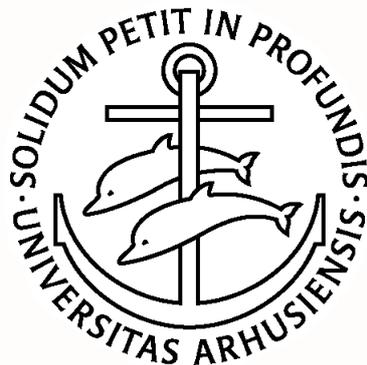


EFFECTIVE COLLABORATION IN GLOBALLY DISTRIBUTED TEAMS

By Ioana Cristina Cristea

A PhD thesis submitted to the
School of Business and Social Sciences, Aarhus University,
in partial fulfilment of the requirements of
the PhD degree in
Business Administration

October 2015



Acknowledgements

This dissertation would not have been possible without the unconditional support of my wonderful advisers, Professors Dorte Døjbak Håkonsson and Børge Obel. It was a great honor to have them as my academic parents and I highly appreciate their close guidance in conducting my research. I am also thankful for their constant empowerment and motivation to always strive for the best, and for reminding me to enjoy the ride. They cared for my upbringing in the academic world, and made ICOA feel like family. I owe them my warmest and deepest gratitude.

There would not have been any studies in this dissertation without data to analyze and some great people who helped obtaining it, among them Søren, Flemming and Gustav, and others I am not allowed to name due to a confidentiality agreement. I am grateful for their confidence and friendship. It helped move mountains, and build the foundation of this thesis in the process.

I wish to thank Professors Rich Burton from Duke University and George Huber from University of Texas at Austin, for always taking the time to meet with me when at ICOA. My deepest gratitude extends to Professors Pam Hinds from Stanford University and Paul Leonardi from Northwestern University, now at the University of California Santa Barbara, for their patience in teaching me how to master the art of qualitative research. They welcomed me into their research groups and the time spent was by all means unique. A special thanks also goes to the wonderful SCANCOR community from Stanford University who welcomed and provided me with the means to an outstanding academic experience while also allowing me to explore the exciting tech life of the Silicon Valley.

I also wish to thank my colleague and friend Rikke Lindekilde for the shared PhD experience, from the time at Stanford to the co-authored paper that is part of this dissertation.

A big thank you to everyone at ICOA, principally the PhD group - Henrike, Iben, Maja, Anders, Thomas and Jacob - for a "hygge" and interdisciplinary atmosphere throughout these years. I especially want to thank Morten, Karin, Marianne and Pernille, who were the core of ICOA, making me look forward to coming to the office the next day.

I also want to thank everyone at the Department of Management. The people there contributed to a stimulating academic environment. A special thanks to the Memphis teammates: Billy, Giacomo, Peter, Chris, Oana, Tymen, Markus and Sylvie - I keep with me our inspiring talks and fun times most often around a juicy Memphis Burger. You are all dearly missed.

It is nice when you enjoy the ride, but it is so much nicer when you also have the right company. Michela, Yulia and Martina - I highly value our friendship and memorable times together planning on how to take over the world. I also thank my friends from outside academia, especially Annette, Bogdan, Livia, Vio and Ionut, for being my pillars for motivation and relaxation.

Finally, I owe a huge thank you to my parents, Sandu and Dorina, and my boyfriend, Christfried, for all their love and encouragement, and for pushing me little by little, but surely, towards the finish line. A great thanks goes to my entire loving family and best friends from home, particularly Alina and Amalia, as well as to my dear teacher Vicky Giurgiu, for being there for me even at a distance.

Research is as much an individual process, as it is the result of teamwork. Everyone mentioned here had a contribution in the creation of this thesis and made this an exciting journey.

Ioana C. Cristea

October 12, 2015

Aarhus, Denmark

Table of Contents

List of Figures	vii
List of Tables	ix
1 Introduction	1
1.1 Setting the Stage: Global Virtual Collaboration	1
1.2 Collaboration in Globally Distributed Teams	2
1.3 Globally Distributed Teams	5
1.4 Team Composition	7
1.5 Time Zone Distribution	9
1.6 Technological Advances	9
1.7 Meetings - A Setting for Collaboration	10
2 Get Noticed, or Die Trying	
<i>Playing the Game on How to Advance in Distributed Teams</i>	15
2.1 Introduction	16
2.2 Literature Review	16
2.2.1 Theories Explaining Why Employees Attend Meetings	16
2.2.2 Collaboration and Virtual Meetings	18
2.2.3 Career Advancement	19
2.3 Method	21
2.3.1 Research Design	21

2.3.2	Case Selection	22
2.3.3	Data Collection	22
2.3.4	Data Analysis	26
2.3.5	Multitasking	32
2.3.6	Getting Noticed: Faking Participation	34
2.3.7	Getting Noticed: Visibility	35
2.3.8	Die Trying	36
2.3.9	Discussion and Results	38
2.3.10	Implications for Theory and Practice	42
2.3.11	Limitations	43
2.4	Conclusion	43
3	Perceived Challenges in Global Collaboration	
	<i>Implicit Theories in Virtual Meetings and their Impact on Collaborative Behavior</i>	45
3.1	Introduction	46
3.2	Literature Review	47
3.2.1	Understanding Implicit Theory	47
3.3	Purpose	50
3.4	Method	51
3.4.1	Multi-Sited Ethnography	51
3.4.2	Sites	52
3.4.3	Virtual Meeting Technology	53
3.5	Data Collection and Analysis	53
3.6	Results	58
3.6.1	Implicit Theory (1): "You Can't Build Relationships Through Virtual Meetings"	58
3.6.2	Formal and Task-Oriented Behavior	59

3.6.3	Implicit Theory (2): "I Can Be Present in More Than One Place at a Time"	60
3.6.4	Zooming Out and Multitasking	61
3.6.5	Implicit Theory (3): "You Can't Have In-Depth Discussions in a Virtual Meeting"	62
3.6.6	Cascading Information and Limited Discussions	62
3.7	Discussion	63
3.7.1	Main Findings	63
3.8	Managerial Relevance	66
3.9	Limitations and Future Research	66
3.10	Conclusion	67
4	Time Is Up, Everyone! Back to Meetings	69
4.1	Introduction	70
4.2	Literature Review	71
4.3	Methods	73
4.3.1	Case Selection	73
4.3.2	Sample and Context	74
4.3.3	Data Collection	75
4.3.4	Data Analysis	76
4.4	Discussion and Results	78
4.5	Implications for Theory and Practice	82
4.6	Limitations	83
4.7	Conclusion	83
5	Conclusion	85
5.1	Effective Collaboration in Globally Distributed Teams	85
5.1.1	Answering the Research Questions	86

5.1.2	Implications for Theory	89
5.1.3	Implications for Practice	90
5.1.4	Limitations and Future Research	91
5.1.5	Concluding Remarks	91
	Appendices	93
	A Interview Guide	93
	B English Summary	99
	C Dansk Resume	101
	References	103

List of Figures

2.1	World map word cloud with the interviewees' responses	28
2.2	Core category	31

List of Tables

2.1	Data collection overview - Interviews	24
3.1	Data sources overview	55
3.2	Results overview	57
4.1	Typical workday of a globally distributed employee	79

Chapter 1

Introduction

1.1 Setting the Stage: Global Virtual Collaboration

Today we live in a globalized world, where working globally in a virtual setting is important. At the end of the 1990s, Lipnack and Stamps (1999) were referring to virtual teams as the new way of "working together" while not being physically together at the same location. In 2001, Modalis Research Technologies reported that two-thirds of the employees in the United States were engaged in virtual collaboration (Connaughton and Shuffler, 2007). Virtual collaboration often means working with teams in different locations across different time zones. A survey from the Society for Human Resource Management in 2012 showed that almost 70% of multinational organizations work with virtual teams, and that number is expected to grow (Gilson et al., 2015; Perry, 2008) as globally distributed teams start to be present across industries and sectors (Connaughton and Shuffler, 2007; Gilson et al., 2015). Recently, Gilson et al. (2015) confirmed that the past decade has witnessed growth in the use of virtual teams.

Global collaboration has earned itself a well-established place in the literature for about a decade and a half, already offering insight into the way that distributed team members share knowledge and the challenges associated with global collaboration, such as the lack of face-to-face interaction (Cramton, 2001; Hinds, 2002; Gibson and Cohen, 2003). However, we still know relatively little about how people effectively collaborate

in an environment where work toward a shared goal is done across national borders with the support of information and communication technologies (Hinds et al., 2011). A call has gone out for more research to capture the changing nature of teamwork and global virtual collaboration (Wageman et al., 2012).

To close that gap, we must first develop an understanding of how global team members collaborate. One way to do this is by exploring one of the settings in which globally distributed teams work: meetings. Meetings are important, as they are a setting that allows for synchronous communication even if they pose a challenge when globally distributed (Tang et al., 2011). When a team is globally distributed, team members often use advanced information and communication technologies that facilitate collaboration to reach shared goals (Hinds et al., 2011). Advanced collaborative technologies allow for synchronous communication regardless of team members' location. This leads to an important question: How do we engage members of globally distributed teams in effective collaboration using advanced meeting tools? In this chapter, I review the literature on how globally distributed teams collaborate in the setting of virtual meetings.

1.2 Collaboration in Globally Distributed Teams

The concept of global collaboration is inevitably intertwined with the concept of globally distributed teams (Bosch-Sijtsema et al., 2011). According to the Oxford Dictionary, collaboration is "the action of working with someone to produce something" ("Collaboration," n.d.). Hinds et al. (2011) defined global virtual collaboration as the act through which individuals work closely together toward a shared goal across national boundaries. One of the most important factors for achieving team success is effective collaboration among the distributed team members (Hansen, 2013).

Studies claim that virtuality is impairing collaboration in distributed teams (Armstrong and Cole, 2002). Distributed teams are more likely to experience conflict than co-located ones (Hinds and Bailey, 2003). Distance is most often considered a barrier to virtual work, even if the debate is still ongoing (Chudoba et al., 2005; Connaughton and

Shuffler, 2007). The physical distance poses a barrier for communication and collaboration (Allen, 1977), as well as to relationship building (Kraut et al., 1990).

Working at a distance exacerbates the mutual knowledge problem, as individuals in virtual teams lack contextual information about each other's work setting, which poses knowledge-sharing problems (Cramton, 2001). Difficulties caused by language misunderstandings (Neeley et al., 2009) and cultural differences (Hinds et al., 2011) can also complicate knowledge sharing and intercultural collaboration. According to the literature on global work, developing an awareness of the situational attributes of the workplace of distributed team colleagues is crucial. Team members' sharing information about what they are working on or how busy they are can significantly reduce conflict and improve collaboration (Hinds and Bailey, 2003; Olson and Olson, 2000).

Studies have suggested that advanced communication technologies can boost collaboration by decreasing the physical and temporal barriers among distributed knowledge workers, thereby offering better access to where they can find knowledge (Hendriks, 1999). However, that is the case only if the team members willingly engage in social interaction with each other (Macdonald and Piekkari, 2005; Scott and Walsham, 2005). Unfortunately, collaborative technologies can become "burdens for the organization" when people overuse them to such an extent that their initial purpose is lost (Feldman and Orlikowski, 2011).

Status differences are also important for virtual team performance, as they can influence the collaborative behavior of individuals and thus affect collaboration. Status differences can lead to misunderstandings and refusals to cooperate, especially in the case of remote teams (Hinds and Pfeffer, 2003; Levina and Vaast, 2008; Metiu, 2006). Research has also shown that high status individuals located at power centers, such as headquarters, are unwilling to share knowledge with those from subsidiaries (Gumienny et al., 2013). Individuals from high status sites also have more power in deciding meeting times when distributed across large time zone differences (Tang et al., 2011).

Trust plays a key role in team performance. Virtual teams can develop trust, but

that requires more time than in traditional teams (Iacono and Weisband, 1997). On the other hand, Jarvenpaa and Leidner (1998) claimed that trust is not so much dependent on time but on timing, being formed during the early stages of their work together based on members' perceptions of each other.

Face-to-face interaction is essential for virtual teams to overcome geographical distance and be able to build trust from early on. Jarvenpaa and Majchrzak (2008) showed in their study of transactive memory systems that such meetings improve knowledge sharing and thus collaboration. Moreover, periodic face-to-face meetings may improve project progress (Maznevski and Chudoba, 2000). Face-to-face encounters and previous experience are also helpful in mitigating conflict (Cummings and Kiesler, 2008). In their study of 4000 teams of collaborators, Cummings and Kiesler (2008, p. 437) found that "prior experience reduces the negative impact of distance" and that "a prior project with a collaborator predicts greater strength of a current collaborative work tie." In addition, face-to-face meetings are useful, as they help to build not only trust but also familiarity (Hertel et al., 2005; Olson and Olson, 2000). They are also helpful in maintaining high levels of team cohesion and helping team members form a shared identity (Hinds and Bailey, 2003).

The major challenges to effective collaboration in a globally distributed environment can be overcome by reflection and context sharing (Katz and Te'eni, 2007), empathy building (Neeley et al., 2009), or longer site visits (Hinds and Cramton, 2013). Acknowledging the importance of familiarity and proximity as enhancers of collaboration among members of globally distributed teams is important. Recent research by Hinds and Cramton (2013) illustrated how that can be achieved through long site visits, preferably for headquarters to visit the subsidiary. The time spent at the other site will offer an increased understanding of the context and will allow for bonding on a more personal level. Once the visit is over, the social ties created and the mutual knowledge gained will facilitate collaboration.

By sharing information on context as much as on content, individuals can overcome

the lack of physical cues and become better at effectively transferring their work know-how (Finholt et al., 2002). A shared understanding of each other's context and surroundings becomes a must for them to be able to mitigate the negative effects of media on information and knowledge sharing (Cramton, 2001). Mutual knowledge is a first step in shaping individuals' perceptions to a more positive view of virtual collaboration, increasing their willingness to share knowledge and cooperate (Cramton, 2001).

1.3 Globally Distributed Teams

The use of globally distributed teams is seen as a key factor for ensuring profit growth and satisfying customers around the world (Connaughton and Shuffler, 2007). Already a decade ago, Kirkman and Mathieu (2005) claimed that most teams had at least one virtuality dimension. Researchers use various terms to describe virtual teams. Townsend et al. (1998, p. 18) talked about virtual teams as "groups of geographically and/or organizationally dispersed coworkers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task." However, the degree of virtuality or dispersion characterizing a team are still discussable (Hertel et al., 2005; Gilson et al., 2015).

Research has illustrated that teams are now rarely located in the same office space, but spread around the globe, with their team members collaborating and sharing knowledge across geographical distances and national boundaries through the use of technology (Gibson and Cohen, 2003; Zakaria et al., 2004). Building on previous work, researchers refer to virtual teams as teams with members distributed globally, working closely together to achieve a common goal and using computer-mediated technology for most of their communication (Hertel et al., 2005; Gibson and Cohen, 2003; Maznevski and Chudoba, 2000). The term "virtual teams" is often used interchangeably with the term "distributed teams." Distributed teams are characterized by their dependence on communication technologies to collaborate, their geographical dispersion, and their culturally diverse backgrounds (Gibson and Gibbs, 2006). Zakaria et al. (2004) differentiated themselves from

previous researchers by adding the cross-cultural element to the classical "virtual team" concept and talking about it as "global virtual teams" instead. This thesis combines these approaches and defines a globally distributed team as a group of individuals located in different geographical regions collaborating through the use of technology across organizational boundaries to accomplish a shared goal. Throughout the thesis the terms "global virtual team," "virtual team," "globally distributed team," and "distributed team" will be used interchangeably with the same meaning as defined above.

People in globally distributed teams adapt to a new way of working, as compared to members of traditional teams. They lack the water cooler encounters, while also missing out on the networking benefits of having a shared office space (Kirkman et al., 2004). Despite all that, global teams are sometimes favored over traditional co-located teams due to bringing cost advantage and access to a diverse pool of global talent (Hinds et al., 2011; Majchrzak et al., 2005). This is the case in spite of the fact that the lack of face-to-face interaction that characterizes virtual work is known to pose significant difficulties to the transfer and sharing of knowledge among members of globally distributed teams (Finholt et al., 2002).

For the last decade, researchers have studied the dynamics of teams of workers who collaborate remotely across geographical distances and national boundaries (Hinds et al., 2011). Hinds et al. (2011) found that the literature on intercultural collaboration is still unclear on how distributed team members can overcome their cultural differences and successfully engage in global collaboration. Others have also studied how to effectively engage distributed team members in global collaboration (Olson and Olson, 2000; Powell et al., 2004). A large body of research covers the reduction of conflict in global teams (Cramton, 2001; Griffith et al., 2003), the increase in shared identity (Mortensen and Hinds, 2001), the establishment of communication and trust (Jarvenpaa and Leidner, 1998; Jarvenpaa et al., 2004), the underlying measures for subgroup dynamics (Cramton and Hinds, 2004), the reduction of language issues (Neeley et al., 2009), the improvement in intercultural collaboration (Hinds et al., 2011), the use of site visits (Hinds and Cram-

ton, 2013), and the creation of communication networks (Hinds and McGrath, 2006). Yet what we are still missing is a better understanding of the underlying reasons as to why and how distributed team members collaborate across distances and large time spans via advanced meeting tools (Tang et al., 2011; Hinds et al., 2015; Gilson et al., 2015).

1.4 Team Composition

To understand the team, we need to understand the people forming the team. Most often, a team has a team leader, and an individual can be part of multiple teams. This phenomenon is known as multi-team membership. Thus, an individual may have more than one team leader (Maynard et al., 2012; Mortensen et al., 2007; O’Leary and Cummings, 2007). Studies have shown that, nowadays, close to 90% of individuals have at least two teams to which they belong. This change in the nature of teams is largely due to the fast-paced developments in collaborative technologies (Wageman et al., 2012) and the growing presence of globally distributed teams (Maynard et al., 2012). As with globally distributed teams, Mortensen et al. (2007) noted that multiple team memberships can pose significant coordination challenges for getting work done, as team members are usually physically remote and collaborating via information technologies across time zone differences. However, studies are still scarce exploring the specific challenges posed by multiple-team memberships (Mortensen et al., 2007; O’Leary and Cummings, 2007).

In such contexts, what becomes important is the amount of time (Mark et al., 2005; McGrath, 1991) team members dedicate to the focal team, as the higher the time allocated to the core team, the better the performance (O’Leary and Cummings, 2007). Therefore, team members must be able to commit a sufficient amount of time to their teams. Which team receives most team members’ time (Maynard et al., 2012) is also important. With the race for team members’ time and attention when they are part of several teams (Cummings and Haas, 2012), taking a different view and looking at the situation from the individuals’ perspective is interesting. When individuals belong to several teams at the same time, with the expectation of delivering value to all of them, how do the

individuals cope with the challenge of collaborating across distance in an effective way? What are the implications of this time pressure and stress for multi-lateral participation in terms of their collaborative behavior? How do they distribute their time during the day? Do they have any decision power in how their workday looks?

Another interesting situation arises with global dispersions of team members, when the team includes one lonely member, isolated from the rest, located at a remote location. O'Leary et al. (2011) found in an experimental setting that in such a situation, no "us vs. them" mentality develops, as it usually does when a few isolated members are in the same location. In the situation of only one remote member, what happened was quite surprising, as the other team members showed proactivity and interest in collaborating on a better plan to ensure the remote member was not left out. It would be interesting to see if this is the case in real settings as well. It would be a nice surprise to see the team members from the headquarters, for example, striving for the inclusion of that one remote team member and allowing for mutually beneficial meeting times (Tang et al., 2011). It would also be interesting to see if video is used in the collaboration process to increase visibility and closeness with the remote member (Koehne et al., 2012; Venolia et al., 2010). Video calls are not only useful for creating visibility (Koehne et al., 2012) but also for establishing clear communication (Cramton, 2001). Ideally, when combined with travels and regular face-to-face meetings, video calls create a common ground for avoiding conflict and misunderstanding and solving mutual knowledge problems, which is essential for achieving effective global collaboration (Cramton, 2001, 2002). However, such challenges may also be overcome with the help and availability of advanced information and communication technologies (Maynard et al., 2012). The numerous recent technological advancements, together with the changes in organizational goals, are making distributed teamwork something common in today's organizations (Gilson et al., 2015; Connaughton and Shuffler, 2007). New technologies are providing the means for dispersed, asynchronous virtual collaboration (Montoya-Weiss et al., 2001). In this way, organizations are able to hire the most talented irrespective of their location and build teams of the most qualified and specialized knowledge workers regardless of their geo-

graphic location (Lewis and Heckman, 2006).

1.5 Time Zone Distribution

Even with the notable upgrades in communication technologies, completely overcoming distance is difficult (Olson and Olson, 2000). Yet chances are more favorable in doing so when collaborative technologies are intuitive and technical issues rarely arise (Karis et al., 2014). However, when time zone differences are large, such as 8 hours or more, the challenge is significant (Tang et al., 2011). Large time zone differences pose challenges to coordination among globally distributed team members, making it tougher to engage in effective global collaboration (O’Leary and Cummings, 2007; Tang et al., 2011). Tang et al. (2011) found that several factors influence the synchronous interaction time for members of globally distributed teams. They learned that the number of people involved at each site, the status of the site and of the people at the site, cultural aspects, and individual flexibility have an impact on scheduling a meeting.

1.6 Technological Advances

The frequent use of advanced collaborative technologies improves collaboration among distributed team members significantly (Gilson et al., 2015; Maynard et al., 2012; O’Leary and Cummings, 2007). These new emerging technologies are enabling individuals to work together toward a shared goal from any place at any time, which is why they deserve attention. One powerful new emerging technology is the advanced meeting tool (Gilson et al., 2015). Thanks to communication technologies, globally distributed team members can still collaborate effectively even when working ”across major time zone differences, across internal business units, across cultures” (Chudoba et al., 2005, p. 280) and at the same time build high levels of trust.

To understand what makes team collaboration successful via virtual meetings, exploring the collaborative behavior of individuals in virtual meetings is necessary. By understanding the underlying mechanisms of their collaborative or non-collaborative behavior

during such meetings, we can develop a better understanding of how we can improve global collaboration.

In other words, when shifting the discussion from traditional co-located teams, with members part of one only one team (Hackman and Oldham, 1976; Ilgen et al., 2005), to teams with geographically dispersed members using advanced information and communication technologies to collaborate, with members part of several teams at the same time, good planning and coordination is a must for team success (Mortensen et al., 2007; Maynard et al., 2012). Most often, globally distributed teams face challenges in planning for their work together because of the time wasted on interpreting unclear communication and on coordinating tasks (Maynard et al., 2012). With good preparation, team members can reduce such inconveniences significantly and increase team performance (Maynard et al., 2012; Walther, 1995). The latest technological advances do make it possible to work from any place at any time, but for that process to be effective, individuals' understanding of how they collaborate in teams must change.

