2020

Teaming at a Distance: The Work Experience on Global Virtual Teams

Lejla Bilal Maley

Antioch University - PhD Program in Leadership and Change

Teaming at a Distance: The Work Experience on Global Virtual Teams

Lejla Bilal Maley

ORCID Scholar ID# 0000-0002-3912-4647

A Dissertation

Submitted to the PhD in Leadership and Change Program of Antioch University

in partial fulfillment for the degree of

Doctor of Philosophy

April 2020

This dissertation has been approved in partial fulfillment of the requirements for the degree of PhD in Leadership and Change, Graduate School of Leadership and Change, Antioch University.

Dissertation Committee

- Jon Wergin, PhD, Committee Chair
- Aqeel Tirmizi, PhD, Committee Member
- Muriel Scott, PhD, Committee Member

Acknowledgments

This work would not exist without the participants. A "Cheers!" to all who took the time to share work experiences and feedback with me. Your input is the catalyst for this work. This dissertation study is dedicated to current and future global virtual work generations, not exclusive to "techies" and Gen Z-ers, but also to those currently engaged in hyper-connectivity and transitioning traditional and hierarchical business mindsets actively engaged in shifting from *me* to *we*. Next, I'd like to recognize the outstanding supervision by my committee. My committee chair, Jon, whose sound advice to "save it for Chapter V" kept me engaged and somewhat on track. Thank you for allowing me to lead in unfamiliar territory, providing me with structure, and continuing to pluralize "data" in your feedback ever so gently. More so, I thank Jon for fostering a relationship that allowed for informal chats on politics, bourbon, and books we were reading when we should have been writing. To my committee members, Aqeel Tirmizi and Muriel Scott, whose work on multicultural organizations and global virtual teams, reassurance, and feedback helped shape the context and foundations for this study. I'd like to extend special appreciation to Tony Lingham for his mentorship, shared academic and professional interest, and Star Wars references that helped outline and guide this study from the ground up. Tony's infamous and ambitious, "You know what would be really cool?" will keep the study alive post doctorate. No lone PhD student can survive this journey without a dedicated community of support. My survival pack, the "PhD Foursome," collectively supported one another in the form of memes, inspirational daily texts, and genuine friendship. My family's love and encouragement never wavered. The incessant "when will you be finished," although unwelcome, was always meant with good intention. To Brett and Skywalker, I thank you for allowing me space, distance, and time when the work called for it, but also for companionship at

local coffee shops when reading and writing felt too physically and emotionally isolating. I'd like to extend a special shout-out to anyone who ever took interest in my research, including Instagram followers of @PhD_Support_Group. I can't tell you how energizing and comforting it felt to talk about that which occupied my mind at all times.

Abstract

Global Virtual Teams (GVTs) enable organizations to become more flexible, and to adapt and react to turbulent, complex and dynamic environments. These teams span boundaries such as space, time, and geography, working collaboratively to achieve a shared purpose. Due to their reliance on technology for communication, knowledge sharing, and project management, structural and nonstructural components of their design must exist to enable these teams to exist and flourish at the edge of innovation. The human experience of working in virtual teams remains insufficiently observed, yet crucial to their sustainability. This dissertation study employed an exploratory sequential mixed methods design to provide insights into the experience of working as a member or leader on a GVT. In phase one, a theoretical framework was developed to identify themes and sub-themes that emerged from 21 interviews with GVT practitioners from seven nations and multiple time zones across many sectors. The data revealed that experiences of working on a GVT are best expressed by four major themes: team design (both structural and nonstructural) components, cross-cultural communication, human dynamics, and technology. One meta-theme emerged, adaptability, which is well supported by the chosen guiding theoretical framework, adaptive structuration theory (AST), as well as extant research. The results of phase one informed development of a survey instrument; a pilot test of this instrument showed promise for future validation of a scale that accurately depicts the experiences of working on a GVT. The current findings support practical applications toward better understanding team functioning, essential human needs, and best practices for team awareness and functioning. This dissertation is available in open access at AURA: Antioch University Repository and Archive, http://aura.antioch.edu/and OhioLINK ETD Center, https://etd.ohiolink.edu/.

Keywords: Global Virtual Team (GVT), mixed methods, thematic analysis, team leadership, dispersed teams, global teams, technology, team design, cross-cultural communication, adaptability, human dynamics, CMC

Table of Contents

List of Tables

List of Figures

Chapter I. Introduction

Virtual teams are a common approach to conducting business practices across many sectors and industries. Globalization has created new possibilities for creating competitive advantage, and technological advances support global communication and teamwork. Virtual teams whose members span the globe are referred to as Global Virtual Teams (GVTs). These teams provide unprecedented opportunities for collaboration, innovation, and corporate effectiveness (Rogbeer, Almahendra, & Ambos, 2014). While these teams empower organizations to function and compete in the twenty-first century, their potential is not yet fully realized, and the training to support these teams is limited. More so, the lived experiences of GVTs, as well as the quality of their interactions and experiences remains scarce in the literature. This dissertation will explore the characteristics of GVTs, their task-based nature of work and potential for non-task-based work, and work experience. A thematic framework is created to support agency in the social system of global virtual teamwork.

A Personal Account of Engaged Scholarship

Through studies in a nontraditional doctoral program, the inspiration to question traditional methods of thinking and writing emerges frequently. As far as positionality as a researcher is concerned, every written word is positioned or dispositioned to show one's identity in the research process. Every assumption made, even by way of theories and methodologies, comes from our own position and bias. It is unrealistic to assume one can combat their bias in their writing. Therefore, there's a calling to portray the identity of a scholar-practitioner in this research, and that begins with sharing the journey of how the problem in practice was identified and informed by my own experiences in the workplace, and the desire to further explore this dissertation through the lens of a practitioner first, and then supported by scholarship. This

assertion follows Van de Ven's (2007) engaged scholarship model including the outlined steps of formulating a problem, building a theory, research design, and problem solving. Theory and practice go hand in hand to create engaged scholarship (2007). As an engaged scholar, I accept an advancement of knowledge for research and practice must coexist to make contributions to theory from observing what goes on in the real world, and likewise making contributions from theory by using scholarship to address and provide language for a given problem or phenomenon.

This chapter presents how the demand to study Global Virtual Teams (GVTs) was identified. I begin by first sharing my background, with vignettes of experiences working on traditional and virtual teams, as well as some jarring experiences transitioning to a purely virtual team. These experiences are anecdotal, meant to contextualize the workplace. This is followed by an identified problem in practice supported with actual experiences. Lastly, the research agenda is outlined including the purpose and significance of the study, research questions, terminology, and a summary of this chapter as well as chapters that follow.

The scholarship supports the practitioner's experience, and the practitioner lens often informs the research and its identified problems in practice. It is a reciprocal relationship that when forged can truly encompass the direction towards effective work practices and team dynamics. The goal of this dissertation is to inform both scholars who will continue to enrich and support ongoing trends on this topic as well as practitioners in the field, which is why a bicultural perspective of both is offered, in hopes of enhancing the outcome of this research and ensuring its practicality and adoption by those who live and breathe this contextual space of Global Virtual Teams or GVTs.

Researcher Background

In my professional life, I work as a member and leader of a GVT at a for-profit publishing organization. A global virtual team has come to be defined in multiple ways. One such definition states a GVT is a group(s) of people who work interdependently with shared purpose across space, time, and organizational boundaries using technology (Lipnack & Stamps, 2000). An expansion of the definition for purposes of this study would include the *reliance* of technology for communication, knowledge sharing, and project management related to tasks. Additional definitions are provided in the following chapter.

Prior to joining a GVT, I spent several years working as an individual contributor and leader on conventional teams. I co-taught high school English as a Second Language (ESL) in an urban high school and worked in academic departments at multiple universities as an instructor, program coordinator, and instructional designer. The overall challenges with team teaching, which is in actuality a dyad of two instructors, included typical personality clashes, conflicts that arise from working style differences, administrative and systemic politics and policies that interfere with teaching and learning, and some cultural misunderstandings. The vignettes shared are intended to convey various needs and issues encountered in the workplace and eventually on different types of teams to ensure high functioning.

One example of an ongoing clash of personalities in a collocated setting involves professional culture and work style differences that surfaced between a colleague and preceptor assigned to me and other instructors. For the purposes of this vignette, this individual is referred to as Tim. This was not a traditional team setting, but collaboration was expected, and work processes and solutions were identified in group settings and applied to maintain consistency

across the program's teaching approach. Tim, other instructors, and I worked closely to design and develop language foundations courses for the department. It was my first semester co-teaching a hybrid class (face-to-face with an online component) at a university as a lecturer while attending graduate school. Tim was an assistant professor in the department. I was also assigned to teach a series of language courses Tim had previously taught. He let me know how relieved he was that I, a lecturer, was going to teach the courses so he could focus on more important matters as a professor, like research, I assumed. It turned out that Tim did not like my approach to language acquisition based on a class observation and student feedback, and instead of approaching me and offering suggestions or concerns, he instead decided to let the program coordinator and my co-instructor know. When I learned of his contempt, I approached him in hopes of seeking best practices. He immediately became defensive and asked me never to approach his office without an appointment in the future. I followed up with an e-mail apologizing for coming into his office uninvited and stated my reasons for attempting to connect with him. I believe I even let him know I found his behavior intimidating. He let me know how inappropriate he found my teaching style and timid demeanor with students, and that the students would not respect my position in the classroom, and as a result, all other instructors and I would be subject to additional training since we were clearly not all on the same page. He even mentioned feeling uncomfortable at the amount of time I spent smiling. It seemed silly to Tim. Following this correspondence, interactions were minimal. I managed to employ coping skills such as avoidance and building relationships with others. Two years later, just prior to my leaving the university, he stopped by the graduate teaching assistants' office to let me know how very sorry he was that I was leaving and I paraphrase, "I wasn't sure how it would work out given the problems your first semester, but glad to see it had worked out professionally for you

after all." The follow-up provided me with further insight into the institutional culture of hierarchy at the university. I turned to another graduate student instructor in the office following Tim's candid farewell and cynically inquired if he thought Tim had any friends. The fellow student responded, "He doesn't need to [have any friends]," insinuating that because of his favorable position in the academic hierarchy, Tim could behave as he so pleased, especially toward lecturers and graduate students. This experience helped demonstrate first-hand the significance of relationality and the need for mentors when working with and professionally developing others, which is of great interest for team-based research. Moreover, wellbeing in the workplace is of extreme importance and tied directly to your direct supervisor. I chose this vignette to also shed light on the role of leadership. Generally speaking, individuals are promoted to leadership positions based on individual contributions that have been recognized, and not necessarily for their ability to manage, lead or work well with others. This is yet another vital opportunity for reflection when team make-up and design is in question.

Additionally, some of my positions, instructional design for example, relied heavily on collaboration with an appointed team of individuals assigned interdependent roles with a shared purpose of achieving one outcome, in this case a complete course designed and digitized to enhance student experience and instructor use. This work setting was semi-virtual, involving face-to-face as well as working at a distance with dispersed members; there was no one leader, but instead multiple individuals lead distinct aspects of the project. This illustrated team leadership, where leadership is distributed across team members. Typical challenges with scheduling, extended work hours, and a lack of clarity with a dispersed team were persistent. While English was the language used at work, it was not everyone's mother tongue, and native speakers on the team had to be mindful of language use and rely on multiple communication

tools to ensure proper understanding of goals and deadlines. The project objectives, milestones and responsibilities were outlined in extreme detail and managed by a project manager. This minimized missed deliverables and errors due to misunderstanding for some, not all members. The most persistent issue we faced was due to technology glitches, accommodating to time differences, and at times unrealistic workloads.

While the problems I encountered on traditional and partly virtual work groups and teams were valid and at times hindering in the workplace, the severity pales in comparison to those I experience and witness as part of a GVT. Dubé and Paré (2001) contend that GVTs face more challenges than conventional, localized teams (Wakefield, Leidner & Garrison, 2008). One key issue behind this is the difficulty mitigating misunderstandings and conflicts when teams are facing communication solely via technology use. Additionally, spanning boundaries such as time, space, culture and distance can have a greater effect on relationships and relationship building in the workplace (Pauleen & Yoong, 2001). The dependency on technological intervention alone can create barriers for teams and optimal functioning. Aligned with the shifts in the today's work environment, all of the teams I have worked with in the past involved some degree of virtuality, and the use of technology for communication and project management purposes. Richer media in general may have helped mitigate some of these conflicts along with being more mindful of the appropriate media type for specific tasks, which could have ameliorated issues and helped to resolve miscommunications. GVTs however can function effectively despite time and space barriers naturally created by dispersed work teams if alignment of tasks, structure and technology is properly considered. Virtual work is explored in the next sections.

What is Virtual Work?

A recent study showed that people significantly underestimate the proportion of their work which is virtual, as it is commonly misperceived that virtual work takes place outside of an office (Larson & Makarius, 2018). “Virtual teams” in the literature represents very different types of teams: teams that are geographically dispersed (members spread across more than one location), mediated by technology (communicating using electronic tools such as e-mail or instant messaging tools), structurally dynamic (change can occur frequently among members, their roles, and relationships to one other), or nationally diverse (members with more than one national background; (Gibson & Gibbs, 2006). Earlier research defines virtual work as work in a location remote from the central office (Cascio, 2000). Recent research on virtuality spans a multidimensional representation from 0% (working in an office setting with colleagues) to 100% (purely virtual). The degree of virtuality can influence the use of technology, team structures and the role of leadership.

Common communication devices today involve technology even between collocated individuals. Previously, I relished the opportunity to walk down the hallway to chat with a colleague about an idea or problem. Now, technology is at my fingertips on my phone, laptop, and even my watch, which although instantaneous, can encourage working in silos desperate to meet deadlines and avoid distractions. Technology enhanced work is something I have taken part in for the past seven years in education and corporate settings.

Virtual interactions have always been of interest. When designing a hybrid course, a course with synchronous and asynchronous components for a local university, a focus on task and relational specific aspects of teaching and learning for instructor and student interactions and assignments was embedded. My previous experiences helped inform the need for relational

embeddedness. The course was a content-based English as a second language (ESL) course for international students, and the student feedback was presented at an international conference (Maley & DeRosa, 2016). The feedback highlights opportunities for improvement using more scaffolding techniques for learning, and the need for adaptability in the course design to incorporate more varied approaches to instruction (audio-visual resources and student choice on assessment types). These are important considerations that can also help inform virtual interactions in organizations including meetings, information sharing, decision making, etc., given the various learning styles of team members.

Additionally, I have managed a portion of an international content development program, working with Arabic and English content developers, vendors, project managers, licensing and permissions, senior leadership, subject-matter experts, and a client, located in the Middle East. The team spanned multiple time zones and countries (US, Canada, UK, UAE, Egypt) with vendors located in India, Egypt and Lebanon. The degree of virtuality amongst team members varied from 25% to 100%, with a few members collocated in different office settings. The challenges included those from the conventional team experiences, but expanded to include technology glitches and troubleshooting, distance learning, decision-making, people and project management, negotiations of deadlines, tight deadlines of deliverables, cross-cultural miscommunications, issues with team leadership, trust and team building, and difficulties adapting to around-the-clock work and cross-functional, or “matrixed” team structures. Matrixed teams usually refer to individuals reporting into multiple “bosses” (Groves & Feyerherm, 2011). On a cross-functional team, an individual may report to their direct supervisor, and a project manager, or an individual may have only one direct supervisor, but still be required to respond to the needs and demands of someone else cross-functionally. The matrixed hierarchical structure

provides its own set of challenges. While I formally reported to one supervisor, the project director, I was still expected to unofficially report to a senior project manager regarding deadlines and scheduling, even though that relationship was not formalized as a hierarchical reporting structure.

Within a typical week of virtual work, several of the aforementioned challenges and beyond were encountered. The looming challenge in this team setting initially was technology. Regarding glitches in technology, team members' bandwidth was not created equal. Team members in Egypt and the Near East had difficulty accessing internal servers and often required specific means of file transfer such as WeTransfer™ or a remote system, like FTP (file transfer protocol). Our videoconferencing tool, Cisco Webex™, malfunctioned what seemed like every few days. On one call in particular, a cross-functional call, the audio was faint, and there were constant interruptions each time I spoke by someone to either tell me I wasn't being heard or to talk over me since my contributions were not heard anyway. It became increasingly frustrating for me and others on the receiving end since a costing issue needed to be resolved that pertained to my assigned products specifically. The decision making was left to those on the call, until the issues and additional discussion points were later raised in e-mail. Often on this project, time was of the essence, and it had become normalized to make decisions on the spot, without much time for debrief. Individual contributors had no choice but to advocate for themselves when more time or information was needed, and that request was not always received positively. The follow-up questions such as, "Well how much time do you think you need because we really need to move on this?," or, "Can you let me know by end of my day?" were highly likely and created ongoing negotiation which cost time, the project's greatest currency. Work culture and personality

differences sometimes resulted in misperception of the intended meaning of comments on team calls or even personal offense.

There was required learning as well, since new days brought new challenges or unforeseen problems that did require some thought, background information, and guidance. There is a human dynamic that begins to dissipate on task-focused projects and meetings such as the ones mentioned. It is up to managers to accomplish the work and direct the people involved in the work, which requires motivation and the level of support needed by the team member. Without a people centered work environment or team, it makes the job of managing across the globe extremely difficult.

Additionally, agility was essential on this work project. However, I had learned that my team members were more willing to be agile when the people involved in the project were trustworthy, culturally sensitive, seen as functionally competent, and prioritized time for team building. Members of the team worked beyond their designated roles and contributed beyond expectation considering how often the scope of work changed. Through surveys and conversations, team members expressed their level of dedication to the project due to levels of support they felt, and the flexibility they needed for a work-life balance was somewhat awarded with remote work privileges and at times, 40-hour work weeks with Fridays off. At some point, issues with trust in leadership and a lack of transparency had become detrimental to my own work capacity. This specific project and work are what I refer to as a “consultancy-type” model of work. Individuals work beyond their means to meet very condensed deadlines for deliverables in addition to ongoing requests for extra work and auxiliary project demands. I began to see subgroups form and an increase in feelings of isolation for those who were purely virtual. A reluctance to put in as much time and quality of effort from other members on our team became

apparent amongst managers. The project was a multi-year effort and although the amount of work or shifting priorities and work assignments remained constant, burnout became prevalent, mistrust, conflicts, and a lack of trust in the leadership team, along with a perceived lack of concern for the team members' well-being.

Four different directors had overseen the same project over a three-year period, and different team culture trickled down from the top which added a layer of complexity and new expectations when a new person assumed the leadership position. The discrepancy in leadership style was very apparent. Two later directors worked closely with team members as needed and awarded a level of autonomy that appealed to most (some members preferred less autonomy than others). They rarely put their needs before the needs of the team. This was not the case with all directors, however. Problems overheard and experienced associated with certain leadership included mistrust, job incompetency, power hunger, cultural insensitivity and a lack of communication.

One example of a scenario that resulted in distrust and discomfort occurred during interviews conducted by a product manager that one of the project directors at the time insisted on being taking part in. This was an interview for freelancers being hired as proofreaders. A candidate was dismissed as an undesirable one and was told that it would be problematic for us to hire them due to gender preferences presumed by our client. These preferences had never been voiced to the team as a norm and were hence unknown to many and thought to be highly unethical if not prohibited to discuss with a job applicant who was rejected due to their gender and not qualifications. There are two separate issues portrayed here, (a) the manager was not given the opportunity to interview candidates without interference from the director, and (b) the

obvious breach of ethics. Due to power dynamics, this was accepted and a different freelancer was selected with oversight from the director.

Another project leader was also known for firing individuals who displayed authority or reach beyond their assigned role. I recall a meeting with this director, let us call him or her Director A, in which he or she announced within the final ten minutes of a status call that the entire team would be undergoing reorganization, even though our team was matrixed and only a handful of the team actually reported to Director A. Director A was immediately met with resistance and questioning, which was shut down by use of demeaning language and accusations toward others for not behaving as "team players." Following the call, Director A called a few of us to state that he or she was not sure if the resistance was cultural or based on demographic bias. The team at the time was heavily comprised of the same race and gender. Director A automatically assumed it must have been inherent qualities and not an overtly authoritarian style of leadership that created pushback. This experience provided an interesting learning opportunity that changed the landscape of future interactions with Director A. Their assessment of who was or was not a team player created even more power distance between the leader and the team members, which was not ideal in a team design. In this illustration, Director A lacked critical self-awareness and missed opportunities for self-reflection. This self-awareness is a necessity and must extend to awareness of others. Training programs that emphasize awareness of self and others is critical to learning and team development.

