift trust can not be seen as a construct that describes the concept of trust. Instead, we see it as a type of trust that previous researchers believe exists in GVTs to a larger extent than the kind of trust that exists in collocated teams.

The following five constructs are related to the concept trust in various ways. Some are necessary for trust to develop in GVTs (cognition based trust, affect based trust and cultural openness) whilst normative actions are either strengthening or weakening existing trust within GVTs (Piccoli & Ives, 2003; Crisp & Jarvenpaa, 2013; Zander et al., 2013). The construct communication has a codependent relationship with the concept trust, in the way that trust may increase due to the existence of communication in a team, whilst at the same time the level of communication between GVT members is likely to increase when trust has developed within the GVT (English-Lueck et al., 2002; Hinds & Mortensen, 2005; Zander et al., 2012; Scott, 2013).

2.3.1 Constructs 1, 2 - Cognition and affect based trust

McAllister (1995) distinguishes between two main forms of interpersonal trust. The first form is cognition based, and that form of trust is based on if the individual believes that the other party is reliable and dependable. In a work context, that would be for example
to perform their assignments in a timely and competent manner. According to Jarvenpaa & Leidner (1999), swift trust is initially based on stereotypical impressions and cognitive components of the other team members, so cognition based trust can be said to be a core part of swift trust. Cognitive components of swift trust are the team members’ “positive expectations of their team’s trustworthiness”, their understanding of their obligations and responsibilities for the team, and their “competence for the task at hand” (Crisp & Jarvenpaa 2013).

The other form of trust that McAllister (1995) describes is affect based, and the foundation there is that the other party is concerned for the individual's well-being. This form is more emotional. In McAllister’s (1995) study on managers and professionals working in collocated teams, the level of cognition based trust was generally higher than affect based trust. McAllister (1995) concludes that “some level of cognition-based trust is necessary for affect-based trust to develop”, but also that “each form of trust functions in a unique manner“ (McAllister, 1995). Thus, we see that trust can differ in several ways: How quickly it develops, what level of trust is reached, and if it is mostly cognition or affect based.

Since digital natives who grew up with communicating in virtual settings online “think and process information differently” according to Prensky (2001), do they also develop trust differently compared to digital immigrants, since the information received in the virtual environment is processed differently through a “digital native filter”? As mentioned in 2.2.1 above, digital natives considered a large user base more trustworthy than digital natives did when it came to online shopping. Does these differences in trust also apply in other situations? This leads us to the study’s first proposition:

*Proposition 1: Digital natives develop trust towards other GVT members differently than digital immigrants do.*

### 2.3.2 Construct 3 - Normative actions

Crisp & Jarvenpaa (2013) define normative actions as setting and monitoring norms for performance in virtual teams. The norms that the authors characterize as setting are
agreed-upon standards, such as “goals, schedules, technology” etc.. Whilst, monitoring performance norms regard “tracking, interpreting, and transmitting status information about the team or member” (Marks et al., 2001; Crisp & Jarvenpaa, 2013). In teams where the initial level of trust is high, these normative actions significantly decrease the chance for group members to act in ways that may have a negative impact on the group’s final goal (Crisp & Jarvenpaa, 2013). Conversely, in teams with low trust levels normative actions can be seen as controlling and be counterproductive, resulting in non cooperative behavior. Therefore, it is essential that trust of a significant level is established among team members before implementing these actions (Crisp & Jarvenpaa 2013). If implemented correctly, normative actions can enhance the performance of GVTs by “facilitating coordination, information sharing, and learning from experience“ (Crisp & Jarvenpaa 2013). Piccoli & Ives (2003) also found that using behavior control mechanisms, which includes planning and monitoring, can have a negative effect on trust in virtual team. When a member of the team fail to fulfill their responsibilities, it becomes more apparent through the behavior control mechanisms, and thus decreases trust. Conversely, Crisp and Jarvenpaa (2013) mention that normative actions can be used to reinforce swift trust.

The impacts of that follows the implementations of normative actions on trust development and team performance seems to be variating (Piccoli & Ives, 2003; Crisp & Jarvenpaa, 2013). It would be interesting to investigate if digital natives generally have deviating preferences towards normative actions based on their personal experiences compared to digital immigrants.

*Proposition 2: Digital natives have a different attitude towards normative actions, than digital immigrants do.*

### 2.3.3 Construct 4 - Communication

Previous research shows that knowledge sharing is the result of communication between at least two parties. However, in order for this to occur trust has to be established between the parties or team members (Zander et al., 2013). Trust can be developed when an individual in a GVT understands another member’s deviating behaviors, which can differ
culturally, linguistically and functionally. The impact of these behaviors is significantly increased by the GVTs’ lack of collocation (Zander et al., 2013). Trust thrives in situations that are filled with various kinds of physical interaction, which ultimately creates an interdependence between the parties. Thus, one can see the difficulties that may arise in the virtual environment that does not allow GVT members to have these physical face-to-face interactions. Instead, they have to rely on various communication technologies such as video chatting, for instance (English-Lueck et al., 2002; Hinds & Mortensen, 2005; Zander et al., 2012; Scott, 2013).

Furthermore, according to Zander et al. (2013) “trust has to do with mutual faith in that the team members will behave in a fair and reliable manner, and a consequent readiness to let oneself be vulnerable to the actions of others within the team”. Zander et al. (2013) argue that this kind of trust often is associated with increased sharing of knowledge, and that it is a challenge for GVTs to obtain increased interpersonal trust (Zander et al., 2013). Relationship building is of vital importance to GVTs, in the start of the relationship building process one of the parties have to communicate to the other (Jarvenpaa & Leidner, 1999). Therefore, it is not a one way relationship between trust and communication, they are interrelated. Jarvenpaa & Leidner (1999) argue that if trust is established between the members at the inception of a project, it is likely communication within the team will increase. Additionally, that the total amount of time required to spend on the project may decrease, and ultimately that the final product will be of higher quality compared to if trust was established later in the process of the project (Jarvenpaa & Leidner, 1999; Scott, 2013). Relationship building can be stimulated by the GVT members engaging in virtual discussion that are semi- or non-work related (Jarvenpaa & Leidner, 1999; Zaugg et al., 2015).

Iacono and Weisband (1997) found that frequent and continuous interaction kept the level of trust high. The high level of trust led to a positive effect on the work effectiveness. However, more communication is not necessarily better: Sarker et al. (2011) conclude that trust is an important mediator between communication and perceived individual performance in virtual teams. Depending on the trustworthiness of a team member, their communication can be seen as either productive or meaningless, thus impacting how the performance of the individual is perceived by others (Sarker et al., 2011).
Digital natives grew up communicating digitally through various communication technologies, that still have several similarities to those used when working in GVTs today. This could have a large effect on their habits of using the technology compared to someone who did not grow up with it. If they for example do not view it as a “work tool” first and foremost, maybe they are more likely to talk about non-work related topics, due to that digital natives find the communication technologies less formal (Jarvenpaa & Leidner, 1999; Zaugg et al., 2015).

Proposition 3: Digital natives communicate differently with other GVT members than digital immigrants do.

2.3.4 Construct 5 - Cultural openness

As mentioned above cultural diversity within a team can be a barrier to trust development. According to Scott (2013), conflicts may arise when team members have different preferences in how to be led and how decisions are executed within the team. Furthermore, differing views on language usage and language skills may cause misunderstandings, feelings of inequality and uncomfortableness in expressing ideas, and thus resulting in decreased chance of trust development within teams (Zaidman, 2001; Scott, 2013). Additionally, Jarvenpaa & Leidner (1999) argue that the more culturally diverse a team is, the longer time it may take for its members to develop trust towards each other.

Another very relevant cultural factor that affects culturally diverse teams is if the team members come from individualistic or collectivistic cultures (Hofstede, 1980). According to Jarvenpaa & Leidner (1999) it is often the case that individuals from collectivistic cultures prioritize the needs, values and goals of the team prior their own. Whilst, it often works in the inverse order for individuals that originates from individualistic cultures. Moreover, these individualistic minded individuals have a tendency to more easily leave and enter groups, additionally they seem to communicate more openly and precisely compared with collectivistic minded individuals (Hall, 1976; Hofstede, 1980; 1991; Jarvenpaa & Leidner, 1999).
Furthermore, Jarvenpaa & Leidner (1999) argue that an individual's eagerness to reply to a message that can be considered as ambiguous, could be recognized as a sign of trusting behavior. According to the research this behavior is more common for individuals born in individualistic cultures compared to those from collectivistic cultures (Pearce, 1974; Gudykunst et al., 1996; Jarvenpaa & Leidner, 1999). The authors argue that individuals from individualistic cultures possibly are more willing or able to develop trust in virtual environments compared to those that grew up in collectivistic cultures, possibly due to their tendencies toward open communication and ease of entering new groups.

Cultural experiences is a factor that previous research argues to increase trust development in teams. In the sense that individuals with higher levels of cultural experience seem to be more eager to engage in communication with team members with other cultural backgrounds, which is due to their higher level of confidence. Thus, these individuals are starting dialogs that later may develop trust between the team members (Jarvenpaa & Leidner, 1999). Lastly, to be able to communicate effectively within the GVT the members need to be open minded and have an understanding for various ways of expressing oneself due to cultural differences (Zander et al., 2012).

If digital natives communicated with others over the internet before reaching adulthood, it is possible that they have developed skills in communicating with people from other countries virtually. This may have affected their openness to communicate with people with different cultural backgrounds. This leads us to the study’s fourth and final proposition:

Proposition 4: Digital natives exhibit a higher level of cultural openness toward other virtual team members than digital immigrants do.

2.4 Theoretical limitations

A problem with previous research related to digital natives is the criteria for defining and selecting them simply based on the year of birth. This disregards different levels of computer/internet access and usage between individuals, and does not distinguish people who grew up with it from those being exposed to it when being almost adults. Using
1980 as a cutoff point for digital natives/immigrants, which has commonly been done, means that a significant number of "natives" likely did not have regular experience with the internet until around 18 years of age. In this study, instead we investigate when the respondents first started to regularly use internet to communicate. In addition, Prensky’s (2001) claim that digital natives "think and process information fundamentally differently" has not really been substantiated with research in a convincing way. Whilst it is likely there are differences in natives’ behavior and perceptions when communicating digitally, more research is needed on this topic.