1.7 Meetings - A Setting for Collaboration

Despite the considerable gaps in overlapping working hours due to time zone differences, meetings are still a useful way to achieve efficient coordination and clear communication among team members, while at the same time cutting travel costs to zero and eliminating the eventual misunderstandings that sometimes arise when communicating via email or chat (Tang et al., 2011). However, global virtual meetings often have two consequences: first, team members located at the headquarters may simply overlook participants located at distant sites, and, second, remote team members may struggle to join the discussion (Karis et al., 2014). What can also happen is that team members can take advantage of the distance occasioned by the advanced meeting tools and use meetings as a means for showing they are present, when in fact they are engaged in other tasks (Leonardi et al., 2010).

Back in the early 1990s, researchers had discovered that individuals spent large

amounts of times in meetings (Volkema and Niederman, 1995). That time spent in meetings has grown exponentially ever since (Kauffeld and Lehmann-Willenbrock, 2012). Moreover, researchers found that individuals' perceptions of meeting effectiveness correlate with their overall job attitudes and well-being, potentially affecting the decision to leave the job in the longer term (Rogelberg et al., 2006), and the way they interpret organizational and team outcomes (Kauffeld and Lehmann-Willenbrock, 2012).

Meetings come in two different types: non-routine and routine meetings, for example, weekly meetings. The quality of weekly meetings is found to be low in almost 50% of situations (Schell, 2010) which is quite an alarming finding, when we consider the large amount of time spent in meetings (Hackman, 2002). Not surprising, low levels of well-being (Rogelberg et al., 2006) and high levels of fatigue (Luong and Rogelberg, 2005) correlate with meeting overload. However, meetings may instead act as enhancers of goal achievement when the job is highly task interdependent (Rogelberg et al., 2006).

Managers spend a considerable amount of time in meetings that are often unproductive and unfocused (Bresciani and Eppler, 2009). Cummings and Haas (2012) drew attention to the importance of time allocation for team performance. In "So Many Teams, So Little Time: Time Allocation Matters in Geographically Dispersed Teams," they studied over 2000 team members within globally distributed teams who belonged to multiple teams and looked at their allocation of time for the teams to which they belonged. They learned that when the right amount of time is allocated to the right type of teams, team performance increases in globally distributed teams. In addition, other studies found that virtual meetings are still considered a good choice for when distributed team members need to discuss or work together on tasks that are too complicated to tackle over asynchronous communication media (Kauffeld & Lehmann-Willenbrock, 2012; Tang et al., 2011).

When time is wasted in meetings, the company loses money (Romano Jr and Nunamaker Jr, 2001). Thus, understanding how the company can improve collaboration via virtual meetings is essential, both for the good of the employees and of the company. We

can conclude the following:

- Many explanations exist for the non-collaborative behavior of distributed team members. Such behavior may challenge virtual team effectiveness (Cramton, 2001; Hinds and Bailey, 2003).
- Perceptions influence collaborative behavior, and, to understand that, we need more information (Rogelberg et al., 2006).
- The status of the site as well as the status of the individuals, together with large time zone differences and geographical distribution, affect virtual team effectiveness and global collaboration (Tang et al., 2011).

I will therefore address these three issues in my thesis.

We found that non-collaborative behavior poses a challenge for the effectiveness of global collaboration. A better understanding of non-collaborative behavior is needed, which is why I investigated the reasons distributed team members choose to act in non-collaborative ways in my first empirical study. We found that individuals' perceptions of virtual work formed an important issue in achieving successful virtual team collaboration. That is why I engaged in the study of how individuals' perceptions of virtual work influence virtual collaboration. We also found that the status of the location and of the individuals, together with large time zone differences, pose significant challenges to virtual collaboration. That is why I explored how these barriers affect the daily workflow and collaboration process of the distributed team members. With my three studies, I have contributed to the understanding of why distributed team members engage in non-collaborative behavior, how perceptions of virtual teamwork influence collaborative behavior and the virtual collaboration process, and how the status of the site and of the individuals, together with large time zone differences and geographical dispersion, shapes the daily workflow of the distributed team members. My contributions offer insight into how we can engage globally distributed team members in effective virtual collaboration.

This dissertation is structured as follows: First, in this chapter, I have briefly reviewed

the literature on how global distributed teams collaborate in the context of meetings. Second, in chapters II, III, and IV, I present the empirical part of my dissertation. Chapter II answers the first research question: Why do distributed team members engage in apparent non-collaborative behavior? Chapter III answers the second research question: How do distributed team members' perceptions of virtual work influence their engagement in global virtual collaboration? Chapter IV answers the third research question: How do the geographical distribution and the status of the location and of the individuals influence the daily workflow of the distributed team members? Lastly, in chapter V, I summarize the findings, present the implications for research and practice, and conclude.

Chapter 2

Get Noticed, or Die Trying

Playing the Game on How to Advance in Distributed Teams

In technology-intensive environments that encompass work-around-the-clock cultures, distributed teams working together across time and space are very common. Such teams use advanced meeting tools to collaborate on a daily basis. Collaboration via advanced meeting tools is helpful for overcoming distance, but creates the potential for virtual meeting overload and helps team members feign presence in virtual meetings. Distributed team members may engage in apparent non-collaborative behavior during virtual meetings (e.g., shopping online, working on other projects, or playing video games). In this paper, I investigate the underlying reasons that cause members of globally distributed teams to behave in this manner. My findings show that career advancement plays a key role in explaining the apparent non-collaborative behavior. They also indicate that individuals are willing to sacrifice their personal life for career advancement. I conclude with a discussion of the implications for effective global collaboration with respect to the design of distributed teams.

Keywords: globally distributed teams, global collaboration, non-collaborative behavior, virtual meetings, advanced meeting tools, career, rat race, well-being

2.1 Introduction

A recent survey conducted by InterCall (Huselton, 1999), the world's largest conference call company, shows that as many as 65% of individuals participating in virtual meetings engage in activities unrelated to the topic of the virtual meeting in question. Common activities include sending emails (63%), eating or cooking (55%), using the toilet (47%), using text-messaging apps (44%), using social media (43%), playing computer games (25%), shopping (21%), training (9%), or taking another call at the same time (6%). Also, 40% of respondents reported that they have dropped calls without telling anyone, pretending they are still on, while another 27% admitted to falling asleep at least once. The survey reported on a sample of 530 Americans across a large pool of Fortune 500 companies and was featured in top business media outlets including the Harvard Business Review, Forbes Magazine, and the Wall Street Journal (Bellmar, 2015; Gavett, 2014). Other empirical studies have also shown that individuals often engage in other activities during virtual meetings (Benbunan-Fich and Truman, 2009; Wasson, 2004).

With meetings being so important to a firm's success (Kauffeld and Lehmann-Willenbrock, 2012; Tang et al., 2011) and to the individuals themselves, for example, for career advancement opportunities (Shaffer et al., 2012) and task completion (Ericksen and Dyer, 2004; Staples and Webster, 2007), why do individuals behave this way? Such behavior seems inefficient both for them and the company. If individuals are not active in a meeting, why do they participate at all?

2.2 Literature Review

2.2.1 Theories Explaining Why Employees Attend Meetings

Individuals attend meetings because the company requires their participation. But they may have other reasons. According to the theory on impression management, individuals can use meetings to influence other people's perceptions of them in a beneficial way (Bolino, 1999; Bolino et al., 2008; Rosenfeld et al., 1991; Turnley and Bolino, 2001;

Rosenfeld et al., 1996). One tactic people use is self-promotion (Jones and Pittman, 1982). For example, they try to benefit from attending a meeting by using it as a medium for convincing the audience of their competence. The role of impression management is important for career advancement (Bolino et al., 2008; Feldman and Klich, 1991; Wayne and Ferris, 1990; Wayne and Liden, 1995). However, impression management does not say much about participation in the special context of distributed teams where both observation and the use of technology differ from that in other settings (Birnholtz et al., 2012; Gilson et al., 2015; Panteli and Duncan, 2004).

Another related explanation for participation comes from the networking theory, which says that individuals will network for the purpose of career advancement (Porter and Woo, 2015). Studies have shown that when individuals attend meetings they try to impress others, changing others' perceptions of them in a way that benefits themselves (Goffman et al., 1959) with the purpose of networking for advancing in their careers or for other self-benefits (Porter and Woo, 2015). Nardi et al. (2000) referred to networking as the type of "invisible work" not taken into consideration in performance appraisals, yet important for such appraisals. Research has also demonstrated that networking can help fulfill the needs for both affiliation and power (Fournier and Moskowitz, 2000; McAdams, 1996; Porter and Woo, 2015). However, these studies on networking for career advancement seem to be more pertinent to traditional team settings than to virtual team settings, with little research investigating this phenomenon in distributed teams (Porter and Woo, 2015; Gilson et al., 2015).

Most of the literature on global virtual collaboration presents research conducted on non-technology intensive firms or in artificial settings, such as universities with college students acting as part of distributed teams (Gilson et al., 2015), where the situation differs from the settings of technology-intensive firms using advanced collaborative technologies to communicate and allowing for high levels of multitasking (Mark et al., 1999). In such environments, people commonly engage in multiple activities at the same time, abandoning a task before completion and changing focus to another task, sometimes as

quickly as every 4 to 11 minutes (González and Mark, 2004; Mark et al., 2005). This could relate to the high level of virtuality existing in technology-intensive firms and the levels of established trust among team members. This negatively affects performance (Adler and Benbunan-Fich, 2012; Wasson, 2004).

We thus have theories that explain why people attend meetings in traditional settings (i.e., impression management and networking theories) that go beyond the obvious reason of attending the meetings because "they have to." Research is therefore needed for meetings in distributed teams in the context of technology-intensive firms with a work-around-the-clock culture using advanced meeting tools to collaborate (Gilson et al., 2015).

2.2.2 Collaboration and Virtual Meetings

Collaboration at a distance is facilitated by communication technologies, such as advanced conference tools, which combine the information sharing capability with synchronous communications (Mark et al., 1999). Remote collaboration is usually accomplished through meetings (Romano Jr and Nunamaker Jr, 2001). Meetings are held for an official purpose. However, according to Orlikowski and Yates (1994, p. 542), they are also a "socially recognized type of communicative actions [...] that are habitually enacted by members of a community to realize particular social purposes."

Decades ago, researchers found that meetings dominate knowledge workers' time and, at the same time, that they are costly and sometimes unproductive and dissatisfying (Romano Jr and Nunamaker Jr, 2001). Such lack of productivity and satisfaction negatively affects individuals' perceptions of meetings, associating them with pessimism (Hackman, 2002). Not surprising, meeting overload leads to low levels of overall well-being and high levels of fatigue (Luong and Rogelberg, 2005; Rogelberg et al., 2006). Detailed studies of knowledge workers and managers have shown that they end up spending between 25% and 80% of their time in meetings, making meetings a central point of their work (Green and Lazarus, 1991) and an important vehicle for collaboration (Romano Jr and Nunamaker Jr, 2001).

Virtual meetings are a special case of collaboration. Virtual collaboration opens new doors because it allows individuals to be present while not actually being present (Hinds and Bailey, 2003). Specifically, individuals can be attending a virtual meeting, but their minds and sometimes actions might be somewhere else. In virtual settings, faking participation is easier than in co-located ones (Leonardi et al., 2010). Presence is a variable that people tend to take for granted when they are co-located, but which cannot be taken for granted when they are on a distributed team (Leonardi et al., 2010). In virtual teams, creating false impressions becomes easier with the help of information and communication technologies, which are used for individuals' own purposes (Birnholtz et al., 2012; Leonardi et al., 2010).

Malhotra et al. (2007) brought to light the challenges faced by virtual team leaders in orchestrating a successful virtual team meeting. They studied 55 virtual teams from 33 different companies and identified six best practices leaders can use to ensure effective collaboration during virtual meetings. However, they did not look at why virtual team members engaged in non-collaborative behavior. Instead, they pointed out the need to deal with non-collaborative behavior in virtual meetings and offered a solution for how to lead a successful virtual meeting. Better solutions can possibly be designed with a better understanding of why. Meetings are an important part of individuals' activities in knowledge-intensive firms with distributed work. Further, meetings are used for self-promotion and thus facilitate career advancement.

2.2.3 Career Advancement

Researchers have found that individuals use several "signaling" activities to attract a career promotion in traditional team settings. These activities include working long hours and making sure that the manager notices those long working hours. Working long hours in traditional office settings is associated with promotion prospects and career advancement and demonstrates commitment to work (Kato et al., 2014). In global virtual teams, the signaling is different and so are the mechanisms behind it (Weisband, 2002).

With the birth of teleworking (Leonardi et al., 2010) and then of distributed teams

(Hinds, 2002), people saw an occasion to recover their work-life balance, perceiving this as an escape from the company's race for power and career advancement in the "nine-to-five" classical work setting (Weisband, 2002). Knowledge workers believed this would be the end of the classic "rat race." Economics researchers first theorized about rat race behavior (Akerlof, 1976), assuming that some individuals were willing to do their tasks at a much quicker pace than their peers to signal superior abilities to their manager. This behavior can also lead to the phenomenon known as the "rat race equilibrium" (Bardsley and Sherstyuk, 2006), where individuals work significantly longer hours in an inefficient way to signal greater efforts than their colleagues (Bardsley and Sherstyuk, 2006; Frederiksen et al., 2014; Kato et al., 2013). In the economic promotion theory, the rat race describes working long hours to win the career advancement game (Landers et al., 1996). The implications are that normal working hours become inefficiently stretched out, and when all individuals are willing to work so long, the signaling of higher effort disappears (Landers et al., 1996).

Individuals were hoping that the era of the rat race and subsequent long working hours would finally come to an end and a new balanced work lifestyle would replace it (Larsen and McInerney, 2002), given the flexibility of the new ways of working (Gibson and Cohen, 2003; Leonardi et al., 2010). However, that did not happen. Weisband (2002) explained that even if the classic rat race was over, individuals kept being rats. That is, even with the change in context and the end to "nine-to-five" office slavery, the race for power and career advancement continued in distributed environments in a new shape. In the new distributed world, the classic rat race has become a race around the clock for virtual team members to finish their projects, as described by Lipnack and Stamps (2008) – an adventure to win against time. The race for time and project meeting overload have made virtual teams prone to dealing with large amounts of stress and low energy levels (Lipnack and Stamps, 2008; O'Leary et al., 2011).

Harsh work under pressure, with high levels of stress, can lead virtual team members to use the technologies available to them in a way that serves their own interests, such as

for securing a faster place in the race for career advancement. For example, in the case of groupware implementation, (Orlikowski, 1992) found that consultants resisted using the collaborative tools designed for sharing knowledge because, in their job, personal knowledge was a key resource in winning top projects. Therefore, using the collaborative tools would have worked against their career advancement plans. The empirical insights of these studies suggest that individual career ambitions play a central role in collaboration at a distance, as in the case of co-location. Individual career ambitions thus encourage and sustain apparent non-collaborative behavior across distributed team members. Yet such a focus on career in the context of collaboration in virtual team work has not yet been central to current research (Shaffer et al., 2012).

In this paper, I study meetings in a large technology-intensive organization where advanced collaboration tools are used for daily work practices. The individuals in the study are all part of virtual teams pertaining to the high-technology Fortune 100 company hereon referred to as GoldenSun.

2.3 Method

I used qualitative methods to study the way distributed team members collaborate globally because of their unique benefits for obtaining an in-depth understanding of the context within which actions take place and of the individuals involved (Myers, 2013).

2.3.1 Research Design

The research design of this study is cross-sectional in nature (Patton, 1990). It offers a snapshot of the current situation of how distributed team members collaborate with each other. The study takes an inductive approach to exploring global collaboration in virtual teams with a focus on virtual meetings using advanced collaborative technologies (Gilson et al., 2015).

I took an exploratory approach to both the data collection and the data analysis process, seeking to uncover insights into the behavior of distributed team members during virtual meetings and the underlying reasons for that behavior. The initial steps of the

data collection and analysis were more open than later ones, removing the rigor from the way the topics emerged. I then pursued relevant topics in the following step. The unit of analysis was the individual, specifically the members of GoldenSun's distributed teams.

2.3.2 Case Selection

GoldenSun is a globally distributed, high-technology organization headquartered in the San Francisco Bay Area that designs, manufactures, and sells networking equipment. It is a global leader in collaboration, employing over 70,000 people worldwide and achieving a turnover of over 45 billion dollars in 2014. It is one of the Fortune 100's top companies to work for and has been for several years in a row. At the time of the data collection, the organization was undergoing large cuts, meaning decreases in benefits and a high need to be engaged in projects with headquarters. The organization has a well-established work-around-the-clock culture.

2.3.3 Data Collection

The context is important because this is a setting with back-to-back 1-hour meetings. It is a meeting-intensive company. The data collection period was between September 2012 and July 2014. My first days with GoldenSun were spent interviewing individuals in an informal way (see Table 2.1 below for a detailed view) and reviewing any background materials I found important to learn more about the organization and to make myself familiar with its products, culture, and industry. The initial phases of the research centered on an understanding of the available collaborative tools, the activities they allowed for, considering GoldenSun's geographical distribution, as well as of the way in which individuals used them to accomplish their daily work.

Over a period of 12 months, I conducted 40 interviews with team members from eight different locations spread around the world. Prior to starting the data collection phase, I conducted several unstructured interviews with a senior manager of the company. We met five times for 30 minutes each time. Our meetings took place online, with video, using the advanced meeting tools the distributed team members would use on a daily

basis. This was helpful in getting a first glimpse into what virtual collaboration was all about.

My main data source during the data collection process consisted of individual semi-structured interviews (formal and informal) and work-place observations. Interviews lasted from 30 minutes to 2 hours. Interviews were recorded almost all the time and then transcribed, with a few exceptions when the interviewees felt uncomfortable with the recordings. In those cases, I was allowed to take notes during the interview. I elaborated on my notes as soon as I finished the interview. Participants were chosen to account for the diversity in terms of geographical location, previous professional experience, and gender distribution. The selection process relied on the snowball effect. Table 2.1 offers an overview of the interviews.

Type	Gender	Global Distribution	Duration	Medium	
26 Formal	7 Senior managers	2 Females	North America (2):		
			California (USA) (HQ)	1x1h	Audio
		California (USA) (HQ)	1x30min	Video	
		5 Males	North America (2):		
	California (USA) (HQ)*		1x1h	F2F @HQ	
			1x2hs	F2F @HQ	
	Western Europe (2):				
	Oslo (Norway)		1x45min	Video	
	London (UK)		1x1h	Video	
	19 Team members	2 Females	North America (1):		
			California (USA) (HQ)	1x1h	Video
		Western Europe(1):			
		London (UK)	1x1h	Video	
		17 Males	North America (14):		
California (USA) (HQ)			6x1h	Video	
California (USA) (HQ)			5x45min	Video	
North Carolina (USA)			2x30min	Audio	
North Carolina (USA)	1x30min		Audio		
Western Europe (3):					
Amsterdam (NL)	1x1h	Video			
Brussels (BE)	1x1h	Audio			
London (UK)	1x1h	Video			
14 Informal	8 Senior managers	8 Males	North America (8):		
			California (USA) (HQ)	3x1h	F2F @HQ
			California (USA) (HQ)	3x30min	Video
		California (USA) (HQ)	2x20min	F2F@University	
	6 Team members	6 Males	North America (6):		
			California (USA) (HQ)	4x20min	F2F @ HQ
			North Carolina (USA)	1x20min	F2F @ HQ
		California (USA) (HQ)	1x1h	F2F@University	

Table 2.1: Data collection overview – Interviews

*one manager was previously located in **Australia**, holding the same position, and offered a thorough review from that perspective as well

The participants of the study were managers and team members who were part of six globally distributed teams. I conducted formal interviews with seven managers and 19 employees. I conducted informal interviews with another 14 participants, out of which eight were managers and six employees. Both the formal and informal interviews lasted from 30 minutes to 2 hours. I conducted the majority of the interviews via video calls and some in face-to-face encounters. I conducted three interviews using audio only. In the audio interviews, the informants seemed to be paying less attention. One apologized for babysitting at the same time, another apologized for being on the road, and the third offered excuses for not having a working Webcam. The remaining formal interviews took place in face-to-face meetings at the headquarters or in video calls. The informal interviews were very helpful for offering new insights and strengthening the already collected data. The informal interviews took place over lunch breaks, video calls, walks on the campus of a research-intensive university in the San Francisco Bay Area, or at the headquarters of the company.

I also conducted a total of sixteen hours of workplace observations in different buildings at the HQ, taking field notes whenever possible. Other data sources included official documentation provided by two of the senior managers and one senior engineer.

This study's sample covered members of globally distributed teams from the following eight sites around the world: California (USA), North Carolina (USA), Singapore (Asia), London (United Kingdom), Reading (United Kingdom), Brussels (Belgium), Oslo (Norway), and Amsterdam (Netherlands). Most of the participants worked at the headquarters in California (USA). The interviews were held with individuals from the Global Headquarters, as well as from the European and Asian Headquarters.

I focused my data collection, as well as my analysis, on the underlying reasons for why GoldenSun's employees, who are members of globally dispersed teams, engage in seemingly non-collaborative behavior. I asked the distributed team members to offer descriptions of their daily activities using the ethnographic style of interviewing, in such a format as: take me through your day from the moment you wake up and start working

until it's been a day (Spradley, 1979). I also asked them to talk about their projects, communication flow, their job's responsibilities, and the key challenges they encounter in sharing knowledge. In response, participants almost always turned on their screen sharing to show me a glimpse of their work day by allowing me to see their daily, weekly, and monthly calendars. Lastly, I also encouraged interviewees to talk about their daily use of advanced collaborative technologies for conducting their work. The initial interview guide is enclosed in Appendix A in order to provide a better overview of the questions asked in the early stages. As the research was exploratory in nature, fluctuations of the questions from the initial interview guide occurred when new and interesting topics emerged.

2.3.4 Data Analysis

The data analysis followed the data collection in an iterative fashion and employed techniques from several inductive qualitative methods (Strauss et al., 1990; Miles and Huberman, 1994; Charmaz, 2006). My focus on collaborative behavior was the basis of the analysis, but I also remained open to other new ideas (Strauss et al., 1990). During the analysis, the interview transcripts were read several times, as were the observation notes and the internal documentation provided by some of the managers, with the aim of identifying activities and topics related to effective collaboration. The literature on distributed teams, technology and organization, and career advancement, comprised the focus of analysis for this study (Strauss et al., 1990).