Although the team later became mostly self-managed, emergent leaders did continue to surface. A few issues continued with trust and transparency that created tensions and required more effort for middle managers to make regarding people management to ensure deadlines were met and quality was assured. During an episode with a self-proclaimed leader on the project, I

received a call from a direct report while away at a conference who asked if they were going to be fired for an editorial mistake they had made. I reassured them that we did not condone a culture of blame but was then informed of an e-mail sent to my direct report that outlined how disgruntled a client had become with a specific product this direct report had worked to complete. As a manager, I often served as the gatekeeper between direct reports and senior leaders or clients providing explanations or apologies with the promise of due diligence. Blame is found to be unproductive, toxic and too time consuming to track. To have a fully functioning team, psychological safety is required, and I perceive it as diminishing on my current GVT, and the level of energy to maintain it dwindling.

What has been summarized as vignettes to include some jarring experiences (lacking adaptability to GVT work, deadlines, improper leadership for virtual team make-up, technology, etc.) helps to examine potential problems in practice for which research can offer mitigations.

As I conclude experiences and lessons from practice, it's time to turn to the literature for guidance. The scholarship tells us GVTs are used to accomplish a variety of critical tasks (Bell & Kozlowski, 2002) and validates the task-based focus I outline above through my own experiences. Lipnack and Stamps (2000) define virtual teams as task-oriented. These tasks bring individuals from around the world with diverse skillsets needed, allowing organizations to respond quickly and efficiently to the needs of the project. This may induce the pace of work, knowing virtual teams offer more flexibility. This is the case for the team I am part of. There are expectations that go beyond a typical 40-hour work week in order to collectively meet our client's ever-changing demands and rushed timelines. The ability to work autonomously and adaptably are just two characteristics GVTs need in order to operate effectively within the constraints of working virtually. Even though the tasks and outcomes these teams are asked to

achieve may not differ from traditional teamwork, the way they go about the work given the framework they operate in is what differentiates GVTs. These teams span time, distance, space and sometimes organizations. The most critical and important feature of virtual teams is that they cross boundaries of space. Whereas the members of traditional teams work in close proximity to one another, the members of virtual teams are separated, often by many miles or even continents, time, language, and culture (Townsend, DeMarie, & Hendrickson, 1998).

In addition, the use of technology is not supplemental, but necessary for communication, knowledge sharing, and project management. The organization's dependence on GVTs can also serve as a differentiating characteristic from traditional teams, as the GVT will likely be assembled for a project-specific task that requires specific services, talents and skillsets that span the globe. For the project outlined in the most recent vignette in particular, the hired workforce includes certified translators, linguists and vendors, all who represent different cultures and various international locations, needed to help build projects in a target language other than English. Although it is clear that GVTs can help implement an organization's global strategy and access the global marketplace to inform organizational growth and innovation opportunities, businesses still lament decreased productivity in virtual teams, and claim that the causes include technology, poor leadership, poor meeting management skills and intercultural miscommunication (Mayer, 2010; Meyer, 2014; Paulus, Kohn, & Arditti, 2011).

To add to the trials of working on a GVT, there are also the jarring experiences such as little or no formal training, urgencies across different time zones, coordination of efforts across space, time, and distance, the quickened pace of projects given work being completed across multiple time zones, the lack of role clarity, and the overlap of efforts that a former director once described as "stepping all over each other's toes," when describing the team's pursuit of task

completion and lack of understanding of each other's lanes, so to speak. In addition, there is little attention and few opportunities for relationship building, and feelings of isolation regarding the project as well as human interaction are common. As a team lead, I am obligated to accommodate to the ongoing struggles and to motivate my team to produce timely products and results in spite of the identified challenges. I was quickly forced to gain familiarity with forging relationships online and determining individuals' needs in order to maintain the flow of work. As a GVT leader, it is common to schedule multiple meetings to accommodate the time differences in order to keep members informed regarding updated processes and evolving information that pertains to their work and the broader scope of work. Of course, not everyone has the same bandwidth strength, so meetings might occur on a videoconferencing/teleconferencing platform or over the telephone, with e-mail follow-up. Constant reprioritization of tasks requires multiple meetings, and the use of language and delivery on an international team is another consideration that must be made, in addition to the balance of incorporating relational communication depending on the cultural preferences of the team members.

As far as national culture is concerned, my team alone represents a mixture of what Hofstede (1991) would identify as societies that are collectivist or individualistic, have high or low power distance, and a dimension of preference for uncertainty avoidance. These dimensions can help inform the general landscape of culture and the individual's expected response to the hierarchy or top-down decision making and messaging of that, which is what is regularly practiced when it comes to the power and communication structure of the team as a whole. While there are certainly cultural variations among individuals from one culture, Hofstede's dimensions of culture (1991) can be used as a learning tool to help us predict normative behavior of a group of individuals, and to begin discussing the culture in more complex and nuanced

ways. Nonetheless, the dimensions can help guide practitioners who are part of a multicultural team or organization. National diversity also creates different expectations for communication practices (Gibson & Vermeulen, 2003).

It was not until I read Erin Meyer's *The Culture Map* (2015) that I began to contextualize Hofstede's proposed theoretical framework that has since evolved. Meyer used eight scales to define national culture and field-tested the model to offer insights into international business practices and greater effectiveness when working with international organizations. It can be a practical and valuable guide and resource for leaders of a GVT, whose members are heterogenous on multiple dimensions such as nationality and cultural diversity (Jarvenpaa & Leidner, 1999).

What are Global Virtual Teams?

As discussed, a GVT can be defined as people who work interdependently with shared purpose across space, time, and organizational boundaries using technology (Lipnack & Stamps, 2000). Additionally, GVTs can be described as having the following characteristics: geographically dispersed, electronic dependent, structurally dynamic, and nationally diverse (Gibson & Gibbs, 2006). Global competition and technological advances to execute business practices have enhanced the growing trend and use of GVTs. Global virtual teams are sometimes referred to as global teams, virtual teams, globally dispersed teams, geographically dispersed teams, multicultural distributed teams, and more recently online teams.

Electronic communication technologies have enabled business to be conducted across distance, time, cultures and organizations, creating "anyone/anytime/anyplace" alternatives to the traditional same-time, same-place, functionally-centered, in-house forms of organizational experience (O'Hara-Devereaux & Johansen, 1994) that are still familiar and in use today. The

advantages of work conducted on GVTs is the potential for a 24-hour workday, the pace of delivery, and the global collection of talent and resources. Because of the varied skillsets individuals of a GVT have, their full potential is not yet realized if they are solely utilized for task-based projects that thrive on around-the-clock work and compressed deadlines.

The focus on task management and completion is, I might argue, the path of least resistance for virtual teams and GVTs. Focusing on tasks in GVTs is an efficient way to organize and delegate work for individual members of such a complex team membership profile. However, such an approach would not leverage the power of human interaction to engage in collaborative, innovative, and creative teamwork. In our current innovation economy, organizations are creating teams with the added function to be creative, innovative so as to also focus on breakthrough innovations. This critical added expectation in project work or teamwork is not only desired but also absolutely necessary to help organizations survive and thrive in our volatile work environment. In this dissertation, one of the aims was to also propose how GVTs can be effectively used for innovation-type work as well since they are an innovative team make-up in themselves. GVTs have the flexible work options and diversity to be creative. Diverse participants can enable creative and flexible responses to challenging development needs (Sole & Edmondson, 2002). Diversity is often emphasized when the potential for innovation is discussed. Multicultural teams achieve higher levels of creativity and produce more and better alternative solutions to problems than more homogenized teams (2002). Since innovation inherently occurs at a team level given the need for a social setting, it is crucial to determine how the use of Computer Mediated Communication (CMC) can enable innovation capabilities for GVTs.

In a separate professional capacity, I work as a member of a virtual team that involves innovative work practices. I am a consultant and cofounder of an educational collaborative. The members work as members of a virtual team, as we are dispersed across the country in three different time zones. We meet weekly on Google Hangouts to plan and execute strategic initiatives including marketing, providing content through social media and blogs, and to discuss efforts and direction on current contracts and projects. Our first contracted position was with a national non-profit to create a curriculum, inform professional learning communities, and implement sustainable learning opportunities through content, an advisory council, and school and community outreach. We were hired to help re-envision the current material and practices in place. With little direction aside from the objective and goals of the project, it was up to us to draft a proposal for the work. We were hired and treated as experts, and expected to plan, design and execute based on a vision. The project is innovative in that we were being asked to create and modify broader concepts, and to operationalize them. The project includes a mix of radical (something created afresh) and incremental (adapted) innovation (Subramaniam & Youndt, 2005). The project requires creativity and a diverse pool of talents and skills, which we all contribute given our various backgrounds in the education sector, with very little overlap. While we have established some best practices and create a bi-weekly agenda, there is no formalized structure for our work on projects and amongst ourselves. No official titles have been appointed, and roles are established on an interest and voluntary basis as we find revenue generating projects. We lead, create, plan, adapt and execute as we see fit, and implement our own supporting structures as we deem necessary. While this team is not globally dispersed, we are geographically dispersed and span similar boundaries as GVTs. In this team, size and the type of

work plays a role in dictating the structures and processes, as well as relationships that were established between each member prior to the formation of the consultancy and work.

Who are Global Virtual Teams?

Literature tends to define GVTs in a task-based fashion. We know that they enable organizations to access global resources and markets, expanding their network of success and implementation, and that virtual teams are used in almost all industries and in a variety of areas (McDonough, Kahn, & Barczak, 2001). We know the *what*. We also know they work across space, time, and organizational boundaries using technology having a shared purpose. The only personal characteristic offered to describe GVTs is that they are likely to be multicultural or heterogenous on multiple levels (Dubé & Paré, 2001; Jarvenpaa & Leidner, 1999; Maloney & Zellmer-Bruhn, 2006). It is important to highlight that the individuals on a GVT are people, and human interaction and personal relationships between virtual team members is important for effective working relationships (Pauleen & Yoong, 2001). Virtual work can feel isolating and disconnected. Even though GVTs and organizational reliance on them continues to rise, the focus tends to be on delivery of expectations. In research conducted with traditional, collocated teams, Lingham (2009) states, “Most members find themselves being placed in teams and left to work through their ‘team issues’ as long as they deliver their projects or end products on time at an acceptable quality” (p. 3). This similarity is even further provoked on GVTs who often have compressed deadlines due to around the clock workforce availability (Einola, 2017; Morley, Cormican, & Folan, 2015). I have been instructed as a team lead to “push [employees] through” to task completion. This pressure has often led to disregard for best practices presented by team members in hopes of redirecting focus and delivering the assigned task. More importantly, it fails to acknowledge the person and their human needs.

Why are Global Virtual Teams Important?

The demands of leading in an era of accelerating globalization are fast and furious. GVTs help manage and coordinate a global market, which is very diverse in nature. Culturally diverse work teams are increasingly common in the workplace (Gibson & Cohen, 2003; Stahl, Maznevski, Voigt, & Jonsen, 2010; Zimmermann, 2011). Because these teams consist of individuals with different cultural backgrounds, assumptions and approaches to work, organizations must be well equipped to create structures and processes that promote their success, which will include growing awareness of the challenges they face, and how best to support their productivity.

Since the start of the 21st century, organizations were predicted to rely more heavily on globally dispersed new product development teams versus collocated and solely virtual teams with moderate physical dispersion, approximately 20% (McDonough et al., 2001). Such product development teams have potential to provide companies with more practical and economical services. The economic potential also includes a cost savings for organizations. Research shows that GVTs with a flexible and configurable infrastructure save valuable resources, resulting in increased productivity (Anderson & Carletta, 2007). Costa et al. (2017) assert "organizational and team boundaries are shifting and becoming fluid. Newer forms of teamwork structures are likely to impact how team members interact" (p.11).

Problem in Practice

The persistent challenges and nuances faced in the GVT workplace as well as discoveries from existing literature have informed my interest, passion, and identity as an engaged scholar-practitioner. Teams face mishaps and disconnects, yet I believe there is a desire to work effectively cross-functionally and globally. Self, other and cultural awareness is a must in a

global society, especially since virtual teams are now commonplace. Yet, I find myself struggling as a leader to understand how they work best or to help such teams feel acknowledged and engage to their fullest potential.

Given the increased challenges of teams working virtually across time and space, effectiveness, performance, and satisfaction suffer and require special attention holistically taking into account the wellbeing of GVT members. Global virtual teams (GVTs) rely on computer-mediated communication technology due to their geographic dispersion. Being globally scattered suggests a culturally/nationally diverse makeup that can also contribute to miscommunications. In addition, there are different work styles and learning styles (Kolb, 1984) or underlying motivational learning needs (Lingham, 2009; Lingham & Richley, 2018) when humans engage, all of which must be addressed using technology, as face-to-face may not be an option for team building and conflict mitigation.

The dual identity of scholar-practitioner can help inform the literature by offering real-world knowledge in relation to the existing body of research and enhance the learning outcomes through a lens of expertise and lived experiences. Additionally, it is research that must keep up with evolving practice for which practitioners will provide first-hand accounts.

Purpose of the Study

Technology advancements continue to develop greater capabilities for business practices and teams. It is humans [on a GVT] that need to develop given the pervasive existence of challenges. In an executive brief provided by RW3 Culture Wizard (2018), only 22% of respondents received formal training to work on a GVT, with the same type of identified challenges showing up in the research consistently from 2010 to 2018. GVTs require work processes and structure. Two aspects of work processes investigated in relation to virtual teams

are coordination effectiveness and communication effectiveness (Powell et al., 2004). “Effective group processes, particularly those related to communication, increase information and so are essential for high-performing development processes” (Brown & Eisenhardt, 1995, p. 368). Frequent and effective communication is essential to team success and may be more so for GVTs who do not have as many opportunities for team building and informal communication, especially since technology is their primary means of communication.

Technology as a primary means of communication has been shown to decrease team effectiveness due to snags with technology tools (Powell, Piccoli, & Ives, 2004). Because the trend of GVTs continues to rise, the forward-thinking solution must involve strategies toward technologically enhanced communication practices for team effectiveness and proper treatment of GVTs in spite of the setbacks with the reliance on technology. To challenge the assumption that informal and relational communication is not common on GVTs, a look at engagement opportunities and media richness is necessary and should be examined to facilitate more effective teamwork (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2015; Marshall, 2015).

Adaptive structuration theory (AST), crafted by DeSantis and Poole (1994) based on Giddens’ structuration theory (1979, 1984) offers a framework for explaining the relationship between technology and social interaction in creating team outcomes. The appeal of a structuration theory is the proposed structures, including rules and processes necessary for team performance. According to Poole (2013), a structurational perspective suggests that members of an effective team enact rules and resources to enable them to overcome communication challenges. On a GVT, structures can greatly support the team’s mission and impact individual behaviors toward a desired outcome. This dissertation provides insight into the use of AST to help inform the necessary structures for GVTs. Research has examined how different

technological structures influence group outcomes and has found that structural support has a positive impact on team performance (Poole et al., 1993). The research agenda of this study is to investigate how technology mediates GVT effectiveness and how it can influence opportunities for innovation on GVTs, which are typically recruited by organizations for task-based purposes. Because GVTs tend to gravitate toward assigned tasks, agency is minimized. Thus, it is important to incorporate Giddens' (1979, 1984) theory of agency to support the human action and engagement with and within the structures of a GVT.

Significance of the Study

This topic of GVTs and their experiences is relevant today considering that organizations are increasingly reliant on these teams. They are even considered commonplace in contemporary organizations (Zakaria, 2017). A 2008 study projected 80% usage of virtual teams by companies with over 10,000 employees (i4cp, 2008). Additionally, in a study conducted by RW3 Culture Wizard (2010), it was found that 80% of 3500 respondents in the United States were working with teams across the continent and across the globe where virtual teams are quickly becoming a must, and not just an alternative way to conduct business. The same study conducted in 2018 showed 89% participation in global virtual teams. They enable organizations to access global resources and markets, expanding their network of success and implementation. In 2015, 60% of multinational organizations reported using virtual teams with likely increases in years to follow (Gilson et al., 2015). Further research shows virtual teams are used in almost all industries and in a variety of areas, such as R&D and customer service (Hertel, Geister, & Konradt, 2005), affirming Bell and Kozlowski's (2002) proposition that the more specialized the skill, the greater the likelihood that it will be found in distributed locations, meaning not in proximal teams.

GVTs help manage and coordinate a global market, which is very diverse in nature. Culturally diverse work teams are increasingly common in the workplace (Gibson & Cohen, 2003; Stahl et al., 2010; Zimmermann, 2011). Because these teams consist of individuals with very different cultural backgrounds, assumptions and approaches to work, organizations must be well equipped to create structures and processes that promote their success, which will include growing awareness of the challenges they face, and how best to support their productivity. Businesses often lament decreased productivity in virtual teams, and claim that the causes include technology, poor leadership, poor meeting management skills and intercultural miscommunication (Meyer, 2014, 2010; Paulus et al., 2011). Because GVTs are on the rise, organizations will need to adapt their approach and training to ensure success of their globalized and multicultural teams, and not shy away from the challenges associated with the team makeup and barriers associated with distance, space, time and culture. Furthermore, Culture Wizard found that challenges GVTs faced in 2010 are still present today and still described with the same degree of importance (2018). This finding invites researchers to investigate more innovative solutions that incorporate different business practices. One such suggestion is to rely on GVTs for innovation projects, not just task-based ones, and incorporate design thinking strategies to unleash team members' full creative energies.

Research Questions

Due to the geographic dispersion of GVTs, physical face time is rare. This results in weaker social relationships between team members and influences a more task focused team versus a socially focused one (Powell et al., 2004). Exploring team interaction that leads to opportunities for innovation and effectiveness team practices was of great interest. The following research questions offer a broad scope of the study that are further refined in Chapter 3:

1. What characteristics of GVTs based on extant research and practice can help develop a potential thematic framework for the lived experiences of GVTs?
2. What is the role of leadership in GVT experiences?
3. What is the role of computer-mediated communication technology in GVT interaction?

Study Assumptions

This study assumed GVTs were likely recruited for project or task-based purposes, and didn't always have opportunities for innovative work, whether it be open innovation, incremental or radical innovation. It also assumes the teams recruited will have varying degrees of virtuality, globally dispersed work locations, multicultural make-up, and reliance upon technology for communication, knowledge sharing and project management.

Methodology

The chosen methodology for this study was an exploratory sequential mixed methods design with two phases. The research design began with semi-structured interviews with GVT members and leaders followed by thematic analysis coded for themes representing GVT member experiences. In phase two, a survey instrument was developed using the items derived from thematic analysis to assess the quality of member experiences. This was piloted for survey item and overall feedback and finalized as the foundation for scale development in phase three following this doctoral work.

Study Limitations

This study, like all others, faced its own limitations presented in greater detail in the final chapter. Such limitations included the reliance on self-reported data in contrast to observations. Every attempt was made to include a diverse set of respondents, diverse across sectors, organizations, locations, and demographic traits, but complete diversity remained a limitation. A

partial limitation included the availability of global virtual teams beyond my own network to ensure results were generalizable across the sample population. Methodical limitations based on study design and chosen methods also posed restrictions. Because the scope of this study was not to present generalizable data, the results do resonate with GVTs and can be applied to improve their work practices.

Terminology

There are specific terms that appear in this dissertation which deserve consideration and clarity. The following are commonly used terms and acronyms throughout the study, along with their definition or description. While all key terms are defined and described throughout the study, a few deserve special attention. These include:

- Global Virtual Team (GVT): This acronym is be used widely to describe the research group of interest in this study. A GVT can be described as a team of individuals who are globally dispersed, not collocated.
- Face-to-face or face time: This is used to refer to physical collocation of individuals.
- CMC: This refers to technology that enables human interaction. A synchronous, or real-time, example would be software such as WebEx, or asynchronous, such as chat.

Chapter Outlines

Chapter 2 presents the literature that informs this study. The literature begins by defining GVTs and their characteristics, how they have evolved the few decades they have been researched, and how they are currently used in organizations. Then, GVTs are compared to other types of teams, highlighting some of the challenges and advantages of GVTs. Team interaction amongst members of a GVT, and the task-relationship continuum will be presented. Next, the focus of the literature review will shift to opportunities for innovation that can exist on GVTs, as

well as how to cultivate a team culture for innovation, and how to sustain it. Lastly, a theoretical framework will be examined to help inform the research agenda on GVTs.