The articles written by Jarvenpaa et al. (1998), Jarvenpaa & Leidner (1999) and Crisp & Jarvenpaa (2013) have a few limitations concerning methodological weaknesses. Data was collected from a population consisting solely of master students. One could question the study’s validity, since data was collected from individuals with low levels of experience of working in GVTs. The results could have differed quite severely if the students were replaced by senior GVT members that are used to working in virtual environments. Furthermore, the size of the groups were relatively large 4-6 students, which could affect them negatively in communication virtually. Due to that only text chatting and e-mailing were allowed as means of communication among the team members. Rather than seeing the above mentioned as weaknesses we see them as opportunities to develop items that can be used to collect data from GVTs of varying sizes in multinational corporations.

Limitations from our viewpoint of the work conducted by Zander et al. (2012, 2013) are that these studies are focusing on GVT leadership rather than communication and cultural implications on GVTs. Thus the results are perhaps less relevant for our purposes. However, the authors bring up these concepts as topics of high importance when working in GVTs and they are therefore used in this study.

2.5 Theoretical summary

GVTs are viewed upon as geographically and culturally dispersed teams that communicates with various communication technologies virtually, and have had no or a very low amount of physical face-to-face interaction with each other before.
Digital natives grew up in a world where the usage of information and communications technology were widespread. Digital immigrants started to use these technologies later in life as adults. It is a popular belief that digital natives “think and process information fundamentally differently” compared to digital immigrants. Due to Vodanovich’s (2010) statement that there may be continuum of “digital nativeness” and Brown & Cherniewicz’s (2010) findings that digital upbringing for individuals can differ greatly due to location and other circumstances, we base our definition of digital natives on experience rather than on age. Specifically, if someone had regular experience with communication through internet whilst growing up. Since it is likely that there is a difference between someone who has communicated from a young age and someone who started later in life but still before they were an adult, we divide the people into three categories based on their level of nativeness: 1. Digital natives - Started to communicate before they were a teenager. 2. Digital semi-native - Started to communicate when they were a teenager. 3. Digital Immigrants - Started to communicate when they were 20 years of age or older.

The concept of trust is based on human interaction, it is believed to sprout from relationship creation between individuals. Trust is created when two or more individuals have a mutual understanding for a social group’s social norms, obligations and responsibilities. Physical interaction between two individuals increase the chance for trust to develop significantly. The creation of trust is often negatively affected by deviating cultural factors among team members. Such as, preferences in how to be led or how to execute decisions, these differences can lead to conflicts within teams. For projects that runs for a shorter period of time trust may be imported by an individual, in form of swift trust. Lastly, normative actions may reinforce swift trust by setting and monitoring performance within a team.

2.6 The study’s hierarchical structure

The aforementioned five constructs have been found to affect the concept of trust in GVTs in previous research. These constructs can be seen as mental abstractions that can be used to describe the concept trust in GVTs. It was necessary for us to make the
constructs explicit so they could be operationally defined and later tested. Thus, enabling us to see if they are related to each other or something else. This study aims to develop items that are strongly connected to these five constructs. A description of how the items were developed and tested can be found in the methodological section of the study. To increase the reader's understanding we have visualized the study’s hierarchical structure in figure 2.6.1, which is followed by operational definitions of the five constructs.

Figure 2.6.1 - The study's hierarchical structure

2.6.1 Operational definitions of the constructs

Cognition based trust
This construct is connected to feelings and attitudes that affect trust towards other GVT members based on their reliability and dependability (McAllister 1995). This could for instance be a GVT member feeling trust toward another GVT member based on his or her competences for a specific task in the group.

Affect based trust
This kind of trust concerns the GVT members well-being. This can for instance be that one GVT member trusts the other team members to not make him or her feel scared or embarrassed to share information within the group.
Normative actions

Normative actions are actions related to either monitoring or setting performance, these can both increase and decrease feelings of trust between GVT members (Piccoli & Ives, 2003; Crisp & Jarvenpaa, 2013). This can be actions enabling monitoring of GVT members contributions and/or performance.

Communication

Previous research have found that communication is vital part for trust development (Jarvenpaa & Leidner, 1999). It has also been found that when trust exist communication tend to increase in GVTs which may lead to better performance for the GVT (Jarvenpaa & Leidner, 1999). This is when GVT members talk about work or non-work related topics using several different technologies, such as email, chatting, video conference etc. (Jarvenpaa & Leidner, 1999; Zaugg et al., 2015).

Cultural openness

Cultural openness is about GVT members ability to feel trust toward other GVT members with deviating behaviors that are due to cultural differences (Zander et al., 2013). In other words, that the GVT member do not hold any prejudices towards the other GVT members based on their cultural backgrounds.

2.7 Research model

The model 2.7.1 illustrates the possible relationships that were proposed between digital nativeness, trust and trust-related activities and perceptions within GVTs. The model is used to guide us in coming up with relevant items that may be used to measure these constructs and thus the concept of trust in GVTs. We have created the model based on the literature review, and it is the theoretical framework that is used to guide our study. Based on Martins & Schilpzand (2011), it shows proposed relationships linkages between inputs, mediators and outcomes, and which components are affecting each other. A step-by-step explanation of the model is found below. As can be seen in the model, proposition 1 concerns the relationship between digital nativeness and overall concept of trust directly. Proposition 2, 3 and 4 concern the direct relationships between nativeness,
and respectively, the constructs of normative actions, communication, and cultural openness.

Model 2.7.1 Research model

The propositions are as stated in section 2.3:

**Proposition 1**: Digital natives develop trust towards other GVT members differently than digital immigrants do.

**Proposition 2**: Digital natives have a different attitude towards normative actions, than digital immigrants do.

**Proposition 3**: Digital natives communicate differently with other GVT members than digital immigrants do.

**Proposition 4**: Digital natives exhibit a higher level of cultural openness toward other virtual team members than digital immigrants do.

The model is divided in three parts. Starting from the left, are the inputs. In this case, the input that is interesting is digital nativeness. Digital nativeness is a key concept of the
topic and is measured based on what time in their life the respondents started using internet to communicate (Jarvenpaa & Leidner, 1999; Scott, 2013; Zander et al., 2013).

Mediators are the second part of the model, in the middle. The main mediator is trust. Components of trust, the constructs we examined in section 2.3, are cognition based trust, affect based trust, normative actions, communication and cultural openness. Cognition based and affect based trust measure trust most directly (McAllister, 1995). Communication is key for trust and relationship building. When communicating and building relationships through engaging in social activities, it also helps individuals to understand the social and situational contexts of the other team members, which facilitates trust. At the same time, trust can be said to be a foundation for good relationships (Zander et al., 2013). Cultural openness is vital in the context of GVTs. Cultural diversity can be a significant barrier for trust development within some teams (Scott, 2013). Normative actions, such as setting and monitoring, can reinforce swift trust (Crisp & Jarvenpaa, 2013) and is also a way to communicate within the team. The red arrows symbolize that the overall concept of trust can have an impact on the individual constructs, as well as the individual constructs affect and together constitute trust as a whole. The propositions that are put forward in this paper regard the effect the input digital nativeness has on the mediators overall trust, cognition based trust, affect based trust, normative actions, communication and cultural openness.

The third part of the model are the outcomes, to the right. They are part of the model to highlight why trust is so relevant in a team setting. The outcomes are directly affected by the mediators. The outcomes looked at are communication, knowledge sharing and team effectiveness. Effectiveness is one of the ultimate goals of any virtual team, and it is dependant on well functioning communication and knowledge sharing among team members (Jarvenpaa & Leidner, 1999). Knowledge sharing is the result of communication, and trust is a prerequisite of that (Zander, 2013). More frequent communication facilitates knowledge transfer but usually does not occur when a high level of trust is absent (English-Lueck et al., 2002). The outcomes in the model show the importance of trust and relationship building within a GVT.
3. Method

*In this methodological section it is explained how and from where the data was collected. It is also explained how the items were developed and how the data later was analysed.*

3.1 Data collection

We see a lack of items from previous studies that can be used in order to investigate trust development for digital natives in GVTs. Therefore, we decided to make a pilot study only on the company Cuponation to modify and develop new items. The firm is an online shopping portal that strives to offer its users the best discounts for its partners’ products with promotion codes (Cuponation, 2016). Cuponation was chosen because it would enable extraction of high quality data, since the firm at the time was active across 25 markets and several of its employees are working in multiple GVTs. The multinational corporation has offices in Russia, Mexico, Singapore, Australia, Brazil and several European countries, which frequently communicate with each other (Cuponation, 2016).

Due to the small sample size (one firm) relative to the total population of the world’s GVTs, it is not possible to generalize on a statistically significant level. Instead, the study strives to make a methodological contribution by generating items as indicators for the aforementioned theoretical constructs. These can be used in future more extensive cross sectional quantitative studies with thousands of respondents from different companies and industries.

In order to increase the reader’s understanding for the developing process of the items figure 3.1.1 on the following page was created. It is a timeline that describes the order in which the actions were executed, starting with the semi structured interviews from the left and ending with the final version of the items to the right.
3.2 Qualitative data collection - interviews

In order to enable the development of the items, deep going qualitative semi structured interviews were conducted with GVT members working at Cuponation. An interview guide was used in order to keep track of what topics to discuss. Semi structured interviews were chosen since they enabled extraction of high quality data, since it does not limit the interviewer to ask the respondent specific questions but allows the respondent to give open answers (Bryman & Bell, 2010, pp. 369).

Another reason that made us use an interview guide was that it allowed us to be more flexible during the interviews. Depending on what was brought up during the interviews, some questions could be asked and others could be skipped. Also, by using an interview guide in a semi structured interview we were allowed to state suitable follow up questions in order to retrieve data of higher quality (Bryman & Bell, 2010, pp. 369). Therefore, we found this qualitative data collecting method to be fitting for the study. However, when conducting interviews there is always a risk for the interviewer effect to occur and thus impact the answers (Bryman & Bell, 2010, pp. 157). Fortunately, we were aware of the potential negative effects of the interviewer effect and had this in mind whilst conducting the interviews. Therefore, we strived to not ask questions that were leading or to
articulate them in a leading way, thus affecting the respondents’ answers less (Bryman & Bell, 2010, pp. 157). Also, worth mentioning is that the interviews were held completely virtually, through Skype video chat. Although this might affect the answers, we argue that the respondents are used to communicate virtually, also we find it suitable for this study on GVTs.