Furthermore, I closely observed how members of GoldenSun's distributed teams expressed their thoughts regarding their daily collaborative activities and related behaviors, as well as how they viewed the collaboration process. I had a keen interest in knowing what they were doing on a daily basis and understanding what their work actually meant. Such accounts of everyday work revealed the important role that meetings played and how they had to struggle with them on a daily basis. I focused part of the data analysis on those specific activities that GoldenSun's globally distributed team members associated with their participation in meetings. This analysis created a set of repeating topics that captured both what they were doing and how they were behaving during meetings.

I then read through the transcripts again, paying particular attention to how these topics included specific activities associated with non-collaborative behavior.

As I continued to learn more about GoldenSun's collaborative environment, I realized how important it was for the distributed members, as well as for the organization as a whole, to have effective collaboration. When asked how they shared knowledge with their distributed team members, everyone responded in the same way: through meetings. Moreover, when they described how they worked across distances, the participants repeatedly mentioned the word "meetings" as central to their work day and collaboration practices. Immediately afterward, they would emphasize how much time they actually spent in meetings.

The consistent presence of "meetings" in the interviews can also be observed in Figure 2.1, where a word cloud of the transcripts was created. The figure depicts 22 of the formal interviews with the distributed team members of GoldenSun. The interviewer's interventions were excluded from the cloud in order to create a clear vision of the most common words mentioned by the interviewees. The font size of the words in the clouds represents the number of mentions; therefore, the larger the font size of the word in the cloud, the more frequently it is mentioned in the transcripts. The figure was generated using Python programming language.

This discussion was almost always followed by participants turning on their screen sharing to show me their work day through their calendars. The calendars displayed colored blocks tied to one another. Each participant had their calendars color-coded to fit their purposes, such as meeting importance, meeting type, or meeting urgency. An empty block could rarely be found in between the color-coded puzzle of time blocks. With the little time they had left, the participants had blocked the time for themselves before someone else could block it for their project. Interviewees were constantly complaining that using meetings to collaborate on a daily basis was taking up nearly 70% of their work time. They were overwhelmed with meetings, and they could not dismiss them not because they were not allowed to, but often times because they had their underlying reasons not to do so.

Is this what collaborative behavior looks like in a globally distributed team? I had to ask these questions because working on other projects, replying to e-mails, and just not paying complete attention in a meeting seems like non-collaborative behavior toward the other team members, as well as to the official purpose of the meeting.

Continuing the conversation with other team members located at the headquarters, many of them reported that doing other things while in a meeting is actually the norm. The employees would then ask for the recording of the meeting and would listen to it at the time when they needed the information on the project discussed during said meeting. Even more surprised by how collaboration took place in a virtual environment and how individuals enacted technologies to benefit their own goals, I decided to look deeper into the black box of apparently non-collaborative behavior happening in meetings that was enhanced by the use of collaborative tools .

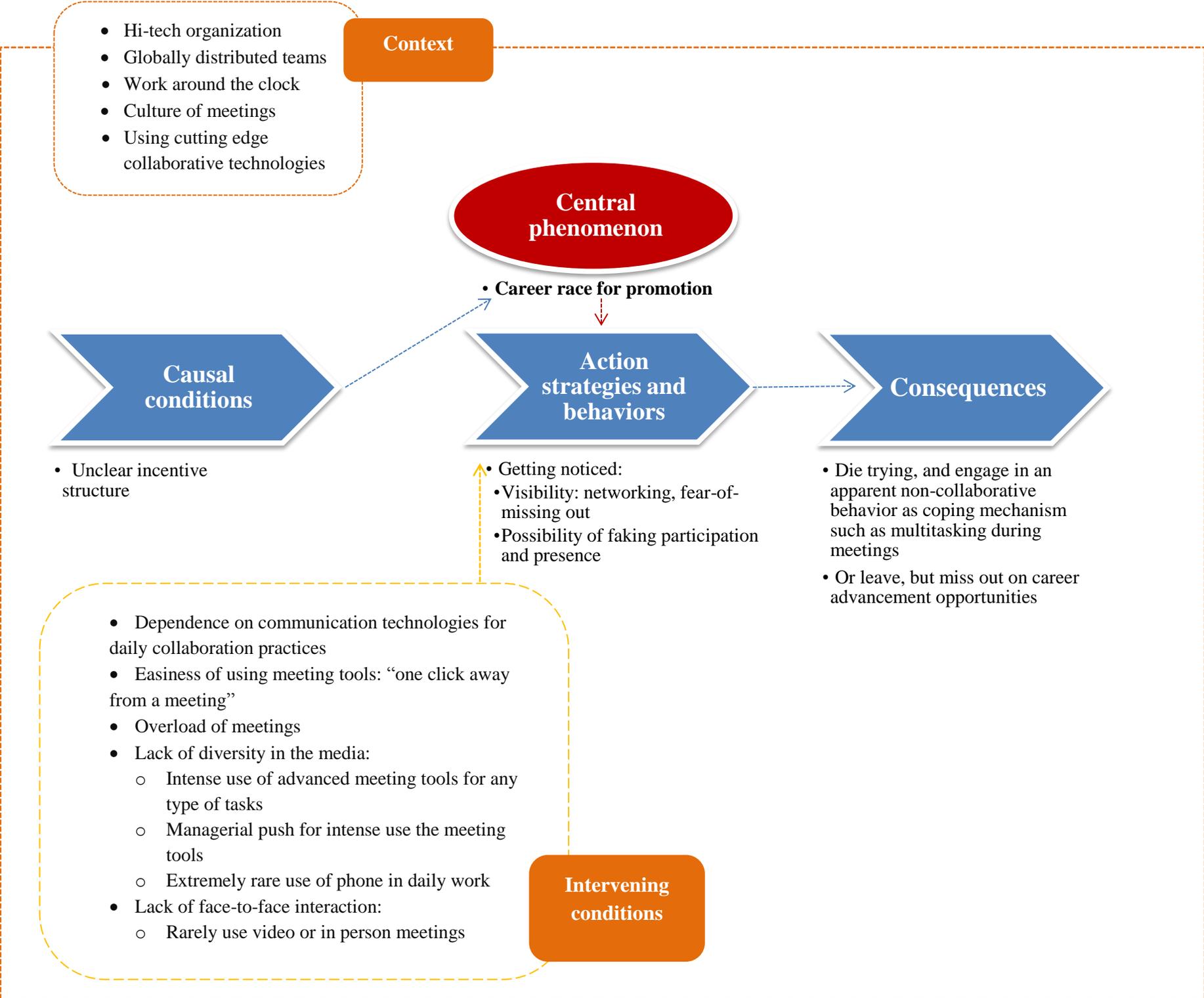
Because of the meetings' centrality in the collaboration process of GoldenSun employees, I mainly focused my data collection on how distributed team members approached and behaved in virtual meetings. Therefore, I started asking interviewees to develop more about their underlying reasons for behaving in these seemingly non-collaborative ways, as well as how such behavior affected the overall collaboration and success of the projects in which they were involved. The data analysis then proceeded to follow the turns in the data collection, coding for any activities relevant to the research question.

The codes consisted of full statements and paragraphs, or just words, and were both in vivo (e.g. "meetings are a spectator's show") and constructed codes (e.g. "advanced collaborative meeting tools induce the culture of meetings").

The in vivo coding was preferred for assigning a label to a section of data using participants' own wordings to preserve their meaning. Where doing such was not possible, labels were constructed to summarize the section or statement. A set of repeating codes emerged from the data analysis. The codes captured the activities and behaviors that the participants were displaying during meetings, as well as their motivations for doing so.

I presented my initial results on the distributed members' collaborative behavior with a sample of GoldenSun's employees (senior managers, engineers, and collaboration specialists), which was helpful in gaining new pieces of information to polish the interpretations I had made earlier while simultaneously providing additional insights.

The analysis followed the three stages of grounded theory: open coding, axial coding, and selective coding. The next step of the analysis process was axial coding, during which codes were linked together. In the end, an overarching core category emerged, specifically "Career race for promotion", which had a story line created in the selective coding stage that answered the research question. The story-line is captured in the Figure 2.2 below.



2.3.5 Multitasking

The apparent non-collaborative behavior during meetings is best described by the individuals' engagement in activities other than ones related to the meeting. Such behavior is commonly known as multitasking. Almost all distributed team members described themselves as working on other projects while in a meeting or doing other non-meeting related activities, such as checking e-mail, working on other documents, or watching videos on YouTube. This behavior is well captured in the two statements below:

We're not contributing to the conversation, and try and multitask, so you're checking your email or you're even guilty of working on another document as I sit in on somebody's meetings. (Team member, East Coast, USA)

I would have been checking my email, working on my documents, you know, I don't know, watching YouTube videos, you know, whatever it takes, you know, to keep me from getting bored to death. (Team member, East Coast, USA)

Their apparent non-collaborative behavior during virtual meetings is also seemingly reinforced by the easy use of collaborative tools and their features, such as recordings, which they appropriate for their own interests. As one team member from the East Coast said:

Yeah, that's really good. It's called out actually another area. I think it's a little bit of a challenge as we've enabled this ability to record the meetings. I think it's actually hurt us in a lot of aspects. [...] It's really great for precisely the way that your point to use it, which is to go back into a transcription of the meeting, but we replaced the traditional meeting minutes with sending out a link to a recording, and if you're very in time... (Team member, East Coast, USA)

Another example came from an intern located on the United States East Coast, who mentioned the following:

Yeah, that's become the trend. Almost, no one does meeting minutes. They just send out the recording. If you're unable to participate, you better be able to come up with another hour of time. (Team member/Intern, East Coast, USA)

A great majority of the distributed team members indicated that another reason for the apparently non-collaborative behavior is the overload of meetings enhanced by the ease of using collaborative tools, such as advanced meeting tools. However, the participants complained that many people had forgotten the actual purpose of the collaborative tools and were now using them in an overly exploitative manner. According to them, even if the tool was their go-to tool for collaboration, they were overusing it in the sense that a tool meant to facilitate collaboration on projects for long-distance teams became the tool for everything related to collaboration. They were not using the phone anymore; instead of calling, they would set up a quick meeting over the tool or use the instant messaging, and then move to a call on the collaborative tool. They also mentioned that since their organization had often pushed the use of the collaborative tool in the past, now there was no one in the organization that was not using it. As one of them put it:

And as a result, it's hard to get up from where you're working and move to a high end video conference room to complete a meeting and come back, so you end up taking a productivity hit. So, as a result, we tend to lean towards advanced meeting technology tools which, you know, you can quickly transition to-meeting-to-meeting-to-meeting. (Team member, East Coast, USA)

Overall, there seems to be an unspoken understanding and culture of acceptance of what was described as the culture of meetings within the organization, which apparently encourages the non-collaborative behavior described above. With only two exceptions, everyone said that they consider meetings as something given, something that they have to cope with and need to adapt their behavior around in order to complete their tasks. A couple of illustrating statements are provided below.

I mean if you ask most of the people, they will say most of them [meetings] are

not very productive, but it's sort of a culture. (Team member, East Coast, USA)

I don't want to multitask so much, but since I'm in so many meetings, it's really hard not to, and I really multitask so much and I still have these many things to do so, I guess that's how I end up making up for some other work at night too. (Manager, CA, USA)

I feel pretty good at GoldenSun with the multitasking. And also I think that it's kind of how it is, if the people are multitasking. (Manager, UK)

One thing that I realize is people will have a meeting just to have a meeting at GoldenSun, right? (Team member, East Coast, USA)

There's too many meetings and that was my first complaint when I came to GoldenSun. [...] And that is why I multitask. (Manager, CA, USA)

However, two participants, a manager from the headquarters, who had previously relocated from Australia, and a team member from the East Coast, reported not caring about the overload of meetings and not feeling obligated to attend. They both mentioned that falling in the meetings' trap was a one-way-in game that was very hard to escape from afterwards.

2.3.6 Getting Noticed: Faking Participation

This apparently non-collaborative behavior, described as multitasking or working on other tasks during meetings, seems to be enhanced by certain features that pertain to working in a virtual setting, such as the use of advanced collaborative technologies. Technology offers distributed team members the opportunity to easily conceal the fact that they might be working on other things by simply not turning the camera on while in a meeting. Since they were not visible, they could fake their participation. With no exceptions, the distributed team members admitted to being present in a meeting, paying

attention to their colleagues, and not working on other things only when they were presenting the meeting themselves or had their camera turned on. This behavior is illustrated in the following two examples:

When the video is on, I'm definitely more focused to the meeting I'm in, okay, because people are watching. (Team member, West Coast, USA)

If I'm not one of those people [presenting in a meeting], I would be checking my email. . . (Team member, East Coast, USA)

2.3.7 Getting Noticed: Visibility

Many of the interviewees shared their thoughts about this issue, saying that being present is a matter of not wanting not to be present with the fear that you would miss out on an opportunity to connect and be seen by strategic team members. Being visible is necessary to advance their careers, so they will make themselves visible by attending all the meetings they can, as shown in the following five examples:

People do wanna show up for these things [meetings], because they think it's an opportunity for them to talk to someone, you know. (Manager, UK)

It's a two pieces. One it's a culture of inclusion where you don't want to leave anyone out. [...] So it's become a culture of inclusion so much, that people do not want not to be invited. Visibility is another one. Visibility is because we are globally distributed. (Team member, East Coast, USA)

For lots of people, any meeting that involves: a director, a senior VP, and things like that, that is an opportunity for them to take part to sort of, be visible you know. If you have a question you might want to raise it there, so at least people know who you are, right? (Manager, CA, USA).

There is no other way, if you want to advance you need to be there all time, they need to see you. (Team member, East Coast, USA)

If you want to advance, you need to be in a project with San Jose. So, you will make sure you get one. (Manager, UK)

2.3.8 Die Trying

Visibility comes with a major drawback however. Being overloaded with meetings leaves employees with little time to have personal lives. Some of the distributed team members confessed they often ended up sacrificing their lunch or dinner time in order to attend a meeting. The statement below is an example from the die trying category:

I don't get a lot of breaks. Lunch is, if I'm at the house, it's in the snack drawer in the desk, you know, you're thankful if you just get a moment to go the bathroom. So, it can be quite challenging. (Team member, East Coast, USA)

However, a couple of individuals also described the race for visibility to get on strategic projects with the headquarters as doomed to fail. One team member from the East Coast reported playing the visibility game for almost two years after joining the company. In those two years, his family life was nearly extinct, and his entire life consisted of only meetings and more meetings, and thus also multitasking during meetings. Two years later, he realized that his daughter was missing out on having a father, his wife was missing out on having a husband, and he felt like he did not have a family. However, he did manage to earn several promotions, and his prospects for being promoted again were high. Nevertheless, he reported feeling empty inside and like a robot on a daily basis, and he realized that family mattered more than career success. At that point, he decided to stop racing through meetings and fighting for visibility to instead be more aware of the things that surrounded him, starting with his family and continuing with his colleagues. He had a one-on-one talk with his manager to share his thoughts and stayed with the company on the condition that he only had to attend meetings where his presence was an absolute must. He explained that he was happy to settle with his current career position and just do the tasks required from his current job position. His manager agreed, and at

the time of the interview, a couple of years had already passed since he took this step to balance his life. He had stopped multitasking and was now attending meetings about five times a week; during those meetings, he was trying to be fully present and not engage in other type of activities, turning on his camera every time he saw an opportunity to do so. He also mentioned being very happy with both his personal life and work, and even though there had not been any career changes, he was satisfied with how things worked out. He also expressed feeling sad for his colleagues who still suffered from what he termed as "FOMO - the fear of missing out" and still never wasted the chance to get noticed by strategically important team members during a meeting.

Another one of the team members from the East Coast reflected on his decision to remove himself from this career race as the wisest decision he ever made. He had spent his first ten years with the company being overbooked with meetings where he had nothing to contribute, but that he could not decline because of the need to "show face" and be well connected. That attitude made him wake up at 3 a.m. to be on an hour-long conference call with his colleagues on the other side of the globe, then go to sleep for two more hours to then wake up, reply to e-mails he had received overnight, then get dressed, rush to work, while making another conference call in the car, and finally arrive at work, where he virtually stepped from one meeting to another. This two-year marathon of meetings made him a stranger to his friends, saw him reaching his fifties and having no family, and made him an angry person who did not even have the time to eat right. He then remembered having a wakeup call and realizing that this career race was nothing more than a trap that kept him from being well. He has now been married for two years and takes more opportunities to work from home, settling for less in the career spectrum, but winning more in the family area.

I subsequently discussed my findings with a couple of GoldenSun's employees, from different sites, which helped shape my final interpretations of the results.

2.3.9 Discussion and Results

This paper explores how distributed team members collaborate in technology-intensive environments where work is completed around the clock, and why they engage in seemingly non-collaborative behavior toward their colleagues.

With regard to the first question, people appear to collaborate to a large extent synchronously through virtual meetings, with the help of advanced meeting tools. When interviewees reflected on how they collaborate over distance, each responded with a lengthy paragraph about "meetings." Collaboration was thus equal to meetings, which made up 70-80% of their work week. They use their advanced collaborative tools to set up a meeting for any issue they encounter in their active projects. As one participant mentioned, "meetings now have the same reputation as emails for being redundant communications that force people to collaborate". Because email communications are asynchronous, they had a chance to ignore them or reply at their convenience. The synchronous nature of meetings, however, which involves "showing face," is not easily escaped.

With a completely booked daily calendar, the time they spent collaborating with their colleagues was actually the time they spent in meetings. Since the meetings were held in succession, with no break in between, participants mentioned that they often had to leave a meeting one to five minutes early (if the other meeting was important enough) to prepare for the following meeting. During the meetings, they often engaged in multitasking behaviors, working on several tasks, from unrelated projects to the topic under discussion. This finding is consistent with previous research on multitasking behavior (Mark et al., 1999; Mark et al., 2005). Unique in the findings, however, is that participants, with only three notable exceptions, all seemed to agree that multitasking is a well engrained daily behavior and accordingly blended within the concept of collaboration.

The majority also reported that they rarely if ever used the video feature in meetings, unless asked by their manager, or present in a meeting with only a few colleagues and one member "pushes the video button", or present in a first-time project meeting. They also mentioned they got used to sacrificing the video capability due to the often large time

zone differences, as the person at the end of the line could be in their pajamas or could be working from home and unwilling to put his or her private life on display. However, they admitted that using the video when in a meeting makes them pay attention to the topic; and because their colleagues can see them when the video is on, multitasking behavior also becomes minimal to non-existent. They also mentioned they are comforted knowing that the meetings can be recorded. The recording feature was reportedly used mostly by new hires. These findings highlight the large amount of research conducted on the importance of video for globally distributed meetings, as it builds trust between team members (Jarvenpaa et al., 1999), affecting the long-term success of the team (Duarte and Snyder, 2006). Karis et al. (2014) stress the importance of using advanced collaborative tools to their full capacity to be able to foster a well-functioning distributed team. However, this finding highlights the willingness of individuals to not use video, the importance of shorter time zone differences, and the need for reasonable collaboration times when the video excuse is dropped.

Findings also show that members of globally distributed teams no longer use collaborative technology for its intended purpose. In technologically intensive firms, where work continues around the clock and the culture is competitive, busyness seems to be the new business. That is, people would rather spend nearly all of their time attending meetings, which they often view as useless, and then complain about them instead of using communication technologies for their intended purpose—collaborating on projects. As a technological artifact, collaborative technologies are intended to facilitate knowledge sharing and improve collaboration across distributed teams. However, more important is how the technological artifact, in this case the collaborative tool for advanced meetings, is used to complete tasks. The findings indicate that people overuse collaborative tools to such an extent that their intended purpose is somewhat lost. It instead generates apparently non-collaborative behavior, that is, people working on other tasks during meetings and not actively connecting with their distributed colleagues. This behavior occurs when the meeting is viewed as a general waste of time, and attendance is part of a strategy for career advancement. In such cases, the benefits of collaborative technologies can become

burdens for the organization (Feldman and Orlikowski, 2011; Orlikowski, 1992).

All in all, people tend to complain about how they collaborate when globally distributed, most often because they attend these meetings all of the time and are left without enough time to actually do their work. Consequently, they end up multitasking and completing work for non-meeting-related projects. The data show that people appear to engage in non-collaborative activities in virtual meetings (e.g., working on other projects, eating, playing video games), not necessarily because they want to, but because it is the best way they found to cope with the overload of meetings or communication opportunities required by their job role and career ambitions. The findings indicate that members of globally distributed teams use meetings to "signal" they are online, are "present," and can make an impression, much like traditional office settings in which employees work long hours to signal their presence. These results support previous findings on impression management theory (Bolino, 2008; Porter and Woo, 2015). They thus highlight the fact that the rat race of which they choose to be part has serious consequences for their personal and professional life (Kato et. al, 2014).

Being part of a distributed team comes with a change in lifestyle to which employees need to adapt to be successful, with their roles requiring them to be present in meetings for a considerable amount of time during their work week. When faced with so many meetings, often scheduled in rapid succession, distributed team members need to show flexibility in the way they plan their work day in order to do "actual work." They also try turning meeting overload to their advantage. Therefore, besides the obvious reason for attending a meeting -because it is required- there are other reasons to do so. Results show that when on a distributed team, the need to be visible while doing work translates into meeting attendance, as compared to work in traditional offices when individuals signal their hard work to their manager by staying at the office late. Since distributed teams members are not located in the same office building as their manager, they replace late working hours with meeting attendance. Thus, in a distributed team, signaling transfers to online attendance. Individuals need to be present to receive updates, show face, fulfill

their role, and attempt to further advance their careers.

We see that in the virtual setting, the visibility card can be played both as an advantage and a disadvantage. Visibility can be achieved when the video is off during a meeting by showing the team member's name on the screen and by showing the participant's face when the video is on. When the video is off, visibility, or the lack thereof, turns into an advantage for distributed team members, who can then fake their participation. Individuals can thus be online and in attendance while remaining mentally absent. Using visibility to fake participation is a valuable means to signal colleagues that he or she is "always on." This tactic, according to participants, can be helpful for later career advancement. However, it is disadvantageous for the team members whose time is wasted in meeting while others fake their participation, and for the company as well because of the costs involved in meetings.