Chapter 3 covers the research design and methodology. In this chapter, the methodological fit and rationale for exploratory sequential mixed methods is presented to best respond to the research questions in this dissertation. This chapter also conveys the study's limitations and ethical considerations.

Chapter 4 provides the data analyses of the two research phases. Qualitative and quantitative findings are summarized in response to the revised and narrowed research questions identified in Chapter 3. The findings and the learning that follows help support the study's intent on understanding the experience of working as part of a GVT.

Chapter 5 is the concluding chapter that offers a summary of the dissertation, implications of the study on scholarship and practice, and plans and recommendations for future research.

Chapter II. Critical Review of the Theory, Research, and Practice

Introduction

This literature review begins with the definition and characteristics of GVTs, and how they came to be prevalent in today's research, followed by GVT leadership. Next, team interaction, innovation and design thinking are discussed. Technology has advanced in ways that support the use of virtual teams to enable individuals to collaborate and innovate, overcoming the limitations of geography and time zones. Lastly, structuration theory as well as a modified version, adaptive structuration theory (AST), are provided as theoretical frameworks to guide the research study. Lastly, identified gaps in the extant literature and next steps in the research agenda are proposed.

Global Virtual Teams Defined

There are multiple definitions offered for a GVT that help differentiate it from a traditional team, which can be referred to as one that is, "a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach, for which they hold themselves accountable'' (Dubrin, 1998, p. 218). Because teamwork occurs across many time zones, locations, and organizations, the term virtual team came to exist. Kirkman, Rosen, Gibson, Tesluk, and McPherson (2002) linked the start of the virtual team, to the early 1990s when multinational companies and their affiliates overseas began using the team concept in order to integrate their work practices. The commonplace of the reliance of GVTs although already mentioned, deserves more emphasis.

A few existing definitions of global virtual team are presented here:

1. Groups that work in geographically dispersed environments that are heterogeneous on a number of dimensions such as nationality and cultural diversity (Jarvenpaa &

Leidner, 1999; Maloney & Zellmer-Bruhn, 2006). To incorporate "Global" the definition could be expanded to include geographical dispersion spanning the globe, not just a particular country.

2. A group(s) of people who work interdependently with shared purpose across space, time, and organizational boundaries using technology (Lipnack & Stamps, 2000).
3. A functioning team(s) that is/are interdependent in task management, having shared responsibility for outcomes, and collectively managing relationships across organizational boundaries (Gibson & Cohen, 2003).
4. Groups of geographically, organizationally and/or time dispersed workers who are brought together by information and telecommunications technologies to accomplish one or more organizational tasks (Snowdon, 2011). Here, virtual teams are also referred to as GDTs, or geographically dispersed teams.

The third definition provided by Gibson & Cohen (2003) is the only one from the selected ones which mentions relationships, while others solely focus on tasks. Other task-focused definitions exist as well (Hossein, 2012). The degree of virtuality of a team is another aspect of focus in definitions that attempt to characterize GVTs in relation to traditional teams (e.g., Griffith, Sawyer, & Neale, 2003; Munkvold & Zigurs, 2007). Also, the reliance on technology for communication and collaboration (e.g., Clear & MacDonell, 2011; Hertel et al., 2005; Townsend et al., 1998). The criteria of the definitions provided are guided by the overall purpose of the GVT. There is opportunity to offer a relational component when defining these teams. While one ideal definition does not exist, for the purposes of this study, a combination of the four provided would better fit the criteria for participation in the research. Such a working definition may embrace GVTs as:

A global virtual team includes a group of individuals who are reliant on technology for communication, knowledge sharing and project management purposes, spanning across geography, space, and time to work interdependently toward a shared outcome.

Key Concepts of Global Virtual Teams

Key concepts of interest include geographic dispersion on a global scale, reliance on technology, and heterogeneous make-up. Dubé and Paré (2001) suggest that GVTs face more challenges than conventional, localized teams. One key issue behind this is the difficulty mitigating misunderstandings and conflicts when teams are facing communication solely via technology use. VTs can exist in one location, i.e., a city, or a single country to be considered one. A case can be made that a team working remotely out of Toronto, Canada, which is considered one of the most multicultural cities in the world is considered a GVT, but my emphasis on team make-up for the purpose of my research study is on the term *global*, or worldwide. The intention is to discount the limitation of external influences such as outside cultural influences, and to focus on the national culture of each individual. Previous cases have been made that teams working just 50 feet apart can be referred to as a VT (Johnson, Heimann, & O'Neill, 2001). This is evident in collocated teams where individuals opt to use chat or e-mail to communicate with team members in the same building, on the same floor and even in the same area. There has been debate on how to best to differentiate virtual teams from traditional, collocated ones (Morley et al., 2015) which gauge disagreements on virtuality, which will be explored later. Under the umbrella of VTs, lies GVTs, which is of interest for the purposes of this study.

In 2001, Duarte and Snyder (2001) identified seven types of teams which can be virtual, spanning time, distance and/or space: Networked teams (individuals with fluidity and different needed expertise in an organization collaborate to meet a common objective; parallel teams (a team on special assignment making organizational recommendations); project or product development teams (these teams work on special projects for clients for extended periods of time); work, functional or production teams (these team members exist in one occupation, i.e., finance who work remotely, and can exist in most time zones); service teams (this includes support staff and call centers that work around the clock in different parts of the world during their daylight hours); management teams (management teams typically span a country or the world, meeting with their colleagues and teams daily or as a need arises); and action teams (these teams respond immediately as urgencies arise. Duarte and Snyder (2001) use NASA as an example of an action team during a space mission.

Schweitzer and Duxbury (2010) relied on six potential conditions of virtual teams that help distinguish them from collocated teams. These include geographic dispersion, asynchronicity, temporality, boundary spanning, cultural diversity, and being enabled by communication technology. What they concluded was that not one condition alone identifies a team as virtual versus not, and some are not sufficient differentiating markers, since proximate teams can include these conditions as well. Their reliance on defining a virtual team was based on two of the conditions, geographic dispersion and asynchronicity. Based on Gibson and Cohen's (2003) note that it is dependence on technological means that defines virtuality rather than its use, for this study's research purposes I contend *reliance* on technology use to communicate with team members is a criterion, and to specify global, adapting the criteria to read "global geographic dispersion" is necessary.

It is not necessarily the types of teams that have changed since Duarte and Snyder's (2001) research, but more so organizational reliance on the use of virtual teams, their prevalence, and individualized structure based on organizational need, which includes worldwide dispersion of the workforce. There are added benefits for companies using virtual teams over collocated ones. They have been found to facilitate increased participation, using communication technology which allows members to contribute based on their own schedules (Shen, Lyytinen, & Yoo, 2014). Other advantages include increased use of employees' time, around-the-clock workforce and availability, and the opportunity to leverage knowledge and expertise from around the world (Clear & MacDonell, 2011). Just how virtual a team can be, and how many members are virtual versus collocated can be explained by the degree of virtuality. Virtuality is a characteristic of GVTs that is explored more in the next section.

Evolution of Global Virtual Teams

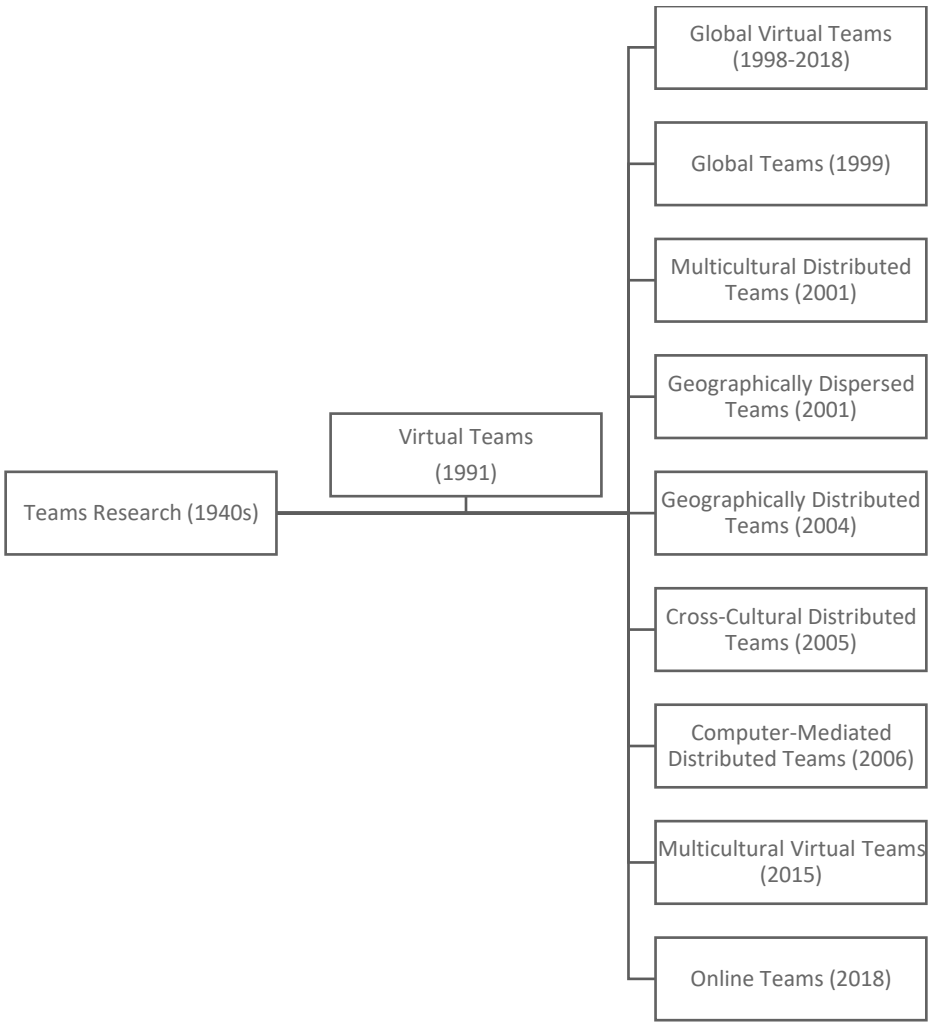
Global virtual teams have surfaced in research under many designations, namely virtual teams, and distributed teams; also known as multicultural distributed teams (Connaughton & Shuffler, 2007). GVTs are referred to as "temporary, culturally diverse, geographically dispersed, and electronically communicating" (Jarvenpaa & Leidner, 1999). The boundaries they span and work across have become the norm. Additionally, to better identify GVTs as a subset of virtual teams, it is important to note the added boundaries they span. While a virtual team's degree of virtuality can vary greatly based on different dimensions such as time or space, a GVT has specific dimensions, all of which contribute to its classification. Considering virtual teams as the umbrella for GVTs, geographically dispersed teams, multicultural distributed teams, etc., Figure 2.1 below illustrates the many subsets of virtual teams, and the years of appearance of

each subset in the review of literature, with additional information to show scientific interest in teams dating back to the 1940s.

Work teams were used in the U.S. starting in the 1960s, with the widespread use of teams appearing in the 1980s during the Total Quality Management (TQM) movement which featured cross-functional teams (Juran, 1995). During TQM, many companies implemented self-managing work teams to reduce bureaucracy and implement a horizontal organizational structure with employees taking on decision-making and problem-solving responsibilities traditionally reserved for management. Later, in the mid-1990s, companies such as Goodyear, Motorola, Texas Instruments, General Electric, and many more had begun exporting the team concept to their foreign affiliates in Asia, Europe, and Latin America to incorporate global human resource practices (Kirkman et al., 2002). By the start of the 21st century, due to communication technology improvements and the continued rise of globalization, virtual teams increased rapidly worldwide (2002). “We have moved away from working with people who are in our visual proximity to working with people around the globe (Johnson et al, 2001, p. 29). Figure 2.1 below illustrates the evolution of research beginning with traditional, collocated teams, and the transition of time toward the debut of virtual teams and their subsets.

Figure 2.1

The Evolution of Virtual Teams



In this study, the reference to "global" virtual teams is used to underline that the teams of interest vary in their degree of virtuality over time, location/geography and space, and their members are inevitably culturally mixed. Overlap between the many different types of virtual teams mentioned does occur in the research, but the GVT has evolved into its own niche to offer a more precise classification of the team.

Previously, research on GVTs occurred in lab settings, where GVTs were compared to face-to-face teams (e.g., Gera, 2013; Gibson & Cohen, 2003; Gibson & Vermeulen, 2003; Jarvenpaa, Shaw, & Staples, 2004; Saunders, Van Slyke, & Vogel, 2004; Staples & Webster, 2007; Strauss & McGrath, 1994;). This evolved to case studies as well as research focusing exclusively on GVTs across many disciplines and sectors (Gilson et al., 2015). Studies on GVTs exclusively have looked at assessing virtuality (e.g., Gibson, Huang, Kirkman, & Shapiro, 2014; Schweitzer & Duxbury, 2010), technology use (e.g., Brewer, 2015; Gu, Higa, & Moodle, 2011), and themes which to relate to input-process-output (IPO). Inputs such as team demographics and leadership (e.g., Connaughton & Daly, 2004; Hung & Nguyen, 2008) have been presented. Processes such as mediators and moderators like communication (e.g., Daim et al., 2012), trust (e.g., Zaug & Davies, 2013), knowledge sharing (e.g., Eisenberg & Mattarelli, 2017), and conflict management (e.g., Chiravuri, Nazareth, & Ramamurthy, 2011) have also appeared. Lastly, output such as team effectiveness and satisfaction (e.g., Maynard, Mathieu, Rapp, & Gilson, 2012; Maznevski & Chudoba, 2000) has been prevalent in the literature on GVTs. The challenges with GVTs is another topic that has been heavily researched, including time zone differences and communication problems (e.g., Carter, Seely, Dagosta, DeChurch, & Zaccaro, 2015). Most research to date has been project and task focused. Team member well-being has been mentioned (Bélanger, Watson-Manheim, & Swan, 2013) but not heavily pursued in the research. Typologies and profiles of teams working virtually have been offered and expanded (Bell & Kozlowski, 2002; Dube, Bourhis, & Jacob, 2006; Lippert & Dulewics, 2018) to include such constructs as distribution of team members, communication, team performance, cultural diversity, etc.

GVT research is continuously evolving. New and emerging technologies continue to influence and technology use and communication. Globalization and interconnectedness impacts organizations and team design, requiring adaptability, flexibility, and creativity. Virtual team effectiveness involves the emergence or shaping of social interaction (group processes) under the structures provided and adapted by global virtual team members.

Characteristics of Global Virtual Teams

The following sections outline the characteristics of global virtual teams including the varying degrees of virtuality, culturally diverse make up, and the reliance on technology use for communication, project management and knowledge sharing.

Degree of Virtuality (DoV)

Degree of virtuality (DoV) can be defined using three dimensions: the proportion of work time that the team members spend working virtually, the proportion of member virtuality, and the distance of the team's members (Schweitzer & Duxbury, 2010).

Research on virtual teams spans various degrees of virtuality or dispersion to include members who are 100% virtual (fully dispersed) and partially virtual, which can include globally dispersed sets of collocated teams, or collocated teams that can and do work virtually, suggesting they are not at all times collocated. Virtuality has come to be studied on a multidimensional continuum between the two extremes, traditional and purely virtual (Bell & Kozlowski, 2003; Fiol & O'Connor, 2005; Griffith at al., 2003). In a typology proposed by Dube et al. (2006), geographic dispersion was conveyed on a continuum of low to high. Throughout a province or state, the dispersion could be considered low to medium; throughout a large country such, the level could be medium to high (p.10). The greater the dispersion, the greater the challenges,

decreasing the opportunity for synchronous communication. Table 2.1 below provides aspects of a GVT as proposed by Chutnik and Grzesik (2009).

Table 2.1

Dimensions of Virtual Teams

Dimension	Collocated Teams		Virtual Teams
Territory	concentrated	dispersed nationally	dispersed internationally
Communication			
Technology	traditional		modern
Culture	monocultural		multicultural
Autonomy	low	medium	high

Note. From Chutnik & Grzesik, 2009

Adaptations to the table are expected given the advances in research on GVTs just since 2009. There is anticipated overlap between national and international dispersion between virtual teams. An argument can be made that traditionally collocated teams can also be multicultural given the changing demographic landscape in the workforce in the United States alone. In adapting the current systemized information, a continuum is proposed in Table 2.2 considering the mentioned overlapping features.

Table 2.2

Continuum of Identified Dimensions of Virtual Teams

Dimension	Collocated Teams	GVT Teams
Territory	collocated <---------->	globally dispersed
Communication technology	synchronous <---------->	asynchronous
Culture	monocultural <---------->	multicultural
Autonomy	low <---------->	high

Note. Adapted from Chutnik & Grzesik, 2009

GVTs continue to change and evolve based on their organizational assignment and tasks. No longer are we able to dichotomize collocated and virtual teams by specified criteria such as territory, technology, culture and autonomy. Instead, the portrayal of a GVT is more appropriately represented on a continuum between the two opposing team structures, as the degree of each scale may differ based on the team's individual members. The influences may likely stem from patterns created by globalization, including multinational firms, global alliances, and international trade agreements (Steinfeld, 2004).

Based on this information, a team's degree of virtuality may create different interactions, as well as the quality of interactions that can be observed. Exploring the DoV and the role technology plays in reducing challenges created by virtual environments or enhancing communication in virtual interactions deserves greater attention.

Cultural Diversity

In addition to geographic dispersion, culture must be considered when defining a GVT. In a 2018 study conducted by Culture Wizard on virtual teams, 62% of respondents work on teams with three or more cultures. High geographic dispersion is likely to increase the diversity

of a GVT (Dube et al., 2006). Given that many virtual teams are spread across many countries, national cultures and their inherent diversity have been considered and explored (Gibson & Cohen, 2003). With these cultural considerations come different languages or regional dialects, business practices, learning styles, etc. that can create challenges for team leaders and team effectiveness. “People tend to interpret information based on their cultural filters leading to a potentially broad range of misinterpretations or distortion (p.80). Leaders of GVTs need to ensure they manage the differences that create tensions or work to maintain creative tensions in order to ensure unified practices between team members by first becoming aware of their own cultural competence and promoting their cultural intelligence. Given that my research population will be required to have some degree of global dispersion, cultural diversity will be prominent and involve special considerations. Measures of diversity, ethnicity and nationality can be collected as demographic characteristics and assigned equal weight. This follows the Lau and Murninghan (1998) approach to addressing within-unit diversity.

Technology Use

All virtual teams utilize various forms of communication technologies to interact. Specifically, computer media communication (CMC) are technologies and software that enables human data interaction through networked communication systems (Bal & Teo, 2000). These include but are not limited to communication technologies such as e-mail, Skype, Google+, Zoom, WebEx, GoToMeeting. Moreover, the use of social network tools like Facebook, WhatsApp, Twitter, instant messenger (IM), mailing list servers, and so on has made relationship building on virtual teams easier despite lacking face-to-face (FTF) interaction (Zakaria, 2017). The selection of media type has become more complex due to rapid development of Information and Communication technologies (Gu, Higa, & Moodie, 2011).

GVTs are reliant on technology for formal and informal communication purposes, information sharing, scheduling, project coordination, and process building. A lack of experience with information and communications technology (ICT) can make it challenging for some team members to participate to their full potential because of the technological barriers (Jarvenpaa & Staples, 2000). Members should be aligned with their choice and use of technology, and open to multiple mediums. Individuals less comfortable with more sophisticated ICT tools will likely defer to more traditional means, such as a phone or e-mail versus a teleconferencing option. This could hinder participation and knowledge-sharing and cause a divide between members of the team (Dube et al., 2006). Communication channels should be specified and supported for all team members to ensure all individuals have access to flows of information. Considerations for most effective use of communication mediums must be made as well. In a study that measured preference of communication media, the use of meetings outweighed e-mails and direct messaging (Glückler & Schrott, 2007).