### 3.2.1 Sampling for the interviews

Factors that affect the sample selection are that the research is not of a strong exploratory nature, limited by time and resources, and that the sample will not be large enough to generalize for the entire population. Thus, the sampling were of a non-random nature. A purposive sampling was used, which is not uncommon when collecting data from individuals in virtual environments (Saunders et. al, 2009, pp. 239). More specifically, a heterogeneous sampling was used to find respondents with different perspectives and experiences (Patton, 2002, pp. 167; Saunders et. al, 2009, pp. 239). Thus, empowering the collection of data which can be used to both “describe and explain the key themes that can be observed” (Saunders et. al, 2009, pp. 239). For example, a key theme could be deviations in opinions regarding normative actions between digital natives, semi-natives and digital immigrants. Additionally, it may be an advantage to use heterogeneous sampling, since “any patterns that do emerge are likely to be of particular interest and value and represent the key themes”, which was fitting for this study (Patton, 2002, pp. 167; Saunders et. al, 2009, pp. 239). The respondents were of mixed nationalities, worked in different departments and had different work duties in the organization. This gave us an insight from several perspectives on trust development in GVTs. Seven respondents agreed to participate in the interviews.

### 3.2.2 Purpose of the interviews

The purpose of the interviews was to get a deeper understanding for GVT members’ different perspectives and experiences regarding trust and communication in a GVT context. The respondents were also asked to participate in a face validity test. Face validity refers to that an item “appears logically to reflect accurately what it was intended to measure” (Saunders et al., 2009, pp. 592). To do this, they were asked to connect 21 items to the constructs they felt it was most related to (see table 4.2.1). Before each test
all constructs were defined, this to make the respondents interpret them as similarly as possible. In order to simplify the task, the constructs cognition and affect based trust were merged into one construct “perceived trust”. The face validity test gave us an expanded understanding on how actual GVT members perceived the items, and should lead to a survey with higher face validity (Saunders et al., 2009, pp. 592). The wording of the items used in the face validity test were slightly modified before the survey was sent out (see draft 2, table 3.3.2.1). Theory from previous research was later applied on the data collected from the interviews, this enabled the creation of new items for both the survey and final list of items for future research (see table 6.1).

### 3.2.3 Questions asked in the interviews

Information regarding respondents’ age and first internet communication experiences was extracted from the interviews. This enabled us to categorize the respondents based on their level of digital nativeness. Additionally, they were asked about their position and tasks in the company, how they currently communicate within GVTs, about what trust they feel for their GVT colleagues, planning and monitoring, and how it is to work with people from other cultures.

### 3.3 Quantitative data collection

Quantitative data was collected using an online survey because it was efficient, convenient and cheap (Bryman & Bell, 2010, pp. 162). Google forms was used since it summarized the collected data in beautiful charts (Bryman & Bell, 2010, pp. 162). The respondents were all GVT members working at Cuponation. Employees that were not a part of a GVT were not invited to participate in the survey, since it would decrease the validity of the data significantly. The survey was sent out to 25 GVT members electronically via an link in an e-mail sent out by their superiors. The survey did not take longer than 15 minutes for the respondents to complete, which is good since it minimizes the risk for data loss (Bryman & Bell, 2010, pp. 165-166). In the beginning of the survey control variables were presented, for instance age and when they started to regularly use internet to communicate. This in order to decide if the respondent should be seen as a digital native, semi native or a digital immigrant. After this, 22 items related to the five constructs (see table 3.3.2.1) were presented, which the respondents either could agree or
disagree with on a Likert scale running from 1-7. Some statements are reversed in order to reduce acquiescence bias, meaning the risk that respondents go into autopilot and answer 6-7 on each item (Sauro, 2011). Also, to reduce the risk of extreme response bias meaning that the respondents chose to either strongly agree or disagree with the statement (Sauro, 2011).

3.3.1 Sampling for survey

Like for the qualitative data collection, a heterogeneous sampling was used in order to find these differences among the aforementioned groups (Saunders et. al, 2009, pp. 239). The reasons for choosing this sampling were the same as for the qualitative data collection process, therefore we see no need to repeat it again (see section 3.2.1). Fourteen respondents participated in the survey. This does not allow us to make generalizations based on statistically significant data, but we were able to see tendencies in the result from factor analysis. Thus, enabling us to develop items for future more extensive qualitative studies.

3.3.2 The items

The items were initially carefully chosen based on previous measures used by Jarvenpaa et al. (1998), Crisp & Jarvenpaa (2013) (see table 3.3.2.1, 3.3.2.2) and Wilson et al. (2006) (see table 3.3.2.3). The items used by Crisp & Jarvenpaa (2013) were refined versions of the ones used by Jarvenpaa et al. (1998). Jarvenpaa et al. (1998) based their items on the trustworthiness scale developed by Pearce et al. (1992) and adapted the items to fit GVTs. The items in the trustworthiness scale were originally created by Pearce et al. (1992) after having reviewing previous research on the field and after performing a factor analysis on them. The questionnaire by Jarvenpaa et al. (1998) was later used by Piccolo (2003) who referred to it as a “previously validated scale”, therefore we only made minor modifications on these items to make them more suitable for GVTs (see table 3.3.2.5, 3.3.2.6). Whilst the above mentioned authors had one single scale for “trustworthiness”, we decided that it would be better to divide those items into two constructs, based on the idea of “cognition and affect based trust” (McAllister, 1995). Wilson et al. (2006) created their items based on items earlier used by McAllister (1995). These were as well slightly modified by us in order to fit GVTs better. In table 3.3.2.1,
3.3.2.2 and 3.3.2.3 below you can see the original items used in aforementioned studies. We present our initial draft of items in table 3.3.2.4. Those were the ones used in the face validity test mentioned above (results presented in section 4.2)

The data collected from the interviews and the face validity test was used in order to make the final adjustments before sending out the survey to the respondents. Before that, we also tested the survey ourselves to see if there were any issues with clarity of wording. Below in table 3.3.2.5 one can see all the items used in the survey, and what construct they are meant to be connected to. Also, whether they are modified versions items from previous studies or if we developed them ourselves. Explanations of how the items were developed can be found in table 3.3.2.6.

Table 3.3.2.1 - Items for normative actions

Normative actions, adapted from: Crisp & Jarvenpaa (2013)

“Normative actions (i.e., setting and monitoring team performance norms)”

1. To what extent did your team discuss specific final performance goal? (Setting)
2. To what extent did your team discuss interim milestones for the business plan? (Setting)
3. To what extent did your team discuss how the communication technologies should be used? (Setting)
4. To what extent did your team discuss what should be considered acceptable conduct? (Setting)
5. We try to be aware of this team’s level of performance. (Monitoring)
6. My team attempts to judge how well we are performing. (Monitoring)
7. We pay attention to how this team’s performance stands. (Monitoring)
8. My team monitors the actions of its members. (Monitoring)
9. We pay attention to what people do on this team. (Monitoring)
10. My team monitors what members do to make sure they comply. (Monitoring)

Table 3.3.2.2 - Items for cognition and affect based trust

Adapted from: Crisp & Jarvenpaa (2013)

1. We have confidence in one another on this team.
2. Members of my team show a great deal of integrity.
3. There is not a “team spirit” in my team. (Reversed)
4. We are able to rely on the people we work with on this team.
5. There is a noticeable LACK of confidence among this I work with. (Reversed)
6. Overall, the people on my team are very trustworthy.
7. We are usually considerate of one another’s feelings on this team.
8. The people on my team are friendly.

**Table 3.3.2.3 - Additional items for cognition (1,2) and affect based trust (3,4)**

*Adapted from: Wilson et al. (2006)*

1. I can freely share my ideas and feelings in this group.
2. If I shared my concerns with this group, I know that they would respond constructively and caringly.
3. I can rely on the other group members not to make my decisions more difficult by careless work.
4. Given my experience with this group, I see no reason to doubt the members’ competence for the task.

**Table 3.3.2.4 - Items used in face validity test (draft 1)**

1. I can rely on the other GVT members not to make my decisions more difficult by careless work.
2. Given my experience with GVTs, I see no reason to doubt the members’ competence for their tasks.
3. In the beginning of working on a new project, I usually have low confidence in other GVT members’ performance.
4. Usually, I early find confidence in other GVT members’ performance when working on a project.
5. I DON’T consider most of my GVT members trustworthy.
6. Overall, the people on my GVT take responsibility for the team result.
7. If I shared my concerns with my GVT members, I know that they would respond constructively and caringly.
8. I can freely share my ideas and feelings in my GVT.
9. My GVT members are usually considerate about one another’s feelings.
10. I like to discuss performance goals for the GVT.
11. I DON’T pay attention to other GVT members contributions.
12. I like to be able to monitor other GVT members actions.
13. I like to plan out projects with my GVT members.
14. I like to sometimes talk about non-work topics with GVT members.
15. I DON’T like to interact with other GVT members.
16. I like to initiate discussion with other GVT members.
17. In the beginning of a new project I tend to talk a lot with my GVT members.
18. I can usually rely on GVT members from other countries.
19. I DON’T like to interact with GVT members from other countries.
20. I enjoy communicating with GVT members from other parts of the world.
21. I find it easy to work together with GVT members with other nationalities.
<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It's easy to work together with GBT members with other nationalities.</td>
<td>22</td>
</tr>
<tr>
<td>2. I enjoy communicating with GBT members from other parts of the world.</td>
<td>12</td>
</tr>
<tr>
<td>3. I don't like to interact with GBT members from other countries.</td>
<td>20</td>
</tr>
<tr>
<td>4. I can quickly get to GBT members from other countries.</td>
<td>19</td>
</tr>
<tr>
<td>5. In the beginning of a new project, I tend to talk a lot with my GBT members.</td>
<td>18</td>
</tr>
<tr>
<td>6. I like to give direction to other GBT members.</td>
<td>17</td>
</tr>
<tr>
<td>7. I don't like to interact with other GBT members.</td>
<td>16</td>
</tr>
<tr>
<td>8. I readily take on work from other GBT members.</td>
<td>15</td>
</tr>
<tr>
<td>9. I expect my GBT members to follow instructions given by GBT members.</td>
<td>14</td>
</tr>
<tr>
<td>10. I readily give my GBT members clear instructions.</td>
<td>13</td>
</tr>
<tr>
<td>11. I don't readily take on work from other GBT members.</td>
<td>12</td>
</tr>
<tr>
<td>12. I readily give my GBT members clear instructions.</td>
<td>11</td>
</tr>
<tr>
<td>13. I think it is necessary to discuss performance goals with the GBT.</td>
<td>10</td>
</tr>
<tr>
<td>14. I readily give my GBT members clear instructions.</td>
<td>9</td>
</tr>
<tr>
<td>15. I readily give my GBT members clear instructions.</td>
<td>8</td>
</tr>
<tr>
<td>16. I readily give my GBT members clear instructions.</td>
<td>7</td>
</tr>
<tr>
<td>17. I readily give my GBT members clear instructions.</td>
<td>6</td>
</tr>
<tr>
<td>18. I readily give my GBT members clear instructions.</td>
<td>5</td>
</tr>
<tr>
<td>19. I readily give my GBT members clear instructions.</td>
<td>4</td>
</tr>
<tr>
<td>20. I readily give my GBT members clear instructions.</td>
<td>3</td>
</tr>
<tr>
<td>21. I readily give my GBT members clear instructions.</td>
<td>2</td>
</tr>
<tr>
<td>22. I readily give my GBT members clear instructions.</td>
<td>1</td>
</tr>
</tbody>
</table>