Faking participation is one way to get noticed without actually being active in the meeting. Another way is using it as a means to make connections for future career advancement. Because of their global distribution, visibility in the virtual field is useful because it lets their colleagues and managers know that he or she is "always on." This approach is similar to the case of the telecommuters (Leonardi et al., 2010), who create the impression they are active to influence their colleagues' perceptions.

In the end, they are actually trying to be collaborative, attend and participate in meetings, but because they are overwhelmed with meetings all day long, they have no other choice but to use coping strategies such as working on other projects, replying to emails, and having a snack. Indeed, attending late night or early morning meetings usually means sacrificing time with children. Furthermore, the fact that they attend meetings even when they do not pay attention shows that they are trying their best to be collaborative at the cost of their health (e.g., eating chocolate bars instead of going out for a nutritious meal). With this finding, new insights into careers within the context of global collaboration are brought forward (Shaffer et al., 2012), as well as a much deeper insight into the underlying reasons for the displayed collaborative behavior of distributed

team members in technology-intensive environments (Gilson et al., 2015).

Two different patterns showing the reality behind their apparent non-collaborative behavior have emerged from the data: get noticed and die trying. The findings show that with the passing of time, people disregard the intended use of collaborative tools and overuse them until new practices are enacted. For every topic, almost regardless of its importance, when a meeting invitation is sent, it is quite instantly accepted in an effort of getting noticed. While they are all aware of the lack of utility and complain about meetings, regardless of the time of the meeting - be it midnight, during dinner, or before the sun rises - individuals still choose to attend. This tendency constitutes the second category: die trying. In the next section, the implications of these findings for theory and practice are discussed.

2.3.10 Implications for Theory and Practice

With meetings being so important to the firm's success (Kauffeld and Lehmann-Willenbrock, 2012; Tang et al., 2011) and to the individuals themselves (e.g., for career advancement opportunities (Frust et al., 2009), getting ahead with tasks (Stapler and Webster, 2007; Ericksen and Dyer, 2004)), apparent non-collaborative behavior was not properly understood. Now we have a better understanding of the phenomenon and the importance that career games play in individuals' collaborative behavior. Future research should explore the field of collaboration in technology-intensive environments, especially through longitudinal studies. I also draw on incentive structures or rewards systems. When people feel they need to do something that is not efficient for their work but do it anyways, then there might be a mix up in their incentive systems. If I were a consultant, I would not allow people to attend meetings solely for strategic purposes. I would force managers to be aware of it and find ways to address it. Thus, incentive structures might work.

In this case, my contribution could be encouraging career advancement or incentive structures that disregard this tendency or try to remove the willingness to use time in a meeting for self-serving purposes. The main problem is that there are strategic meetings.

The dominant mindset should be that if the meeting does not fit into my work, then I should not attend because then it is not in my or the firm's best interests. It is a waste of time and resources, which ultimately affects efficiency and performance. This behavior might be remedied by changing the incentive structure.

2.3.11 Limitations

I was unable to attend any virtual meetings and make direct observations, thus my understanding of their activities and behaviors comes mainly from the internal documentation, describing their collaborative behavior and satisfaction with the global collaboration setting between 2012 and 2013, and from in-depth interviews. This limitation could be overcome in the future by collecting ethnographic data instead to account for more grounded explanations of distributed team members' collaborative behavior.

2.4 Conclusion

This study set out to explore how distributed team members collaborate in technology-intensive settings under an "always on" corporate culture and why they engage in apparent non-collaborative behavior when working together over distance.

Findings show that it is most common to collaborate via synchronous communication technologies in virtual meetings, leading to meeting overload and multitasking during meetings. A possible explanation is that individuals are driven by their personal career interests, motivating, at least to some extent, their engagement in apparently non-collaborative behavior. They are not being non-collaborative; rather, because they have so many meetings, they have no other time in which to complete their tasks. So, being "non-collaborative" becomes a coping strategy for being collaborative and not miss out on meetings. My study adds to the current understanding of the effectiveness of collaboration in distributed teams by showing that virtual team members suffer by making sacrifices in their personal life to meet all of the requirements of being on a global team and not harming the team's overall collaboration process.

Chapter 3

Perceived Challenges in Global Collaboration

Implicit Theories in Virtual Meetings and their Impact on Collaborative Behavior

Multinational corporations (MNCs) expect members of their distributed teams to engage in effective global collaboration. In this study, we focus on the challenges posed by distributed team members' perceptions toward virtual meetings, which have received surprisingly little attention despite the important negative effects they can have on global collaboration. Using multi-sited ethnography across four sites in a Danish-owned MNC, we explore these perceptions, which we further identify as being guided by implicit theories. We find three implicit theories and illustrate how they affect distributed team members' collaborative behavior in a globally distributed setting.

Keywords: collaborative behavior, perceptions, implicit theories, global collaboration, virtual meetings

3.1 Introduction

Globalization has made multinational corporations (MNCs) increasingly reliant on global virtual teams to facilitate collaboration between dispersed units of the organization (Zander et al., 2012). Such teams consist of an interdependent group of individuals who reside in different time zones, and often different countries, and who rely primarily on communication technology to accomplish a common goal (Horwitz et al., 2006; O’Leary and Cummings, 2007). Virtual teamwork allows experts from different areas to be on the same team wherever they work, thus decreasing travel costs, stress, and time (Orlikowski, 2002).

Even though virtual teams offer significant potential gains, existing research and practical experience have shown that managing such teams in such a way as to produce positive results often proves difficult in a global context, as compared to managing co-located work groups (Connaughton and Shuffler, 2007; Lipnack and Stamps, 1999; Olson and Olson, 2000; Steers et al., 2012). These findings appear in numerous papers that describe the challenges of virtual collaboration. For example, geographical dispersion, technology, time zones, language difficulties, and national and organizational cultures all form potential constraints to effective global virtual collaboration (Cheshin et al., 2011; Gibson and Cohen, 2003; Gilson et al., 2015; Hinds, 2002; Klitmøller and Luring, 2013; Luring and Klitmøller, 2015; Maznevski and Chudoba, 2000). In our view, however, understanding and describing virtual team collaboration cannot rest solely on the acknowledgement of the inherent geographical and technological challenges of global work such as those mentioned above. Researchers of global virtual collaboration have explored one component little so far, a terrain that, as we argue here, has the potential to help us understand how and why this new way of collaborating poses such a challenge. This unexplored terrain consists of implicit theories, defined as core assumptions that form an individual’s reality and foster behavior consistent with these assumptions in a particular domain (Dweck et al., 1995a). Using a theoretical model, (Dweck et al., 1995a) showed how, especially in the face of negative events, individuals’ judgments and actions are influenced by their

implicit theories of intelligence and morality. We argue that such implicit theories are as omnipresent in organizations and virtual teams as they are in everyday life. Hence, on global virtual teams, where traditional ways of collaborating are often no longer valid, virtual working conditions can easily compromise the basic assumptions team members bring to their daily activities and the extent to which they can effectively comply with the requirements of their work (Wong et al., 2007). Implicit theories on global virtual collaboration highlight the importance of individuals' own beliefs in creating their perception of a certain technology or virtual work, similar to the social information processing theory (Fulk, 1993), which argues that individuals are influenced by the attitudes and beliefs of their coworkers to the extent that these attitudes and beliefs can influence the individuals' willingness to adopt a technology (Leonardi and Barley, 2010). In the next section, we present the concept of implicit theories and discuss the existing literature that focuses on implicit theories in organizations and team collaboration.

3.2 Literature Review

3.2.1 Understanding Implicit Theory

To understand team members' approaches with respect to global virtual collaboration, we apply the concept of the implicit theory. This stream of research states that individuals' perceptions of the environment are based on and guided by their own mental constructions of a specific phenomenon (Dweck, 2000; Dweck et al., 1995b; Furnham and Henley, 1988; Sternberg et al., 1981; Yzerbyt et al., 2004). Implicit theories are defined as ontological assumptions that form the individual's reality and give meaning to events in a particular domain. In other words, implicit theories are beliefs that influence people's behavior, thinking, and perceptions in a certain area (Haslam et al., 2004). The proposition is that people's implicit theories, even when unconscious or not clearly articulated, can play a crucial role in social interaction. Implicit theories are also known by different terms, such as "lay theory" or "folk theory" (Dweck et al., 1995a; Levy et al., 2006a). The meaning of implicit theories in organizations, and the subsequent interpretation of

information, has gained increasing acceptance among both organizational theorists (Engle and Lord, 1997; Junker and van Dick, 2014) and social psychologists over the past two decades (Job et al., 2015; Levy et al., 2006b). In other organizational settings, similar research on implicit theory has been undertaken and found to influence behavior. An example is the case of individuals' perceptions of technology adoptions influenced by the beliefs of their colleagues (Fulk et al., 1987), as well as the type of information they receive about that technology, be it negative or positive (Griffith and Northcraft, 1996). Therefore, research has supported the idea that perceptions of technology influence the behavior of individuals as far as adopting or rejecting the technology (Leonardi and Barley, 2010). Another example of how implicit theories influence the behavior of individuals in organizational settings appears in the leadership literature. van Gils et al. (2010) showed that implicit theories influence the ways in which a leader and followers make sense of each other's behavior and decide on their own behavior (Junker and van Dick, 2014). Similarly, we argue that implicit theories influence team members' behavior in global virtual collaboration.

Implicit theories as a research field are situated within an epistemology of a constructive approach that explicitly recognizes the dynamic, co-constructive interactions between individuals and their social context. Implicit theories are comparable to interpretive schemes (Daft and Weick, 1984; Weick, 1995) or mental models (Senge, 1991) within the organizational literature. While implicit theories comprise the assumptions and beliefs people form about the world, mental models tend to be specific and include "knowledge and beliefs that are thought to be of doubtful validity" (Norman, 1983), such as superstitions that tend to engage individuals in cautious behavior. They are also comparable to the concept of technological frames, which comprise the individual's perceptions of technology (Orlikowski, 1992). While technological frames center on the nature of technology, technology strategies, and technologies in use, we apply the concept of implicit theories more broadly to represent perceptions about individuals or situations, the existence and effects of which respondents may be unaware (Dweck, 2000; Dweck et al., 1995b; Yzerbyt et al., 2004).

According to existing research, implicit theories can be broken down into three subgroups (Levy et al., 2006a). As such, an implicit theory is what people perceive to be true about an object, certain characteristics of an object, or certain interrelationships between objects. As an example, the implicit theory "We live in a just world" suggests that individuals are worthy of what they receive and receive what they are worthy of (Lerner, 1970; Montada, 1998). Hence, this specific implicit theory concerns what the object/world is like and simultaneously pertains to "how things work or should work" (Levy et al., 2006a, p. 6). One implication for the example is that people get what they deserve. Implicit theories are individually held and are constructed upon the individual's existence in various contexts, such as work, family, and education.

Existing research shows that implicit theories can differ in their range of application (Kelly, 1955). Some implicit theories are more specific and others broader. As an example, implicit theories such as "White skinheads are racists" can be specific to a domain and to a certain group, while a broader implicit theory such as "We live in a just world" tends to be general and applies across many situations and across time (Lerner, 1970; Montada, 1998). Previous studies have shown that more particular implicit theories tend to have a narrower area of usage, but can still be strong predictors of behaviors within the area of application (Sommers and Norton, 2006).

Implicit theories are generally described as "naïve", suggesting that they are not thoroughly defined. In general, people are not entirely aware of the decisive influence their implicit theories have on their social perspectives and behavior (Furnham and Henley, 1988; Hong et al., 2001); however, that depends on the level of explicitness of the implicit theory, with some being clearer than others. Implicit theories embodied by traditional sayings, such as "What goes around comes around" (Lerner, 1970), tend to be more often voiced. The one factor that could be more or less explicit in these cases is the content of the implicit theory. That is, the person may or may not realize, or even have access to, the existence of this particular implicit theory. Sometimes, people are unaware of the effect of a particular implicit theory. For example, a person able to report the content of

an implicit theory might be unaware of the effects of this theory on his or her behavior. Although implicit theories are theorized to be relatively stable across time, several studies have illustrated how implicit theories' meanings can change with experience (Levy et al., 2006a).

In summary, implicit theories are defined as beliefs about some particular phenomenon. They can relate to an object, the characteristics of an object, or its relationships to other objects. Implicit theories typically vary in range of application, stability, and their ability to predict a certain behavior. They are typically the result of a person's past experience and may influence the way people behave or perform.

3.3 Purpose

The purpose of this study is to identify the types of implicit theories team members have regarding global virtual collaboration and further explore how members of virtual teams behave as a result of these implicit theories. Research on implicit theory has contributed to the understanding of various phenomena in domains such as morality and intelligence (Dweck et al., 1995a); however, it has not yet been applied to global virtual team collaboration. Because the literature discussed above includes no specific theoretical propositions on global virtual collaboration, we take an open and exploratory approach to the study of implicit theories in virtual teams (Hong et al., 2001). In this study, we seek to identify key implicit theories that we believe construct a framework for analyzing and interpreting distributed team members' behavior. We view these theories as an alternative means of constructing realities, each with their own advantages and disadvantages. The purpose of our research is not to evaluate the correctness of these different implicit theories, but to demonstrate that holding these different implicit theories can have potentially important implications for collaboration. Thus, our study uses qualitative methods to explore the implicit theories virtual team members hold and the ways in which these theories produce specific behaviors in global virtual collaboration.

3.4 Method

3.4.1 Multi-Sited Ethnography

This study builds on the approach of multi-sited ethnography. The roots of multi-sited ethnography come from a stream in anthropological studies claiming that research phenomena need to be captured from not only a local point of view but also from a global perspective (Clifford and Marcus, 1986; Luring and Klitmøller, 2015; Taussig, 1993). Multi-sited ethnography is a data collection method that follows a topic through geographically different field sites and meets the conditions necessary for observing and analyzing global interactions that cross several locations and social networks (Falzon, 2012; Marcus, 1995). Multi-sited ethnography differs from classical ethnographic data collection methods, as it tracks a common research topic through several geographically dispersed field locations for shorter periods (Clifford and Marcus, 1986; Marcus, 1995). While traditional ethnography situates a researcher at one field site for a longer period, thereby allowing the researcher to get to know one setting extremely well, the main feature of multi-sited ethnography is the "tracing process" it uses across several locations while illuminating research phenomena that are not easily observable, such as interconnections affecting social interaction across social entities (Hannerz, 2003; Luring and Klitmøller, 2015; Marcus, 1995).

In our study, we aim to advance our understanding of how perceptions of global virtual meetings may affect collaborative behavior among team members in globally dispersed MNC units. The character of these individual perspectives is often challenging to capture, as these perceptions may not be visible at first, and many factors emerge when assessing people's personal perceptions. We sought a more flexible and sensitive method that leads the researcher to identify new and unexplored paths while following the research topic across multiple geographical locations. In line with this, we think that multi-sited ethnography could be beneficial and flexible when exploring the challenges of global virtual meetings. This approach brings us the possibility of capturing the internal

dynamics of virtual meetings while acknowledging the nature of geographical distribution at MNCs.

3.4.2 Sites

The aim of the multi-sited ethnography was to explore global virtual collaboration of employees with a particular focus on their collaborative behaviors during virtual meetings. Our fieldwork included the headquarters (HQ) and three subsidiaries in a Danish MNC. The MNC, here called ScanEngineering, is a leading engineering company that employs 18,000 individuals globally and has 80 subsidiaries spread all over the world. ScanEngineering has increasingly utilized global virtual teams to manage its decentralized and global activities, particularly in the development of new products in the research and development (R&D) department. Employees in the R&D department collaborate through several forms of mediated communication including email, instant messaging, telephone, shared documents, and video conferencing. During our initial field study in the Danish HQ of ScanEngineering, we observed that members of globally distributed teams experienced challenges with respect to virtual meetings. We decided to trace these challenges, and while seeking to identify clear barriers for virtual meetings, we soon realized much more lies behind the observed reality of people's behavior toward virtual meetings. The idea to study implicit theories came only after we had started exploring the collected data. The second site was the American subsidiary. In our interviews here, we noticed an interesting recurring pattern of statements expressing perceptions and beliefs individuals held about participation in virtual meetings. This encouraged us to explore the beliefs, or implicit theories, of global team members about virtual meetings and, equally important, ways these implicit theories influenced their behavior. The third site was the Hungarian subsidiary. Here, while continuing to explore the emerging themes from HQ and the American site, we found that the barriers to participating in virtual meetings related to the employees' experience with virtual technology more than, for example, national culture. The tracing process continued in the Chinese subsidiary, until we obtained validation for the presence of perceptions of global collaboration as barriers when

conducting virtual meetings. The process spanned 10 months, from January 2012 to November 2013. During the process, we recruited researchers and research assistants to support us in data collection and data analysis.

3.4.3 Virtual Meeting Technology

The virtual meeting technologies referred to in this study are the two videoconferencing systems, *Scopia* and *Adobe Connect*. Both systems allow locations to communicate by synchronous two-way video and audio transmissions. In addition to the visual and audio transmission of meeting activities, employees can use the software to share documents. The team members in this study accessed *Scopia* and *Adobe Connect* through either stationary computers or laptops. Virtual meetings occurred in open office landscapes, in meeting rooms, or at home where broadband connections were provided. Team members used *Scopia* and *Adobe Connect* for similar purposes, and the choice of which of the two technologies to use depended on the group's system preferences. All of the individuals included in this study, comprising managers and employees, used both systems to collaborate at a distance; however, as mentioned above, the group majority decided which collaboration tool to adopt for meetings. A more detailed description of the subjects will follow in our Data Collection section.

3.5 Data Collection and Analysis

We conducted participant observation in the R&D department of *ScanEngineering's* Denmark HQ and three sites in the United States, Hungary, and China. Full-time participant observation was conducted at all four locations, for 1 week at three locations and for several months at HQ. The researchers were present at these sites during the entire workday and were typically situated among the informants observing their daily work routines, participating in small talk and team meetings, and joining them for lunch. We applied the overt participant observer role (Adler et al., 1994) as members of the global virtual teams with the informants knowing they were being observed. Overall, during our research project, we interacted with and observed developers, administrative

assistants, project managers, and managers. Our role on the teams was to study the collaborative behavior of the team members. All observations on activities related to research aspects were written down in complete field notes during or at the end of working hours (Czarniawska-Joerges, 2007). We discussed our preliminary findings with the team members in both informal conversations and in formal presentations and workshops at several points during the data collection process.

The interviews followed a semi-structured approach and counted 29 managers and 21 employees in R&D including Danish, German, Chinese, American, and Hungarian individuals. They were conducted either face to face in vacant meeting rooms or as online virtual meetings and were facilitated as a guided dialogue between the researcher and the informant. This technique ensured that we gained answers to the questions outlined in the interview protocol while simultaneously allowing the informant to bring up novel topics related to global virtual collaboration processes (Spradley, 1979). The interviewees were asked open-ended questions to encourage them to describe challenges and suggestions for improving distributed team collaboration. Interview questions included the following: "What challenges do you encounter when working on a virtual team?" and "What conditions are essential to make virtual team work a success?" During the interviews, the informants were asked to identify critical incidents illustrating situations where global virtual collaboration and leadership were particularly challenging or particularly well managed (Flanagan, 1954).

As shown in the "Data sources overview" table, all interviews lasted approximately 1 hour. Notes were taken during the interview or the interview was audio-recorded and transcribed. Each interviewee was assured anonymity.

Data sources	Time
<i>Observations</i>	
Virtual meetings	21 hours
Face-to-face meetings	104 hours
Site visits (China, Hungary, United States)	150 hours
<i>Interviews</i>	
Managers	29 hours
Employees	21 hours

Table 3.1: Data sources overview

In this study, we refer to all informants as team members or employees, but we occasionally point out the managerial role. Table 3.1 offers an overview of our data sources with the corresponding interview time. Following the ethnographic methodology, we started analyzing the data soon after engaging in data collection and continued in this iterative manner until the end.

Our data analysis builds on the elementary strategies of grounded theory (Strauss and Corbin, 1998) and the use of data reduction methods (Miles and Huberman, 1994). Throughout the analysis process, we also discussed the observed data from each site, together with experiences relevant to our research topic and the development of the initial categories, with a group of researchers from our field. We started the data analysis with a simple definition of implicit theory as perceptions influencing individuals' views of the world and governing their behavior in ways that are consistent with their constructed reality (Dweck, 2000). Two researchers independently reviewed each transcript with the definition of implicit theory in mind. At the end of this phase, each researcher had identified five and six initial implicit theories, respectively. However, further analysis showed strong similarities between some of the categories, after which they were then combined, leaving us with a final list of the following three implicit theories:

- (1) "You can't build relationships through virtual meetings"
- (2) "I can be present in more than one place at a time"
- (3) "You can't have in-depth discussions at a virtual meeting".

At this point, each transcript was coded in detail to locate every instance of the three implicit theories. We identified 125 examples of the three implicit theories during this phase. The respondents' statements were cut and pasted into a common document with a reference to the specific page number in the transcriptions to ensure the statements were locally secured and sufficiently contextualized. Our data provided relatively rich examples of how the individuals behaved according to the implicit theories. Little by little, our efforts revealed a trend of how the different implicit theories related to a pattern of specific collaborative behaviors. Inspired by the recommendation to gradually create a system of categories (Strauss and Corbin, 1998), we grouped the specific behaviors related to each implicit theory into more general categories based on their similarities. Hence, related to Implicit Theory (1), two individual behaviors were initially identified and later grouped in one of the behavioral categories. The Results section below describes these categories and offers an explanation of each implicit theory. To ensure the dependability of our data analysis, we documented the relationship between our data collection and our conclusions (Miles and Huberman, 1994). Hence, each text segment was connected with the implicit theory it represented and with the behavior associated with the specific implicit theory (if possible). These schemes helped us identify and locate each text segment, as well as ensuring a systematic and structured approach in our data analysis.

Implicit Theory¹ (frequency)	Description	Related collaborative behavior
IT1: "You just can't develop relationships through virtual meetings" (25)	The belief that relationships cannot be built or nurtured through the use of virtual meetings. Face-to-face interaction is not only preferable for building social relationships, it is the only way.	1.1 Formal
		1.2 Task oriented
IT2: "I can be present in more than one place at a time" (7)	Virtual meetings allow for flexibility and create the perfect escape to engage in other duties, or to think about other projects. Members of virtual teams are often in a situation where they are simultaneously attending a virtual meeting and talking on the messenger, or replying to emails and working on another project, or all of those activities at the same time.	2.1 Zooming out
		2.2 Multitasking
IT3: "You can't have in-depth discussions in a virtual meeting" (13)	Virtual team meetings are seen as a waste of time because one cannot have real discussions, only the presentation of information.	3.1 Cascading Information
		3.2 Limited Discussions

Table 3.2: Results overview

¹ Where the number in the parenthesis following each Implicit Theory (IT) represents their frequency of mention in our data

3.6 Results

The presentation of the results is based around the three implicit theories derived from the analyzed data. We first describe these implicit theories and then identify the corresponding behavior, which individuals in our study described as being a consequence of their perceptions of global virtual collaboration. In Table 3.2, we present a summary of our results. The table shows the frequency of respondents' mentions of each implicit theory, along with a description of their related behavior.