MRT, or Media Richness Theory is a proposed framework by Daft and Lengel (1984), that describes a chosen communication medium's ability to achieve the intended communication or information exchange. Four factors are used to assess the richness of the medium: the capacity to provide immediate feedback, the number of cues used, number of channels used, and personalization of message and language variety. The higher the ambiguity of the task, the higher the need for richer media selection. The media is ranked from high to low richness, FTF and telephone ranking high, while numeric and formal documents rank low (Gu et al., 2011). The perception of how rich the data can be an important consideration for a GVT, which will likely include members whose common language (likely English) is not their first. Tolerance of ambiguity can vary, as well as the reliance on cues and preference for the personalization of a

message. GVTs lived experiences are affected by availability as well as familiarity with media rich technology, or CMC.

Individual perceptions of richness can however vary, and thus influence the selection of the communication medium. This stems from the Social Influence Perspective (SIP) developed by Fulk, Steinfeld, Schnitz and Power (1987). In a study on media fit or fitness, Gu et al. (2011) found multiple-media usage to be more popular than single-medium usage (2011) based on data collected from 18 different companies and 72 tasks from various software development and design departments. The advantage of the media fit framework developed is to inform companies and managers of the most appropriate medium to use over others that are available. Based on experience working with GVT, member familiarity and availability in their location will heavily influence the technology for daily and common purposes. Laitinen and Valo's (2018) findings support the assertion virtual teams tend to choose software tools for their conferencing platform based largely on personal preferences and familiarity with the technology.

Leadership on Global Virtual Teams

While not focusing specifically on various types of leadership that are prevalent on GVTs, what emerged during data collection on leadership is considered and further explored. Implications for leadership are a vital aspect of this dissertation. It is important to note that while aspects of leadership are appropriate to consider, team leadership encompasses special aspects that involve all members of the team. Each unique situation the team is faced with requires different skills or knowledge. According to Northouse (2018), in these situations, certain members of the team that have the appropriate skills or knowledge will step forward and be the leader. The team-leadership process enables all members of the team to exhibit leadership as situations call for it.

What Einola (2017) uncovers in studies on global team leadership also coincides, that in practice there is often no formal leader in the traditional managerial sense. This can give rise to emerging leaders, i.e., members of the team. Because there is no formal power associated with these emerging leaders, their participation and effort in leadership activities may not always be accepted or well received by others on the team. To avoid confusion and to easily identify formalized team processes, roles, structures, team tasks and output, it will be necessary to identify who the team leaders are. Although prevalent research has been conducted to show the existence self-organized effective GVTs, "there is a general agreement that VTs function better with managerial guidance (Hertel et al., 2005). Following this claim, leaders with official titles such as manager, director, or another hierarchical position with direct reports will be approached and identified as a formal leader on a GVT.

Leaders play a critical role in conflict mitigation and process establishment for GVTs. Furthermore, Duarte and Snyder (2006) discussed the importance of leadership and its relationship to the success of the team. They also reported that leaders identify the "increased sense of burden and responsibility" as their biggest challenge in leading virtual teams. According to Duarte and Snyder, traits a virtual team leader must have at all times are "a knowledge of how to manage across functional areas and national cultures, skill in managing their careers and others without the benefit of face-to-face interaction, and the ability to use electronic communication technology as their primary means of communicating and collaborating" (p. 4).

Because GVTs are often cross-functional, they may report to multiple leaders (for example, a product manager and a project manager). This is common in matrix organizations. Matrixed teams can refer to individuals reporting into multiple managers (Groves & Feyerherm, 2011). Individuals working in global teams may be required to allocate their time across different

teams, and report to multiple managers and team leaders in matrix organizations (Oertig & Buergi, 2006). Matrixed overlays have been referred to as a challenge for GVTs (Lockwood, 2015). Matrix-managed teams are increasingly common in the high-tech sector (Daim et al., 2012), and are considered an efficient means to managing globally dispersed teams. Leadership on a GVT can be a critical factor for team success in a matrix structure. Multiple studies have looked at leadership as crucial on GVTs (e.g., Armstrong & Cole, 2002; Malhotra, Majchrzak, & Rosen, 2007). While organizations continue to employ GVTs and provide matrixed structures, it is important to consider leaders with the requisite skill sets, including cultural intelligence, the ability to overcome barriers such as time, distance and space, building trust and social presence, and helping to reduce any ambiguities regarding roles, tasks and norms.

Once technology has been determined an appropriate fit to meet the needs of a GVT, it is important to re-evaluate the technology according to what the team members deem necessary. Often, the function of technology serves the project needs according to tasks and deadlines, but it is important not to discount or disregard the needs for purposes of interaction and relational communication, which play a crucial role in team effectiveness.

The next section focuses on creativity, innovation and design thinking capabilities, highlighting opportunities for GVTs to engage in the social interactions and communication processes for the team's innovation potential.

Creativity, Innovation and Design Thinking

Since the start of the 21st century, organizations were predicted to rely more heavily on globally dispersed new product development teams versus collocated and solely virtual teams with moderate physical dispersion, approximately 20% (McDonough et al., 2001). Such product development teams have potential to provide companies with more practical and economical

services. Cross-functional teams have also been increasingly used for product development. Cross-functional GVTs require efficient collaboration.

While there are obvious benefits for the use of global virtual teams, they do face greater challenges given the multicultural makeup and communication challenges caused by geographic dispersion and reliance on technology for all business handlings. These challenges may seem daunting to management and the organization itself, and the focus of use for GVTs tends to be on project-specific tasks, versus innovative ones. There tends to be a focus on efficiency over exploration, and when team members are under pressure to meet tight deadlines and deliver results quickly, there is little time or opportunity to ask questions about broad processes or overall goals (Gino, 2018). Innovative opportunities for a GVT can create more opportunity for open communication, higher level engagement and better team performance. GVTs have the flexible work options and diversity to be creative. Diverse participants can enable creative and flexible responses to challenging development needs (Sole & Edmondson, 2002). Diversity is often emphasized when the potential for innovation is discussed. Multicultural teams achieve higher levels of creativity and produce more and better alternative solutions to problems than more homogenized teams (2002). Creativity also plays an essential role in the innovation process.

Innovation has shown to involve three skills: technical skills such as critical thinking and problem solving, creativity and social skills including communication (cross-cultural) and collaboration (Lee & Benza, 2015). Since innovation inherently occurs at a team level given the need for a social setting, it is crucial to determine how the diverse make up of GVTs, their flexible work options and use of CMC can enable innovation capabilities for this type of team. It has been discussed in previous research that a common social platform for interactions is

important, and one with video capability to assist with awareness of social presence and non-verbal behavior (i.e., smiles, headshakes, and other body language that can be indicative of thoughts or thought processing) since Brown, Huettner, and James-Tanny (2007) indicated that 70% of all face-to-face communication is nonverbal. Boutellier, Grassman, Macho, and Roux (1998) found this to be of significance during the first phase of the innovation process, which GVTs can be at a disadvantage of given their level of shared understanding and team process. A safe communication climate can help mitigate challenges associated with a diverse team composition that can create difficulty with problem solving and integration of ideas in later phases of innovation (Gibson & Gibbs, 2006). There is research that supports communication via CMC is more focused than face-to-face, and more oriented towards the problem the team is required to solve (Lebie, Rhoades, & McGrath, 1996). If members of a GVT can communicate efficiently and handle conflicts that arise, they will likely outperform homogenous teams. One such example is from a Watson, Kumar, and Michaelson (1993) study. This is also supported in research by Page (2007) and Dahlin, Weingart, and Hinds (2005) showing diverse teams outperform homogenous ones.

Furthermore, CMC is more open than face-to-face interactions, and may support lower inhibitions and intimidation to encourage idea sharing and differing points of view that may otherwise be suppressed. “The reduction of social presence in CMC appears to reduce social inhibitions in communications, and increase the voicing of more radical opinions, equality of participation and a reduction of status differences between members” (Dubrovsky, Kiesler & Sethna, 1991; Kiesler & Sproull, 1992).

It is first necessary to define innovation and identify the type of innovation of interest. A broad concept of innovation is understood as the process of creating or modifying an idea, and

developing and implementing it (Zhuang, 1995). There can be further distinctions made between incremental innovation, which refers to adaptations or improvements to existing products, and radical innovation, which are created a fresh, not reliant on existing products. An organization's innovation capability is perceived as its ability to access and use internal and external sources of knowledge and ideas in introducing and developing new products, services or outcomes (Hagedoorn & Duysters, 2002). With GVTs, a diverse pool of knowledge and external networks across the globe is therefore beneficial to innovative opportunities. External contacts can increase the social capital of the team, which can influence overall performance. Newell, Tansley, and Huang (2008) argue that team members should access their external network to mobilize their social capital and should be encouraged to do so.

Leaders cannot be fully representative of the GVTs heterogenous traits. To effectively lead a GVT, it is crucial for leaders to think about their areas of expertise, motivational needs and determine when they do or don't have added value, given that the team itself includes individuals from multiple professional backgrounds hired based on their diverse skills and knowledge. After all, it is the uniqueness of human capital that has a direct and positive effect on an organization's innovativeness (Cabello-Medina, Lopez-Cabrales, & Valle-Cabrera, 2011). Human capital refers to the knowledge, skills and abilities individuals have and use (Subramaniam & Youndt, 2005).

Given the trends with globalization, to compete in a global market, innovation and collaboration are necessary for success (Matthew & Sternberg, 2006). With technology advanced enough to support collaboration amongst GVTs, and their diverse internal knowledge with the ability to access external knowledge resources through their diverse networks, they enable organizations to take part in innovative work. GVTs have been referred to as innovative teams

(Andres, Broncano, & Monsalve, 2015), making better use of the knowledge, skills and creativity of each member. GVTs are an innovative team design. They may lack the opportunities for innovative work since these teams are structurally caught in the pursuit for task completion and productivity but benefits of innovative work opportunities are worth exploring for organizations who employ these teams. The demand for innovative structures forces companies to look increasingly farther for talent, with global virtual teams (GVTs) becoming the new norm (Derven, 2016).

Design thinking articulates the process for innovative potential amongst teams. Because organizations are increasingly reliant on GVTs, exploring their place in the rapidly changing and competitive future leveraging innovative opportunities and design thinking becomes an essential step to embracing this team design and their interactive potential. Design Thinking tools and techniques can guide the creation of customer centric products through "teamwork and collaborative creativity" (Lee & Benza, 2015, p. 49).

Bringing diverse voices into the innovation process is known to improve solutions (Liedtka, 2018). Design thinking can be used to help shape the innovators' journeys. Design thinking is defined as an approach that helps organizations create a competitive advantage by creating solutions that meet consumer needs (Liedtka & Ogilvie, 2011). Design thinking moves away from the familiar form of risk aversion and step by step processes to an iterative way of working that encourages risk taking and testing out of many solutions (2011). How exactly does one implement design thinking or become a design thinker then?

Kaaren Hanson, Facebook's design product director has stated when trying to change people's behavior, a lot of structure is required initially. "You need to start with a lot of structure, so they don't have to think (p. 75)." Design thinking application involves seven activities to lead

organizations to an innovation they can implement with the needed clarity for design thinking to take place. The phases include customer discovery, idea generation, and the testing experience. The initial exploration activities are intended to identify the task that needs to happen. For GVTs brought together for a specific project, this is likely to already be identified. Immersion, sense-making and alignment are the stages of the discovery process. Following immersion and sense-making, alignment offers opportunity for collaboration and idea generation to influence action through workshops with discussions that focus on all possibilities of a design, and not the constraints or risks, of the key features an ideal innovation would have. This is where the diversity of ideas becomes essential to examining numerous options (Liedtka, 2018). Since GVTs are considered diverse, idea generation can flourish with the right technological support to enable collaboration and brainstorming.

Following customer discovery is idea generation with emergence and articulation. During emergence, there is discussion about potential solutions, identifying the participants and the challenges that will be assigned to them and the structure of the conversation when individuals come together to brainstorm and build on their ideas creatively, without succumbing to negotiation or compromise when there are differences. Following the emergence of competing ideas towards solutions, there is the articulation of what is necessary for certain ideas to come to fruition. During this stage, clarity should arise on assumptions of what makes an idea a success or failure. These conditions necessary for the success of ideas are the outcome through articulation as well as a repository of potential ideas to pursue. In design thinking, the final steps referred to as the testing experience, or prototyping, is carried out before a near finished product that could require complete redesign, which is in contrast to traditional prototypes. Following the

early experience of a prototypical product, there is further learning in action with real application of the innovation idea for further follow-up.

In summary, design thinking is referred to as a social technology because it focuses on engagement, dialogues, collaboration and learning by involving customers, and key stakeholders essential to the problem, which could include external resources to the organization. The process also encourages agreement through teamwork by revisiting the problem and intended outcome, which becomes critical throughout the design thinking phases (2018). A recent study at Cisco showed that the key ingredients to successful collaboration is human interaction, and a primary reason people collaborate is to innovate (Kang, 2003). To engage in design thinking from a humanistic standpoint on GVTs, three attributes of design thinking are proposed by Liedtka and Ogilvie (2011), which include empathy, invention and iteration, where the principle of each includes developing deep connections with clients, pursuing opportunities instead of perfection, and not allowing limitations to dictate the trajectory of the progress. In addition, project failure is often attributed to human aspects (Ewin, Luck, Chugh, & Jarvis, 2017), and design thinking may address poor relational issues or a lack of emphasis on the power of relationships amongst GVT members to develop "soft" skills, or more appropriately termed- necessary skills.

Human interaction and cooperative teamwork are possible for GVTs. The richer the media selection, the greater the social presence, emulating face-to-face teamwork. Design thinking offers guidance and activities for team members to engage in, providing structure for interaction, idea generation, creativity, trial and error, and innovative outcomes. Most GVTs may very well be engaged in processes similar to design thinking but work under the confines of rigid structure so it goes unnoticed.

The next portion of the literature review covers the theoretical framework used to support the research on GVTs and their interaction. The framework includes Giddens' structuration theory, as well as adaptive structuration theory, proposed later by Poole and DeSanctis (1992), to emphasize group members' roles in the social system and intentional adaptation of structural rules. The focus on agency in structuration theory is of interest in this research and is further explored below to support both the structure in interactions as well as the role of agency.

Structuration Theory as a Theoretical Framework

Structuration is a social theory that provides an analysis of agency and structure, and how they are interrelated. Structure refers to already existing rules and resources in everyday life, while agency represents people's intentions, power, and knowledge of the social world. Giddens (1976, 1979, 1981, 1984) asserts that agents and structure are interdependent of one another and that structure is regarded as dual. Duality of structure refers to structure as, "both the medium and the outcome of the practices which constitute social systems" (Giddens, 1981, p. 27). Structures shape people's practices, but people's practices also establish structures.

Structure and agency, and their relationship, have been presented conceptually by many social theorists (e.g. Bourdieu's theory of practice, Giddens' structuration, and Archer's morphogenetic approach). In structuration, Giddens' claim of structure being regarded as dual, meaning structures shape people's actions, and people's actions reproduce these structures, differentiates his theory. Structure and agency are not opposed forces or restricting on one another. Rose (1998) claims the main criticism of structuration is the relationship between agency and structure as conflated. Other theorists prefer to approach each separately, so as to observe the impact of structure on agent. "It is difficult to analyze the way in which structural features may predominate in certain areas at certain times, while the creative and transformative

activities of people may come to the fore" (Layder, 2006, p. 185). The implied emphasis on agent, and structure as enabling versus constraining is of interest in this dissertation on GVTs and the organizational shift and reliance on these teams, connecting their human action to structural explanations.

Giddens' structuration theory provides a framework for analyzing how GVTs interact within the system, navigate through and adapt structures to enhance their interaction. Structuration occurs in interaction. There are elements of structure and agency involved in interaction. Giddens (1976) claims three fundamental elements in the production of interaction: "its constitution as meaningful, a moral order, and as the operation of relations of power" (p. 104). Researchers have identified small group interaction an ideal social unit of structuration (Poole, Seibold, & McPhee, 1985). Within structuration theory, the group is an entity where the "situated agent" joins the "situated group."

Structuration theory has been referenced several times to frame analyses of team activities (Barley, 1986), and development of virtual teams by providing a link between structures and communicative actions associated with virtual teams (Sarker, Lau, & Sahay, 2001). Structures (rules and resources) are continuously changing, being created and reproduced through team members' communicative actions (2001). In a case study on effective GVT interaction, aspects of structuration theory are used that describe the use of rules and resources to create structure (Scott, 2013). Rules included meetings or processes, in this case, a computer software program called scrum; and resources included team members' values such as, "communicate through the roof," "we are one team," and "meeting them halfway." In this study, team interaction was based on completion of project tasks, and not necessarily on relationships,

although building and maintaining trust was mentioned as a necessary aspect of GVT effectiveness.

While research on GVTs and structuration theory mentions the "duality of structure," the focus tends to be on structure and how structures influence agent behavior (e.g., Sewell, 1992). The agent-structure relationship is to be interdependent based on the analytical theory of structuration, but the agent becomes seemingly dependent on the structures, rules and resources, when it comes to conveying the social system of teams. Agents themselves as influencers of the social system seem absent or unobserved in the research. To further explore the concept of the duality of structures, Sarason (1995) stated,

> The central idea is that human actors or agents are both enabled and constrained by structures, yet these structures are the result of previous actions by agents. Structural properties of a social system consist of the rules and resources that human agents use in their everyday interaction. These rules and resources mediate human action, while at the same time they are reaffirmed through being used by human actors or agents. (p. 48)

Giddens' rules of sociological analysis in terms of the agent's role is best summarized as, "The production and reproduction of society thus has to be treated as a skilled performance on the part of its members, not as merely a mechanical series of processes" (Giddens, 1993, p. 168).

The objective of this research is to avoid a portrayal of GVTs being analyzed structurally. Teams must be seen in relation to social systems and not as doers of behavior created by these systems (structures). Agent and system have a reciprocal relationship where one infiltrates the other, and vice versa. Structuration theory's intent is to support this claim, which is in contradiction to other sociological analyses, such as Durkheim's argument where structure is seen as external to individuals. Giddens (1984) included that all behavior, even the most routine

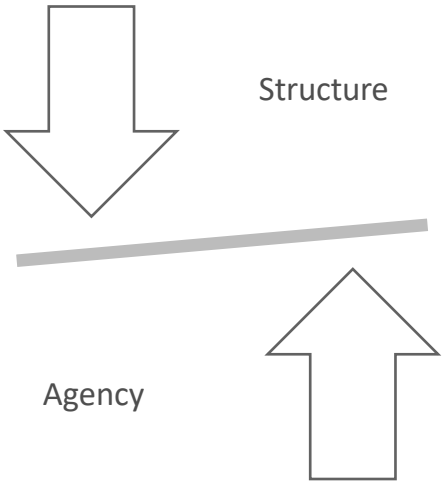
in everyday life, can potentially be transformative. That is, people may vary their routines or engage in innovative behavior, and if such innovations are accepted and repeated by others, the result may be structural transformation. People are not simply an instrument or tool within a process. Raven (2003) emphasized that "instead of looking at individuals as just making decisions and processing information, a much richer understanding of their work and their need for support can be obtained by looking at workers as conversation makers and sense makers" (p. 293). A study by Heckman, Crowston, and Misiolek (2007) on first and second-order leadership on virtual teams takes into account agents and their effects on structure and their ability to influence change in social systems. The study looks at influence as a resource of power. There exists structural versus agentic theorizing.

Just as social structures are dependent upon and therefore created by the practices and understandings of agents, the causal powers and interests of those agents, in their own turn, are constituted and therefore explained by structures. The structures that constitute agents are of two distinct kinds: external, or social, structures; and internal, or organizational, structures. For a GVT, social structures might include national or ethnic cultural norms and values that influence the team business and relational culture, and organizational structures may be rules associated with one's functional role or the rules and norms around communication and technology that members must use and adapt to fit their needs. Each type explains a distinct set of the causal powers and interests of agents-social and intrinsic ones, respectively. Thus, all agents possess three intrinsic capacities or powers in virtue of their internal organizational structure or anatomy (Giddens, 1984, pp. 5-6).

To best visualize this relationship between agent and structure and the constant interplay that exists between them, consider the following representation in Figure 2.2.