_**Source:**_ Construct: Member Interactions

**Title:** The items used in the survey (draft 2)
Table 3.3.2.6 - Explanation of the items (draft 2)

<table>
<thead>
<tr>
<th>Item</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>[Content of item 1]</td>
</tr>
<tr>
<td>2.</td>
<td>[Content of item 2]</td>
</tr>
<tr>
<td>3.</td>
<td>[Content of item 3]</td>
</tr>
<tr>
<td>4.</td>
<td>[Content of item 4]</td>
</tr>
<tr>
<td>5.</td>
<td>[Content of item 5]</td>
</tr>
</tbody>
</table>

9. We should refer to the item more frequently.
3.4 Factor analysis

Later in the results section a factor analysis is conducted in order to analyse the structure of interrelationships among the items and the constructs presented in this study. This allowed us to identify common underlying dimensions, and later separate them from the structure (Ghauri & Grønhaug, 2010, pp. 189). Thus, allowing us to determine to what degree every variable are explained by the various dimensions (Ghauri & Grønhaug, 2010, pp. 189). An exploratory factor analysis were performed, since the the original items were modified and we also created items ourselves (Ghauri & Grønhaug, 2010, pp. 189-190).

3.5 Operationalization of the model

As one can see in the model below it has been updated for this specific methodological section. The main focus of the section was directed towards developing items, which are represented in the right part of the updated model. Each item is intended to relate to one construct, and all items that are related to the same construct are meant to together capture that specific construct. This is visualized by the green arrows in the model. The items used were modified or developed with the model as a guideline to find items fitting each construct. The items numbers correspond to table 3.3.2.5 and the explanations of how we modified and developed the items can be found in table 3.3.2.6.
Model 3.5.1 The operationalized model
4. Results

In the result section we present the information about how the GVT members are working together at Cuponation and the respondents’ experiences. After this, the result from the face validity test is presented. Following this, the result from the survey are visualized and described. Lastly, the data from the factor analysis is presented.

4.1 Results from the interviews

Seven members of GVTs were interviewed. They were born between 1984 and 1991 and had varying countries of birth, but a majority were from the Nordic countries. Almost all the respondents started communicating online regularly in the early 2000s. That would put some of them as digital natives and others as semi-natives. No respondent were considered as a digital immigrant, the implications of this for the paper will be discussed in chapter 6. MSN Messenger was a very common first instant messaging program, and they were mostly using it to talk with friends. At work, everyone communicated through email and Skype. Skype was used both for calls and text chat. Video chat was also used, but not as much as the other means of communication. In addition to this, two respondents also mentioned Google Hangout as a platform they used.

Which method of communication was used depended on the task at hand and who they were talking to. One respondent for example explained that he used email more for summaries of what they had talked about during calls or chat. Another respondent expanded on the advantages of different ways to communicate: “In many cases, I think it would be better to talk to them face-to-face. It is easier to make people do specific actions through email, but coming up with new ideas or brainstorming are more restricted virtually, even through Skype, if there is a lot of people involved because people talk over each other and you do not see the other people”. Another added that video calling can lead to better interaction: “Once I had a call with a hungarian woman, and she started calling having the webcam on, and the calls started going much better than usual. More interaction and business flirting with that woman”.

In regards to if they often talk about non-work topics with GVT members, everyone except one said that they engaged in it, often in the form of “small talk”. One respondent explained: “Yes, in the beginning of almost every single call there is 30 seconds chatting about the weather, what time it is there or what they did during the weekend ... like an ice breaker. Often, the call ends with a couple of jokes as well”. Another added that he thinks non-work topics are really important: “It is necessary, since there is no or very little face-to-face contact … This in order to have a more friendly approach which will increase the chance that they feel safe telling me when something is wrong or when they have problems”.

The respondents had varying roles and responsibilities within the company. This included managing director for a certain region, digital marketing (for example search engine optimization), global content management (responsibility for high quality content on all the websites and eliminating mistakes), contact person for business partners, global project manager (visualize flow of communication, make processes more efficient), and account management and sales. It was clear that this had an effect on how they approached the questions about if they could rely on their GVT members. For example, one respondent said regarding if they can rely on other GVT members: “Overall I would say no, because my job is to find things that are wrong on the websites”. Whilst another respondent could not really respond to the question since his duties were not dependent on the other GVT members’ performance or contributions.

The way they communicate also seemed to be affected by roles and positions and depended on the context. Example: “When making global deals, communication is less personal and more formal”. Overall, the trust for GVT members seemed to be moderate to high. Some felt that it was still easier to trust their local colleagues. “It is much easier to talk and follow up things with the account managers stationed at the Munich office than those abroad, which makes you trust them more”. Another described the process of trust-building similar to non-virtual situations, even if you mostly write to each other: “Yes, after you ask each other a couple of stuff, there is this trust relationship, and you know you can expect something from that person. There is still relationship building even if you don’t talk directly. When you first write on Skype, you feel a distance kind of, then after a while you know it’s gonna be more responsive and trust is increased for sure”.
Whilst working with GVT members, the respondents had identified some issues. The respondents were divided on the issue whether language barriers are a problem: “Not so much. Sometimes strong accents in Madrid and France, but it would probably be the same case face-to-face”. “There is a clear language barrier, it does not matter if I communicate in grammatically correct English, some individuals will misunderstand and therefore I find it challenging”. It was also mentioned that call quality can be annoying, but the technology worked well most of the time. One respondent mentioned issues of people behaving differently through chat: “When talking through chat, people can avoid answering right now and later they can forget. When I meet people face to face, it was much easier and efficient”.

On the topic of normative actions, the responses were divided. For those questions, we sometimes had to clarify the question and give an example. When asked if the respondents like when the GVT members discuss and plan projects early on, we got responses like “It depends on the team members culture, for instance, in France or India you are supposed to do what your superior tells you. So when I speak with them virtually, it is not really a good idea to schedule a lot of things in the beginning, because I will still have to call back and tell them what to do a week later anyway” and “I’m probably more of a “startup project and develop it as we go along” kind of guy. That’s how I think it would work best in GVTs as well”.

When asked whether monitoring the GVT members’ performance was a good thing, the overall response was that it was needed. “Yes, very. For short term projects, there is probably less general trust in that relation compared to project ongoing for years. Expected timeline needs to be followed and results delivered”. Whilst seeing a necessity, some respondents really did not like it. “My own opinion and gut feeling on monitoring is that it is really bad, it should not be necessary if you have an environment where you give freedom to your employees and you have trust and everything. In a perfect world, no monitoring is needed. At the same time, especially in a company like ours, that is growing a lot and have very decentralized offices and decision-making, I think there is a big need for it to be honest”. One respondent saw implications for trust: “It depends, monitoring can be seen as a surveillance from above, big brother is watching. Therefore,
I am using the monitoring data to see who is performing well and who could perform better, and then present which actions that need to be executed in order for them to perform better. I think that it may generate trust, but it needs to be used in the right way in order to generate it”.

4.2 Face validity test

Table 4.2.1 is a summary of the result from the face validity test, showing the respondents’ selections of which construct each specific item is connected to. To the left are the items, and there is a column for each construct used. The number in each box represents the total amount of respondents that connected a specific item to a specific construct. The respondents could choose to link one item to one or more constructs. The maximum amount is 7 and the minimum is 0, since there were seven respondents. In an attempt to ease the reading, it was decided that the constructs that were not connected to a specific item were left blank. The color of a cell in the figure represent the times an item was connected to a specific construct, the darker it is the cell is, the more times it was connected to the same construct. In the column to the right, the intended construct for each item is shown. The construct perceived trust was used to ease the respondents’ understanding of all the constructs, which also is in line with what Crisp & Jarvenpaa (2013) did. The construct is a merger of cognition based trust and affect based trust. All items in table 4.2.1 are listed in the same mixed order that the respondents saw them in, instead of being sorted by intended construct. This was done in order to not make it obvious what constructs we wanted them to connect each item to.
<table>
<thead>
<tr>
<th>Number of items</th>
<th>Communication</th>
<th>Emotional Competence</th>
<th>Problem solving</th>
<th>Decision making</th>
<th>Leadership</th>
<th>Information processing</th>
<th>Planning and organizing</th>
<th>Perceived performance</th>
<th>Quality of communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 4.2.1 - Result from face validity on draft 1 of items

In the beginning of a new project, I need to calibrate my GAT member.

In my role as a project leader, I need to listen and make clear what my GAT member understands.

If I need to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.

If I want to set the agenda, I need to coordinate with my GAT member.
For three statements, there were major mismatches between what construct the item was intended to measure and what the respondents chose it belonged to. “Usually, I early find confidence in other GVT members’ performance when working on a project” was intended to measure perceived trust but was mostly seen as communication by the respondents. “I DON’T like to interact with other GVT members” was intended to be about communication but was mostly seen as cultural openness. “My GVT members are usually considerate about one another’s feelings” was intended to be about perceived trust but was seen as either communication or cultural openness by the majority of the respondents.