3.6.1 Implicit Theory (1): "You Can't Build Relationships Through Virtual Meetings"

The first implicit theory became apparent when people would tell us that good relationships were crucial in their work because these relationships helped them to perform important functions. According to our data, however, relationships were rarely built or nurtured at virtual meetings. As a Danish manager stated:

You just cant build social relationships through virtual meetings, these meetings are totally impersonal. (Manager, Denmark)

In our interviews, the majority of informants said that, for them, face-to-face interaction was just more preferable for building social relationships. Such interaction was the only way. In the words of one informant:

You'll need to meet face-to-face in order to get to know people and what they stand for. (Manager, Denmark)

You can use the communication media for routine stuff, but for getting to know people it is almost impossible virtually. (Manager, USA)

In line with this, another informant stated:

The world would surely be easier if we sat face-to-face... We don't get to know each other at a distance. In the team we have discussed that we miss

the non-business info about each other, but we don't really meet that much.

(Team Member, Denmark)

According to this team member, meeting face to face seems like the only way to build relationships. Our observations revealed that people seldom took the time to build relationships during meetings in the way that they do during informal discussions. Implicit Theory (1) was the most prevalent viewpoint in our data. As Table 3.2 shows, the challenge of building relationships face to face on a virtual team appeared 25 times in the transcripts. In our data, we found evidence for the collaborative behavior "formal and task-oriented behavior" associated with Implicit Theory (1).

3.6.2 Formal and Task-Oriented Behavior

The majority of our respondents described virtual meetings as being very efficient in terms of task orientation. Hence, collaborative behavior in virtual meetings was often linked to an improved task focus and a corresponding decrease in social interaction. On the one hand, respondents described this as a positive characteristic of virtual meetings, but, on the other, that phenomenon kept people from developing social relationships. Our observations also showed that people were pulled into the task orientation during virtual meetings and that it often seemed as though they were in a hurry to get on with the task. The beginning and the end of the meetings included no or very few short-term informal conversations and comments. We noted that people seemed like they were wavering between continuing with the task and making time for informal talk. When asked about this, one team member described it as awkward to take the time to do the informal round and chat. Another project leader noted:

It is still very formal when we meet virtually, and there are so many ways people back away when we have these conference calls. (Manager, USA)

This primary task-oriented behavior hindered people from developing relational ties through nonverbal cues and informal talk, and, for this reason, respondents described virtual meetings as being less personal.

Although Implicit Theory (1) was the most prevalent among our informants, examples of opponents to this theory were also represented in our study. A manager reported that after some developmental team exercises, team members discovered how virtual meetings, when conducted in the right way, can allow for closeness and relationships to develop. The manager further reported:

Some of them [the team members] also discovered that they could use their virtual colleagues for sparring much more than they do today. It was as if they discovered that their new global department had more resources than they had first thought. (Manager, Denmark)

According to the manager, this example shows the importance of finding new ways to communicate virtually to develop relationships through virtual meetings.

3.6.3 Implicit Theory (2): "I Can Be Present in More Than One Place at a Time"

The second implicit theory presents the assumption that while in a virtual meeting, members of virtual teams think they can be engaged in several activities at the same time. Virtual meetings allow for flexibility while simultaneously creating the opportunity to engage in other duties or projects. This became clear to us when one of the managers stated:

In the end, you kind of don't care at all [during virtual meetings] and you kind of drift away and you are not present anymore. (Manager, Denmark)

Members of virtual teams often attended a virtual meeting while also talking on their in-house messenger, replying to emails, or working on another project. Some were even engaged in all of these activities at the same time. During one of the meetings, we observed one manager pose the following open question to his colleagues:

How can you create more presence in your online interactions? (Manager, Denmark)

His reflection made us aware of the existence of a behavior associated with the implicit theory of being present in more than one place at the same time, identified as "zooming out and multitasking."

3.6.4 Zooming Out and Multitasking

The first type of behavior, zooming out, is characterized by individuals' ability to gradually lose focus of the initial meeting discussion and shift their awareness to another activity. Muting the microphone and turning off the camera are two of the signals reinforcing this behavior. Our observations of the virtual meetings showed us how, even shortly after the start of a meeting, individuals became absent. They would still be present as a name on the conference call, but would participate or interact minimally. Individuals expressed their frustration with this type of behavior during our interviews, as in the statement of one manager:

Sometimes you just observe that people check out and leave the meeting and you are left wondering what they are doing. (Manager, Denmark)

In another case, talking about experiences with virtual meetings, a manager voiced the following reflection regarding his colleagues:

I believe that it is all about the presence. [...] Do your thoughts ever drift away from the topic or the person at the other end? (Manager, Denmark)

The other related behavior we noted as being driven by Implicit Theory (2) is multitasking. Multitasking represents the participants' engagement in several other activities during a meeting that are not related to the meeting. This became apparent to us both during the interviews and the observations. Individuals revealed in their interviews their belief that virtual meetings were sometimes a tempting opportunity for them to get work done on other projects and to answer other inquiries not related to the meeting topic/s.

3.6.5 Implicit Theory (3): "You Can't Have In-Depth Discussions in a Virtual Meeting"

Respondents see virtual team meetings as a waste of time because they are not conducive to real, in-depth discussions. Members of virtual teams believe that managing information shared and making it meaningful for participants is easier during face-to-face interactions. This implicit theory became visible when the virtual team members began complaining that meeting face to face was necessary for in-depth meaningful discussions. One of our interviewees stated:

The best is to walk around, look at what people are doing and start discussing it with them. (Team Member, Denmark)

Using this implicit theory, we identified two corresponding behaviors that are connected to each other: "cascading information and limited discussions."

3.6.6 Cascading Information and Limited Discussions

Individuals are faced with a great deal of information to absorb, with which they find coping difficult. A manager noted:

There is a dilemma of course; on the one hand, they are facing a lot of cascading information all the time, but on the other hand, they are not including or forgetting to include people. (Manager, USA)

Keeping meetings efficient in terms of the information shared becomes difficult. Instead of focusing on the important things, employees end up simply reporting information. Due to the number of individuals attending the meetings, each person has very limited discussion time, as noted by one of our interviewees:

It is very hard to share meaningful information when you have a meeting with thirty participants. (Manager, Denmark)

The participants' willingness to engage in in-depth discussions is also limited by the lack of time and broad discussion topics. Another virtual team member recalled:

We do have some bad experiences where we had three hours of video meetings and five to seven applications to discuss. There is no doubt face-to-face is easier. (Team Member, China)

Because the time frame for everyone to meet is limited by time zone differences, more topics are on meeting agendas than participants have time to discuss. The result is a very limited, informative talk about the topic rather than a more in-depth discussion. We also found managerial support for the assumptions in our interviews. One manager particularly acknowledged that what may be keeping people from successful collaboration are their own implicit theories on global virtual collaboration:

Often distance is just as an excuse not to do anything about it. What I tell my employees is that I don't want to hear this anymore because they have actually proven several times that some of the best collaboration they have been doing is across sites. (Manager, China)

Further, they observed that more could be done if people would stop complaining and start collaborating:

We proved that even complicated stuff can be handled virtually. (Manager, Denmark)

3.7 Discussion

3.7.1 Main Findings

In this study, we attempted to answer two research questions concerned with implicit theories and their effects on the collaborative behavior of members on global virtual teams. The first research question aimed to identify the types of implicit theories team members have regarding global collaboration and our second to explore how global virtual team members behave as a result of their implicit theories. More precisely, we wanted to examine whether team members' implicit theories resulted in specific behavioral patterns

in global virtual collaboration. We will discuss our answers to both research questions below.

The first and most present implicit theory in our data, Implicit Theory (1): "You can't build relationships through virtual meetings", reinforces the importance of the relationships and social interaction facilitated by face-to-face encounters. Prior research stressed the difficulties of communicating virtually because, to a certain extent, technology eliminates social cues, which might result in communication breakdowns (Klitmøller and Luring, 2013; Maznevski and Chudoba, 2000). While recognizing the challenges of mediated communication, other researchers have shown how individuals' understanding of perceived familiarity and relatedness toward others depends not only on the characteristics of the media but also on how the individuals approach the communication (Waterworth and Waterworth, 2001). Thus, the question of establishing relationships and connectedness with others in mediated communication is affected by the beliefs, attention, and behavior of the engaged team members, as well as the specific technical solution. Not only did our study affirm this finding, but also we have demonstrated how implicit theories can increase formal and task-related behavior.

In relation to Implicit Theory (2): "I can be present in more than one place at a time", existing research has illustrated how the individuals' feelings of presence moves from the virtual environment to the actual setting, representing a break in presence that requires a certain level of effort to overcome (Garau et al., 2008). Waterworth and Waterworth (2001) conceptualized presence in terms of attention, stating that due to their reduced cognitive capacity, individuals should aim for equilibrium between the actual world, the virtual world, and their internal world when dividing their attention. Thus, presence is dependent on the allocation of attention, and presence in one world, for instance, the virtual world, requires that the individual be absent from the other worlds (Schultze, 2010). We know from our own study that team members with the implicit theory that one can be present in more than one place at the same time were often zooming out from the actual meeting or doing other things. In alignment with prior studies, this shows that

if people have no motivation to direct their attention to the virtual environment, team members use the time during meetings to work on other tasks (Mark et al., 1999).

Implicit Theory (3), stating that "You can't have in-depth discussions in a virtual meeting", is strongly connected with the previous two and reinforces the formal view of individuals regarding the lack of usefulness of virtual meetings. Again, this implicit theory is related to existing research concerning how complex and ambiguous tasks are often challenged by technological limitations when they take place with mediated communication (Gerybadze, 2004; Maznevski and Chudoba, 2000). Our findings provide nuance, showing that the combination of technological limitations, individual approach, and implicit theories contributes to the success of a discussion during a virtual meeting. As shown in the Results section, the implicit theory can potentially contribute to more limited discussions and one-way communication, which again decreases individuals' engagement in a global virtual collaboration. In contrast, Bystrom et al. (1999) suggested that individuals tend to pay more attention to the virtual setting during a captivating task, thus forming the right conditions for being immersed in in-depth discussions.

As Table 3.2 in the Results section shows, a relatively large difference exists between the number of statements we found in support of our implicit theories. This finding leads us to think that some implicit theories are more inherent than others and that individuals are not necessarily aware they subscribe to them, which is also supported by the literature (Dweck et al., 1995b; Job et al., 2015; Lerner, 1970). According to our study, individuals' implicit theories can have a crucial influence on both their motivation and their behavior with regard to how they approach virtual collaboration. We see a vicious cycle: team members' implicit theories reinforce a behavior that is consistent with their beliefs, which, in the end, reinforces their implicit theories. As one of the managers interviewed stated, distance is often used as an excuse for not succeeding in global virtual collaboration. Even if, several cases occurred where members of globally distributed teams proved they could successfully accomplish complicated tasks virtually.

According to prior research, managing communication in virtual teams is more chal-

lenging than in traditional co-located teams, due to inherent technological limitations and disruptions of conversation patterns, causing misunderstandings and frustrations among team members (Maznevski and Chudoba, 2000; Maznevski et al., 2006). Our findings, however, show that virtual collaboration is challenged not only by these inherent characteristics of computer-mediated communication, but also by the beliefs of team members engaging in virtual collaboration.

3.8 Managerial Relevance

Our study of implicit theories has some practical implications. First, managers and organizations should not diminish the existence and influence of the implicit theories people bring to global virtual collaboration. Implicit theories should be analyzed and discussed, thereby guiding people to challenge their beliefs and experiment with new collaborative behaviors. Hence, to facilitate successful virtual collaboration, one must not only add new, more sophisticated technology and provide technological training, but also challenge the implicit theories people bring to collaborative efforts.

Second, to ensure successful global virtual collaboration, organizations must equip virtual team members with the appropriate technology to support their collaboration. In addition to more advanced technologies, qualitatively better and more creative uses of existing technologies should be developed. Regardless of the advanced level of the technology, team members should continuously experiment with the form and content of their virtual meetings to allow for more closeness and in-depth discussion. Organizations should also plan a careful migration of new communications technology, ensuring that these new tools are working to effectively support successful virtual collaboration.

3.9 Limitations and Future Research

The contributions of this paper are limited by the design of our study. Our design sought to more closely examine 50 distributed team members and managers in one MNC across four sites to explore a new field of research; however, our reliance upon individ-

ual reports and observations from only one organization limits our contribution. The results revealed in our study are perhaps limited due to the specific organizational context. Future research could address this limitation by obtaining objective measures of both implicit theories and related collaborative behaviors across several organizations and professional areas. Our strategies sought commonalities across the experiences of our informants, which also meant sacrificing a closer examination of a few specific teams and their dynamics. Future research could address this limitation by studying complete teams and their internal dynamics in greater depth. Future research could also investigate the conditions under which specific implicit theories occur and ways in which they are influenced by, for instance, organizational context, profession, and private life. Further, we found no differences across team members' locations (e.g., HQ vs. subsidiaries), differences that may have been detected if we were to follow a handful of teams longitudinally for a longer period.

Despite these limitations, the exploration of implicit theories and collaborative behavior offers great potential for making global virtual collaboration more successful in the future. Advocating for implicit theories as a lens for understanding the yet unexplored aspects of global virtual collaboration points to the value of addressing the beliefs that influence individuals' reality and behavior.

3.10 Conclusion

Our study explored implicit theories in global virtual collaboration. Identifying implicit theories addresses an unexplored terrain, which, as we argue here, has potential to help us understand how and why people are challenged by global virtual collaboration. Through interviews and observations gathered from fifty team managers and members, we identified three implicit theories in global virtual collaboration: (1) "You can't build relationships through virtual meetings", (2) "I can be present in more than one place at a time", and (3) "You can't have in-depth discussions at a virtual meeting". We also showed how informants behaved as a result of these implicit theories.

The identification of implicit theories in the organizational setting is unexplored terrain, which, as we argue here, has the potential to help us understand how and why people are challenged by global virtual collaboration.

Chapter 4

Time Is Up, Everyone! Back to Meetings

Globally distributed work has increased in popularity in recent years. Such distributed arrangements allow individuals to be part of several teams, spread across time zones, working closely together using advanced information and communication technologies. However, research shows that such work around the clock, which companies implement to increase team productivity, can also disrupt team members' daily work process, causing frustration and time wasting on their side, with a potentially damaging effect on the overall team productivity. My findings demonstrate that the lack of overlapping work hours during the normal workday and the status of the location and of the team members have serious implications on the daily work-flow of distributed team members as well on their personal lives. I conclude with a discussion of the implications for research and practice.

Keywords: global distribution, collaboration, overlapping hours, time zone, status, work process, work-flow

4.1 Introduction

Effective collaboration among members of globally distributed teams is important for the success of an organization (Zakaria et al., 2004). Recently, several calls have gone out to capture the changing nature of teamwork using global virtual collaboration (Wageman et al., 2012; Gilson et al., 2015). One of the implications of being part of a globally distributed team is that individuals have to adapt to a work-around-the-clock culture or a culture of being "always on" to cope with the associated time and space distribution and be able to work together with remote colleagues in an effective way. This adaptation can sometimes lead individuals to sacrifice their own well-being to keep up with their globally distributed role (Rogelberg et al., 2006). In such situations, when the distribution spans large geographical distances and time zones, the way in which distributed team members organize their work together toward a shared goal becomes crucial both for the performance of the teams to which they belong and for their own well-being (Bakker and Demerouti, 2008; Nurmi, 2011). Therefore, the design of their daily work processes can support or disrupt the success of global collaboration.

What we know so far is that power locations, such as headquarters, and the status of the individuals affect the way people collaborate globally. These types of factors, previously recognized in traditional teams (Burton et al., 2011; Mudambi and Santangelo, 2014), have also been known to influence virtual teams (Hinds et al., 2015). High-status individuals may use their power to obtain better meeting times, or headquarters may be located in such a way that employees there can dominate more remote employees in terms of knowledge sharing (Tang et al., 2011). Even if researchers have previously examined status, and they have found that the power related to geographical location is important, relatively little information is present in the literature about how geographical location and status affect the way distributed team members design their work processes to support effective global collaboration (Gil et al., 2005; Cummings and Haas, 2012; Gilson et al., 2015; Tang et al., 2011).

We know that work-flow design matters, but we still do not know how. Thus, the

research question is as follows: How do geographical distribution and the status of the location and of the individuals influence the design of distributed team members' daily work-flow?

4.2 Literature Review

In "24-hour - work-around-the-clock" companies, individuals may belong to multiple teams at the same time, some of them spanning large time zones (Boudreau et al., 1998; Carmel, 1999; Wageman et al., 2012). Sometimes, when time differences are as large as 8 hours, they pose significant challenges to the organization of the team members' daily work processes and the coordination and knowledge-sharing process (Tang et al., 2011). One dimension of geographical locations is time zones. We could examine many factors when we study geographical locations. Time zones are just one of them. This research will focus on time zone differences as an aspect of geographical distribution, as other studies have found that time zones do matter (Gibson and Cohen, 2003; Tang et al., 2011). One of the aspects of time zone differences is the number of overlapping working hours. This consideration is potentially even more interesting. For example, in Greece or Spain, work is easier with time differences. They have siesta, and then they work until 8:00 p.m. In contrast, the workday ends around 3:30 p.m. in Denmark. So, the overlapping working hours are more extensive in Greece or Spain than in Denmark, if working with China or the United States.

Research findings indicate that team leaders can use their status in selecting meeting times, thus choosing those that fit their personal schedule (Metiu, 2006). The level of control a distributed team member has in designing his or her daily work process is very low. Accordingly, this paper is specifically examining the impact of overlapping working hours, or the lack of thereof, rather than time zone differences. The key concept is not time zone differences, but overlapping working hours; time difference, culture, and work ethics all affect overlapping working hours.

A significant body of literature has explored the relationships between headquarters

and subsidiaries of multinational companies (Cummings and Haas, 2012; Hinds and Bailey, 2003; Levina and Vaast, 2008). The focus in such studies has often been on how teams located at subsidiaries can gain power relative to their relationship with headquarters (Mudambi and Santangelo, 2014). However, little has been said about what globally distributed team members experience in terms of the effect location power has on their work process, when collaborating with team members around the world, from locations with different levels of power, such as global headquarters or European headquarters (Tang et al., 2011). In a study on status and collaboration in globally distributed teams with work distributed between teams in the United States and India, Metiu (2006) found that U.S. team members with higher status, located at the headquarters in the United States, engaged in different activities intended to maintain their high status in front of the Indian team, perceived as the lower-status group, and often intimidating their colleagues from India. However, Metiu (2006) did not look at the effect that such activities of the U.S. team had on the work process of the Indian team and on overall team collaboration. A study complementing this research is that of Tang et al. (2011), who found that distributed team members located at headquarters or team members perceived as having high status by their colleagues had more power for establishing virtual meeting times. However, of Espinosa and Pickering (2006) claimed that the focus should be placed not only on the time zone differences between geographically dispersed team members but also on their work schedules. They also found that the key to effective coordination lies in finding the proper adjustment between team members' collaboration preferences and their task needs. Thus, we know from previous research that power location is important for different aspects of collaboration. These factors are also likely to influence the work processes.

I am investigating how status affects distributed team members' work processes and work-flow. Researchers have conducted few studies on work processes (Pratt et al., 2006), but studies with other focuses may still inform work processes in globally distributed teams (Hinds et al., 2015; Levina and Vaast, 2008; Metiu, 2006; Tang et al., 2011). These studies would seem relevant, as a good work-flow design has an impact on the daily life

of workers outside work as well, thus influencing employees' well-being. Truly happy employees are productive employees (Cropanzano and Wright, 2001; Wright et al., 2002; Fritz et al., 2010). For example, when they studied the work processes of medical doctors, Pratt et al. (2006) learned that the workday design was tailored for other responsibilities than those the job required.

Based on these considerations, the present study will explore how the work process of individuals in globally distributed teams is influenced by the geographical distribution and the status of the location and of the individuals. The setting of the study is a Fortune 100 technology-intensive organization, hereafter referred to as GoldenSun, with a global distribution spanning over 70 countries and a work-around-the-clock culture.

4.3 Methods

The purpose of this study is to extend existing theory (Locke, 2001) on the workflows in globally distributed teams by looking at the impact of overlapping hours and the status of the location and of team members. This study follows an inductive exploratory approach, with a cross-sectional research design (Patton, 1990).

4.3.1 Case Selection

I selected GoldenSun for the present study because it is one of the big players in the high-technology industry, with a tradition of using globally distributed teams and with a well-established 24/7 work culture. It is a special case also because the globally distributed employees of this organization have access to the latest cutting-edge technologies for collaboration. They collaborate daily and rarely face technology issues. At GoldenSun, technologies just work. This is an ideal environment for examining how workflow is designed in globally distributed teams, as technology is no longer an issue here, and the focus can be on how team members collaborate and how their workday looks. Thus, my study is especially relevant because other companies are catching up with the latest advances in technology, and this study explores the collaborative behavior of a cutting-edge organization. Because this is an extreme case study (Eisenhardt, 1989; Pettigrew, 1997;

Pratt et al., 2006) it forms a useful example demonstrating why qualitative inquiry is best suited for my study. Extreme cases are unique in their role of building better theory because the interactions observed in such settings are likely to be easier to notice than in others (Pratt et al., 2006). Following this line of thought, in this study, I explore the design of the workday for globally distributed team members, trying to look for differences between different designs based on the location of the team members, their status, and the time distance between them.

4.3.2 Sample and Context

To be able to create new theory by expanding what currently exists (Locke, 2001), I searched for a setting conducive to an exploration of global collaboration between distributed team members at different locations around the globe in an organization well known for its intense collaborative environment and cutting-edge communication technologies. Therefore, the setting offers a more complete view of their daily work process. In addition, I wanted to find an organization that had a tradition of working around the clock in an intense high-technology environment. In my search, I found that this organization had a distinct history and a particular emphasis on high-quality global collaboration. Finally, I chose to study globally distributed team members' work process within the same organization because by controlling for the organization I had a better chance of noting the differences among the work processes of individuals on the same teams, but at different sites, as opposed to looking at those caused by differences between organizations (Pratt et al., 2006). I used a purposeful sampling strategy to select the case in an initial step (Patton, 1990). The sample covered members of globally distributed teams from eight sites around the world, covering:

- North America - Global headquarters in California (USA), North Carolina (USA): 19 (four managers, 15 team members)
- Europe - London (UK), Reading (UK), Brussels (Belgium), Oslo (Norway), European headquarters in Amsterdam (Netherlands): six (two managers and four team

members)

- Asia - Asian headquarters in Singapore (Singapore): one manager

Most of the participants were from the global headquarters in California (USA), specifically four managers and 11 team members, out of the 19 individuals from North America.