Figure 2.2

The Relationship Between Agent and Structure Visualized



Adaptive Structuration Theory

Adaptive structuration theory (AST) spawns from structuration theory and at first attempts to explain "how communication processes mediate and moderate input-output relationships" (Poole & Jackson, 1992, p. 287), taking a macro-level theory like structuration and applying it to a more micro level (groups). The name stems from group members actively adapting rules and resources in order to accomplish decision-making goals (Griffin, 2008). In AST, rules are suggestions of how something should be done or what is good or bad, and resources are group members' possessions or attributes that can be used to influence the actions of the group or the group members (Poole & DeSanctis, 1992). Rules might include something like task guidelines, and resources may be personal relationships. DeSanctis and Poole (1994) propose using AST as an approach to studying the role of advanced information technology use in work practices, which is pertinent to GVTs and their use of technology tools. According to AST, how individuals adapt technology structures is a key factor in organizational change. The

"duality of structure" in AST is the relationship between structures in advanced technology and the structures that emerge due to human use of the technology (p. 122).

The researchers looked at group decision support systems (GDSS), interactive technology that facilitates group discussion and decision making. DeSanctis and Gallupe define three levels of GDSS by their advanced capabilities (1987). Later researchers identify six (Venkatraman, 1996). The more advanced technology becomes, the more opportunities that will arise from the sophistication of technologies such as GDSS in terms of the potentials of group exchange mediated by technology.

Orlikowski's (1992) structuration model advocates that technology does not determine behavior, but it is people who generate social constructions of technology. Adaptive, structuration theory, or AST, is a model that describes the interplay between advanced information technologies, social structures and human interaction, something of interest for GVT research and the role the group members play in the social system. In AST, organizational change occurs when members of groups bring the structural potential of new advances into practice and interaction. Groups can adapt technologies in different ways, develop attitudes toward them, and use them for social purposes.

For GVT interaction, there is a need for versatile adaptation of interaction styles to the cultural values and preferences of the team members. How technology plays a role in mediating the interaction is an important topic of discussion given the reliance on technology by GVT members. In AST, DeSanctis and Poole (1994) found that three social processes such as technology, work, and social adaptation affect the way in which GVTs adapt. How members adapt to and adapt structures (rules and resources) to achieve goals such as innovation, satisfaction and performance can be examined on GVTs to refine structuration and adaptive

structuration theory. How technology is brought into human interaction for purposes of accomplishing team-based designs, and how groups organize themselves can also be examined through this framework in the context of GVTs. As mentioned earlier in Chapter 2 regarding the TQM movement in the 1980s, which reduced bureaucracy and implemented a more horizontal organizational structure, Fulk and DeSanctis' (1995) work is in line with this thinking as their review of electronic communication and changing organizational forms dictates a leaner organization with flattening hierarchies and greater horizontal coordination all related to electronic workflow.

The dynamic aspects of human interaction deserve greater attention in GVT literature. A team member's place and identity as a participant in the GVT context becomes essential and promotes greater understanding of task and non-task interactions. Both task and relational aspects of interaction promote team development and functioning (González-Romá & Hernández, 2014). Aspects of team interaction accounting for relationality, trust, and other non-task specific experiences lie in the uncovered lived experiences of a team. These deserve greater attention. The final section presented in the literature review examines team interaction and a team learning inventory tool developed to assess a team's current and desired state of engagement.

Team Interaction

Teams have become the basic building block of organizations. Companies are forming dynamic networks of highly empowered teams that communicate and coordinate activities in unique and powerful ways. According to a 2016 Deloitte report on Global Human Capital Trends, fast-moving global markets and digital disruption have forced companies to innovate rapidly and rely on teams with a high degree of empowerment and strong communication

(McDowell, Agarwal, Miller, Okamoto, & Page, 2016). To allow for this structure, organizations must ensure that they equip individuals with the skills, tools and support necessary to function as members of a high-impact team (Lingham & Richley, 2015). This involves learning and understanding the various complexities involved in team interaction and team members' experiences working as part of a team. Teams themselves have come to be known as complex, adaptive and dynamic systems in research (Ilgen, 1999). Team interaction has been identified as a critical aspect of team research around the turn of the century (e.g., Hare, 2003; Wittenbaum et al., 2004; Bradley, White, & Mennecke, 2003; Wekselberg, Goggin, & Collings, 1997; Seers & Woodruff, 1997) but only recently being empirically studied by Lingham and his colleagues (e.g., Lingham, 2009; Lingham & Richley, 2015, 2018).

In order for teams to function at high-impact, teams must "understand their quality of interaction (functioning), their ability to innovate and implement/execute tasks and their need for power and influence" (Lingham, 2009). Lingham's four-factor model on team interaction uncovers four dimensions: diverging or non-task related aspects of teamwork, converging or task-focused features, power and influence, and openness. These were found to contribute to the experiences of teamwork. The first dimension, diverging, relates to socio-emotional team dynamics and within the dimension are aspects such as engagement, active listening, individuality, relationality and solidarity. Converging involves the team's task or purpose and the aspects include understanding goals and roles, action and planning. Power and influence is defined as "the extent to which members of the team have the ability and opportunity to influence and contribute to the team's purpose, goals and tasks" (Lingham & Richley, 2018, p. 135). This dimension has shown to have an impact on the team's contribution to the organization, performance, innovation, satisfaction and the psychological safety of the team.

Gibson and Gibbs (2006) found that teams who worked in psychologically safe environments were able to overcome challenges that may have been associated with virtual interaction. Openness, the fourth and final dimension focuses on how safe a member of the team feels as well as their acceptance, in terms of promoting inclusive behaviors. Openness can impact trust amongst team members, relationships, satisfaction as well as psychological safety. These dimensions are conveyed in the Team Learning Inventory (TLI).

Team Learning Inventory (TLI)

The Team Learning Inventory (TLI) was developed in 2005 and has been tested globally across many industries. It was developed based on the experiential learning theory (ELT), conversational learning, team research and practice, and creativity/innovation. The instrument is a 360-degree assessment that presents a team's quality of engagement, innovation and execution capacities, and outcomes. The TLI can be applied in order to identify the team's quality of engagement, showing actual engagement versus what they assess as their ideal. In addition, the tool can help develop skills related to innovation and execution at the team level. If the team can visualize where they are with interaction versus what is ideal, teams can begin to uncover their needs and areas of focus based on the different dimensions. The TLI can be used holistically as well as by focusing on the specific dimensions based on a team's needs. In Lingham's study that looked at the four dimensions and their effect on team satisfaction, effectiveness and psychological safety, all dimensions had a positive and significant effect on the three dependent variables (2009).

Team interaction is imperative to understanding the experiences of teams at work. Employees' engagement with their work (project) and company as well as emotional needs are key drivers for project success (Hardy-Vallee, 2012). Task-based approaches do not account for

the relational aspects of teams. Strong relational links are associated with enhanced creativity and motivation, increased morale, better decisions and fewer process losses (Pauleen & Yoong, 2001). Relational links are also associated with higher task performance (Warkentin, Sayeed, & Hightower, 1997).

Technology is the medium for GVTs and their interaction. The selection of CMC to use for GVT relationship building is crucial. New communications tools are rapidly entering the workplace. According to a 2018 Deloitte report on global human capital trends, 70% of respondents believe workers will spend more time on collaboration platforms in the future, 67% see growth in "work-based social media," and 62% predict an increase in instant messaging. In the same study, there is a decline in the use of meetings via telephone. Face-to-face interactions are being increasingly replaced by technology platforms that provide similar opportunities for communication and collaboration. Organizations must develop and apply their expertise in team management to improve organizational, team, and individual performance and promote necessary collaboration and interaction (Agarwal, Bersin, Lahiri, Schwartz & Volini, 2018). This provides opportunity for less task-based focus regarding team success. While the research and instrument cited was tested on collocated teams, it is applicable for virtual team environments as well. The TLI can be used to identify a GVTs level of engagement. Employee engagement has been reported as critical to our nation's success as disengaged employees cost the US between $450 to $550 billion each year (Gallup, 2017). According to Gallup's State of the American Workplace report, employees allowed to work remotely are more engaged (2016). This suggests physical distance may not be a barrier to employee engagement. In the context of a team, the TLI could provide further insights into the quality of team engagement of GVTs particularly how social and collaborative opportunities may be affected if at all for virtual team members, and if

an improvement is desirable (ideal). Additionally, if the quality of engagement is high, innovative and execution capacity is going to increase as well. In order to foster innovation and team effectiveness, the focus should be the team's interaction (the people), and not structure (processes). The scholarship on human engagement and interaction remains scarce in virtual team literature, with concentration on task and operational approaches to effectiveness. It is important to highlight the structure and acknowledge that agency is minimized when the team's purpose and functioning is task-based.

In a study conducted on 22 F2F teams, 22 virtual teams relying on videoconferencing for communication, and 22 teams communicating via text-based chat, leaner forms of communication media, such as chat, were found to prevent task conflict from escalating into relationship conflict. Task conflict during early stages of teamwork predicted relationship conflict at later stages during F2F interaction as well as with videoconferencing tools (Martinez-Moreno, Zornoza, Gonzales-Navarro, & Thompson, 2012). This study provides insight into mediums of communication -and their richness- used for team interaction that may minimize relationship conflict on teams. This contradicts social presence theory (Short, Williams, & Christie, 1976), which states that virtual teams will be negatively impacted by technology by their interpersonal and group processes. Although there are underlying factors that could be the cause for decreased relationship conflict on teams using CMC such as chat, which is prevalent for F2F teams and GVTs that use richer media, it is still a promising discovery showcasing the effects technology can have on virtual team interaction in potentially mitigating relationship conflict.

Conflict results from teammates' real or perceived differences (De Dreu & Weingart, 2003). It can have positive or negative effects on teamwork. Earlier work in teams literature

focused on the distinction between task and relationship conflict (e.g., Amason, 1996; Simons & Peterson, 2000). More recent research conceptualizes conflict into three separate components: task, relationship, and process conflict (Greer, Jehn, & Mannix, 2008; Jehn & Bendersky, 2003). Task conflict results from differing viewpoints amongst team members that pertains to a task. Relationship conflict includes feelings of tension and friction, and "an awareness of interpersonal incompatibilities" (Jehn & Mannix, 2001, p. 238).

Task conflict has been shown to promote positive team outcomes (Amason, 1996; Farh, Lee, & Farh, 2010), whereas relationship conflict adversely affects group functioning and team outcomes (Gamero, Gonzalez-Roma, & Peiro, 2008; Tekleab, Quigley & Tesluk, 2009). Jehn and Mannix (2001) claim teams may experience difficulty separating task and relational conflicts, and task conflict can evolve to relationship conflict. The risk and consequences of relationship conflict deserve much attention when discussing a team's optimal functioning, interaction, and effectiveness.

The literature on global virtual teams includes an emphasis on the importance of connections and collaboration. Vygotsky (1980) looked at the connections between people and the sociocultural context in which they act and interact in shared experiences. Vygotsky's notions of team learning state that creating social contexts for learning enable higher mental functions that can foster innovation and effectiveness. Vygotsky's (1978) sociocultural theory views learning as a social process activated through the zone of proximal development defined as, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p.86). Through Vygotsky's

examinations, he uncovered that individuals learn through their interactions and communication with others.

There is a link between relational interaction practices in the workplace, learning and organizational effectiveness. Fletcher (1999) focuses on relational practices in terms of creating organizational effectiveness, which challenges the traditional, masculine-oriented logic of effectiveness, by focusing on relational practices (previously referred to by Fletcher as "caring activities"), stereotypically rooted as feminine. The exploration of relationship qualities in global virtual teams can benefit from the research on relational practice in the workplace.

According to Fletcher, relational practices are seen as weak and not contributing to the organization's success. Organizationally strong words like "skill and competence" are defined to exclude relational practices. Relational behaviors are gendered (nice, nurturing) and are unassociated with career capital. The paradox is that relational practice is not needed and yet if it is not provided, relationships at work cannot flourish to foster organizational success.

Relational practices contribute to innovation capacity. Global virtual teams contain diverse knowledge resources which contribute to innovation (Alavi & Tiwana, 2002; Duarte et al., 2011; Griffith et al., 2003). To enhance the benefits of the diversity of experience and knowledge, teams must become relationally oriented. The GVT must develop trust, communication, and commitment among its members (Blomqvist & Levy, 2006). The backbone of realizing the full potential of a GVT involves structural and nonstructural support systems in place, which are of interest to this study.

Research Agenda

To better realize the lived experiences of GVT members, an extension of the research is needed. To expand on the existing research and to better understand the quality of interaction for

teams who cross boundaries such as time, location and space, as well as their experiences as members of a GVT, it is important to first explore the features that exist in their interactions, which will inform the creation of a scale to evaluate the quality of a GVT's interaction. This evaluative tool can then help inform the teams' learning and coaching toward effective GVTs and their leadership. Prior to the scale as a later outcome, a preliminary and foundational research design and analytical approaches are proposed in the next chapter. Chapter 3 provides the outline for the study plan and discusses the refined research questions guiding this study, the design and methodology used, and the two phases involved in the research design.

Summary

The literature review has provided various definitions and characteristics of GVTs, as well as insights into themes presented in research spanning approximately three decades. Then, team interaction as well as team learning provided current trends and measures for high-impact engagement in terms of promoting team effectiveness, satisfaction and psychological safety. Next, the literature review introduced creativity, innovation and design thinking capabilities on GVTs in hopes of expanding the literature to include a greater potential for these types of teams. Such capabilities rely on members' diverse skills and knowledge to increase innovative capacity. Following the potential for engagement in innovative opportunities, a theoretical framework is offered as a way to interpret GVTs and their work context, focusing on agency of team members, their interaction using technology, structural support, and adaptiveness to enhance outcomes such as high-quality engagement and team success.

The task-relationship communication continuum in GVT interaction is of interest to explore, given the role of technology present on GVTs. Task-oriented communication focuses on completing tasks and meeting outcomes efficiently and is less focused on interpersonal

relationships. This requires more rigid work structures than a relationship-oriented focus (McKay, Davis, & Fanning, 1995). Relationship-oriented communication suggests an interest in building and maintaining good relationships with team members as well as interactions contributing to member well-being (A Primer on Communication Studies, 2012). It is important to note that individuals have a fundamental drive to be part of a group and to create and maintain social bonds.

The extant literature is insufficient in addressing the research questions. There is a need to uncover the characteristics of GVT experiences between members by gaining insight into their lived experiences, and how that may inform best practices and team effectiveness. These facets of information remain underdeveloped in the research on GVTs. Discovering non-task specific aspects of interaction in the lived experiences of GVTs during data collection was of interest.

Assessing the quality of interaction can help these teams learn and develop. Better understanding the interaction between GVTs will also advise leadership and the requirements for effective team practices. After careful evaluation of GVTs and their experiences working as members of this team type, the research scope will be enriched. The topics chosen for this literature review- the evolution of GVTs, creativity, innovation and design thinking, structuration and adaptive structuration theory, and team interaction- are distinctly chosen for review as aspects that have not been reviewed in depth enough in virtual team literature in the context of GVT interactions and human experiences. These reflections prompted careful refinement of the research questions offered in the next chapter due to the need for a more wholistic perspective, acknowledging that the topics under review from practice and literature encompass only individual facets of the GVT experience.

Chapter III. Research Design and Methodology

Introduction

As the presence of GVTs continues to grow, so does the need for organizations to better understand how to ensure these teams partake in high-quality engagement and work effectively to support and influence organizations. Some typologies of GVTs do exist, but given the fast and furious pace of globalization, organizational reliance on such teams is likely to continue to increase and evolve. GVTs came to be due to patterns of globalization, including multinational firms and international business dealings. These teams enable interconnectedness between global organizations.

In Chapter 2, an adaptation of Chutnik and Grzesik's (2009) dimensions of virtual teams was presented to better represent global virtual teams by outlining features such as the team's territory and its dispersion, synchrony of communication technology, culture of team members, and autonomy. Characteristics such as reliance on technology for communication, project management and knowledge sharing, the multicultural makeup, and degree of virtuality were further explored in the review of literature as well. Additionally, a graphic was offered to illustrate the evolution of research from virtual teams to further refined subsets of such teams, including GVTs, detailing the boundaries GVTs span. To better realize the lived experiences of GVT members, an extension of the research is needed.

To expound upon the research that exists and to better understand the quality of interaction for teams who cross such boundaries as time, location and space, as well as their experiences as members of a GVT, it is important to first explore the features that exist in interaction, which inform the creation of an instrument to evaluate the quality of a GVT's

interaction. This evaluative tool can then help inform the teams' learning and coaching toward effectiveness and better equip leadership.

This chapter presents the research questions that guided this study, the research design and methodology, and the analytical approaches proposed.

Research Questions

The study addressed the following refined Research Questions in two phases:

Phase One:

1. What are the characteristics of the lived experience of global virtual teams (GVTs)?
2. How can these experiences be transformed into a thematic framework representing the lived experiences of GVT members?

Phase Two:

1. How can the newly developed thematic framework be used to create an instrument to measure the quality of GVT experiences in order to identify areas for improvement toward team effectiveness?

Research Design

A sequential mixed methods study was conducted involving two phases, where the qualitative results were used for the development of a quantitative measure. The process each phase followed is provided in detail below.

Phase One – Qualitative Methodology (QUAL)

Research questions one and two are addressed in this phase. As the lived experience of GVT members in their work context had not been well studied, phase one of the research design was proposed using qualitative methodology (QUAL) to conduct an exploratory study to identify the characteristics of GVT experiences. The need to begin with an exploratory approach aligns

with the limited empirical work that has been done in terms of the experience of GVT members. In this QUAL phase of the research design, Thematic Analysis was used (Boyatzis, 1998) as the analytical approach so as to be able to focus on satisfactory and difficult interactions and experiences faced by GVT members in their virtual work context. Aligned with this approach, a semi-structured interview protocol was created (see Appendix D) to capture these critical incidents using Critical Incidence Interviews (CII; a time when they had a positive experience and a time when the experience was bad/frustrating) as well a question that allowed interviewees to identify, through their perceptions, what creates positive GVT experiences. In addition, the protocol contained a question inquiring about a fun or energizing experience in hopes of uncovering non task-based experiences or opportunities for creativity/innovation. Characteristics help to answer what could facilitate such satisfactory experiences and what might hinder such experiences. The interview data was coded using Thematic Analysis to distinguish satisfactory and frustrating experiences and coded for themes (data driven codes) that contributed to the GVT experience. Codes which emerged from this analysis were used to create an initial theoretical framework that captured the lived experiences of team member interaction.

Purposive sampling technique was used to identify and recruit individuals from my professional, academic and personal networks that fit the criteria of working as a member of a GVT. The suggested sample size was approximately 20; 21 interviews were conducted, 15 GVT members and six leaders. This range was used to take into account the criteria needed to select participants based on individuals who:

1. work on a team with a group of people (at least two other people) interdependently with a shared outcome.
2. work across space and time (geographically dispersed).

3. rely on technology for communication/information sharing.

4. work virtually to get things done.

5. have a formally appointed leader(s).

The same criteria were used to recruit respondents for a survey instrument as part of phase two. Twenty interviews were conducted virtually and one face-to-face since an opportunity presented itself.

Simultaneously, analysis from extant theoretical frameworks and / or concepts related to GVTs in literature was conducted to determine if it would be possible to also create theory-driven codes. Data-driven and theory-driven codes were used to ensure alignment and refinement/expansion of the codes derived from interviews.

A coding team of five individuals was recruited to ensure greater reliability of the data set. The team of coders relied on a code book to help guide their identification of codes and themes. The validity of themes was considered to discern if the themes accurately reflected the meanings in the data set as a whole (Braun & Clarke, 2006). Through inductive and deductive analysis, coders read sections of transcripts and applied appropriate codes.

Various codes were then clustered to identify specific higher-level themes or constructs and the initial theoretical framework was refined to develop an updated framework, or map, that supports theory as well as empirical data per Saldaña (2009). Description and interpretation are the main features of thematic analysis (Vaismoradi & Snelgrove, 2019). Themes or patterns are described as the final products of data analysis in the TA approach (Braun & Clarke, 2006). Once complete, the thematic framework informed phase two, where the clusters/codes were used to create a pool of items that reflected the codes within their related clusters (statements/items) derived from interviews to create a pilot test that was administered and reviewed for feedback

from a representative sample to help assess the validity of the instrument and its ability to convey the quality of GVT interactions and experiences that could be used to inform leadership and GVT practices. The aim is to maximize semantic equivalence to increase the likelihood of items maintaining the intended structure and meaning of the identified themes.