Six statements had a more mixed fit between intended and perceived construct. “I like to discuss performance goals for the GVT” was intended as normative actions, but seen mostly as communication and then normative actions. “Given my experience with GVTs, I see no reason to doubt the members’ competence for their tasks.” was intended as perceived trust, but seen as cultural openness and then perceived trust. “If I shared my concerns with my GVT members, I know that they would respond constructively and caringly” was intended as trust, but seen as communication. “I can freely share my relevant ideas and feelings in my GVT” was intended as perceived trust, but seen as all of perceived trust, communication and cultural openness. “I DON’T pay attention to other GVT members contributions” was intended as normative actions but seen as a mix of all constructs. Finally, “I like to plan out projects with my GVT members” was intended as normative action but first seen as communication, then normative actions. For the other twelve statements, the majority of the respondents chose the construct the item was intended to measure.
4.3 Results from the survey

Figure 4.3.1 Age

The most common age span for the respondents was between 25-29 years old, with seven respondents (50 %). The next largest age span was 20-24 years of age, which four respondents (28.6 %) belonged to. Two respondents (14.3 %) were between 30 and 34 year old, and one respondent (7.1 %) was 35 years old.

Figure 4.3.2 What’s your gender?

Out of the total number of respondents ten were male (71.4 %) and four were female (28.6 %).
The level of education among the respondents were as follows: six with a bachelor’s degree (42.9 %), two with lower than a bachelor's degree (14.3 %), five with a master’s degree (35.7 %) and one with higher than a master's degree (7.2 %).

**Nationality**

The respondents were born in the following countries: Four in Sweden, three in Finland, two in Denmark, and one in each of Algeria, France, Norway, Brazil and Austria.

The number of respondents that started to communicate online regularly before reaching the age of 13 was seven (50 %), the same as those that started to communicate between the age of 13-19 (50 %). Therefore, under our definition of nativeness, half are digital natives and half are digital semi-natives. No respondent claimed to have started communicated after they became 20 years or older. If we connect this question to the age of the respondents, we can see that the average age of the digital natives in this study was
25 years old. The average age of semi-natives was 29 years old. However, the youngest semi-native was just 23 years old, whilst the oldest native was 27. The lack of digital immigrants in the study will be discussed in chapter 6. Due to the relatively low importance of the results from the survey for the analysis, it was decided that the remaining results were moved to appendix (see appendix 2).

4.4 Factor analysis

If we look at the total variance (see table 4.4.1) we can see that there are six factors with initial Eigenvalues higher than one, together explaining 85 % of the variance. Only those are interesting to us for further analytic purposes. The first factor is at a much higher level than the others, with an Eigenvalue higher than 7, and is explaining 34 % of the variance. The first three factors each explains more than 10 % each, and together more than 60 % of the variance.

Table 4.4.1. Total variance explained

<table>
<thead>
<tr>
<th>Factor</th>
<th>Total</th>
<th>% of Variance</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.4</td>
<td>33.5</td>
<td>33.5</td>
</tr>
<tr>
<td>2</td>
<td>3.4</td>
<td>15.3</td>
<td>48.8</td>
</tr>
<tr>
<td>3</td>
<td>2.7</td>
<td>12.3</td>
<td>61.1</td>
</tr>
<tr>
<td>4</td>
<td>2.2</td>
<td>9.8</td>
<td>71.0</td>
</tr>
<tr>
<td>5</td>
<td>1.8</td>
<td>8.2</td>
<td>79.2</td>
</tr>
<tr>
<td>6</td>
<td>1.3</td>
<td>5.7</td>
<td>84.9</td>
</tr>
<tr>
<td>7</td>
<td>0.9</td>
<td>4.3</td>
<td>89.2</td>
</tr>
<tr>
<td>8</td>
<td>0.8</td>
<td>3.7</td>
<td>92.9</td>
</tr>
<tr>
<td>9</td>
<td>0.7</td>
<td>3.0</td>
<td>95.9</td>
</tr>
<tr>
<td>10</td>
<td>0.4</td>
<td>1.8</td>
<td>97.7</td>
</tr>
<tr>
<td>11</td>
<td>0.3</td>
<td>1.1</td>
<td>98.8</td>
</tr>
<tr>
<td>12</td>
<td>0.2</td>
<td>0.7</td>
<td>99.6</td>
</tr>
<tr>
<td>13</td>
<td>0.1</td>
<td>0.4</td>
<td>100.0</td>
</tr>
<tr>
<td>14</td>
<td>9.772E-16</td>
<td>4.442E-15</td>
<td>100.0</td>
</tr>
<tr>
<td>15</td>
<td>5.654E-16</td>
<td>2.570E-15</td>
<td>100.0</td>
</tr>
<tr>
<td>16</td>
<td>2.939E-16</td>
<td>1.336E-15</td>
<td>100.0</td>
</tr>
<tr>
<td>17</td>
<td>1.553E-16</td>
<td>7.059E-16</td>
<td>100.0</td>
</tr>
<tr>
<td>18</td>
<td>7.202E-17</td>
<td>3.273E-16</td>
<td>100.0</td>
</tr>
<tr>
<td>19</td>
<td>-1.030E-16</td>
<td>-4.680E-16</td>
<td>100.0</td>
</tr>
<tr>
<td>20</td>
<td>-2.143E-16</td>
<td>-9.739E-16</td>
<td>100.0</td>
</tr>
<tr>
<td>21</td>
<td>-3.701E-16</td>
<td>-1.682E-15</td>
<td>100.0</td>
</tr>
<tr>
<td>22</td>
<td>-5.248E-16</td>
<td>-2.385E-15</td>
<td>100.0</td>
</tr>
</tbody>
</table>
In table 4.4.2 is the rotated component matrix, showing the factor loadings for each item that had a higher loading than 0.6. Since there was a low number of respondents in this study compared to the number of items, the factor loading threshold needs to be relatively high to capture only the most interesting and relevant correlations. According to Field (2005), “a factor is reliable if it has four or more loadings of at least 0.6 regardless of sample size”. In this case, that is only true for the first factor. However, the other factors included in the table have at least two items higher than 0.6, in some cases almost approaching 1. This should at least be seen as an indication that those items go together and possibly belong to the same construct.

**Table 4.4.2 Rotated Component Matrix**

<table>
<thead>
<tr>
<th>Rotated Component Matrix</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
<th>Component 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can rely on the other GVT members not to make my decisions more difficult by careless work.</td>
<td>0.84</td>
<td></td>
<td></td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>Given my experience with GVTs, I see no reason to doubt the members’ competence for their tasks.</td>
<td></td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the beginning of working on a new project, I usually have low confidence in other GVT members’ performance. (R)</td>
<td></td>
<td></td>
<td>0.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usually, I early find confidence in others GVT members performance when working on a project.</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I DON’T consider most of my GVT members trustworthy. (R)</td>
<td></td>
<td></td>
<td></td>
<td>0.81</td>
<td></td>
</tr>
<tr>
<td>Overall, the people on my GVT take responsibility for the team result.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.81</td>
</tr>
<tr>
<td>If I shared my concerns with my GVT members, I know that they would respond constructively and caringly.</td>
<td></td>
<td></td>
<td></td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>I can freely share my relevant ideas and feelings in my GVT.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.94</td>
</tr>
<tr>
<td>My GVT members are usually considerate about one another’s feelings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think it is necessary to discuss performance goals for the GVT.</td>
<td></td>
<td></td>
<td>0.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I DON’T pay attention to other GVT members contributions. (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I DON’T like when other GVT members can monitor my performance and contributions on a project. (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to be able to monitor other GVT members performance and contributions.</td>
<td></td>
<td></td>
<td></td>
<td>0.79</td>
<td></td>
</tr>
<tr>
<td>I generally like to plan out projects with my GVT so everyone are aligned on each team members expected contributions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.82</td>
</tr>
<tr>
<td>I regularly talk about non-work topics with GVT members.</td>
<td></td>
<td></td>
<td></td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td>I DON’T like to interact with other GVT members. (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.91</td>
</tr>
<tr>
<td>I like to initiate discussion with other GVT members.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
</tr>
<tr>
<td>In the beginning of a new project I tend to talk a lot with my GVT members.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.82</td>
</tr>
<tr>
<td>I can usually rely on GVT members from other countries.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.74</td>
</tr>
<tr>
<td>I DON’T like to interact with GVT members from other countries. (R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy communicating with GVT members from other parts of the world.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.62</td>
</tr>
<tr>
<td>I find it easy to work together with GVT members with other nationalities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For the **first factor**, six items passed the threshold: The normative actions of “I think it is necessary to discuss performance goals”, “I generally like to plan out projects” and “I like to be able to monitor other GVT members’ performance and contributions”. All those have a factor loading close to 0.8. We theorized that those would measure the normative actions construct. Whilst not visible in the table, the other intended normative actions items “I don’t like others monitoring my performance and contributions on a project” and “I don’t pay attention to other GVT members’ contributions” scored close to zero on this factor.

The other items included in the table for the first factor were intended to be connected to varying constructs. “Usually, I early find confidence in other GVT members’ performance when working on a project” (cognition based trust), “I can usually rely on GVT members from other countries” (cultural openness) and “In the beginning of a new project I tend to talk a lot with my GVT members” (communication).

The **second factor** includes “I regularly talk about non-work topics with GVT members” (communication), “Overall, the people on my GVT take responsibility for the team result.” (cognition based trust) and “My GVT members are usually considerate about one another’s feelings” (affect based trust). Three different intended constructs, but the last two both deal with trust directly. Those also scored the highest, with 0.81 respectively 0.94. Just beneath the threshold for the table is also “If I shared my concerns with my GVT members, I know that they would respond constructively and caringly” with 0.56, another affect based trust construct.

For the **third factor**, there are the following items: I can rely on the other GVT members not to make my decisions more difficult by careless work (cognition based trust) with a factor loading of 0.84 and If I shared my concerns with my GVT members, I know that they would respond constructively and caringly (affect based trust) with 0.72.

The **fourth factor** has three items. I enjoy communicating with GVT members from other parts of the world (communication) at 0.62, the reversed I DON’T like to interact with GVT members from other countries (cultural openness) at 0.91 and the reversed In the
beginning of working on a new project, I usually have low confidence in other GVT members' performance (cognition based trust) at 0.71.

The final, fifth factor includes Given my experience with GVTs, I see no reason to doubt the members’ competence for their tasks (cognition based trust) with a factor loading of 0.89 and I like to initiate discussion with other GVT members (communication) with 0.65.
5. Analysis

5.1 The interviewees & Cuponation

It became clear to us during the interviews that there may be a lot of other factors besides digital nativeness that are affecting GVT members in their development of trust toward the other GVT members. For instance the fact that the work tasks or duties can differ severely among the GVT members. One of the interviewees explained that his job was to find errors in the other GVT members’ work. Therefore, it was more difficult for him to develop trust toward the others. This is connected to the cognition based trust that McAllister (1995) describes, since it is the GVT members’ competence that is the issue. The work tasks the respondents perform is possibly something that should be controlled for in future studies.