Thus, both the sample and the context were optimal. They created a perfect opportunity for researching how distributed team members incorporate collaboration into their daily work process and how their daily work-flow is designed.

4.3.3 Data Collection

The data collection was exploratory and followed an inductive approach. It included interviews with managers and team members, workplace observations, confidential internal documentation, and freely available documentation from the organization's Web site. The data collection started in the fall of 2012, lasting until end of the summer of 2014.

The primary method of data collection consisted of interviews with members of distributed teams spread across North America, Europe, and Asia, including both managers and team members. I conducted 26 formal interviews and 14 informal interviews. Both the formal and informal interviews lasted from 30 minutes to 2 hours. Out of the 26 formal interviews, four of them lasted 30 minutes, six lasted 45 minutes, fifteen lasted 1 hour, and one lasted 2 hours. I also conducted an additional 14 informal interviews with eight senior managers and six team members. Out of the 14 informal interviews, three lasted 30 minutes, seven lasted 20 minutes, and four lasted 1 hour.

Overall, I conducted formal interviews with seven senior managers, of which two were female, and 19 team members, of which two were female. The gender distribution from the study also happened to be consistent with the distribution of the sexes within the company, even if that was not intended.

I conducted the majority of the interviews via video calls and some in face-to-face encounters. I conducted three interviews using audio only. In the audio interviews, the informants seemed to be paying less attention to the interview than the other interviewees.

Almost all the formal interviews were recorded and then transcribed, with only a couple of exceptions. In those cases, the individuals felt uncomfortable speaking while being recorded, but they still allowed me to take notes during the discussion. The formal interviews took place in face-to-face meetings at the headquarters or in video calls. The informal interviews were very helpful for producing new insights and strengthening the data that had already been collected. The informal interviews took place over lunch breaks, in video calls, and during walks on the campus of a research-intensive university in the San Francisco Bay Area, or at the headquarters of the company.

The semi-structured interviews offered distributed team members the opportunity to share their own thoughts and visions on their work process, such as retrospective explanations, which simple workplace observations or document analysis cannot account for. Although I occasionally modified the interview protocol slightly during the data collection process to account for emerging topics (Spradley, 1979), I kept the questions on topic, related to daily activities and the daily work-flow of the distributed team members. This allowed me to observe the differences in members' work processes from one site to another as well from the perspectives of managers and those of members on the team.

Other data sources consisted of 16 hours of workplace observations. Observations were made of work performed in different buildings in all parts of the headquarters. Extensive field notes were taken during the time at the headquarters whenever possible.

4.3.4 Data Analysis

Data were analyzed using the qualitative methods (Eisenhardt, 1989; Miles and Huberman, 1994), specifically grounded theory (Strauss et al., 1990) and process theory (Langley, 1999), with the main focus on establishing the process of a typical work day for a member of a globally distributed team. The analysis proceeded iteratively, by going through the data collected and the coded structures, and then again through the data collected, and back to the coded categories (Locke, 2001). The analysis tried to stick to the three stages:

- Creating open codes and provisional categories

- Integrating the provisional categories into theoretical categories
- Selective coding where the final story emerged.

For example, in the open coding phase, I began by identifying statements regarding the distributed team members' views on their work day (Locke, 2001; Strauss et al., 1990) and combined similar statements to create the initial categories. Below are examples of open coding pertaining to the provisional category "USA comes online":

Global Headquarters comes online

So then I'm able to also prepare the meetings that I have during the evenings.

And during the evenings, it's those meetings with the California team members. (Team member, European Subsidiary)

... you have the time difference, which is maybe the biggest challenge for us to collaborate effectively, since **my normal working day ends when the California people starts to work. So that's the biggest change for me.** Earlier I – we only had meetings only during normal working hours; but now, since we are part of GoldenSun, we need to attend some meetings during my evening hours. (Team member, European Subsidiary)

If I had more team members in my own time zone, it will certainly be more effective for me, and I could have done more work during my normal work hours, and not spending hours working in the evenings, that will be a big improvement for me. I'm not – since I do have some small kids, so changing my working hours to align with the US doesn't work for me, because I need to take care of my family. (Team member, European Subsidiary)

USA subsidiary comes online

And then later on the day, **so around 2:00 PM my time, then the team members in Florida and Atlanta start to work**, so there is some email communication with them, and maybe one or two meetings. (Team member, European Subsidiary)

So my meeting calls in the morning from 9:00 to 12:00 are usually internal, with my personal team [...] **We have people in Texas, we have people in North Carolina, we have people on the East Coast, some people are from India. They're just calling in at night**, there are times, so it's really interesting too. (Team member, Global Headquarters)

We can already notice from this provisional categorization that other categories are visible, such as the interruption event when a location comes online, the frustration for having meetings late at night, the need for spending time for family, and the change of work time to meeting time. In the axial coding phase, categories were consolidated to move towards theoretical categorization (Locke, 2001; Strauss et al., 1990). To illustrate this, the previous provisional code "USA comes online", together with other provisional codes "Global Headquarters comes online", and "Blocking family time", were captured in the category called "Events". In the last stage, the selective coding tells the story of how the theoretical categories fit together in the same picture. Next, an illustration of the findings follows.

4.4 Discussion and Results

Table 4.1 offers an illustration of the typical workday of a member of a global team capturing the times when different team members come online from different locations and the effects that has on each of their work-flows.

Work Content						
Location	Global HQ (CA, USA)	US Subsidiary (North Carolina)	Europe HQ (Netherlands)	European Subsidiary	Asia HQ (Singapore)	Event
Time of the day*						
Morning	6am	9am	3pm	2pm	10pm	US subsidiary comes online
	7am	10am	4pm	3pm	11pm	
	8am	11am	5pm	4pm	12am	Global HQ comes online
	9am	12pm	6pm	5pm	1am	
	10am	1pm	7pm	6pm	2am	
	11am	2pm	8pm	7pm	3am	
Afternoon	12pm	3pm	9pm	8pm	4am	
	1pm	4pm	10pm	9pm	5am	
	2pm	5pm	11pm	10pm	6am	
	3pm	6pm	12am	11pm	7am	
	4pm	7pm	1am	12am	8am	
Evening	5pm	8pm	2am	1am	9am	Asian HQ comes online
	6pm	9pm	3am	2am	10am	
	7pm	10pm	4am	3am	11am	
	8pm	11pm	5am	4am	12pm	
Night	9pm	12am	6am	5am	1pm	
	10pm	1am	7am	6am	2pm	
	11pm	2am	8am	7am	3pm	
Mid-night	12am	3am	9am	8am	4pm	European HQ comes online
	1am	4am	10am	9am	5pm	
	2am	5am	11am	10am	6pm	
	3am	6am	12pm	11am	7pm	
	4am	7am	1pm	12pm	8pm	
	5am	8am	2pm	1pm	9pm	

Table 4.1: Typical workday of a globally distributed employee

*Pacific Time Zone, coinciding with the Global HQs time zone; grey- standard “9 to 5” working times with time usually spent on “actual work”; green – meetings in the normal working time; red – meetings outside normal working hours.

The moment the global headquarters comes online, most often the work content changes from actual work to time in meetings. Additionally, Table 4.1 shows that compared to the other headquarters, the individuals located at the global headquarters have the most time available for doing actual work and spend less time in meetings outside of normal working times. Illustrative quotes in support of these findings include the following:

One of the graces of being on the East Coast is that my mornings are fairly quiet. (Team member, USA Subsidiary)

I'm curious, is it a little bit true in Europe as well (wondering) that your day gets busy once Silicon Valley comes online the same here? (Manager, Asia Headquarters)

From the illustrative statements, we also notice the East Coast person's joy at having time for actual work in the mornings, until the global headquarters comes online and the time in meetings takes over. We can see the member located at the Asia headquarters almost begging for confirmation that everyone's workday becomes busy with meetings once the global headquarters comes online.

Additionally, we observe that the individual located in Singapore has all non-standard working hours booked in meetings until a little after midnight and normal working hours booked with meetings and actual work. For the person located at the Asia headquarters, being on the same team with people from Europe and the United States leaves no time for life outside of work. We can thus also notice that when only a couple of normal working hours overlap or when none overlap with the normal working hours of the other team members, the non-standard working hours convert into working hours in red lettering. This signals meeting times outside of normal working hours, while the normal working hours remain working hours. This leaves individuals with very little power to design their work-flow, as well as their personal flow, as they need to negotiate time for family away from meetings, even during non-standard working hours. This finding calls attention to

the danger around globally distributed team members' well-being and health, resonating with previous research on the importance of mental health and a balanced lifestyle for globally distributed team members (Fineman et al., 2007; Nurmi, 2011) and answering the call of Gilson et al. (2015). Apparently, individuals also design their everyday activities around the clock to fit the power center's own work schedule. This is consistent with previous literature studying the power location and the status of the individuals at headquarters (Mudambi and Santangelo, 2014), as well as the importance of looking at team members' schedules (Espinosa and Pickering, 2006). It also draws attention to how the status of the location can be relative and influenced by the power of the location. As we can see from the table, the power of the global headquarters to disrupt the work-flow for the team members located both at the Europe and Asia headquarters goes only one way. To some extent, this is similar to the research conducted by (Tang et al., 2011), who found that individuals located at headquarters are perceived as having higher status by their distributed team colleagues and can thus wield higher negotiation power when determining team meeting times. Yet Tang et al. (2011) did not differentiate among different headquarters and the way that hierarchy influences team members' workday. The present study closes that gap.

The power center is usually the headquarters (Burton et al., 2011), but lacking a connection to the headquarters, the power center is usually determined by the location of the team leader, as he or she is perceived to hold a higher status (Levina and Vaast, 2008). However, if a team's leader has a location that differs from the location of the headquarters, and a team member is located at the headquarters, the team's power center may vary. We can see this in Table 4.1. The manager located in Singapore has less control of his work-flow, and even his day outside of the normal working hours, when the global headquarters comes online. Therefore, this study also deepens our current understanding of the impact the status of the individuals has as compared to the status of a power location in designing the work-flow of even a manager.

4.5 Implications for Theory and Practice

This study signals to organizations the importance of the status of a location and of the individuals, as well as of overlapping working hours, for designing a healthy workflow for members of globally distributed teams both during standard and non-standard working hours. This study continues the research conducted by Tang et al. (2011), on the importance of a high status location for boosting negotiating power when establishing meeting times in a globally distributed team. It does so by taking Tang et al. (2011)'s research a step further and looking into the implications for the daily work-flow of the individuals and drawing attention to the little control individuals have even for designing their day outside of normal working hours, with implications for their well-being (Nurmi, 2011). Now we have a better understanding of how overlapping hours (Espinosa and Pickering, 2006) together with the status of the location and of the individuals (Levina and Vaast, 2008; Metiu, 2006; Mudambi and Santangelo, 2014), impacts the design of workdays and non-workdays for members of globally distributed teams.

Therefore, to ensure successful collaboration among global team members, organizations could engage in an internal examination of their daily collaborative behaviors. Such an exploration of internal practices could help to design better teams and increase the work satisfaction of their members. These results suggest that individuals find their work processes disrupted every time headquarters comes online. This can be avoided by establishing a mutually adjusting system for collaboration among team members, as well as reducing such impacts by minimizing the time zone differences among team members working on strategic projects. When designing distributed teams, managers should consider whether having team members with time differences of more than 3 hours on the same team is necessary.

4.6 Limitations

First, the generalizability of the findings to other distributed team settings poses a problem, as the sample used here is relatively small. Second, even if the data gathered span a variety of geographical locations, these data are only relevant for high-technology, knowledge-intensive environments, thus leaving aside the reality of global work for other industry sectors. Future research should expand these findings by following several teams, instead of individual team members. An ethnographic approach should be considered. Finally, this study relies, in part, on the retrospective judgments of informants. Future studies should include direct observations of individuals to identify any differences between what informants say and what they actually do in the practice of their work, eventually also shadowing several members of the globally distributed teams at several sites. Also, a research team, instead of a single researcher, would be of great benefit.

4.7 Conclusion

The findings of the present study show that individuals themselves have little control in designing their daily work processes. Their control over their own workday increases with the power afforded by their perceived status within their team or the perceived status of their location. Individuals have their workday mapped to the time zone of their team leader or of their team colleagues situated at locations perceived as having a higher status than their own. During this time, they are mostly engaged in work meetings. Outside of these time zones, what is left of the 24-hour workday is time spent on activities involving work done outside of meetings, which they often regard as "time for actual work."

Knowing how distributed team members design their work-flow and why they do so can inform organizations about how to design better teams and thus increase their performance and well-being. Designing teams within a small time zone circle, with a time difference of not more than 3 hours, can increase team well-being and ultimately increase performance. Moreover, designing the work-flow to account for individuals' work-life bal-

ance could significantly affect productivity and enhance performance, as previous studies also show. This study extends the theory on distributed work arrangements, contributing to the literature on virtual collaboration. It does so by showing how global distribution affects the work process of members of globally distributed teams, more specifically on the important role that the anchor point, the team leader's physical location, plays in the workday of global teams. This work also draws on the psychology literature, as it has some effect on work enjoyment, employee satisfaction, and health at the workplace. Stress at work is increasing, and this makes employees less productive than they would be if they had at most 3-hour time differences between themselves and other members of their team. In the ideal case, they would have more control over the way in which they organize their activities. Another concluding point is that teams can face serious drawbacks if they have 6-9 hours of time difference because this disrupts the collaboration as well as the work-flow.

These findings hold true for this case study organization, and I only studied a single company. However, since other organizations are catching up with this particular company's level of communications technology, they are likely to face similar issues if they do not proceed with caution.

Chapter 5

Conclusion

5.1 Effective Collaboration in Globally Distributed Teams

This chapter brings together the findings and implications from the three research papers included in this dissertation. It does so by first looking back at the overall research question and the sub-research questions the introductory chapter presents, and then proceeds to answering them based on the results from the three papers. It then offers an overview of the implications for theory and practice and ends with some concluding remarks.

The overall research question this dissertation aimed to explore was as follows:

How do we engage members of globally distributed teams in effective collaboration using advanced meeting tools when they are part of a technology intensive organization characterized by a work-around-the-clock culture?

The three abovementioned papers include sub-research questions.

- **RQ (1):** How do distributed team members collaborate using advanced meeting tools in a technology-intensive environment with a work-around-the-clock culture?
- **RQ (1.1):** Why do distributed team members engage in apparent non-collaborative behavior with their dispersed colleagues?

- **RQ (2):** How do distributed team members' perceptions of virtual work influence their engagement in global collaboration?
- **RQ (3):** How does geographical distribution (i.e., the status of the location and the individuals) influence the design of the distributed team members' daily work-flow?

5.1.1 Answering the Research Questions

The first paper, "Playing the Game on How to Advance in Distributed Teams: Get Noticed, or Die Trying," explored the first two sub-research questions. With respect to the first sub-research question, findings showed that collaboration in globally distributed teams mostly occurred in a synchronous way, via virtual meetings, with the support of the advanced meeting tools available. They also revealed that on a distributed team with a work-around-the-clock culture, one requires a change in lifestyle to fulfill one's job responsibilities from a collaborative perspective. Distributed team members' job roles required them to be present in meetings in as much as much as 70% of their work week. The immediate implication when faced with so many meetings, scheduled one after another, was that distributed team members needed to show flexibility in the way they planned their workday to be able to do "actual work". Therefore, they ended up multitasking, not paying attention to their colleagues, and often working on other tasks during meetings. This type of behavior is not what one could exactly call "collaborative", as team members were no longer actively working together toward a shared goal, but were working apart while being together online.

This leads to the second sub-research question, which attempts to explain why distributed team members engage in this apparent non-collaborative behavior with colleagues. My results show that people appear to engage in seemingly non-collaborative activities in virtual meetings (e.g., working on other projects, eating, playing video games, or watching YouTube videos) not necessarily out of choice or desire. They do so because of the large number of meetings blocking so much time during their work week. They use multitasking as a coping mechanism for the challenge of too much collaboration, while at the same time fulfilling the requirements of their job role (collaboration around the clock)

and their personal career ambitions to the extent of sacrificing their private life. When part of a distributed team, the need to visibly work is translated into meeting attendance, as compared to work in traditional offices, where individuals would signal hard work to their manager by staying late at the office. On a distributed team, the signaling shifts to the virtual setting. Individuals need to be present to receive updates, show their faces, attend to the duties their role entails, and secure a chance of advancing their career.

I found that distributed team members' apparent non-collaborative behavior stems from their engagement in multiple tasks at the same time unrelated the subject of their meetings. I also discovered that one of the reasons for their doing so is to manage the organizational culture of meetings. However, the underlying reason is to turn visibility in virtual settings to their advantage by using it to simultaneously fake participation and network for career advancement. They sacrifice their private life to ensure their visibility for career purposes.

The second paper, "Perceived Challenges in Global Collaboration: Exploring Implicit Theories in Virtual Meetings and Their Impact on Collaborative Behavior," explored the perceptions of distributed team members toward virtual work and ways in which these perceptions influenced collaborative behavior. Together with my co-author, we proposed using implicit theory as a new conceptual lens through which to understand distributed team members' collaborative behavior in virtual meetings. Implicit theories are defined as core assumptions that form an individual's reality and foster behavior that are consistent with these assumptions in a particular domain. We argued that such implicit theories are as omnipresent in organizations and on virtual teams as they are in everyday life. Through interviews and observations we gathered from 50 team managers and members, we identified three implicit theories on global collaboration: "You can't build relationships through virtual meetings", "I can be present in more than one place at a time", and "You can't have in-depth discussions at a virtual meeting". Using multi-sited ethnography, we investigated how certain collaborative behaviors appear to be connected to each of the three implicit theories on global collaboration. Our results demonstrated how the implicit

theories can increase formal and task-related behavior and contribute to an approach leading to more limited discussions, multitasking, and one-way communication, which again impacts the user's engagement in global virtual collaboration. We also noticed a vicious cycle that team members' implicit theories reinforce behavior that is consistent with their beliefs, which, in the end, reinforces their implicit theories.

The third paper, "Time Is Up, Everyone! Back to Meetings", explored the last sub-research question by taking a retrospective process view to understand what a typical workday looks like in the life of distributed team members. In doing so, it outlined how geographical distribution (i.e., the status of the location and the individuals) influences the design of distributed team members' daily workflow. Findings revealed that distributed team members tend to design their everyday activities around the clock to fit the power center's own work process. For example, when global headquarters (HQ) comes online, meetings kick off. The power center of one team can change, depending on the location of the team leader. However, a location power hierarchy usually emerges. The power center is usually HQ, but absent a connection to HQ, the power center is usually given by the team leader's location. However, if a team's leader has a location differing from that of HQ, and another team member is located at HQ, the team's power center can vary. The findings showed that such work around the clock implemented to increase team productivity can also disrupt the daily work process of team members (e.g., through meetings), causing frustration, energy drain, and the wasting of time on their side, with a potentially damaging effect on overall team productivity. Little power is left for them to design their daily workflow, as they are dependent on the time zone of global HQ. The most severe situation is when someone is located at Asia's HQ and must be available for global HQ in California and Europe's HQ. Such team members most often end up working from morning till somewhere close to after midnight, leaving time for nothing but sleep.

5.1.2 Implications for Theory

Recently, several calls have gone out for capturing the changing nature of the teamwork in global virtual collaboration (Wageman et al., 2012; Gilson et al., 2015). With the overall research question, this dissertation attempted to answer this call and further our understanding of how team members collaborate when dispersed around the world using advanced collaborative technologies to communicate.

The first two sub-research questions tried to illuminate the underlying reasons distributed team members have to behave in apparently non-collaborative ways. With meetings being so important to a firm's success (Kauffeld and Lehmann-Willenbrock, 2012; Tang et al., 2011) as well as to the individuals themselves in terms of career advancement opportunities or simply for task completion (Ericksen and Dyer, 2004), the apparent non-collaborative behavior presented during meetings was not properly understood. This is now known to be a coping mechanism for dealing with meeting overload. However, a more in-depth look at how individuals behave, by following them in their natural settings using an ethnographic approach, would be useful here in furthering our understanding of how exactly the race for career blends with the need for getting noticed and can lead to extremes such as die trying.

The second paper attempted to answer to its sub-research question by building on the theoretical model of Dweck et al. (1995a), who showed how, especially in the face of negative events, individuals' judgments and actions are influenced by their implicit theories of intelligence and morality. Specifically, the research question explored how implicit theories on global virtual collaboration bring to the fore the importance of one's own beliefs in creating one's perception of a certain technology or virtual work, showing that such implicit theories are as omnipresent in organizations and virtual teams as they are in everyday life.

Finally, even if status has been previously examined, and it has been hinted that the power related to geographical location is important (Levina and Vaast, 2008; Tang et al., 2011; Mudambi and Santangelo, 2014), relatively little information was available on how

these affect the way distributed team members design their work processes to support effective global collaboration. The third research question explored that gap and brought to light the fact that distributed team members have in fact very little power in designing their workflow or even their own private time.

5.1.3 Implications for Practice

Firstly, organizations should make sure to allow for advancement or establish incentive structures to prevent people from using their time in a meeting for self-serving purposes. Turning meetings from strategic to useful is one solution. The dominant mindset for meeting attendance should be that if the meeting topics do not fit into individuals' work, then they should not be having those meetings because doing so is not in the best interest of either the team members or the firm. This is a waste of team members' time and the firm's resources, potentially leading to an overall drop in team performance.

Secondly, considering implicit beliefs is important when aiming to understand how virtual working conditions compromise the perceptions team members bring into their work and the extent to which they can effectively comply with the requirements of global virtual work. Our findings show how virtual collaboration is challenged not only by the inherent characteristics of computer-mediated communication, but also by the beliefs of team members engaging in virtual collaboration. Thus, a closer look into how people perceive working from a distance using mediated technologies and tackling this issue early on can have important consequences on the long-term functioning of the team.