A rationale for using qualitative interviewing to provide groundwork for quantitative studies is a broad mixed-method tradition (Padgett, 1998; Weiss, 1994). This qualitative preparation is often conducted for survey research. By conducting and collecting data from qualitative interviews prior to surveys, "key information from participants in specific social/behavioral circumstances can enrich the quality of the research" (Rowan & Wulff, 2007, p. 450). Analyzing data generated from the interviews informs the survey intended for larger samples. More so, analysis of data from surveys can then be analyzed from a quantitative and/or qualitative approach. Furthermore, from a quantitative or statistical point-of-view, the origins of questionnaire items are not significant (2007). The prominence lies in whether or not the items represent the construct or variable in question as determined by reliability and validity scores; not where the items came from.

Phase Two – Quantitative Methodology (QUAN)

The third and final research question was addressed in this phase. In phase two, a survey instrument to profile GVT experiences was created using the results (clusters) from the interviews and thematic analysis conducted in phase one. Each statement was transformed into an item ensuring the alignment with the definition of the cluster in which the item was embedded. This initial pool of items was piloted with a representative pilot sample. The sample included respondents from my professional, academic and personal networks who were not

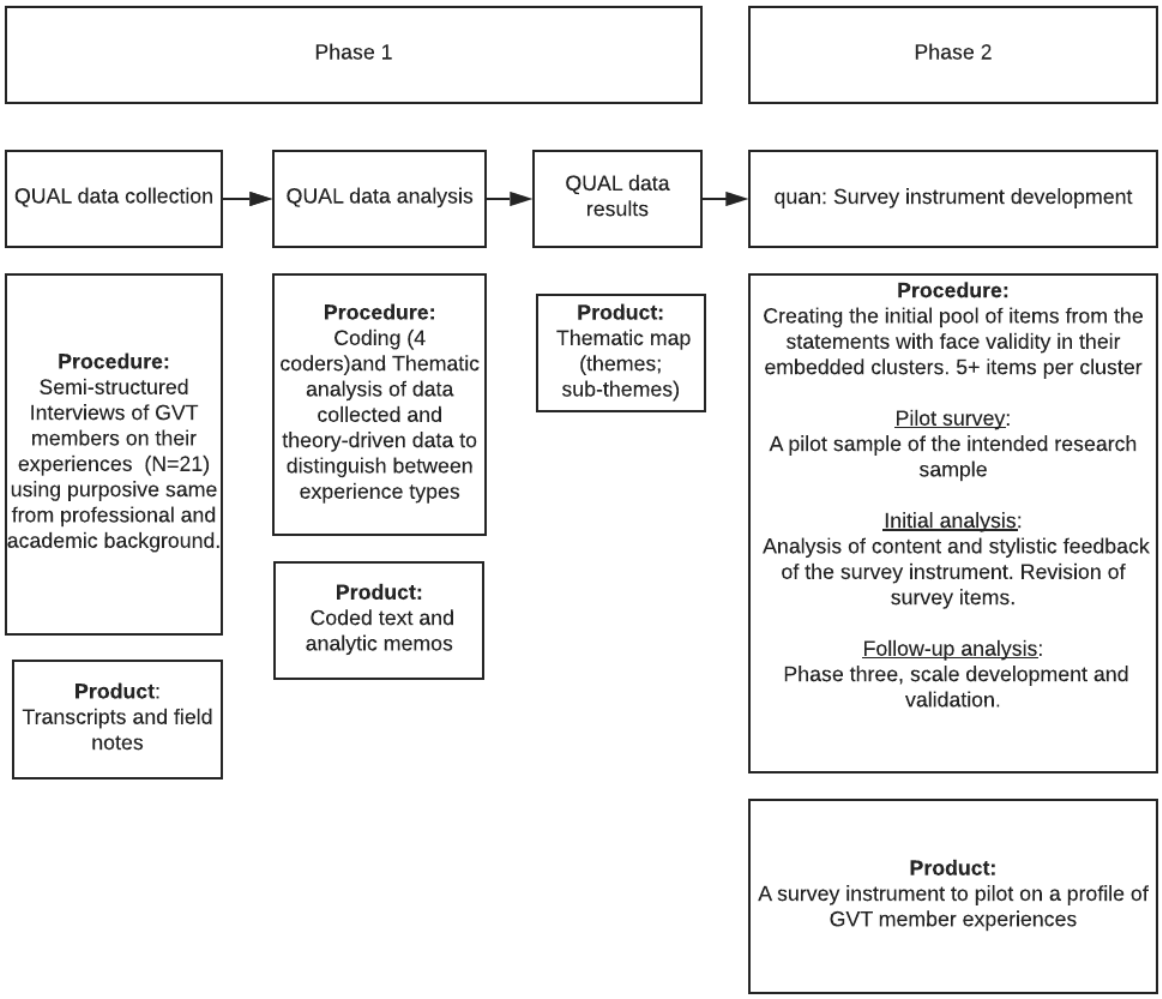
involved in phase one of the data collection through snowball sampling. The sample population accounted for a global sample, with multicultural and multinational make up. There was no pre-determined sample size as no analysis was conducted of the data. The final, revised survey instrument contained 70 items in total, including 11 demographic questions. In future research, the exact number will be determined based on 10% of the total number of items included to develop a scale (DeVellis, 2016). A refined scale would then be administered to the research sample following initial EFA analysis with extraction and rotation methods. Analysis will include EFA using 1/3 of the sample and Confirmatory Factor Analysis (CFA) using 2/3 of the research sample. CFA goodness of fit criteria for the hypothesized model will be based on standards established by Byrne (2001). This tool can then be used to inform best practices and coaching for GVTs, leadership and quality engagement.

To address common method bias, which can occur in a survey when respondents respond to the survey items at one point in time (Lindell & Whitney, 2001), a few protocols were followed. As outlined by Chang, van Witteloostujin, and Eden (2010), *ex ante* steps can be taken to ensure common method bias is addressed. For example, questions can be re-sequenced and randomized in order. For the survey created in this study, respondents were assured of anonymity and confidentiality, and reminded that there are no right or wrong answers. Special care was given to the language use as well, to ensure ambiguity and vague questions were avoided.

The flow chart below in Figure 3.1 depicts the study design of this exploratory sequential mixed methods research design in the two phases outlined above.

Figure 3.1

Exploratory Sequential Mixed Methods Design Phases



Mixed Methods Research Design

Creswell and Plano Clark (2011) outline the core characteristics of mixed methods as both qualitative and quantitative strands of data being collected and analyzed separately for a single research study, and integrated, either concurrently or sequentially, to address the research question. This approach draws on the strengths of both qualitative and quantitative

methodologies and helps reduce the limitations of each. Mixing different methods can strengthen a study (Greene & Cracelli, 1997).

This research study consisted of both qualitative and quantitative methods. The mixed method approach offers the opportunity for answering research questions via interviews and surveys which broadens the data choices and helps bridge the divide between quantitative and qualitative research (Creswell, 2009). The intent to use a mixed methods approach is to bring together the differing strengths and weaknesses of quantitative methods, which is acclaimed for large sample sizes and generalizable data, with those of qualitative methods, which can include smaller samples, greater details, and more in-depth perspectives (Patton, 1990). There are various types of mixed methods approaches. This study employs a sequential mixed methods design in order to broadly explore the characteristics of GVT experiences. In an exploratory design, qualitative data is first collected and analyzed to explore a phenomenon, and the themes that emerge are then used to inform the development of an instrument to further explore the research questions (Creswell & Plano Clark, 2011; Teddlie & Tashakkori 2008).

This study is provisional, with an outstanding phase, scale development and validation, which will be pursued following the doctoral work, that is intended as the foundation for phase three.

Scales are needed to measure phenomena that are believed to exist due to the theoretical understanding of the context, but cannot be directly assessed (DeVellis, 2016). Measurement refers to careful, deliberate observations of the real world and is the essence of empirical research. Following qualitative and quantitative data collection and analysis of GVT member experiences, a scale is needed in order to profile those experiences and offer a tool to inform

effective coaching of GVTs. Measurement theory enables the researcher to operationalize conceptualized constructs.

Ethical Considerations

Ethical considerations in research are critical. Ethical guidelines ensure appropriate compliance when working with human subjects. This study posed minimal risk to participants during data collection and dissemination. Participation in this study was voluntary and consent forms were shared with interviewees, signed, and collected. This guaranteed all participants were choosing to partake on their own and that they had been fully informed regarding the procedures of the research project and any potential risks. Ethical standards were also followed to protect the confidentiality and anonymity of the subjects. Full IRB approval to conduct this study was granted by the Antioch University IRB Board.

Study Design Limitations

All studies face limitations. Methodologies are selected to help avoid these if possible. Potential limitations of this study included sample size and the reliance on self-reported data as a source of bias. Additionally, given the need to include a global sample, English as the primary language became a limitation.

Summary

In sum, this chapter outlined the research design and methodology employed in this dissertation on global virtual teams (GVTs) and their experiences working and interacting with team members. The exploratory sequential mixed methods research study involved the two phases outlined including interviews and the development of a new survey instrument, designed from interview data and extant research to measure the profile of GVT members and their lived

experiences working as part of a GVT to help inform future research and best practices on GVTs. The next chapter, Chapter 4, discusses the findings of this study.

Chapter IV. Results and Findings of the Study

Introduction

This research study aimed to explore the experience of working as a member or leader of a global virtual team (GVT). This chapter provides an analysis of the findings in two phases using an exploratory mixed methods design. The qualitative findings of the first phase were used as the foundation for the second phase, the development of a survey instrument to help identify areas affecting team experience and effectiveness.

Those working on GVTs use technology to communicate with one another, rather than working face-to-face due to geographic and spatial distance; this makes virtual teamwork different from traditional teamwork. Virtual teams have created new working methods and flexibility for achieving successful organizations (Townsend et al., 1998) and they continue to rise in existence.

Phase I: Qualitative Results

The research questions addressed in this phase are:

1. What are the characteristics of the lived experience of global virtual teams (GVTs)?
2. How could these experiences be transformed into a thematic framework representing the lived experiences of GVT members?

The first phase was a qualitative phase consisting of semi-structured interviews containing 10 predetermined questions with 21 members and leaders of GVTs using videoconferencing tools (WebEx and Zoom) and telephone. Twenty interviews were recorded and transcribed using Otter, an AI-powered transcription service, and one interview, while not recorded, was transcribed as well. Any identifying information including names or work affiliation was removed from the transcripts or replaced with an alias and analyzed using

thematic analysis. In total, 294 pages of double-spaced text were transcribed, and 464.59 minutes were recorded. Analytic memos were created after each interview. Saldaña (2009) describes these memos as ideas for codes, topics and noticeable patterns, which contribute to the emergence of themes. Four coders in addition to myself, two GVT practitioners and two recent doctoral graduates also coded the transcripts (5 transcripts each), which were then reconciled against my own coding. All coding was conducted manually. Transcripts were initially coded and recoded four times prior to reviewing coded transcripts from the coding team. The iterative coding process was helpful in determining which codes fit into proper themes.

The criteria for involvement in the study stipulated that first, participants, also referred to as interviewees, must work on a team with a group of people (at least two other people) interdependently with a shared outcome. This satisfied the definition of *team.* Secondly, the participant must work across space and time, rely on technology for communication/information sharing, and work virtually to qualify as a member of a geographically/globally dispersed team. The final condition for participation was that the participant, as a member or leader of a GVT, had a formally appointed leader, which provides insight into the role of leaders on GVTs. Participants were recruited through professional, personal and academic affiliations and networks. Participation in the study was voluntary.

Participants

The opportunity to interview 21 globally dispersed participants was a rewarding and insightful one. The interviewees shared rich experiences, opinions and perceptions. The nature of working on a global virtual team is a challenging one to capture given the complexities of team-based work across space and time via electronic means. The interviewees provided perspective and understanding around the experience of working on a globally dispersed team,

both benefits and obstacles, as well as competencies needed for global virtual success. Even more enriching feedback included the human needs that exist in an environment that can often feel sterile and impersonal. I also found the individuals to be very accommodating with scheduling across time zones, very personable, and willing to assist with the research study.

Table 4.1 below provides an overview of the participants. Work location, job function, industry, demographic information (nationality and gender), and the length of time each participant has worked as a member of a GVT portrays the diversity across geography, industry, demographics and experience. An "L" placed next to the participant number denotes a team leader.

Table 4.1

The Interview Participants

Participant	Work Location	Job Title	Industry	Nationality	Gender	Years on GVT
1 -L	USA, MA	Regional VP	Translation and Localization	Taiwanese American	F	17
2 -L	USA, CA	CEO	Translation	Iraqi American	F	15
3	USA, GA	HR Generalist	Consulting	Bosnian American	F	1.5
4 -L	USA, MA	Software Development Manager	Software Development	American	M	26
5 -L	USA, FL	International Publisher	Publishing	British	F	14
6	Greece	Product Manager	Publishing	Greek	M	16
7	USA, CA	Software Engineer	Information Security	American	M	5

Participant	Work Location	Job Title	Industry	Nationality	Gender	Years on GVT
1 -L	USA, MA	Regional VP	Translation and Localization	Taiwanese American	F	17
8 -L	USA, GA	HR Director	Media Publishing	Bosnian American	M	10
9	Greece	Editor	Education Publishing	American	F	.25
10	Greece/UK	Editor; Researcher	Education Publishing; Research; Tourism	British	M	4
11	Greece	Writer; Social Scientist	Education Publishing; Nonprofit	British American	F	10
12	USA, HI	Reporting Analyst	Healthcare	American	M	6
13	Scotland	HR Project Manager	IT	British	F	8
14	Mexico	Product Manager	Education Publishing	Mexican	M	7
15 –L	USA, IN	Business Operations Director	IT	American	M	15
16	UK	Project Manager	Publishing	British	F	8
17	UK	HR	Media Publishing	British	F	15
18	USA, MA	Project Coordinator	Translation and Localization	American	M	2
19	Taiwan	Trade and Investment Commissioner	*State Gvt.	Australian	M	4

Participant	Work Location	Job Title	Industry	Nationality	Gender	Years on GVT
1 -L	USA, MA	Regional VP	Translation and Localization	Taiwanese American	F	17
20	UK	HR Project Manager	IT	Irish	F	8
21	Argentina	Product Developer	Education Publishing	Argentini-an	F	20+

Note: L denotes a team leader. State Gvt. (Government) sector is specifically trade and commission.

Of the total 21 participants, 10 are located in and work from the United States, in various regions and time zones. The other 11 participants live in the UK, Greece, Scotland, Mexico, Argentina and Taiwan, spanning multiple time zones. Eleven of the participants are female, and 10 are male. Sectors varied and includes publishing, IT, government, translation, consulting, software development, healthcare, tourism, and the nonprofit industry. Years of experience working on a global virtual team vary from three months to 26 years, with approximately 10 years being the average length of time spent working on a global virtual team.

The next section outlines the qualitative results of the study based on thematic analysis. I attempted to capture participants' own language in reporting these results so that their voice is appropriately represented in the GVT experience using the participants' own language.

Thematic Analysis

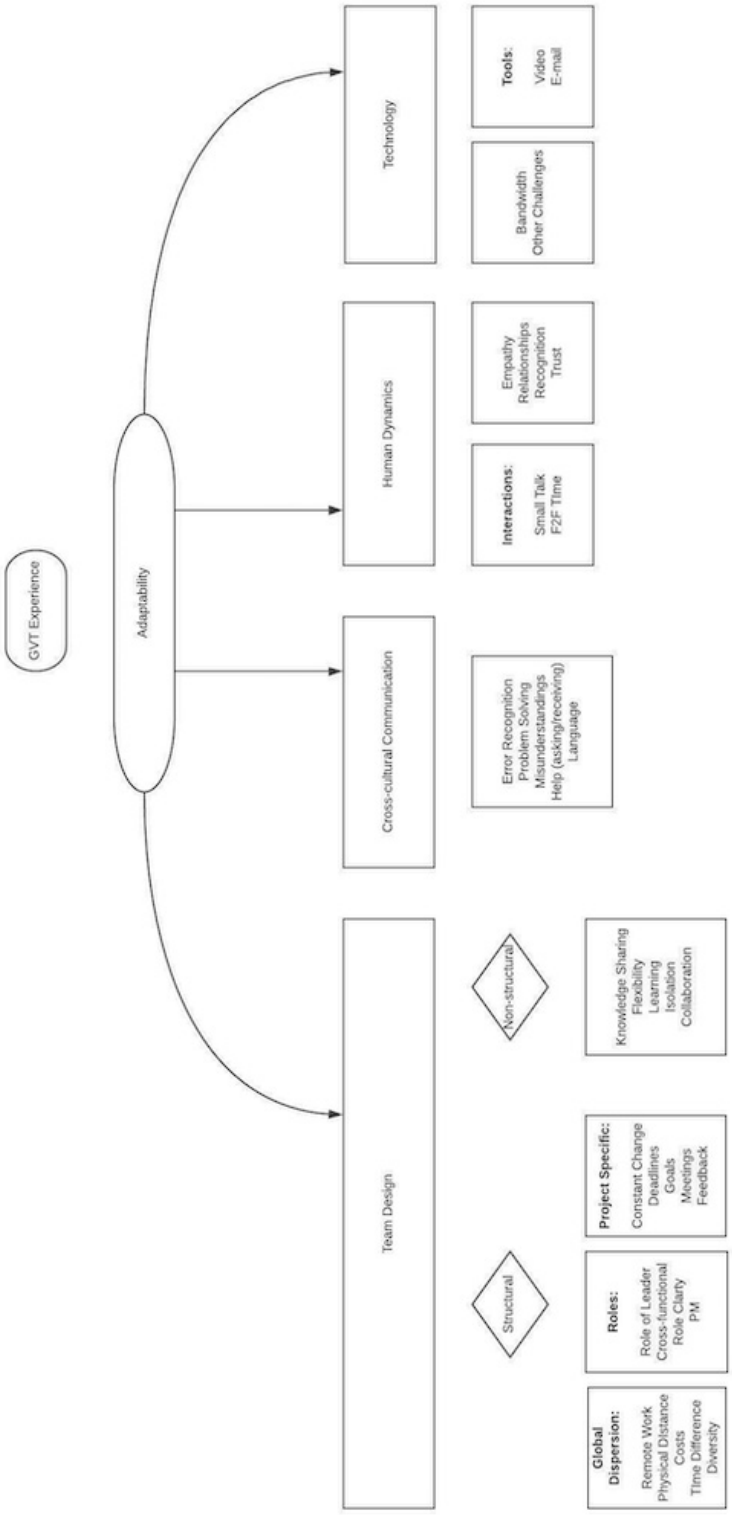
Through thematic analysis, four themes were identified with a differing number of sub-themes, as well as a meta-theme, an implicitly stated theme, adaptability. Adaptability was recognized as an inclusive, larger theme that helps to connect and contextualize the four themes that emerged from research. The thematic map, or thematic framework shown in Figure 4.1 provides a visual display of GVT experiences including adaptability and the four themes:

(a) team design, (b) cross-cultural communication, (c) human dynamics, and (d) technology. Sub-themes such as structural components of team design, interactions and technology tools include example items to better portray what the subthemes encompass. Others do not require items to convey their meaning. Each theme and its sub-theme(s), and adaptability as the meta-theme are presented with explanation and examples, quotes from participants, in this section.

The themes were developed by first placing similar codes in categories. Codes were extracted by identifying patterns within interview transcripts. These were then organized into a code book that a team of four coders, in addition to myself, used to identify and verify their existence in the transcripts. The themes provide an interpretation that helps to outline the research narrative and analysis. There are two levels of themes, semantic and latent (Braun & Clarke, 2006). Semantic themes are those which participants explicitly speak about, while latent themes look beyond the surface level of data to identify underlying ideas.

Figure 4.1

Thematic Map



Theme 1: Team Design

Team design encompasses structural and nonstructural components of the global virtual team experience. Some of the sub-themes are not unique to global virtual teams, but more so to teamwork. This suggests that aspects of team design affect different team contexts (i.e., virtual and collocated). Responses categorized as structural team design include fundamental aspects of GVTs labeled as global dispersion, roles and project specifics. Items that convey global dispersion are remote work, physical distance, operational cost savings, time difference, and diversity of the team make up in terms of demographics, culture and work function. Additionally, roles were predominant in the coded data in terms of role clarity, the role of team leader, cross-functional work teams, and specifically the role of project managers. Lastly, project specific takeaways include constant changes, tight deadlines, clear project and professional goals, effective cadence and structure of meetings, and the need for feedback. Nonstructural aspects of team design involve knowledge sharing across all team members, flexibility from team members, opportunities for learning, collaboration, and the effects of isolation. All 21 participants mentioned team design by definition or aspects of team design in the form of the identified sub-themes classified as structural (global dispersion, roles, project-specific items and nonstructural (knowledge sharing, flexibility, learning, collaboration, isolation).