Within Cuponation, the most commonly used computer program to communicate through chat and calls was Skype. Most respondents also grew up with MSN Messenger, a program sharing many functional similarities with Skype. This could mean that the respondents are more used to and comfortable with the method of communication, thus possibly making them more trusting. Prensky (2001) was criticized for the assumption that university students had a generally similar “digital upbringing”, but in the case of these interviewees that assumption can be considered correct.

A possible discrepancy was the answers we received to the question about if the respondents often talked about non-work topic with GVT members. In the interviews, almost everyone claimed to do it. However, in the survey, the item “I regularly talk about non-work topics with GVT members” only received an average of 3.9 out of 7 on the Likert scale. Their responses about non-work conversations support its importance to trust with answers like “It is necessary, since there is no or very little face-to-face contact … This in order to have a more friendly approach which will increase the chance that
they feel safe telling me when something is wrong or when they have problems”. This is supported by Zaugg et al. (2015) who claim that non-work topics are good for relationship-building and thus trust development. Overall, the interviews gave practical support to the importance of communication in a virtual setting for trust that was brought up in the theory section.

In regard to the questions about the two kinds of monitoring actions, some respondents reacted positively to one and negative to the other. For example, one respondent’s opinion towards planning projects was that he was “more of a “startup project and develop it as we go along” kind of guy” but still felt that monitoring was very important. This is worth to take into consideration. He also brought up a time aspect when he perceived monitoring to be more important for short term projects. When other interviewees were asked regarding for example monitoring, they may instead imagine a longer term project or another different situation or setting, which can influence the response greatly. The implications for the survey is that it is critical when developing items to be clear, so the chance for misinterpretation is as low as possible. Conversely it is not possible to create an item which everyone interprets in the exact same way.

One of the most important issues in research related to digital nativeness is how to measure it. Is our suggestion, “first time used internet communication regularly”, a good way to measure digital nativeness? It became clear from earlier research, as well as from the results from both the interviews and survey, that just using age to measure it is not sufficient. The location where someone grew up can have a huge impact on when they started to use the internet (Brown & Cherniewicz, 2010). We opted to go to what we perceived to be the core of the matter, and ask when they started to use internet to communicate, because that is really what we are interested in. Comparing the answer to that question from both the interviews and the survey to the age and birth country of the respondents, it is revealed that even within the same country the differences can be large. Thus, we can conclude that just using age is far from an optimal way to measure nativeness. One potential problem however is that the respondents might not remember their early experiences or be sure how and when they took place.
5.2 Face validity

In this section the result from the face validity test is analyzed. The face validity test measures whether items actually appear to reflect what they were intended to measure. Due to the low number of respondents, we will only be able to see tendencies and not be able to draw statistically significant conclusions from this analysis. The order the items are analyzed is the same as they are numbered in table 3.3.2.5.

When we looked over the result from the face validity test it became apparent to us that the order in which the items were presented could have affected the respondents decisions in connecting the items to the constructs. For instance, item number 16 seems to have a relatively strong connection to the construct cultural openness, even though it does not contain any words related to cultural openness in our opinion. This item were intended to be connected to the construct communication and therefore the word interact was used when developing the item. This since interaction is a broad term of communication and is according to Zander et al. (2013) an important part of relationship building, and thus trust development. We believe that the respondents were affected by the item (19 in table 3.3.2.5) placed right above in the face validity form, which ends with “other countries”. It is possible that the respondents may have misread the item and mentally added the ending from the above stated item on item 16 without noticing it.

When we looked at the items related to the construct cultural openness, three out of four items were connected six times to the cultural openness construct, and therefore shows tendencies of describing the construct well. However, item 19 were connected five times to cultural openness and four times to perceived trust. We believe that this is due to that the item contains “rely”, which can be associated with trust, and “other countries” that can be associated with cultural openness. Therefore, this item may not be a good way of describing the construct cultural openness. It became clear to us that it may be challenging to develop items that describes this construct that does have any connections to the other constructs as well.
Concerning the items for the construct communication (items 15-18, in table 3.3.2.5) the result was more spread. We believe that this construct is affecting the other constructs. One could say that communication is embedded within the other constructs. For instance, one needs to communicate somehow in order to make a plan, which is related to “setting” in the construct normative actions (Crisp & Jarvenpaa, 2013). Therefore, it is understandable that items that were meant to be connected to communication also were connected to normative actions and vice versa. This was the main reason for letting the interviewees connecting an item to more than one construct in the face validity testing. As mentioned, there are some variation in the result regarding the items for the construct normative actions as well, especially for item number 11. This item has a low number (1-2) of connections to all constructs, which is quite interesting since this item was modified by us from Crisp & Jarvenpaa (2013). Due to the wide variation it may not be a good item for using in future studies.

Items one and three received seven connections to the perceived trust construct, as they were intended to. Therefore, we see a tendency that these two items may catch the construct in a good way. The remaining items for this construct however, did not seem to have a strong connection to it. As mentioned before, the construct communication seem to affect the items developed for the perceived trust construct. Here however, the items are also relatively strongly connected to the construct cultural openness. Items 7-9 do not seem to describe the construct sufficiently since they are connected to several constructs. This is most likely due to that the items contain the word “share”, which would mean communication with the GVT members in some way. The connections to cultural openness are likely due to that the GVT members are of varying nationalities, thus one need to be open to communicating with individuals with different cultural backgrounds. This is also interesting, since these items were used in previous studies (Wilson et al., 2006; Crisp & Jarvenpaa, 2013).

Items 5-6 are connected to perceived trust, communication and normative actions. However, the construct perceived trust was connected five times to both items, whilst communication and normative actions were connected one or two times to the items by the interviewees. These items could be explaining the construct perceived trust well, however it is not certain. We avoided words that could be associated with communication
and normative actions when developing item six. We believe it is likely that the respondents have “overanalyzed” both statements and drawn connections to normative actions and communication. We base our analysis on that the items lack words that are directly connected to these two constructs. Item number two was connected to cultural openness four times, perceived trust three times and to normative actions by one interviewee. This is most likely depending on past experiences: Perhaps the respondents do not want to be, or are not prejudiced and therefore do not judge a GVT member based on their cultural background and therefore connected the item to the cultural openness construct. We believe that the word “doubt” can be connected to monitoring, if one is doubting another GVT member’s competence, one may want to monitor that GVT member’s performance. This is why we believe the item has been connected to normative actions. The item was connected three times to perceived trust which is rather low, therefore we need to consider not including this statement in the final survey.

Item number four may also be “overanalyzed”. Most likely have the interviewees thought that communication is needed in order to feel confidence towards the other GVT members, which is in line with the result from Crisp & Jarvenpaa (2013) study. Also, if the GVT members have a different cultural background one also need to have an understanding for deviating behaviors. We believe that this is the reason for the variation of connections for the fourth item.

Overall, the constructs seems to affect each other and are somehow interrelated, which may not be strange since they are constructs that together partly explains trust in GVTs. At this point it was not possible to draw any conclusions based solely on this face validity test. Instead, it was decided to further investigate possible correlations between the constructs in a factor analysis.

### 5.3 Factor analysis

In this section we analyse the results from the factor analysis, which was performed in order to identify common underlying dimensions between the items. Considering the relatively low numbers of respondents, we can not draw too strong conclusions based on the factor analysis alone, but in some cases it shows possible tendencies of which items
have common underlying factors and which ones the respondents seem to interpret similarly, at least for the relatively small population at Cuponation and the setting they work in. Even if it only shows tendencies the factor analysis offers a good framework to really think about the items when trying to untangle why they did or did not load highly.

Of the constructs we proposed, normative actions seem to be the strongest. The first factor was an underlying factor behind three out of the five items we intended for normative actions: “I think it is necessary to discuss performance goals for the GVT”, “I like to be able to monitor other GVT members’ performance and contributions”, and “I generally like to plan out projects with my GVT so everyone is aligned on each team member’s’ expected contribution”. The other two items, “I DON’T like when other GVT members can monitor my performance and contributions on a project” and “I DON’T pay attention to other GVT members contributions” did not load high enough to pass our threshold of 0.6, but were close. One possible explanation for the former is that it is about monitoring the respondent, instead of the other way around, which could lead to more negative feelings. For the latter, the item regards whether the respondents perform an action or not, in contrast to the other normative action items that instead regard their attitude toward something (I like to be able to…). This is a seemingly small distinction but it could have large implications for how people interpret and respond to a statement.

The other items that shared an underlying factor with those normative actions were from various of our other constructs. We intended “In the beginning of a new project I tend to talk a lot with my GVT members” to belong to the communication construct, but that it rates similarly high with the normative action items also make sense. Whilst talking is obviously a form of communication, it can also be a way to perform many normative actions. Planning a new project, discussing goals and progress etc. are all activities that usually involve talking. Communication and normative actions are likely to overlap since they are so related. The other two items were somehow related to trust, possibly indicating that there is a correlation between the level of trust they feel and their attitude towards normative actions. There could of course be a common underlying factor (or dimension) behind all these items, but speculating about what that would be is outside the scope of this paper and not feasible without a much larger data sample.
The second factor included one cognition based trust item, one affect based trust item and one communication item. This indicates that those two types of trust, whilst based on different aspects of human behavior, are still close to each other and could reasonably be used together to measure “perceived trust”, like Crisp & Jarvenpaa (2013) did. That the communication item, “I regularly talk about non-work topics with GVT members” also loaded highly reaffirms that positive communication, maybe especially non-work communication, leads to higher trust (Iacono & Weisband, 1997; Jarvenpaa & Leidner, 1999; Zaugg et al., 2015). The third factor again had one cognition and one affect based trust item. For the fourth factor, the correlation between “I enjoy communicating with GVT members from other parts of the world” and “I DON’T like to interact with other GVT members” was expected. It is positive that respondents in this case did not seem to be confused by the wording of the reversed items and seem to be interpreting “communicate” and “interact” in a similar way. For the fifth factor, two seemingly directly unrelated items loaded highly, so no conclusion is drawn from that.