Lastly, to ensure successful collaboration among global team members, organizations could engage in an internal examination of daily collaboration practices. Such an exploration of internal practices could help design better teams and increase team members' work satisfaction. As it appears from these findings, individuals disrupt their work processes every time the team leader comes online at his or her location and to a larger extent when that location is global HQ. This can be avoided by setting up a mutually adjusting system for collaboration among team members, as well as reducing such impacts by minimizing time zone differences among team members working on strategic projects,

as well as opting for a larger block when times overlap.

5.1.4 Limitations and Future Research

The relatively small sample size used in this study limits the extent to which the findings can be generalized to a wider population of global team members and distributed work settings. In addition, even if the data gathered span a variety of geographical locations, the data are only relevant for high-technology, knowledge-intensive environments, with a work-around-the-clock culture, thus leaving aside the reality of global work for other industry sectors. Future research should expand these findings by following several teams, instead of individual team members. An ethnographic approach should be considered. Future research could address these issues by studying complete teams and their internal dynamics in greater depth. Future research could also investigate the conditions under which specific implicit theories occur and ways they are influenced by, for instance, organizational context, profession, and private life. Further, no differences were found across team members' locations (e.g., HQ vs. subsidiaries), differences that may have been detected if we were to follow a handful of teams longitudinally for a longer period. Finally, this study relies, in part, on the retrospective judgments of informants. Further studies should include direct observations of individuals to identify any differences between what informants say and what they actually do in the practice of their work, eventually also shadowing several members of globally distributed teams at several sites. Also, a research team, instead of a single researcher, would be a great benefit.

5.1.5 Concluding Remarks

The findings show that career advancement plays a key role in explaining apparent non-collaborative behavior. They also indicate that individuals are willing to sacrifice their personal life for career advancement and that individuals' perceptions of virtual work are likely to influence the way they engage in global collaboration. We also learned that individuals themselves have little control in designing their daily work processes. Their control over their own workday increases with the power given by their perceived

status within their team or the perceived status of their location. Individuals have their work day mapped to the time zone of their team leader or of their team colleagues at locations perceived as having a higher status than their own. During this time, they are mostly engaged in work meetings. Outside of these time zones, what is left from the 24h workday is time spent on activities involving work done outside meetings, which they often regard as "time for actual work." Knowing how distributed team members design their work-flow and why they do so can inform organizations on how to design better teams and thus increase their performance and well-being. Designing teams within a small time zone circle, with a time difference of not more than 3 hours, can increase team well-being and ultimately increase performance. Moreover, when designing the work-flow also accounting for individuals' work-life balance can significantly affect productivity and enhance performance, as previous studies also show.

With my three studies, I have contributed to the understanding of why distributed team members engage in apparent non-collaborative behavior, how perceptions of virtual teamwork influence collaborative behavior and impact the virtual collaboration process, and lastly, how the status of the site and of the individual, together with geographical location, shape the daily workflow of distributed team members. All in all, my contributions help illuminate the ways in which we can engage globally distributed team members in effective virtual collaboration.

Appendix A

Interview Guide

Interview Protocol¹

Expected duration: 45 - 60 min.

Sections:

- A) Intro (5 min.): Provide a brief introduction about myself and my project; mention NDA and recording permission; set the stage for the interviewee to feel comfortable with my questions
- B) Workday (5 - 8 min.): Gather a holistic view of the everyday work environment
- C) Team (6 - 9 min.): Examine team distribution, activities and projects in which they are engaged
- D) Knowledge-sharing behavior (6 - 9 min.): Cover the process behind knowledge sharing and communication technology used to share information within teams
- E) Meeting behavior (14 - 17 min.): Gain an understanding of the mechanisms behind meetings and the way people engage in them and how they decide to pay attention and capture the information they perceive as important
- F) Post-meeting behavior (8 - 11 min.): Illuminate the way people choose to act upon the knowledge they receive during the meeting

¹This is the first draft of the interview protocol. As data collection proceeded, the interview guide changed to account for new findings.

A) Intro: 5 min.

B) Workday: 5 - 8 min.

The purpose is to develop a sense of what they are doing in their everyday work lives. I will begin with general questions to encourage them to talk openly about what they do at work.

B.1. I know there is no typical day, but what do you normally do during a workday?

What does your day look like from the time to you get to the office until you leave for the day?

During the "workday description" I direct the conversation to gain a feeling for the following:

- Type of knowledge needed during the day
- Organizational culture and work environment
- Type of people with whom they interact during the day (e.g., engineers) and the frequency of those interactions
- Tools and mechanisms used in the knowledge-sharing process.

C) Team: 6 - 9 min.

Instead of assuming that I know what a team is, I start by asking the interviewee to clarify the concept for me. The objective is to encourage them to freely discuss their team. I build on the responses I received from the previous description of their workdays.

C.1. So, you are part of a team? Or maybe part of multiple teams?

C.2. How is your team distributed? Where is everyone located?

C.3. What does a team look like at GoldenSun (e.g., number of team members, their background, cultural mix)?

C.4. How do you define a team? How do you get along with the other team members?

C.5. In what types of activities are you engaged that involve teamwork?

C.6. On what type of projects are you usually working? What are you working on now?

C.7. How long does a project usually last?

C.8. Do you find it easy to meet milestones? Do you see any difficulties in the process?

Can you think of some examples for me?

I will direct the questions to gain an overview of the following:

- Team composition
- Team activities
- Type of projects on which they are working
- How they collaborate with their colleagues
- The way in which team distribution and composition influence the effectiveness of their daily work.

D) Knowledge sharing behavior: 6 - 9 min.

This step involves slowly getting into their experiences with using communication technologies to share knowledge inside their distributed team.

D.1. How do you share knowledge with your colleagues when you work on projects together? What type of technology do you use? Do you meet in person?

D.2. Do you approach people the same way regardless of their location?

D.3. How about when talking to people whose native language is not English? Do you notice any differences?

D.4. What kind of technologies do you think are best for sharing the type of knowledge with which you usually work? Which ones do you prefer and why?

D.5. Are there specific roles inside the team? Either formal or informal?

D.6. How important are those roles? Do they influence, for example, how people are called in for a meeting?

E) Meeting behavior: 14 - 17 min.

Building on the data from the pilot study, I try to examine the way they share knowledge during a meeting and how they ensure they capture it. I also try to gain an understanding of what really occurs in a meeting and how useful it is for their project.

E.1. But what is a meeting after all? That is, when talking on the phone or chatting on an instant messenger, would you say you are part of a meeting? What do you consider a meeting?

E.2. What does it actually mean to be in a meeting? What is the difference between a meeting and just talking to someone?

E.3. Can you think of an example of a usual meeting and describe to me what occurs during the meeting? I will direct the description of the meeting process to understand the mechanisms behind meetings and clarify the following:

- What triggers them to schedule and attend meetings
- Types of places where meetings are usually held
- Types of technologies used during the meeting and the reasons for using them
- Types of people attending the meeting
- Types of questions asked during a meeting
- Importance of meetings in their daily work
- Sense of productivity during the meeting.

Now that I have a pretty good understanding of how it feels to be in a meeting, I will try to gain a sense of how attention is allocated during meetings.

E.4. I have been in plenty of meetings and I know it is challenging to maintain a high attention level. What do you think? Is it easy to stay focused during a meeting?

E.4. How do you keep track of what is going on in a meeting?

E.4. What mechanisms do you use, if any, to capture information during meetings?

F) Post-meeting behavior: 8 - 11 min.

Understanding the mechanisms behind a meeting is as important as uncovering what occurs with the knowledge shared during the meeting after the meeting ends and how people integrate it into their projects.

F.1. What kind of information do you remember immediately after a meeting?

F.2. How do you keep track of what was shared in a meeting?

F.3. How do you use the people and knowledge gained from a meeting?

F.4. Do you follow up with the people with which you met? Can you think of a time you followed up and describe it to me (why, when, how often)?

F.5. How do you integrate the knowledge gained from a meeting into your project?

F.6. How important is attending meetings to the success of your project?

F.7. Do you sometimes forget information important to the project after a meeting?
What do you do when you realize it?

F.8. How do you generally feel about attending meetings?

The end goal is to cover all topics by providing as useful information as possible. To the interviewee, the interview should look like an open-ended conversation about his/her work.

Appendix B

English Summary

In today's globalized world it is highly important for organizations to master the art of effective global collaboration. Thus, this research sought to gain insight into how distributed team members work together towards a shared goal using advanced collaborative technologies and how organizations can engage their employees in more effective global virtual collaboration.

This dissertation is composed of three articles, all of which tackle aspects of collaboration in globally distributed teams. The dissertation generally seeks to offer an in-depth view of collaborative behavior from a setting in which work around the clock is a long-term tradition, and where the latest cutting-edge communication technologies are available on a daily basis and are nearly free of technical problems. This setting is particularly relevant, as important lessons can be learned by examining how collaboration works over distance when there are few, if any, technical barriers to successful collaboration. The unit of analysis was the individual. All participants were part of globally distributed teams. They all had one core team and were members of two to five other teams. They were all working on projects requiring strategic input and specialized expertise and were part of the same team for a period between six months and five years. However, the most common team memberships were for one to two years, after which they joined a new team. Though unlikely, the same team colleagues can be on multiple teams together. The data was collected at two large Fortune 500 companies, one with headquarters in

Denmark and the other in California, USA.

The first article explores how distributed team members collaborate and why they seem to engage in ostensibly non-collaborative behavior during their synchronous collaboration time with their dispersed colleagues. My findings show that individuals multitask and work on other projects, eat, or exercise during virtual meetings. These behaviors do not reflect non-collaborative tendencies; rather, they serve as coping mechanisms to handle the overload of work and the stress of meeting the expectations of a company with an "always-on" culture. My findings also show that another key player in explaining their apparently non-collaborative behavior is career advancement, for which individuals also seem willing to endure extreme sacrifices in their personal lives. The implications for effective global collaboration are discussed with respect to the design of distributed teams.

The second article uses implicit theory as a new conceptual lens through which to understand distributed team members' collaborative behavior in virtual meetings. Using multi-sited ethnography, we identify three implicit theories on global collaboration: "You can't build relationships through virtual meetings", "I can be present in more than one place at a time" and "You can't have in-depth discussions in a virtual meeting". We then explore how these implicit theories relate to specific collaborative behaviors and observe a cycle that has team members' implicit beliefs reinforcing their behaviors and vice versa.

The last article explores how the status of the location and the individuals, together with geographical distribution and overlapping work hours, impact the daily work-flow of distributed team members. My findings show that their work-flow is often disrupted when the global headquarters comes online, often impacting their personal lives as well. This study highlights the importance of overlapping work hours when designing distributed teams on overall team productivity and employee well-being.

Appendix C

Dansk Resume

I dagens globaliserede verden er det af største betydning for organisationer at beherske effektiv global kollaboration. Denne forskning søger at opnå indsigt i, hvordan distribuerede team-medlemmer arbejder sammen mod et fælles mål ved at bruge avancerede kollaborative teknologier, og hvordan virksomhedsorganisationer kan få deres ansatte til at indgå i mere effektive globale kollaborationer.

Denne afhandling består af tre artikler, som alle afdækker aspekter af kollaborationer i globalt distribuerede teams. Afhandlingen søger overordnet at give et dybdegående billede af kollaborativ adfærd med det udgangspunkt, at det, at arbejde døgnet rundt, længe har været en tradition, og hvor de seneste cutting-edge kommunikationsteknologier er tilgængelige på daglig basis og uden væsentlige tekniske problemer. Dette er især relevant, da der kan opnås vigtig viden ved at undersøge, hvordan kollaborationer fungerer over afstand, når der er få, hvis overhovedet nogen, tekniske forhindringer. Målet for analysen var individet. Alle deltagere indgik i globaliserede, distribuerede teams. De indgik hver i et core-team og to til fem andre teams. De arbejdede alle på projekter, der krævede strategiske inputs og specialiseret ekspertise og var del af det samme team i perioder fra seks måneder til fem år. Dog var det mest normale at være del af et team i et til to år, hvorefter de indgik i et nyt team. Omend usandsynligt var det muligt, at de samme team-kolleger kunne være i flere teams sammen. Dataene kommer fra to store Fortune 500 selskaber; et med hovedkvarter i Danmark og det andet med hovedkvarter i

Californien, USA.

Den første artikel behandler, hvordan distribuerede team-medlemmer samarbejder, og hvorfor de synes at engagere sig i tilsyneladende ikke-samarbejdende adfærd under deres kollaborative møder. Mine resultater viser, at disse individer multitasker og arbejder på andre projekter, spiser eller dyrker motion under disse virtuelle møder. Denne adfærd afspejler ikke ikke-kollaborative tendenser, de tjener snarere som en mekanisme til at håndtere for høje arbejdsbyrder samt stress over at skulle imødekomme forventningerne i et firma med "always on" kultur. Mine resultater viser også, at en anden væsentlig årsag, til den tilsyneladende ikke-kollaborative adfærd, er forfremmelsesmuligheder, for hvilke ekstreme ofre i privatlivet er acceptable. Implikationerne for effektive globale kollaborationer diskuteres i forhold til designet af de distribuerede teams.

Den anden artikel bruger implicit teori som en ny konceptuel betragtning, med hvilken distribuerede team-medlemmers kollaborative adfærd under virtuelle møder kan forstås. Ved hjælp af multi-sited etnografi, identificerer vi tre implicite teorier om global kollaboration: "Man kan ikke opbygge relationer gennem virtuelle møder," "Jeg kan være til stede mere end et sted ad gangen" og "Man kan ikke have dybdegående diskussioner i et virtuelt møde". Vi undersøger efterfølgende, hvordan disse implicite teorier relaterer til specifikke kollaborative adfærdsmønstre og observerer en cyklus, hvor team-medlemmers holdninger forstærker deres adfærd og omvendt.

Den sidste artikel behandler, hvordan placering af individerne, sammen med geografisk fordeling og overlappende arbejdstider, har indflydelse på det daglige workflow hos distribuerede team-medlemmer. Mine resultater viser, at deres workflow ofte afbrydes, når det globale hovedkvarter kommer online, hvilket også har indflydelse på deres privatliv. Denne undersøgelse understreger vigtigheden af overlappende arbejdstider, ved sammensætning af et distribueret team, for at højne teamets produktivitet og medarbejdernes trivsel.

References

- Adler, Patricia A; Adler, Peter, and others, . Observational techniques. *Handbook of qualitative research*, 1:377–392, 1994.
- Adler, Rachel F and Benbunan-Fich, Raquel. Juggling on a high wire: Multitasking effects on performance. *International Journal of Human-Computer Studies*, 70(2):156–168, 2012.
- Akerlof, George. The economics of caste and of the rat race and other woeful tales. *The Quarterly Journal of Economics*, pages 599–617, 1976.
- Allen, Thomas J. Managing the flow of technology: Technology transfer and the dissemination of technological information within the research and development organization. *Boston, Mass.: Massachusetts Institute of Technology*, 1977.
- Armstrong, David J and Cole, Paul. Managing distances and differences in geographically distributed work groups. *Distributed work*, pages 167–186, 2002.
- Bakker, Arnold B and Demerouti, Evangelia. Towards a model of work engagement. *Career development international*, 13(3):209–223, 2008.
- Bardsley, Peter and Sherstyuk, Katerina. Rat races and glass ceilings. *Topics in Theoretical Economics*, 6(1):1–35, 2006.
- Benbunan-Fich, Raquel and Truman, Gregory E. Technical opinion multitasking with laptops during meetings. *Communications of the ACM*, 52(2):139–141, 2009.

- Birnholtz, Jeremy; Dixon, Graham, and Hancock, Jeffrey. Distance, ambiguity and appropriation: Structures affording impression management in a collocated organization. *Computers in Human Behavior*, 28(3):1028–1035, 2012.
- Bolino, Mark C. Citizenship and impression management: Good soldiers or good actors? *Academy of Management Review*, 24(1):82–98, 1999.
- Bolino, Mark C; Kacmar, K Michele; Turnley, William H, and Gilstrap, J Bruce. A multi-level review of impression management motives and behaviors. *Journal of Management*, 34(6):1080–1109, 2008.
- Bosch-Sijtsema, Petra M; Fruchter, Renate; Vartiainen, Matti, and Ruohomäki, Virpi. A framework to analyze knowledge work in distributed teams. *Group & Organization Management*, page 1059601111403625, 2011.
- Boudreau, Marie-Claude; Loch, Karen D; Robey, Daniel, and Straud, Detmar. Going global: Using information technology to advance the competitiveness of the virtual transnational organization. *The Academy of Management Executive*, 12(4):120–128, 1998.
- Bresciani, Sabrina and Eppler, Martin J. The benefits of synchronous collaborative information visualization: Evidence from an experimental evaluation. *Visualization and Computer Graphics, IEEE Transactions on*, 15(6):1073–1080, 2009.
- Burton, Richard M; Obel, Børge, and DeSanctis, Gerardine. *Organizational design: A step-by-step approach*. Cambridge University Press, 2011.
- Carmel, Erran. *Global software teams: collaborating across borders and time zones*. Prentice Hall PTR, 1999.
- Charmaz, Kathy. Constructing grounded theory: A practical guide through qualitative research. *Sage Publications Ltd, London*, 2006.

- Cheshin, Arik; Rafaeli, Anat, and Bos, Nathan. Anger and happiness in virtual teams: Emotional influences of text and behavior on others affect in the absence of non-verbal cues. *Organizational Behavior and Human Decision Processes*, 116(1):2–16, 2011.
- Chudoba, Katherine M; Wynn, Eleanor; Lu, Mei, and Watson-Manheim, Mary B. How virtual are we? measuring virtuality and understanding its impact in a global organization. *Information systems journal*, 15(4):279–306, 2005.
- Clifford, James and Marcus, George E. *Writing culture: the poetics and politics of ethnography: a School of American Research advanced seminar*. Univ of California Press, 1986.
- Connaughton, Stacey L and Shuffler, Marissa. Multinational and multicultural distributed teams a review and future agenda. *Small group research*, 38(3):387–412, 2007.
- Cramton, Catherine Durnell. The mutual knowledge problem and its consequences for dispersed collaboration. *Organization science*, 12(3):346–371, 2001.
- Cramton, Catherine Durnell. Attribution in distributed work groups. *Distributed work*, pages 191–212, 2002.
- Cramton, Catherine Durnell and Hinds, Pamela J. Subgroup dynamics in internationally distributed teams: Ethnocentrism or cross-national learning? *Research in organizational behavior*, 26:231–263, 2004.
- Cropanzano, Russell and Wright, Thomas A. When a” happy” worker is really a” productive” worker: A review and further refinement of the happy-productive worker thesis. *Consulting Psychology Journal: Practice and Research*, 53(3):182, 2001.
- Cummings, Jonathon N and Haas, Martine R. So many teams, so little time: Time allocation matters in geographically dispersed teams. *Journal of Organizational Behavior*, 33(3):316–341, 2012.

- Cummings, Jonathon N and Kiesler, Sara. Who collaborates successfully?: prior experience reduces collaboration barriers in distributed interdisciplinary research. In *Proceedings of the 2008 ACM conference on Computer supported cooperative work*, pages 437–446. ACM, 2008.
- Czarniawska-Joerges, Barbara. *Shadowing: and other techniques for doing fieldwork in modern societies*. Copenhagen Business School Press DK, 2007.
- Daft, Richard L and Weick, Karl E. Toward a model of organizations as interpretation systems. *Academy of management review*, 9(2):284–295, 1984.
- Dweck, Carol S. *Self-theories: Their role in motivation, personality, and development*. Psychology Press, 2000.
- Dweck, Carol S; Chiu, Chi-yue, and Hong, Ying-yi. Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological inquiry*, 6(4): 267–285, 1995a.
- Dweck, Carol S; Chiu, Chi-yue, and Hong, Ying-yi. Implicit theories: Elaboration and extension of the model. *Psychological Inquiry*, 6(4):322–333, 1995b.
- Eisenhardt, Kathleen M. Building theories from case study research. *Academy of management review*, 14(4):532–550, 1989.
- Engle, Elaine M and Lord, Robert G. Implicit theories, self-schemas, and leader-member exchange. *Academy of Management Journal*, 40(4):988–1010, 1997.
- Erickson, Jeff and Dyer, Lee. Right from the start: Exploring the effects of early team events on subsequent project team development and performance. *Administrative Science Quarterly*, 49(3):438–471, 2004.
- Espinosa, J Alberto and Pickering, Cynthia. The effect of time separation on coordination processes and outcomes: A case study. In *System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference on*, volume 1, pages 25b–25b. IEEE, 2006.

- Falzon, Mark-Anthony. *Multi-sited ethnography: theory, praxis and locality in contemporary research*. Ashgate Publishing, Ltd., 2012.
- Feldman, Daniel C and Klich, Nancy R. Impression management and career strategies. *Applied impression management: How image-making affects managerial decisions*, pages 67–80, 1991.
- Feldman, Martha S and Orlikowski, Wanda J. Theorizing practice and practicing theory. *Organization Science*, 22(5):1240–1253, 2011.
- Fineman, Stephen; Maitlis, Sally, and Panteli, Niki. Themed articles: Virtuality and emotion: Introduction. *Human Relations*, 60(4):555–560, 2007.
- Finholt, Thomas A; Sproull, Lee, and Kiesler, Sara. Outsiders on the inside: Sharing know-how across space and time. *Distributed work*, pages 357–380, 2002.
- Flanagan, John C. The critical incident technique. *Psychological bulletin*, 51(4):327, 1954.
- Fournier, Marc A and Moskowitz, Debbie S. The mitigation of interpersonal behavior. *Journal of personality and social psychology*, 79(5):827, 2000.
- Frederiksen, Anders; Kato, Takao, and Smith, Nina. Working hours and the gender gap in top management appointment: Evidence from linked employer-employee data. *Working Paper*, 2014.
- Fritz, Charlotte; Yankelevich, Maya; Zarubin, Anna, and Barger, Patricia. Happy, healthy, and productive: the role of detachment from work during nonwork time. *Journal of Applied Psychology*, 95(5):977, 2010.
- Fulk, Janet. Social construction of communication technology. *Academy of Management journal*, 36(5):921–950, 1993.