Global virtual team design as a theme is expressed in the quotes below to encompass the nature of such a team design.

> I think having a global team is very important, especially if you work in a type of environment that I'm in where, you know, the same software has to be configured for multiple countries. So, having that experience, either in country or having that experience, you know, from various different geographies where people can contribute

> their experiences is very important. You know, probably 60% of my team is US based. If we were using that team to decide what you know, Germany would be doing or China or Philippines, it would not be as successful [of a] project. (Participant 8, p. 4)

> Teams can meet virtually any time of the day, every day and get some work done this way. It's not the best way of doing it, but in terms of having a bang for buck, it's the better. (Participant 10, p. 3)

> We are talking about two hours difference in my case now with London, two hours difference with Dubai so things are fairly reasonable. It is not as it used to be when we had the international setup where it was me in Greece, someone in Seattle, someone in Argentina. And of course, we had the people in Singapore as well. So, you can imagine what that was like, and it was like that up until now. (Participant 6, p. 12)

> There was a kind of very formal annoying framework, because it was European Union funded, and that comes with really, really hefty bunches of bureaucracy. So, in terms of framework of what had to be delivered when it was due was externally set up. And we all met the deadlines and what have you, but the actual collaboration I don't think anyone specifically set out to organize. It just was a very, very... everyone just kind of helped each other out. (Participant 11, p. 24)

The four quotes defining their GVT design show different perspectives as far as need, a cost savings option, preference for a more regionally located team, structure, and actual make-up and execution of work. Regarding other items that encompass the sub-themes for structural and

nonstructural team design, Table 4.2 and 4.3 list all the items and the number of participants who mentioned each one.

Table 4.2

Team Design Sub-themes: Structural Aspects of Team Design

Sub-themes	Structural Team Design	Total Participants
Global Dispersion	Remote work	14
	Physical distance	8
	Time difference	19
	Costs	6
	Diversity	9
Roles	Role of leader	14
	Cross-functional	5
	Role clarity	19
	Project manager (PM)	12
Project Specifics	Constant changes	8
	Deadlines	5
	Goals	7
	Meetings	17
	Feedback	6

Table 4.3

Team Design Sub-theme: Non-structural Aspects of Team Design

Non-structural Team Design	Total Participants
Knowledge Sharing	7
Flexibility	6
Learning	11
Isolation	5
Collaboration	10

Sub-theme 1.1: Global Dispersion. Global dispersion includes items such as remote work, physical distance, cost savings of operating as a GVT, time difference as an asset for around-the-clock work as well as a barrier, and the diverse makeup of the team. Time difference was mentioned the most, by 19 participants, and remote work was stated by 14. Participant 11 shares insight into the globally dispersed workforce, with time difference and distance as an obvious characteristic of the GVT design, and the ability to work remotely. This example shows cross-over between sub-themes.

> It's a really, really interesting way to interact with people who you wouldn't necessarily get the opportunity to work with in general, because of, you know, distances and time and what have you. And so, in general, I really enjoy it. There are certain challenges, but it widens the work environment. I mean, it's a huge working environment. You get to meet huge amounts of different people, and mostly I can do it in my pajamas; that's a huge plus. (Participant 11, p. 3)

When asked if the experience of working as a member of a GVT was an enjoyable one, 18 participants responded with “yes,” and continued to share some disadvantages as well in addition to the affirmation. Managing multiple time zones and time zones as a disadvantage was

shared by 10 participants, and time zones as a value to GVTs was mentioned by four participants. Otherwise, time zones were mentioned simply as a matter of working on a GVT. More explicit references to time difference and time zones is provided by participant 5 below.

> There was a time when I was working on projects with a team in the UK, and Spain, and Asia, which meant that my day was just so long, because the Asians would want to have meetings at the beginning of their day, which was nine o'clock at night. I think I was in Mexico, because the time differences were huge, like a 13-hour time difference. So, I was literally burning the candle on both ends. I would have to stay really late so that they could have morning meetings, and obviously I was the only one here and they were all there. So, you know, I didn't really get much of a vote. So, they would say; 'Well, listen, if you don't mind staying until 9:00, that is eight in the morning or something like that.' But, then it would go on, and I would get up really early because the UK wanted really early meetings and Spain even earlier, especially in the summer, because in Spain they work half days because of the heat, even though it wasn't as hot as Mexico or Miami, wherever I was. So, that was kind of exhausting I think from that point of view, because we weren't on the same energy level in terms of what stage of the day it was. (Participant 5, p. 10)

Regarding remote work, participants shared circumstances where remote work was common on GVTs, and there was a level of flexibility to work from anywhere, which was either welcomed or challenging. Participants 8 and 13 below spoke of current organizational struggles or changes to policies concerning working remotely.

> A project I've been working on recently was a policy change, actually a corporate policy, not necessarily directly owned by HR, but it's a global corporate policy. And it was quite

> controversial in what the change was demanding. And that was changing the way people work needing to be in the office five days a week. And that was a big cultural change as well. And I was sort of asked to lead that project. Now, a percentage of that, I would say, maybe 80% of the people were based in in the US. But I also was working with individuals in EMEA and APAC because it really was a global policy (Participant 13, p. 6)

> For me as a leader, and again, being a younger guy, I think I take a different approach to global teams. I encourage global teams, I encourage people working from home, I encourage people, you know, working virtually, and kind of maintaining their own timeline, and making sure that their schedule matches their family and you know, what they need to do to get be successful on their end. But there's a lot of stigma, and a lot of people that are not necessarily allowing virtual teams to grow and allowing that kind of work from home piece. So, you know, again, making sure that people that work for you feel comfortable that they can come in and work from home if they have a kid that is sick or if they need help with anything, that they feel comfortable. I feel like a lot of the older generation doesn't necessarily encourage that a whole lot. So, we need to work on getting rid of that stigma and basically making sure that all of our employees feel comfortable that they can do their job, especially if they're working a technology type of job, like the majority of my team, where it's really not necessary for you to be in an office type environment. (Participant 8, p. 14)

Advantages of GVTs often cited in the literature stem from the economic benefits of employing them. For instance, having the ability to bring together the best and desired talent

“regardless of the team members' locations and without them having to leave their home saves cost and time” (Jimenez, Boehe, Taras, & Caprar, 2017). GVTs offer other well-known advantages including flexibility in terms of geography and time. While common challenges exist as well, organizational or leadership’s resistance to remote work given the team design of GVTs is an added barrier to the demanding work and pressures GVTs face. Because time zones are also cited as challenges, given Participant 8’s observation and experience, remote work could help to combat this, as work hours are not required to be the traditional eight to five, for example.

Nine of the participants discussed the positive effects of remote work, described as a flexible work option, while three participants preferred to be collocated if the opportunity presented itself. Below is an example that highlights the preference for remote work, but at the same time acknowledges a challenge.

> There are so many advantages to working as a member of a virtual team. I think it's the best thing that has happened in my life, you know, to be able to work from home, to work remotely. I mean, people cannot grasp the advantages of working remotely at your own pace. Working remotely, working from home, working as a member of a virtual team gives you this advantage of being able to manage your own time. And you know, you don't have to worry about simple things like being late at work because of traffic and so many other restraints of working in an office. When I have to list the positives against the negatives, I only found one. As I told you the fact that you cannot really put a stop to it, and say, ‘Okay, now shop is closed,’ I have to, you know, I have to stop working and, and not respond to e-mails, not pick up the phone, and so on and so forth. But when you put all the positives against that one and only negative, I cannot think of any other

> negative, then I still wouldn't, you know, change that for the world. I think that working remotely is the best thing that has ever happened to me. (Participant 6, p. 4)

The around-the-clock work aspect on GVTs is mentioned by multiple participants as a norm and also identified as a difficulty. For organizational purposes, work is being conducted twenty-four hours per day, but at the burden of some employees' typical off hours. While the time-zone dispersion is sometimes cited as an advantage (i.e., the team can virtually work non-stop and pass work from one time zone to the other), communication can also be slowed down as a result of time differences (2017). Sending an email from the US to Singapore will not guarantee prompt responses, and delays in response time are likely to occur. One way to ameliorate the burden of a 24-hour work schedule is to enhance member satisfaction and alternate which time zones are most burdened. Studies have shown that work on GVTs can create positive experiences and enhance motivation and job satisfaction, credited largely to challenging tasks and demands for new skills, and greater autonomy (Nurmi & Hinds, 2016). Supporting a work-from-anywhere environment creates autonomy.

Sub-theme 1.2: Roles. Roles is another structural sub-theme of team design. This sub-theme contains items such as the role of the team leader, working cross-functionally, role clarity and specifically the role of project management (PM). Leaders or managers were brought up by 14 participants, and the need for role clarity by 19. Below are some examples of these items in context of the sub-theme and greater theme, team design.

> It's very helpful in the very beginning for the team leader to explain what everyone's job is, and at what points it happens, particularly in publishing, when things go back and forth. That's hugely useful. (Participant 11, p. 12)

> To know which specific task or role [a] person has is very helpful, because you're able to filter which of those people are your best option to ask your doubts or questions, right? Because sometimes the title of the person doesn't say too much, yeah? You do a lot of things more than your title says. (Participant 14, p. 10)

> If I was managing a team, which I've done before, I think I really would promote the use of that [video], because I think if I was doing virtual management - one to ones and things like that - then I think I would insist on it more, but I feel like in my current role, it's not an essential part of what I do. (Participant 13, p. 10)

Participants 11 and 13 both discuss the authority of leadership on a GVT. In these instances, it is the explanation and organization of roles and responsibilities, and the ability to enforce the use of video conferencing tools. These provide insight into the formal structure that does exist on some GVTs and the influence a leader can have.

Sub-theme 1.3: Project Specifics. Items that compose this theme include constant changes, tight deadlines, goals, meetings and feedback. This theme, given the nature of GVT work is generally regarded as task-based (Lipnack & Stamps, 2000), is an appropriate consideration for global virtual team design. Constant changes remain one of the few consistencies on a GVT, tight deadlines and working against the clock, the need for alignment on goals and objectives and feedback were all regarded by many interviewees. Meetings in particular were discussed by 17 participants in various contexts from regular cadence of meetings, to the modes of meetings. Below are four examples.

> The IT management side kept changing the way we were working. The third change was they decided, hey, we're gonna start outsourcing to India. And you need to train up all

these Indian teams to take over the work...There was a lot of storming, a lot of fighting. You know, we really, the offshore team really wasn't delivering anything of value, it was just noise. (Participant 4, p. 6)

Of course, you know of course, we are talking about projects that are so fast, like the 'X' project, or the project we are working on now, where you are working against the clock, you know, and you have to have a schedule, which is on a daily basis, which is anything but normal. (Participant 6, p. 10)

I think good tooling and strong alignment are probably the two things and I think they like work together. In terms of… neither is going to fix problems on their own, but if the team is strongly aligned in terms of their priorities and goals. It can make a huge difference. (Participant 7, p. 10)

We met in person three to four times; in WebEx we had a different kind of meeting. There was a follow up meeting or a stand up of 15 minutes daily, every day. And then we had meetings per week, and also monthly, including different kind of teams for this, specific meetings, but especially at the beginning of the project, we had a presence, a meeting with a whole team. (Participant 21, p. 8)

It's also extremely useful to have feedback as you go along. Particularly if things are you know, not going to plan or there are problems, or things are delayed, it is very useful to have to have a team, you know, various people in the team who you can ask how things are going on and going to get feedback. That would be extremely helpful. (Participant 11, p. 14)

The prevalence of quotes provided helps to portray the task-based nature of work on GVTs, and the prominence of responses regarding project-based work. The participants show experience and established opinions regarding characteristics that appear under the sub-theme project-specifics such as meetings, goals, and changes.

Sub-theme 1.4: Nonstructural Team Design. Nonstructural aspects of team design involve knowledge sharing, flexibility, learning, isolation, and collaboration. Learning was the most prominently mentioned item and it was mentioned in conjunction with structural components of team design such as roles as well as other major themes, exposing some overlaps that exist within or between a theme with structural and nonstructural components.

> One of the project management best practices that I give people when I'm teaching project management, you know, one on one type stuff to your peers or folks in the company, is you know, one of the ones near the top is, get to know your team. Spend 15 minutes, 30 minutes on a one-on-one call if you can't face-to-face, but one on one call, ideally a video conference call where you each got your webcams going, just to find out, hey, how long you been with the company? What do you do? What did you do before you came here? What are your hobbies? Try to get an idea of what makes them tick. Because that does so much for you learning about them as a person making them more comfortable with, you, you know, to feel like they could push back when necessary. And by having that conversation about hobbies, you know, other things that they like to do outside of the core job, you very well may learn about things that could potentially contribute to the project. (Participant 15, p. 26)

Knowledge sharing was mentioned by seven participants and is outlined in the below quote.

> It can be quite exhausting as well as a member of a virtual team because you feel like, wow all I seem to have to do is dig for information, whereas if you have the information and are fully aware of what's going on around you, then you could just get on with your job with the right information. But I think if you're constantly sort of the ill-informed, don't feel valued because no one seems to think it's important that you know about these things, then I think that can be quite demoralizing. (Participant 13, p. 16)

Feelings of isolation, mentioned by 5 participants, is portrayed by participant 3 and overlaps with the role of leaders, a structural sub-theme of team design.

> Sometimes, poor management [can harm interactions], people not having their regular cadence, like if you're a part of a team, not being in contact with the people that you work with. And that's kind of easy to do, because you are remote. And it's kind of easy to forget people. (Participant 3, p. 6)

Flexibility is mentioned in both structural and nonstructural ways. Structurally, flexibility is understood as an organizational advantage when relying on GVTs, but in terms of GVT experiences, flexibility is identified as a non-structural sub-theme of team design. Participants mentioned flexibility as a requirement when dealing with clients, communicating across time zones, and being adaptable to the demands of GVT work. Participant 2 below shares her perception on flexibility as a leader of a GVT.

> Because you work in different time zones you have to be flexible. Sometimes when we work, we get up at 3:00 am because we have to communicate with our vendors because they are available on that time. (Participant 2, p. 12)

According to West (2002), opportunities for learning is essential to work a team's creativity and innovation. Learning was mentioned more often than any other identified sub-theme and deserves attention when discussing opportunities and needs for GVTs.

> I like the diversity. I like working with people. I've learned a lot. (Participant 1, p. 4)

> The other key component of it was that most people [on my team] were doing something that they hadn't done before, which meant that they were learning, you know, it's always very motivating to do something that is related but new. So, everybody felt that they were learning something new. And if they weren't necessarily doing something new, certainly a new type of project for them with a new set of people. (Participant 5, p. 8).

Collaboration is a necessary part of all teamwork. On a GVT, it requires more coordinated effort given the barriers of time, distance and space. Collaboration across multiple key stakeholders to resolve a problem is quoted below by participant 12.

> A problem was identified. I reached out to the appropriate people to clarify the problem. Those people were located in Ireland, and New York, and Baltimore, and Wisconsin, and began to develop a solution to the problem; developed some code that hopefully generated a data set that would begin to address the problem; called one of the primary clients back to talk to them, and delivered some data to them; answered to the people in Ireland to make sure that they were also aware of what I was doing with the with the primary client who's going to be the recipient of the data set; and we are currently in the middle of validation. (Participant 12, p. 4)

Theme 2: Cross-Cultural Communication

Cross-cultural communication was an anticipated theme with GVTs given their multicultural make-up. The identified sub-themes for cross-cultural communication are language and body language, error recognition, problem solving, misunderstandings, asking and receiving help, and interactions and small talk. These are outlined in Table 4.4 as well as the total number of participants who mentioned each one. Items that convey this theme include language use, both a common spoken and written language as well as body language as a missing indicator for meaning making, error recognition, problem solving, misunderstandings in multicultural virtual space, asking for and receiving help, and interactions or connections including small talk. Examining communication in a global, virtual context is relevant given that virtual teams are affected by time zones, physical dispersion, and cultural differences and therefore more challenging to evaluate than collocated teams (Bjørn & Ngwenyama, 2009; Reed & Knight, 2010).

Overall, cross-cultural communication as a theme is comprehensively conveyed below:

> Certainly, we aren't all aware of cultural differences, and the cultural differences go both ways. Some of it is language and expectations. You can still be successful, even though you maybe screw up the culture, but you've got to be willing to sit down occasionally and say, ‘Sorry, and listen to them, and then find out what's going on.’ Ideally, find somebody that you can eventually collaborate with to give you some of the insight on parts of the culture that you're missing. That's a very important factor, which is overlooked. And it's not just, say, an American learning Indian culture, it's also an Indian learning American culture. (Participant 4, p. 12)

Table 4.4
Cross-cultural Sub-themes

Cross-cultural sub-themes	Total Participants
Language and body language	15
Error recognition	3
Problem solving	7
Misunderstandings	12
Help (asking/receiving)	11

Sub-theme 2.1: Language. Language includes language as a barrier on GVTs as well as body language. While teams function using one or two common languages, due to the global dispersion of team members, language is an expected barrier, and the absence of body language impedes communication.

> Perhaps you're working with people in different areas who don't understand your priorities or what it is you're trying to achieve. I mean, that can be the same whether you are together or not, I suppose, but if you bring into that the language issues or cultural differences, then that can cause problems. (Participant 16, p. 8)

> It's something that is never going to be superb, and it's the human contact, right? You meet a new person physically in your location, or in another city, and the interaction is better because of the communication, because you are able to see the people, their eyes to read their corporal, how do you say [body language]. (Participant 14, p. 4)

Sub-theme 2.2: Error Recognition. Error recognition was mentioned in a cultural context where participants specifically do not bring attention to errors until they are noticed by others. The below quote is an example of this.

> If there's a mistake, somewhere on the project and someone just for various reasons that in Southeast Europe seems to be a cultural issue. People just very often someone just doesn't want to say that they've made a mistake. And then because you're not actually in the same office together, no one else will know it says way too late. That was a huge issue. (Participant 11, p. 10)

> I definitely do think it takes extra effort and therefore people are more likely to kind of let the problem hopefully resolve itself. And that's not always the way to handle it. A lot of times you need to jump on it and start figuring out what's wrong and address the problem. And that's not always something that on a global team is a good idea. (Participant 12, p. 16)

Sub-theme 2.3: Problem Solving. The below quote depicts the experience of problem solving on a GVT, which includes other embedded sub-themes in cross-cultural communication such as language, as well as time zones, which are an aspect of team design.

> It makes the job very interesting [to work on a GVT] and challenging in a way that we constantly are looking for solutions, and solving problems, because we don't have co-workers sitting next to me or the team members sitting next to me. I can't interface with them, or I can't walk over to their desk, or show them things. So, we have to be very clear in terms of our communication, e-mail, or sometimes phone calls. And we have to understand the culture difference, the language barrier, and also the time zone differences. (Participant 1, p. 4)

> I was engaging multiple people within the Boston office, multiple people within the Houston office and really getting them all to bring their expertise to bear on a common

> problem. And I just liked that aspect. I suppose it doesn't have to be global. I still would have enjoyed it as if I was pulling people from various areas to work on a common problem. (Participant 4, p. 4)

In both cases, participants are aware of the resource capital a GVT offers. As mentioned in the literature, the uniqueness of human capital has a direct and positive effect on an organization's innovativeness (Cabello-Medina et al., 2011). Furthermore, human capital is an asset in terms of problem solving and gathering expertise.

Sub-theme 2.4: Misunderstandings. Misunderstandings were spoken about in terms of virtuality and globally dispersed team members. Participant 15 below recalls going out of their way to mitigate misunderstandings while participant 10 cautions against communication blunders and communicating with deliberate caution.