One general observation about the reversed items is that only two out of the six reversed items showed high factor loadings for any constructs. This can be compared to that 14 out of 16 non-reversed items loaded higher than 0.6. Do the respondents somehow interpret those “negative” items more strongly than the other items, and therefore respond to them differently than the similar items designed to measure the same construct? It is a possibility to take into consideration. Overall, this factor analysis did not give any clear indication either way about the validity as a whole for our proposed constructs except for positive results about normative actions, but it did suggest that some theorized relationships between aspects of trust and items indeed seem to exist in this GVT setting where the pilot study took place.

5.4 Items

In this section we will go through the constructs one by one and analyze the items to identify if they are to be suggested for future use. We analyze whether if any items should be kept the way they are, modified or removed.
5.4.1 Cognition based trust

1. I can rely on the other GVT members not to make my decisions more difficult by careless work.
2. Given my experience with GVTs, I see no reason to doubt the members’ competence for their tasks.
3. In the beginning of working on a new project, I usually have low confidence in other GVT members’ performance.
4. Usually, I early find confidence in other GVT members’ performance when working on a project.
5. I DON’T consider most of my GVT members trustworthy.
6. Overall, the people on my GVT take responsibility for the team result.

For the construct as a whole the factor analysis did not really indicate that those items correlated with each other strongly enough to pass our threshold, but there were neither any negative correlations that indicate that anything should be removed from that perspective. Item 1 and 6 loaded highly together with affect based trust items, which we have established that some researchers view as an overall combined perceived trust construct. We interpret this as a positive sign for the items’ quality.

Item 1 and 3 also had perfect face validity. Item 5 and 6 had reasonably good face validity. Item 2 and 4 were however seen mostly as cultural openness respectively communication. In addition, item 4 has a time aspect and is only measuring trust in the beginning of a project. Whilst interesting, an item like that as part of a construct that is trying to measure overall cognition based trust is problematic. Given this, we argue that those can be removed without losing too much. This still leaves us with four different items for the construct, which should be enough and is more in line with how the other constructs are measured. All items except item 6 were modified from previously used items in other studies, and it seems like our modifications worked for this GVT context.

5.4.2 Affect based trust

7. If I shared my concerns with my GVT members, I know that they would respond constructively and caringly.
8. I can freely share my relevant ideas and feelings in my GVT.
9. **My GVT members are usually considerate about one another’s feelings.**

Just like for cognition based trust, there were neither any really high or low correlations items within this construct, but item 7 and 9 connect back to the cognition based trust construct. We interpret this as a positive sign for the items’ quality, again since the concepts are close enough to sometimes have been combined earlier. We still believe that the characteristics are distinct enough to keep them as two different however, like McAllister (1995) does. The face validity test responses are leaning more towards seeing these items as most related to communication, and perceived trust following after. As stated earlier, this is likely due to the word “share” which implies some sort of communication. Those items were used in other studies previously and our small adjustments do not appear to have created any new problems, so we propose no further changes.

### 5.4.3 Normative actions

10. I think it is necessary to discuss performance goals for the GVT.
11. I DON’T pay attention to other GVT members contributions. (change: I DON’T think it’s important to pay attention to other GVT members’ performance and contributions)
12. I DON’T like when other GVT members can monitor my performance and contributions on a project.
13. I like to be able to monitor other GVT members’ performance and contributions. (change: I like when GVT members are able to monitor each other’s performance and contributions)
14. I generally like to plan out projects with my GVT so everyone are aligned on each team member’s’ expected contributions.

Based on the factor analysis, this is the strongest construct. Item 10, 13 and 14 all loaded higher than the threshold on the same underlying factor, and the other two items were not far beneath. A possible problem with item 11 is that it was measuring action instead of attitude like the other items. We recommend to change the wording, as well as adding “performance” to put it more in line with item 12 and 13.
Item 12 stands out a bit since it is about others monitoring the respondent. It is possible that it does not correlate as highly with the others since the respondents perceive that more negatively. In the interviews, the feeling of “being watched” and the concept of “big brother” were brought up in a negative way. In that way, it measures something else than the other items. On the other hand, it gives a more complete picture of monitoring and catches more aspects of normative actions. A possible solution is to modify item 13 to try to encompass both sides of it, like item 10 and 14 does.

Regarding face validity, the respondents only connected the items containing the words planning and monitoring as normative actions. It is possible that they did not fully grasp the construct of normative actions, since it is not a common phrase. If this is the case, it would explain why the other items were connected mostly to communication, which many normative actions are a form of. Since the factor analysis still showed a correlation, we do not consider this to be a major interpretation problem.

5.4.4 Communication

15. I regularly talk about non-work topics with GVT members (change: add “to get to know them better”).
16. I DON’T like to interact with other GVT members.
17. I like to initiate discussion with other GVT members.
18. In the beginning of a new project I tend to talk a lot with my GVT members.

In the interviews, almost everyone claimed to talk about non-work topics. It was used as an icebreaker and one respondent explained that “people that open up more, and do more small talk, makes me feel that I can share more and be more direct and honest”. Despite this, in the survey, item 15 only received an average of 3.9 out of 7 on the Likert scale. In the face validity test the interviewees connected the item five times to the communication construct. This makes us believe that item 15 was interpreted as more confusing by the respondents of the survey, since no context or reason for engaging in the non-work conversations is stated in the item. This may make the respondents not able to either agree or disagree with it, and therefore the answers were widely spread. Whilst the interviewees had talked about non-work topics during the interviews, and therefore interpreted the item differently. Thus, we suggest a modification of the item as visualized
above in order to minimize the chance for misinterpretation. Another reason for not removing the item is that it loaded above 0.6 in the factor analysis, which may show tendencies of re-affirming that communication regarding non-work topics can lead to higher trust in GVTs (Iacono & Weisband, 1997; Jarvenpaa & Leidner, 1999; Zaugg et al., 2015). This since it to a certain extent may measure the same thing as the two other trust related items that loaded over 0.6 for the second component.

As one can see from the analysis of the data from item 16 in the factor analysis it is positive that the respondents seem to interpret interact as related to communication, even though it is reversed. This item is likely to describe the construct well since it was based on that trust is developed from relationship development, in which interaction is a vital part of the process (Zander et al., 2013). The majority of the respondents did not agree with the statement, 50 % of respondents even chose 1, reasonably this may be due to that the item is reversed. What is interesting however, is that during the face validity test the item was connected most to the cultural openness construct. The only connection to cultural openness in this item is the fact that the GVT members have different cultural backgrounds, in our opinion this is likely an “overanalyzation” by the interviewees due to what was brought up during the interview. Conversely, the connection should not be so strong since the item is lacking any other words that are directly connected to cultural openness. Due to this, no further modifications will be executed on this item.

Item 17 in the face validity test was connected to communication six times and to cultural openness two times. Again, we believe that due to that the item contains “GVT” the interviewees connected it to cultural openness. Based on this, we believe that the item captures the construct well and that it may be of sufficient quality, however it needs to be tested by future more extensive studies to confirm this.

The 18th item was created based on the finding from Jarvenpaa & Leidner (1999) that high levels of communication increase the establishment of trust between GVT members and this often leads to higher performance and better results. When we look at the result from the face validity test we can see a tendency that the item seems to be related to communications since it has been connected to this construct six times. However, this construct was connected to the other constructs as well, one respondent even connected it
to all constructs. One could argue that this may be an overanalyzation of the item. As mentioned before it may be connected to cultural openness due to that it contains “GVT”. The connections to the construct perceived trust are in line with the above mentioned findings from Jarvenpaa & Leidner (1999), one simply talks with other GVT members based on the level of trust one feels towards them. As brought up in the analysis of the factor analysis it is likely the 18th item was connected to normative actions due to that constructs can be interrelated. This since one is communicating when setting normative actions (Jarvenpaa & Leidner, 2013). No further modifications of the item will executed.

5.4.5 Cultural openness

19. I can usually rely on GVT members from other countries. (Change: Replace “rely” with “work well with”)

20. I DON’T like to interact with GVT members from other countries.

21. I enjoy communicating with GVT members from other parts of the world.

22. I find it easy to work together with GVT members with other nationalities.

It seems likely that this construct is interrelated with the other constructs, based on the collected data from the face validity test. We can not make use of the data from the factor analysis since the “loadings threshold” for these items were to low. The items 20-22 were connected six times to this construct, this indicates the items capture cultural openness in GVTs at least from a face validity standpoint. The 19th item we believe could be improved. It contains “rely”, which can be connected to perceived trust, which most likely resulted in the four connections to that construct. This issue could be solved by replacing “rely” with “work well with”. Due to the lack of data from the factor analysis as well as a lack of connection to earlier established cultural openness items, we can not draw any conclusions about whether these four item are of “high quality” or not when it comes to measuring cultural openness.
6. Discussion & Conclusions

The result from the face validity test made the authors rethink if it may be the case that cultural openness can be seen as a concept of its own, which most likely can be described by a range of constructs. Perhaps it would be wise in future studies to consider investigating cultural openness for digital natives in GVTs separately first, and then in a later study the possible correlations between the concepts. Furthermore, the distribution of the researched target groups were 50 % natives and 50 % semi-natives, which was positive since it means that we got the same amount of data from two of the targeted groups, which enabled us to compare them against each other. Even though, no major differences in trust levels between digital natives and semi-natives were found. Moreover, during the interviews it became clear that the work tasks and duties of the GVT members may greatly affect their trust development and levels toward the others, which is another factor to consider in future studies.

By being the first study that strives to develop items for investigating differences in trust development in GVTs in relation to digital nativeness, some limitations are unavoidable. Given our definition, none of the respondents from the interviews nor the survey could be characterized as digital immigrants. However, whilst this is a limitation, the collected data is still very relevant for developing items measuring trust in GVTs. Our aim was to develop items that capture the five constructs of the research model in a satisfying way. We argue that having more respondents that could be seen as digital immigrants could have affected the tendencies seen in the factor analysis and the face validity test, but given the high threshold of 0.6 in the factor analysis the stronger tendencies should still be valid. We also believe there is lower variation in how respondents, regardless of level of nativeness, perceive the items brought up in this study, compared to the possible differences in the trust building itself. Therefore, it is possible for us to suggest items for future studies. Conversely, it is not possible for us comment on the propositions presented in the theory section, due to the lack of data from digital immigrants. Nevertheless, it was decided that the propositions would be kept as interesting topics for future studies.
The study is limited to investigate a selected group of constructs that have been proven to affect trust development in previous research. The data sample was of a size that only made it possible to generalize for the firm from which data was extracted. Given what is stated above combined with the result from the factor analysis, we are certain that there exist constructs that affects trust development for digital natives in global virtual teams that are not investigated in this study. As can be seen in the analysis, many items have stronger support in previous literature than in the performed factor analysis, though the combination of data gathered in different ways showed some tendencies that helped the authors determine whether specific items should be used, modified, or not used in the future.