- Fulk, Janet; Steinfield, Charles W; Schmitz, Joseph, and Power, J Gerard. A social information processing model of media use in organizations. *Communication research*, 14(5):529–552, 1987.
- Furnham, Adrian and Henley, Susan. Lay beliefs about overcoming psychological problems. *Journal of Social and Clinical Psychology*, 6(3-4):423–438, 1988.
- Gibson, Cristina B and Cohen, Susan G. *Virtual teams that work: Creating conditions for virtual team effectiveness*. John Wiley & Sons, 2003.
- Gibson, Cristina B and Gibbs, Jennifer L. Unpacking the concept of virtuality: The effects of geographic dispersion, electronic dependence, dynamic structure, and national diversity on team innovation. *Administrative Science Quarterly*, 51(3):451–495, 2006.
- Gil, Francisco; Alcover, Carlos-María; Peiró, José-María; Caballer, Amparo; Gracia, Francisco, and Peiró, José-María. Affective responses to work process and outcomes in virtual teams: Effects of communication media and time pressure. *Journal of Managerial Psychology*, 20(3/4):245–260, 2005.
- Gilson, Lucy L; Maynard, M Travis; Young, Nicole C Jones; Vartiainen, Matti, and Hakonen, Marko. Virtual teams research 10 years, 10 themes, and 10 opportunities. *Journal of Management*, 41(5):1313–1337, 2015.
- Goffman, Erving and others, . The presentation of self in everyday life. 1959.
- González, Victor M and Mark, Gloria. Constant, constant, multi-tasking craziness: managing multiple working spheres. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, pages 113–120. ACM, 2004.
- Green, Walter A and Lazarus, Harold. Are today’s executives meeting with success? *Journal of management development*, 10(1):14–25, 1991.
- Griffith, Terri L and Northcraft, Gregory B. Cognitive elements in the implementation of new technology: can less information provide more benefits? *Mis Quarterly*, pages 99–110, 1996.

- Griffith, Terri L; Sawyer, John E, and Neale, Margaret A. Virtualness and knowledge in teams: Managing the love triangle of organizations, individuals, and information technology. *MIS quarterly*, pages 265–287, 2003.
- Gumienny, Raja; Gericke, Lutz; Wenzel, Matthias, and Meinel, Christoph. Supporting creative collaboration in globally distributed companies. In *Proceedings of the 2013 conference on Computer supported cooperative work*, pages 995–1007. ACM, 2013.
- Hackman, J Richard. *Leading teams: Setting the stage for great performances*. Harvard Business Press, 2002.
- Hackman, J Richard and Oldham, Greg R. Motivation through the design of work: Test of a theory. *Organizational behavior and human performance*, 16(2):250–279, 1976.
- Hannerz, Ulf. Being there... and there... and there! reflections on multi-site ethnography. *Ethnography*, 4(2):201–216, 2003.
- Hansen, Morten. *Collaboration: How leaders avoid the traps, build common ground, and reap big results*. Harvard Business Press, 2013.
- Haslam, Nick; Rothschild, Louis, and Ernst, Donald. Essentialism and entitativity: Structures of beliefs about the ontology of social categories. 2004.
- Hendriks, Paul. Why share knowledge? the influence of ict on the motivation for knowledge sharing. *Knowledge and process management*, 6(2):91–100, 1999.
- Hertel, Guido; Geister, Susanne, and Konradt, Udo. Managing virtual teams: A review of current empirical research. *Human Resource Management Review*, 15(1):69–95, 2005.
- Hinds, Pamela. *Distributed work*. MIT Press, 2002.
- Hinds, Pamela and McGrath, Cathleen. Structures that work: social structure, work structure and coordination ease in geographically distributed teams. In *Proceedings of the 2006 20th anniversary conference on Computer supported cooperative work*, pages 343–352. ACM, 2006.

- Hinds, Pamela; Liu, Lei, and Lyon, Joachim. Putting the global in global work: An intercultural lens on the practice of cross-national collaboration. *The Academy of Management Annals*, 5(1):135–188, 2011.
- Hinds, Pamela; Retelny, Daniela, and Cramton, Catherine. In the flow, being heard, and having opportunities: Sources of power and power dynamics in global teams. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing*, pages 864–875. ACM, 2015.
- Hinds, Pamela J and Bailey, Diane E. Out of sight, out of sync: Understanding conflict in distributed teams. *Organization science*, 14(6):615–632, 2003.
- Hinds, Pamela J and Cramton, Catherine Durnell. Situated coworker familiarity: How site visits transform relationships among distributed workers. *Organization Science*, 25(3):794–814, 2013.
- Hinds, Pamela J and Pfeffer, Jeffrey. Why organizations dont know what they know: Cognitive and motivational factors affecting the transfer of expertise. *Sharing expertise: Beyond knowledge management*, pages 3–26, 2003.
- Hong, Ying-yi; Levy, Sheri R, and Chiu, Chi-yue. The contribution of the lay theories approach to the study of groups. *Personality and Social Psychology Review*, 5(2): 98–106, 2001.
- Horwitz, Frank M; Bravington, Desmond, and Silvis, Ulrik. The promise of virtual teams: identifying key factors in effectiveness and failure. *Journal of European Industrial Training*, 30(6):472–494, 2006.
- Huselton, Jill. Top 10 things people do while on a conference call, 1999. URL <http://www.intercall.com/blog/mobile-conferencing/top-10-things-people-do-on-conference-call>.
- Iacono, C Suzanne and Weisband, Suzanne. Developing trust in virtual teams. In *Sys-*

- tem Sciences, 1997, Proceedings of the Thirtieth Hawaii International Conference on*, volume 2, pages 412–420. IEEE, 1997.
- Ilgén, Daniel R; Hollenbeck, John R; Johnson, Michael, and Jundt, Dustin. Teams in organizations: From input-process-output models to imoi models. *Annu. Rev. Psychol.*, 56:517–543, 2005.
- Jarvenpaa, Sirkka L and Leidner, Dorothy E. Communication and trust in global virtual teams. *Journal of Computer-Mediated Communication*, 3(4):0–0, 1998.
- Jarvenpaa, Sirkka L and Majchrzak, Ann. Knowledge collaboration among professionals protecting national security: Role of transactive memories in ego-centered knowledge networks. *Organization Science*, 19(2):260–276, 2008.
- Jarvenpaa, Sirkka L; Shaw, Thomas R, and Staples, D Sandy. Toward contextualized theories of trust: The role of trust in global virtual teams. *Information systems research*, 15(3):250–267, 2004.
- Job, Veronika; Walton, Gregory M; Bernecker, Katharina, and Dweck, Carol S. Implicit theories about willpower predict self-regulation and grades in everyday life. *Journal of personality and social psychology*, 108(4):637, 2015.
- Jones, Edward E and Pittman, Thane S. Toward a general theory of strategic self-presentation. *Psychological perspectives on the self*, 1:231–262, 1982.
- Junker, Nina Mareen and van Dick, Rolf. Implicit theories in organizational settings: A systematic review and research agenda of implicit leadership and followership theories. *The Leadership Quarterly*, 25(6):1154–1173, 2014.
- Karis, Demetrios; Wildman, Daniel, and Mané, Amir. Improving remote collaboration with video conferencing and video portals. *Human-Computer Interaction*, (just-accepted):1–98, 2014.

- Kato, Takao; Kawaguchi, Daiji, and Owan, Hideo. Dynamics of the gender gap in the workplace: An econometric case study of a large Japanese firm. *Research Institute of Economy, Trade and Industry Discussion Paper*, 2013.
- Katz, Adi and Te'eni, Dov. The contingent impact of contextualization on computer-mediated collaboration. *Organization Science*, 18(2):261–279, 2007.
- Kauffeld, Simone and Lehmann-Willenbrock, Nale. Meetings matter effects of team meetings on team and organizational success. *Small Group Research*, 43(2):130–158, 2012.
- Kelly, E Lowell. Consistency of the adult personality. *American Psychologist*, 10(11):659, 1955.
- Kirkman, Bradley L and Mathieu, John E. The dimensions and antecedents of team virtuality. *Journal of management*, 31(5):700–718, 2005.
- Kirkman, Bradley L; Rosen, Benson; Tesluk, Paul E, and Gibson, Cristina B. The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *Academy of Management Journal*, 47(2):175–192, 2004.
- Klitmøller, Anders and Lauring, Jakob. When global virtual teams share knowledge: Media richness, cultural difference and language commonality. *Journal of World Business*, 48(3):398–406, 2013.
- Koehne, Benjamin; Shih, Patrick C, and Olson, Judith S. Remote and alone: coping with being the remote member on the team. In *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work*, pages 1257–1266. ACM, 2012.
- Kraut, Robert E; Fish, Robert S; Root, Robert W, and Chalfonte, Barbara L. Informal communication in organizations: Form, function, and technology. In *Human reactions to technology: Claremont symposium on applied social psychology*, pages 145–199. Cite-seer, 1990.

- Landers, Renee M; Rebitzer, James B, and Taylor, Lowell J. Rat race redux: Adverse selection in the determination of work hours in law firms. *The American Economic Review*, pages 329–348, 1996.
- Langley, Ann. Strategies for theorizing from process data. *Academy of Management review*, 24(4):691–710, 1999.
- Larsen, Kai RT and McInerney, Claire R. Preparing to work in the virtual organization. *Information & Management*, 39(6):445–456, 2002.
- Lauring, Jakob and Klitmøller, Anders. Corporate language-based communication avoidance in mncs: A multi-sited ethnography approach. *Journal of World Business*, 50(1): 46–55, 2015.
- Leonardi, Paul M and Barley, Stephen R. Whats under construction here? social action, materiality, and power in constructivist studies of technology and organizing. *The Academy of Management Annals*, 4(1):1–51, 2010.
- Leonardi, Paul M; Treem, Jeffrey W, and Jackson, Michele H. The connectivity paradox: Using technology to both decrease and increase perceptions of distance in distributed work arrangements. *Journal of Applied Communication Research*, 38(1):85–105, 2010.
- Lerner, MJ. The desire for justice and reactions to victims. in: macaulay & L. berkowitz (eds.), *altruism and helping behavior*, 1970.
- Levina, Natalia and Vaast, Emmanuelle. Innovating or doing as told? status differences and overlapping boundaries in offshore collaboration. *MIS quarterly*, pages 307–332, 2008.
- Levy, Sheri R; Chiu, Chi-yue, and Hong, Ying-yi. Lay theories and intergroup relations. *Group Processes & Intergroup Relations*, 9(1):5–24, 2006a.
- Levy, Sheri R; West, Tara L; Ramirez, Luisa, and Karafantis, Dina M. The protestant work ethic: A lay theory with dual intergroup implications. *Group Processes & Intergroup Relations*, 9(1):95–115, 2006b.

- Lewis, Robert E and Heckman, Robert J. Talent management: A critical review. *Human resource management review*, 16(2):139–154, 2006.
- Lipnack, Jessica and Stamps, Jeffrey. Virtual teams: The new way to work. *Strategy & Leadership*, 27(1):14–19, 1999.
- Lipnack, Jessica and Stamps, Jeffrey. *Virtual teams: People working across boundaries with technology*. John Wiley & Sons, 2008.
- Locke, Karen. *Grounded theory in management research*. Sage, 2001.
- Luong, Alexandra and Rogelberg, Steven G. Meetings and more meetings: The relationship between meeting load and the daily well-being of employees. *Group Dynamics: Theory, Research, and Practice*, 9(1):58, 2005.
- Macdonald, Stuart and Piekari, Rebecca. Out of control: personal networks in european collaboration. *R&D Management*, 35(4):441–453, 2005.
- Majchrzak, Ann; Malhotra, Arvind, and John, Richard. Perceived individual collaboration know-how development through information technology-enabled contextualization: Evidence from distributed teams. *Information systems research*, 16(1):9–27, 2005.
- Malhotra, Arvind; Majchrzak, Ann, and Rosen, Benson. Leading virtual teams. *The Academy of Management Perspectives*, 21(1):60–70, 2007.
- Marcus, George E. Ethnography in/of the world system: The emergence of multi-sited ethnography. *Annual review of anthropology*, pages 95–117, 1995.
- Mark, Gloria; Grudin, Jonathan, and Poltrock, Steven E. Meeting at the desktop: An empirical study of virtually collocated teams. In *ECSCW99*, pages 159–178. Springer, 1999.

- Mark, Gloria; Gonzalez, Victor M, and Harris, Justin. No task left behind?: examining the nature of fragmented work. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, pages 321–330. ACM, 2005.
- Maynard, M Travis; Mathieu, John E; Rapp, Tammy L, and Gilson, Lucy L. Something (s) old and something (s) new: Modeling drivers of global virtual team effectiveness. *Journal of Organizational Behavior*, 33(3):342–365, 2012.
- Maznevski, Martha L and Chudoba, Katherine M. Bridging space over time: Global virtual team dynamics and effectiveness. *Organization science*, 11(5):473–492, 2000.
- McAdams, Dan P. Personality, modernity, and the storied self: A contemporary framework for studying persons. *Psychological inquiry*, 7(4):295–321, 1996.
- McGrath, Joseph E. Time, interaction, and performance (tip) a theory of groups. *Small group research*, 22(2):147–174, 1991.
- Metiu, Anca. Owning the code: Status closure in distributed groups. *Organization Science*, 17(4):418–435, 2006.
- Miles, Matthew B and Huberman, A Michael. *Qualitative data analysis: An expanded sourcebook*. Sage, 1994.
- Montada, Leo. Belief in a just world: A hybrid of justice motive and self-interest? In *Responses to victimizations and belief in a just world*, pages 217–246. Springer, 1998.
- Mortensen, Mark and Hinds, Pamela J. Conflict and shared identity in geographically distributed teams. *International Journal of Conflict Management*, 12(3):212–238, 2001.
- Mortensen, Mark; Woolley, Anita Williams, and O’Leary, Michael. Conditions enabling effective multiple team membership. In *Virtuality and virtualization*, pages 215–228. Springer, 2007.

- Mudambi, Ram and Santangelo, Grazia D. From shallow resource pools to emerging clusters: The role of multinational enterprise subsidiaries in peripheral areas. *Regional Studies*, (ahead-of-print):1–15, 2014.
- Myers, Michael D. *Qualitative research in business and management*. Sage, 2013.
- Neeley, Tsedal; Hinds, Pamela J, and Cramton, Catherine Durnell. Walking through jelly: language proficiency, emotions, and disrupted collaboration in global work. *Harvard Business School Organizational Behavior Unit Working Paper*, (09-138), 2009.
- Norman, Donald A. Some observations on mental models. *Mental models*, 7(112):7–14, 1983.
- Nurmi, Niina. Coping with coping strategies: How distributed teams and their members deal with the stress of distance, time zones and culture. *Stress and Health*, 27(2): 123–143, 2011.
- O’Leary, Michael Boyer and Cummings, Jonathon N. The spatial, temporal, and configurational characteristics of geographic dispersion in teams. *MIS quarterly*, 31(3): 433–452, 2007.
- O’Leary, Michael Boyer; Mortensen, Mark, and Woolley, Anita Williams. Multiple team membership: A theoretical model of its effects on productivity and learning for individuals and teams. *Academy of Management Review*, 36(3):461–478, 2011.
- Olson, Gary M and Olson, Judith S. Distance matters. *Human-computer interaction*, 15 (2):139–178, 2000.
- Orlikowski, Wanda J. The duality of technology: Rethinking the concept of technology in organizations. *Organization science*, 3(3):398–427, 1992.
- Orlikowski, Wanda J. Knowing in practice: Enacting a collective capability in distributed organizing. *Organization science*, 13(3):249–273, 2002.

- Orlikowski, Wanda J and Yates, JoAnne. Genre repertoire: The structuring of communicative practices in organizations. *Administrative science quarterly*, pages 541–574, 1994.
- Panteli, Niki and Duncan, Elizabeth. Trust and temporary virtual teams: alternative explanations and dramaturgical relationships. *Information Technology & People*, 17(4):423–441, 2004.
- Patton, Michael Quinn. *Qualitative evaluation and research methods* . SAGE Publications, inc, 1990.
- Perry, B. Virtual teams now a reality. two out of three companies say they will rely more on virtual teams in the future. retrieved 5 october 2009, 2008.
- Pettigrew, Andrew M. What is a processual analysis? *Scandinavian journal of management*, 13(4):337–348, 1997.
- Porter, Caitlin M and Woo, Sang Eun. Untangling the networking phenomenon a dynamic psychological perspective on how and why people network. *Journal of Management*, 41(5):1477–1500, 2015.
- Powell, Anne; Piccoli, Gabriele, and Ives, Blake. Virtual teams: a review of current literature and directions for future research. *ACM Sigmis Database*, 35(1):6–36, 2004.
- Pratt, Michael G; Rockmann, Kevin W, and Kaufmann, Jeffrey B. Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of management journal*, 49(2):235–262, 2006.
- Rogelberg, Steven G; Leach, Desmond J; Warr, Peter B, and Burnfield, Jennifer L. ” not another meeting!” are meeting time demands related to employee well-being? *Journal of Applied Psychology*, 91(1):83, 2006.

- Romano Jr, Nicholas C and Nunamaker Jr, Jay F. Meeting analysis: Findings from research and practice. In *System Sciences, 2001. Proceedings of the 34th Annual Hawaii International Conference on*, pages 13–pp. IEEE, 2001.
- Rosenfeld, Paul; Giacalone, Robert A; Knouse, Stephen B; Doherty, Linda M; Vicino, S Mitchell; Kantor, John, and Greaves, Jean. Impression management, candor, and microcomputer-based organizational surveys: An individual differences approach. *Computers in Human Behavior*, 7(1):23–32, 1991.
- Rosenfeld, Paul; Booth-Kewley, Stephanie; Edwards, Jack E, and Thomas, Marle D. Responses on computer surveys: Impression management, social desirability, and the big brother syndrome. *Computers in Human Behavior*, 12(2):263–274, 1996.
- Schell, A. European business meeting culture: As ad-hoc survey of employees and managers who regularly participate in business meetings. *Munich, German: Schell Marketing Consulting*, pages 130–58, 2010.
- Scott, Susan V and Walsham, Geoff. Reconceptualizing and managing reputation risk in the knowledge economy: toward reputable action. *Organization Science*, 16(3): 308–322, 2005.
- Senge, Peter M. *The art and practice of the learning organization*. 1991.
- Shaffer, Margaret A; Kraimer, Maria L; Chen, Yu-Ping, and Bolino, Mark C. Choices, challenges, and career consequences of global work experiences a review and future agenda. *Journal of Management*, 38(4):1282–1327, 2012.
- Sommers, Samuel R and Norton, Michael I. Lay theories about white racists: What constitutes racism (and what doesn't). *Group Processes & Intergroup Relations*, 9(1): 117–138, 2006.
- Spradley, James P. *The ethnographic interview*. 1979.
- Staples, D Sandy and Webster, Jane. Exploring traditional and virtual team members best practices a social cognitive theory perspective. *Small group research*, 38(1):60–97, 2007.

- Steers, Richard M; Sanchez-Runde, Carlos, and Nardon, Luciara. Leadership in a global context: New directions in research and theory development. *Journal of World Business*, 47(4):479–482, 2012.
- Sternberg, Robert J; Conway, Barbara E; Ketron, Jerry L, and Bernstein, Morty. People’s conceptions of intelligence. *Journal of personality and social psychology*, 41(1):37, 1981.
- Strauss, Anselm and Corbin, Juliet. Basics of qualitative research: Procedures and techniques for developing grounded theory. ed: *Thousand Oaks, CA: Sage*, 1998.
- Strauss, Anselm Leonard; Corbin, Juliet M, and others, . *Basics of qualitative research*, volume 15. Sage Newbury Park, CA, 1990.
- Tang, John C; Zhao, Chen; Cao, Xiang, and Inkpen, Kori. Your time zone or mine?: a study of globally time zone-shifted collaboration. In *Proceedings of the ACM 2011 conference on Computer supported cooperative work*, pages 235–244. ACM, 2011.
- Taussig, Michael T. *Mimesis and alterity: A particular history of the senses*. Psychology Press, 1993.
- Townsend, Anthony M; DeMarie, Samuel M, and Hendrickson, Anthony R. Virtual teams: Technology and the workplace of the future. *The Academy of Management Executive*, 12(3):17–29, 1998.
- Turnley, William H and Bolino, Mark C. Achieving desired images while avoiding undesired images: exploring the role of self-monitoring in impression management. *Journal of Applied Psychology*, 86(2):351, 2001.
- van Gils, Suzanne; van Quaquebeke*, Niels, and van Knippenberg, Daan. The x-factor: On the relevance of implicit leadership and followership theories for leader–member exchange agreement. *European Journal of Work and Organizational Psychology*, 19(3): 333–363, 2010.

- Venolia, Gina; Tang, John; Cervantes, Ruy; Bly, Sara; Robertson, George; Lee, Bongshin, and Inkpen, Kori. Embodied social proxy: mediating interpersonal connection in hub-and-satellite teams. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pages 1049–1058. ACM, 2010.
- Wageman, Ruth; Gardner, Heidi, and Mortensen, Mark. The changing ecology of teams: New directions for teams research. *Journal of Organizational Behavior*, 33(3):301–315, 2012.
- Walther, Joseph B. Relational aspects of computer-mediated communication: Experimental observations over time. *Organization Science*, 6(2):186–203, 1995.
- Wasson, Christina. Multitasking during virtual meetings. *People and Strategy*, 27(4):47, 2004.
- Wayne, Sandy J and Ferris, Gerald R. Influence tactics, affect, and exchange quality in supervisor-subordinate interactions: A laboratory experiment and field study. *Journal of Applied Psychology*, 75(5):487, 1990.
- Wayne, Sandy J and Liden, Robert C. Effects of impression management on performance ratings: A longitudinal study. *Academy of Management Journal*, 38(1):232–260, 1995.
- Weick, Karl E. *Sensemaking in organizations*, volume 3. Sage, 1995.
- Weisband, Suzanne. Maintaining awareness in distributed team collaboration: Implications for leadership and performance. *Distributed work*, pages 311–333, 2002.
- Wong, Sze-Sze; DeSanctis, Gerardine, and Staudenmayer, Nancy. The relationship between task interdependency and role stress: A revisit of the job demands–control model*. *Journal of Management Studies*, 44(2):284–303, 2007.
- Wright, Thomas A; Cropanzano, Russell; Denney, Philip J, and Moline, Gary L. When a happy worker is a productive worker: A preliminary examination of three models. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 34(3):146, 2002.

-
- Yzerbyt, Vincent; Judd, Charles M, and Corneille, Olivier. *The psychology of group perception*. Psychology Press, 2004.
- Zakaria, Norhayati; Amelinckx, Andrea, and Wilemon, David. Working together apart? building a knowledge-sharing culture for global virtual teams. *Creativity and innovation management*, 13(1):15–29, 2004.
- Zander, Lena; Mockaitis, Audra I, and Butler, Christina L. Leading global teams. *Journal of World Business*, 47(4):592–603, 2012.