6.1 Conclusions

The aim of this thesis was to develop items for use in future studies that investigate the impact of digital nativeness on trust within global virtual teams. We started this study by carefully creating constructs with items chosen from previous studies and developed new ones based on previous research related to trust, normative actions, communication and cultural openness in global virtual teams. We subsequently analyzed the data retrieved from interviews, survey, face validity test, factor analysis and tried to find tendencies and explain them with theory. Then, we modified or removed items that were deemed insufficient, thus ultimately resulting in the following items:
Table 6.1 - List of items for future studies

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognition based trust</td>
<td>I can rely on the other GVT members not to make my decisions more difficult by careless work.</td>
</tr>
<tr>
<td></td>
<td>In the beginning of working on a new project, I usually have low confidence in other GVT members’ performance.</td>
</tr>
<tr>
<td></td>
<td>I DON’T consider most of my GVT members trustworthy.</td>
</tr>
<tr>
<td></td>
<td>Overall, the people on my GVT take responsibility for the team results.</td>
</tr>
<tr>
<td>Affect based trust</td>
<td>If I shared my concerns with my GVT members, I know that they would respond constructively and caringly.</td>
</tr>
<tr>
<td></td>
<td>I can freely share my relevant ideas and feelings in my GVT.</td>
</tr>
<tr>
<td></td>
<td>My GVT members are usually considerate about one another’s feelings.</td>
</tr>
<tr>
<td>Normative actions</td>
<td>I think it is necessary to discuss performance goals for the GVT.</td>
</tr>
<tr>
<td></td>
<td>I DON’T think it’s important to pay attention to other GVT members performance and contributions</td>
</tr>
<tr>
<td></td>
<td>I like when GVT members are able to monitor each other’s performance and contributions</td>
</tr>
<tr>
<td></td>
<td>I generally like to plan out projects with my GVT so everyone are aligned on each team members expected contributions.</td>
</tr>
<tr>
<td>Communication</td>
<td>I regularly talk about non-work topics with GVT members o get to know them better.</td>
</tr>
<tr>
<td></td>
<td>I DON’T like to interact with other GVT members.</td>
</tr>
<tr>
<td></td>
<td>I like to initiate discussion with other GVT members.</td>
</tr>
<tr>
<td></td>
<td>In the beginning of a new project I tend to talk a lot with my GVT members.</td>
</tr>
<tr>
<td>Cultural openness</td>
<td>I can usually work well with on GVT members from other countries.</td>
</tr>
<tr>
<td></td>
<td>I DON’T like to interact with GVT members from other countries.</td>
</tr>
<tr>
<td></td>
<td>I enjoy communicating with GVT members from other parts of the world.</td>
</tr>
<tr>
<td></td>
<td>I find it easy to work together with GVT members with other nationalities.</td>
</tr>
</tbody>
</table>

6.2 Contributions

The study contributes to the field in several ways. First the authors have developed a model that may aid future researchers to investigate the impact of digital nativeness on trust in GVTs. Moreover, a new simplified method of measuring nativeness was proposed and deemed sufficient. By collecting data regarding the age when the respondents started to communicate online regularly, it avoids problems earlier measures encountered. Last but definitely not least, is the list of items that can be used in future studies to investigate the aforementioned phenomenon.

6.3 Suggestions for future studies

As mentioned in the discussion, our suggestions for future research are to investigate the propositions presented in the theoretical section of this survey. What impact work duties has on trust development for GVT members could also be interesting to investigate. Furthermore, cultural openness may be a concept of its own, it may be necessary to
investigate cultural openness for digital natives in GVTs in isolation before continuing with the next suggestion. That is, to test our items in a future more extensive pilot study with approximately 100-200 respondents that would allow a deeper analysis of the collected data. Thus, enabling the researchers to conduct a statistically significant exploratory factor analysis. Then it would be possible to draw conclusions that are statistically significant regarding the unknown structure behind the possibly underlying dimensions. Later, a confirmatory factor analysis can be executed in order to test the assumed underlying structure of the dimensions. This would enable the future researchers to investigate how digital nativeness affects trust in GVTs with a fully tested survey customized for this research area.
7. References


Appendix.1

Interview guide

We are investigating Global virtual teams, the data collected from this interview will be used for our master thesis. Your name will not be used in the paper, and you can read the study after it is done if you are interested.

“This research is about Global virtual team members. A global virtual team consist of individuals that: Communicate over the internet virtually (chatting, e-mail, video conference etc.) They have different cultural backgrounds and work together for a common goal/purpose”.

1) When were you born?
2) Where were you born?
3) What’s your education?
4) When did you start using computers regularly as a way to communicating with people? How often? With whom? In what way?
5) What is your current position?
6) Are you working in a GVT now or have you done it before?
7) How are you communicating within the GVT? (email, voice chat, video chat, etc)
8) Do you find it easy to speak and work with team members from other countries? Why/why not?
9) Do you often talk about non-work topics with virtual team members? Why/why not?
10) Do you generally feel that you can rely on your GVT members? Why/why not?
11) Do you feel that you can rely on some GVT members more than others? Why/why not?
12) Do you like when the GVT discuss and plans the project early on? Why/why not?
13) Do you think monitoring the GVT members’ performance is good? Why/why not?
Appendix.2

Remaining survey results

**Item 1. I can rely on the other GVT members not to make my decisions more difficult by careless work**

For this item the mean of all the respondents’ answers was 4.4. The mean of semi-natives was 4.7, whilst digital natives had a mean of 4.

**Item 2. Given my experience with GVTs, I see no reason to doubt the members’ competence for their tasks**

From the extracted data for this specific item one can see that the mean of all the respondents’ answers was 5.1. The mean of semi-natives was 4.9, whilst digital natives had a mean of 5.3.

**Item 3. In the beginning of working on a new project, I usually have low confidence in other GVT members’ performance**
The data collected for the reversed item above had an overall mean of 2.3. Both semi-natives and natives had a mean of 2.3.

**Item 4. Usually, I early find confidence in other GVT members’ performance when working on a project**

In this graph we can see that total mean for all the respondents was 5. The semi-natives and digital natives answered on average 5.1 respectively 4.9.

**Item 5. I DON’T consider most of my GVT members trustworthy**

For this reversed item the mean of all the respondents’ answers was 2.2. The mean of semi-natives was 2.1, whilst digital natives had a mean of 2.3.

**Item 6. Overall, the people on my GVT take responsibility for the team result**
From the extracted data for this specific item one can see that the mean of all the respondents’ answers was 4.6. The mean of semi-natives was 4.7, whilst digital natives had a mean of 4.6.

**Item 7. If I shared my concerns with my GVT members, I know that they would respond constructively and caringly**

The data collected for the item above had an overall mean of 4.6. Semi-natives had a mean of 5.3, and natives had a mean of 4.

**Item 8. I can freely share my relevant ideas and feelings in my GVT**
In this graph we can see that total mean for all the respondents was 5.4. The semi-natives and digital natives answered on average 5.7 respectively 5.

**Item 9. My GVT members are usually considerate about one another’s feelings**

![Bar chart](image)

For this item the mean of all the respondents’ answers was 4.6. The mean of semi-natives was 4.6, whilst digital natives had a mean of 4.6.

**Item 10. I think it is necessary to discuss performance goals for the GVT**

![Bar chart](image)

From the extracted data for this specific item one can see that the mean of all the respondents’ answers was 5.3. The mean of semi-natives was 5.6, whilst digital natives had a mean of 5.

**Item 11. I DON’T pay attention to other GVT members’ contributions**

![Bar chart](image)
The data collected for the reversed item above had an overall mean of 2.6. Semi-natives had a mean of 3, and natives had a mean of 2.3.

**Item 12. I DON’T like when other GVT members can monitor my performance and contributions on a project**

In this graph we can see that total mean for all the respondents was 3.2 on this reversed item. The semi-natives and digital natives answered on average 2.7 respectively 3.7.

**Item 13. I like to be able to monitor other GVT members’ performance and contributions**

For this item the mean of all the respondents’ answers was 4.4. The mean of semi-natives was 5, whilst digital natives had a mean of 3.7.

**Item 14. I generally like to plan out projects with my GVT so everyone are aligned on each team member’s expected contributions**
From the extracted data for this specific item one can see that the mean of all the respondents’ answers was 4.3. The mean of semi-natives was 4.6, whilst digital natives had a mean of 4.

**Item 15. I regularly talk about non-work topics with GVT members**

The data collected for the item above had an overall mean of 3.9. Semi-natives had a mean of 4, and natives had a mean of 3.7.

**Item 16. I DON’T like to interact with other GVT members**

In this graph we can see that total mean for all the respondents was 1.9 on this reversed item. The semi-natives and digital natives answered on average 1.4 respectively 2.3.

**Item 17. I like to initiate discussion with other GVT members**
For this item the mean of all the respondents’ answers was 4.8. The mean of semi-natives was 4.3, whilst digital natives had a mean of 5.3.

**Item 18. In the beginning of a new project I tend to talk a lot with my GVT members**

From the extracted data for this specific item one can see that the mean of all the respondents’ answers was 4.4. The mean of semi-natives was 4.6, whilst digital natives had a mean of 4.1.

**Item 19. I can usually rely on GVT members from other countries**

The data collected for the item above had an overall mean of 4.4. Semi-natives had a mean of 5.1, and natives had a mean of 3.7.

**Item 20. I DON’T like to interact with GVT members from other countries**
In this graph we can see that total mean for all the respondents was 1.6 on this reversed item. The semi-natives and digital natives answered on average 1.4 respectively 1.7.

**Item 21. I enjoy communicating with GVT members from other parts of the world**

For this item the mean of all the respondents’ answers was 5.1. The mean of semi-natives was 5.6, whilst digital natives had a mean of 4.7.

**Item 22. I find it easy to work together with GVT members with other nationalities**

From the extracted data for this specific item one can see that the mean of all the respondents’ answers was 4.7. The mean of semi-natives was 4.1, whilst digital natives had a mean of 5.3.