> You have to be quite careful. Because what you say can be misconstrued, and you have no way of saving it; it's a matter of tone, it's a matter of content is a matter of voice, but you have far fewer chances of sweetening it or making it you know, better understood. So, this is one of the drawbacks of virtual meetings, is the fact that you have to filter what you say and what you show in a very careful and objective way. (Participant 10, p. 12)

> My biggest key is never ask yes or no questions. So, phrase things in such a way rather than explaining what I want you to do [Lejla] and then say, do you understand? I will say this is what I want you to do [Lejla] and say, okay, what I'd like you to do now is kind of read back to me what you understand I want you to do. Then I be quiet. And I'm going to be quiet forever until I hear that voice on the other end of the line, start talking. I recognize that I'm putting that person on the spot, but if you don't put that

> person on the spot, you really run the risk of having a total miscommunication and no progress happening because of that. Or worse yet, negative progress... we don't do, you know, we simply don't do anything we do the wrong thing. So, I try to communicate what I'm going to do beforehand, right? I tell folks, and I try to be honest and self-effacing because whether it be you know, Hindi or Japanese or Tagalog, whatever the language is, so look, I say, your English is a lot better than my X whatever that language is. (Participant 15, p. 20)

Sub-theme 2.5: Asking for or Receiving Help. Five participants mentioned the Asia Pacific (APAC) culture in terms of resistance to asking for help or clarification during meetings. This was shared as a frustration or cultural hurdle. Three participants mentioned their own resistance to asking for help, and two participants spoke about the reluctance of members on GVTs to reach out for help as needed. An example of each is below:

> Sometimes there are countries where people don't always talk the same. If we are getting requirements and we want to have a big call with everyone, it can be frustrating when people from Asia will not speak up and after the fact, they may come up and ask something which requires us to revisit the whole decision. (Participant 17, p. 2)

> You know, I think the opportunities are there to ask for clarification. I mean, it just takes a follow up e-mail, something like that. I think it's more so in some cases that people aren't very confident that they should be asking this question, that the evidence for it is somewhere in the instructions they received or in a previous conversation that they've had and raising that issue or query would bring sort of an irritation to the client or the

> requester's mind. But I think there's some sort of fear behind presenting those issues, those questions. (Participant 18, p. 8)

Theme 3: Human Dynamics

The responses embodied by this theme embrace social presence and such features of the GVT experience as relationships and relationship building, empathy as a practice, face-to-face time to connect and work on team building in person, recognition of work, and trust, which is one of the most studied variables in virtual teams (Gilson et al., 2015). Trust can include relationship-based trust as well as task-based trust. Jarvenpaa, Knoll, and Leidner (1998), Jarvenpaa and Leidner (1999) reported multiple mechanisms through which trust develops. Relationship-based trust develops over time and is more commonly found in collocated teams, and task-based trust is more commonly found in virtual teams (1999). Zakaria and Mohd Yusof (2020) propose "task-oriented members perceive trust as dependent on the quality of the performance and deliverables produced by team members; they are most concerned with the tasks and roles being performed by the team" (p.14).

Sub-themes and their frequency are indicated below in Table 4.5 followed by supported quotes from the participants. In an overall attempt to encompass the human aspect of GVTs that does seem to fade due to what has by participants been referred to as virtual, or "sterile atmosphere" (Participant 12, p. 10) and very task-based, the below quote provides a reminder of the human dynamic:

> For me, definitely feeling like everybody feels like they're part of a successful team [is exciting] and feeling that the team is making progress knowing things will go wrong, but we all accept that that's going to happen. And, we're not people competing within a team, but people pulling together as a team, I think those things to me are really

important — that kind of human aspects. (Participant 5, p. 18)

Table 4.5

Human Dynamics Sub-themes

Human dynamics sub-themes	Total Participants
Interactions	15
Empathy	8
Relationships	9
Recognition	7
Trust	8

Sub-theme 3.1: Interactions. Interactions encompass face-to-face opportunities for GVTs as well as informal interactions, or small talk. On a virtual team, small talk or informal interaction is typically limited but essential to building trust. Trust develops as an outcome of collaborative work, and it is related to the frequency of informal interactions (McAllister, 1995). Face-to-face teams have more opportunities for small talk. While face-to-face was idealized by participants, there is acknowledgment that it's unlikely. Nonetheless, there is a desire for in-person events, and for participants who do share rewarding experiences of face-to-face time, it's a rewarding one. The following quote depicts the desire and value of face-to-face time as well as small talk.

> I remember the first time I traveled to our headquarters in Atlanta, and I met the core team who I work with 99% of my time. It was an amazing experience to actually meet them face-to-face in the flesh. And it was something strange because even though I had worked with them for about maybe four to five years at that point, I've never met them before. So, it was strange meeting somebody, and feeling like It was a new experience,

> even though I've known them for five years. And, it's fun getting to know them. And you kind of have to make time. Even though we're all busy -we've all got really busy schedules- you do kind of have to make time to get to know people on a personal level, to make the virtual teams work. You can't just work with somebody and not know them. You have to understand their personality, you know, what makes them tick? What makes you know, where they find the challenges, so that everybody can work together properly. (Participant 20, p. 6)

> I also feel with virtual teams it can make you slightly distant. If that team is quite spread out, maybe the team manager can make sure they are facilitating interactions and meetings across the different countries so people get a chance to speak to one another and use FaceTime or Videoconferences where people get to see each other. (Participant 17, pp. 4-5)

Sub-theme 3.2: Empathy. Empathy was listed as a necessity and key to GVT success. Empathy was spoken about directly and indirectly in terms of members' experiences and key indicators of effective GVTs. Empathy is also identified as a critical success factor for effective GVTs (Kayworth & Leidner, 2000).

> I think people should be open minded when they are interacting as people around the world. I have found some prejudice in people who think they know better, or they are better just because where they are located or which country they are [in], which degree they got; I have seen it all. I have seen people, leaders, in companies in Europe who don't look at you, value you, just because you are from another country. And I prove to them that that that's not the case. Sometimes we have people from countries that that are really

> third world countries, but they have knowledge and experience that are more valuable than the people from European countries, for example.
>
> (Participant 2, p. 12)

> Global teams are able to bring different perspectives and ideas based on their experiences and it's not limited to certain countries as an example. It brightens experiences of other members and brings empathy. From a society perspective, you become more sensitive to people around you. (Participant 17, p. 3)

Sub-theme 3.3: Relationships. Building interpersonal relationships was considered important on a GVT. Relationships were also mentioned when participants shared what they enjoyed about working on a GVT. Members of collocated teams are much more likely to interact outside the office, such as birthday celebrations or just lunch together (office parties, lunches, etc.), which promotes friendship building (Jimenez et al., 2017). Members of GVTs do not have this luxury and must rely on online communication tools to replace this type if direct, interpersonal contact. Below are two extracted quotes regarding relationship building.

> I think the thing I enjoy the most, is when you start to develop relationships with people and share information, and it becomes obvious when the communication you're having that, even though you're at distance you share similar values, you understand certain concepts; you don't have to explain everything down to the last button to get them to understand. So, some of that's interesting, I've enjoyed developing some of the relationships I have with people at distance. (Participant 12, p. 6)

> I think for me I need a little more interaction between me and my team, just beyond emailing. It's good to have a face, and a voice to that person to the build an interpersonal

> relationship so I think just building stronger interpersonal relationships would be a good way for me to be happy working on a global virtual team. (Participant 18, p. 14)

Sub-theme 3.4: Recognition. Recognition for three participants seemed absent and acknowledged as necessary for dispersed teams by all seven participants that spoke about recognition for their work. Employees are motivated to do a better job and always go above and beyond when leaders embrace employees' recognition (Zouhbi, 2013). Oakley (2005) shows a direct link between employee satisfaction, motivations and company profits. The quotes below are an example of recognition, and how it relates to satisfaction for members on a GVT.

> If you're not getting praise or positive feedback, or anything like that and you know, you had your one-on-one with your boss, and that's your one hour a week you spend talking directly to them and getting feedback on your job performance, you didn't get anything positive this week, or whatever, It can definitely have more of an impact on satisfaction. (Participant 7, p. 14)

> It would be very valiant to recognize the work on your team openly and publicly. For example, in this case of Company X, [it] would be in the company social media site or in a network of the company saying, 'Hey guys, this is a team that was working behind this. Thanks for the great results that we had and thank you for that.' I think that in many cases the team is so spread, and there's not only one leader in most cases on this kind of projects. You have a different kind of leaders for different parts. You may have the one in charge of all project management and tracking which is fundamental I insist and the other ones in charge of all content or development for example, or QA is another key element for this. And so, in many, many cases, what I have seen is that in the end once you get

> good results, the company does not know who did this. So, it will be great to make some kind of recognition for in the future on virtual teams. (Participant 21, p. 15)

Sub-theme 3.5: Trust. Diverse teams have been shown to struggle more with building inter-member trust (Killingsworth et al., 2016). Planned efforts must be in place for building a radius of trust (Trust was a sub-theme indirectly spoken about n terms of relational trust (Duarte & Snyder, 2006). Mistrust was mentioned in terms of task-based trust. An example of each is quoted below.

> Employees need to feel comfortable. They need to feel like they have some authority to make decisions if the manager is not readily available. And, I think the main thing is making the time to get to know each other Even if it is, you know, one of the team meetings a month just chatting on a personal basis. You know, how is everybody? What did you do? You know, tell me something? What happened during your week, something like that, just so that people feel comfortable with each other, Because without that, the team won't work right. (Participant 20, pp. 14-15)

> So, if someone just asked the same question multiple times that is kind of annoying, because it makes us feel like they aren't really paying attention to what needs to be done and not delivering projects on time. It kind of builds a sort of distrust between you and your team, like, should I keep working with this person? Should I try to find someone else, you know. (Participant 18, p. 12)

Theme 4: Technology

Technology is the means for communication and knowledge sharing on GVTs. Technology was mentioned at length by every participant and dominated two interviews, where technology was mentioned somehow in response to every question. The interviews shed light on

the reliance of technology, and the need for efficient technology, bandwidth and its limitations, various challenges, and tools including project management tools, with an emphasis on videoconferencing and e-mail. E-mail is the most common and well-understood computer-mediated technology for distance collaboration (Duarte & Snyder, 2006). When video was mentioned by participants, it was in the context of an alternative to a face-to-face session. If face-to-face was not possible, a video conference was the next best choice. E-mail overuse was a common remark made during interviews, and the need for video to help aid with the distance and to increase social presence. Table 4.6 displays the sub-themes of technology and the total number of participants who mentioned each one. The quote below effectively coveys the various subthemes of technology as a whole:

> I think, you know, now with the technology, a lot of the new tools and technology [is] coming out on the market, makes this now not just email; we get to see people now with this. We have this video meeting nowadays. They're not physically together with you, but now this kind of the newer app, you actually get to see them. That makes the whole team actually, you know, feel like you actually feel like you're together. Now, you work more closely because you just quickly jump on this video call, and everybody has this camera on their computer. You just turn it on, you see each other and you're just talking like you're talking to your friends; your colleagues [are] sitting next to you. That makes things a lot simpler. We use that with a lot of the US customers, but in certain regions, they might not be able to do this just because the internet bandwidth. So, in some certain regions like in Africa, we couldn't do that with them, but we have been using this in Europe. It makes the whole world closer and closer, as it's really virtual. I can see them. I

think it's great to see these things evolving. We don't have to have this imaginary person. (Participant 1, pp. 12-13)

Table 4.6

Technology Sub-themes

Technology sub-themes	Total Participants
Bandwidth	6
Tools	21
Other challenges	12

Sub-theme 4.1: Bandwidth. Bandwidth, while also a challenge on GVTs is also an important consideration for the experience of GVT members, and one that can contribute to isolation and even performance issues (Duarte & Snyder, 2001). Bandwidth is determined by variables such as the speed of the computer modem, the type of network, and the capacity of the cables or wires attached to the team member's desktop computer (2001). Geography affects bandwidth, which can also highlight economic distance between members in developed and developing countries. Two participants below outline the effects bandwidth can have on GVTs and the importance of greater bandwidth capacity for GVT effectiveness.

By infrastructure, I mean, you have everyone involved in such a working environment. In such a virtual working environment, you will have to have the right support in place when it comes to technical infrastructure. So, everyone involved in working remotely, working from home shouldn't be worrying about technical aspects, you know? They should be set up early in advance. They should know that, you know, they must have good internet speed. In some countries, this is still an issue as you know, if you asked me

> this question, two years ago, it would have been a real big issue, you know, because, two years ago in Greece, for example, we didn't have very fast speeds. (Participant 6, p. 10)

> Bandwidth is a limiting factor. And don't forget that the weakest link on the chain, the weakest link I might have is connection. Therefore, if I want to show slides, 18 out of 20 people might be able to see it in fairly rapid variability, and other people may not see it because they don't have a good connection. I think 5g might make a difference in such cases because it will provide a far larger bandwidth from a technical point of view, and therefore higher speeds and the ability to show new kinds...to show new kinds of ways to serve, to provide information, to provide glimpses, or provide more visuals because at the end of the day, the visuals are quite important. (Participant 10, p. 14)

Sub-theme 4.2: Tools. Various tools were listed for project management, communication and information sharing. Aside from e-mail, which was mentioned and used regularly by all participants, such tools in use by the participants included videoconferencing systems such as WebEx, Zoom, and JoinMe; project-management tools such as cloud-based data centers, BaseCamp, Google suite, Jira, MadCap software, Microsoft suite, Salesforce and other customer relationship management platforms; and communication or chat tools such as Slack, Skype, and Microsoft Teams. Of all the different tool types mentioned, e-mail and video were prominent in the data; e-mail for its frequency and reliance, and video for teaming and more advanced communications that offer opportunities for clarity, relationship building and structured meetings. In addition, tools were mentioned as evolutionary in terms of technological advances that have improved the way GVTs work and interact. The following quote indicates this.

> I think we've had a really good setup for virtual teams, probably only the last maybe three years now or four years. Obviously, you know, prior to that, it was mainly, everything was done through maybe just Skype or telephone, but now we've got a proper like Polycom system with really good video conferencing and a few different options. (Participant 19, p. 2)

Because e-mail and video were two extracted items of this sub-theme, the below quotes cover the nature of the context in terms of these two tools.

E-mail:

> A positive tone in your e-mails [makes for good interactions] and that's kind of something that's hard to achieve, because there's no real tone in an e-mail, it's just kind of empty or flat and it's up to the reader to kind of interpret what's going on in that e-mail. So, I think being able to convey your messages in a positive tone will make for a positive experience. (Participant 18, p. 10)

Video:

> When you're someone's line manager and even when you're not, you know that a lot of information comes through a person's face. So, I always used to say, please turn your camera on, I want to see how you feel about something. And I want to share something with you, I want to feel like I'm with you, you know, it really improves relationships. (Participant 5, p. 12)

Sub-theme 4.3: Other Challenges. Technological challenges are a diverse sub-theme covering challenges with technology itself, usability, and team members' varied knowledge of technology. Digital divides were also mentioned by interviewees when discussing technological

preferences and adoption of certain tools or technologies that were refused by some team members. These topics are broadly grouped as other challenges, taking into account what interviewees reported that are not appropriately categorized with other technology sub-themes. These technical challenges may be interpreted as a lack of participation or dedication, leading to tension and conflicts in teams (Kankanhalli, Tan, & Wei, 2006; Montoya-Weiss et al., 2001), hence the need for an all-encompassing sub-theme. Other technological challenges are spoken about in the following two quotes:

> Maybe the platform is not very compliant. That is also a terrible experience when the people [are] not able to listen here perfect on the line. That one is the more frustrating...It's an experience when the other user knows how to use different tools that are available inside of the platform. Usually at the very first time, if the person is the first time using this tool, for example, Cisco WebEx, and they spend 15 minutes to know how to connect their audio. That is very frustrating. (Participant 14, p. 6)

> Well, it just needs to be a willingness to use technology, there are still some people who you know, are old school or just like to pick up the phone. And, you know, if you're using different systems, actually, a good example is we've been trying to use Microsoft Teams. There's been a few champions, including myself and a few other people. But usually, I'd say probably 95% of people just can't seem to get the hang of Microsoft Teams. So, when I put information on, it's very one directional; it's just me kind of talking to myself, even though I tag people in it. And I know some other people have had the same experience. So, there needs to be a willingness to try to make the new technology work. (Participant 19, p. 8)

Meta-theme: Adaptability

Meta-themes are stated implicitly, not explicitly in textual data. The prefix "meta" means that these themes are themes of a higher informational order (Armborst, 2017). Meta-themes help contextualize other co-occuring themes. Adaptability is an appropriate higher-level theme that can bridge the four themes noticed in the GVT experience for many reasons. The GVT context itself requires adaptive behaviors to team routines, technology, ongoing changes and unfamiliar cultural environments. Silverthorne (2000) reveals a connection between adaptability and effective global leadership as well in terms of competence. Adaptability is described as an evolutionary step that is not only desirable but required for a globalized business environment (2000). Earley (2002) described that a leader's ability to adapt to unfamiliar cultural environments depends on three dominant factors: cognitive, motivational and behavioral.

Due to the constant changes GVTs face and the evolving nature of their work, the continual search for solutions and adaptive behaviors speak to innovative capacity. Working adaptively is seen as innovative and essential to innovation. The most successful organizations are more flexible, more efficient, and more adaptable (Robbins, Coulter, & Langton, 2006). The GVT context requires working and leading in adaptive and unpredictable situations (Duarte & Snyder, 2001). Afterall, these teams exist in adaptive and changing environments capable of facilitating innovative solutions. Innovation wasn't explicitly uncovered in the data with the exception of the mention of "hackathons" by a software engineer (Participant 7, p. 7), which can speak to the task-based nature of the team design, and perhaps the sectors from which data was collected.

The global virtual team experience from the data collection expressed the need for a meta theme, or overarching theme such as adaptability, to show the interconnections between the four

major themes: team design, cross-cultural communication, human dynamics, and technology in the context of GVT experiences. Adaptability as an overarching theme suggests the need to demonstrate adaptive behaviors on a global virtual team in order to perform effectively. Dimensions of team adaptability proposed by Pulakos, Dorsey and White (2006), based on a model of individual adaptability (Pulakos, Arad, Donovan, & Plamondon, 2000), are appropriate to reference since individual adaptability is a predictor of team adaptability. These dimensions are: (a) solving problems creatively, (b) handling unpredictable work situations, (c) learning new tasks, technologies and procedures, (d) handling interactions across team boundaries, (e) handling work stress, and (f) handling emergencies or crises.

Given the theoretical framework for this study is adaptive structuration theory (AST), adaptability was an appropriate meta level theme to consider for the organization of the four themes that emerged to evaluate the experience of global virtual teams. In adaptive structuration theory, group members are actively engaged in adapting structures such as rules (i.e., suggested processes) and resources (i.e., relationships) in order to accomplish decision-making. For GVTs, versatile adaptation of interaction styles is necessary to the cultural values and preferences of the team members. How technology plays a role in mediating the interaction is an important topic of discussion given the reliance on technology by GVT members. In AST, Poole (1993) found that three social processes such as technology, work, and social adaptation affect the way in which GVTs adapt. With the emergent themes in this study, team design, cross-cultural communication, human dynamics and technology, the need for cultural adaptation, technological adaptation, interpersonal adaptation, and adaptations to the team design, both structural and nonstructural, is evident.

Adaptability itself is mentioned more implicitly by some participants in terms of adjustments that need to be considered for GVT work. It is a latent theme. Extracted quotes conveying adaptability are as follows:

> You're on a global team for some business reason. Either the customer is somewhere else, or the work team you've been given are geographically distributed. So that becomes, that has become I won't necessarily say it's a challenge, but it is something that you need to take into account as you are building and then executing your plan. (Participant 15, pp. 24-25)

> Yes [I enjoy working on a GVT.] I think it gives an opportunity to work with a diverse set of cultures. I think it really stretches your own personal abilities, because I think you have to adjust how you work with people globally. I probably work people differently to how I might work with people if I was sat in an office, say here in the UK. (Participant 13, p. 4)

Some quotes from identified sub-themes were already shown to cross over with other themes and sub-themes. Table 4.7 provides quotes extracted from various interview transcripts that relate to adaptability implicitly across themes and recognize the need or desire for adaptability on GVTs in relation to the four major themes: team design, cross-cultural communication, human dynamics and technology.

Table 4.7

Adaptability Across Themes

Quote	Themes Represented
Definitely anything like misunderstandings, you know, and not actually being able to, maybe get to know anybody any better. I know, it's a professional environment, but at the end of the day, we're humans. And I think just that, that potential for being able to go and talk to somebody about coming to clear up things. Very often in a virtual team, you have an allotted amount of time to talk to a particular team, because I'm sure you're working on lots of project. (Participant 5, p.16)	Team Design; Cross-cultural Communication and Human Dynamics
When we communicate with people every day via email that we don't see, sometimes the tone of voice can be a little bit, you know, can offend people. You know, if they see you, they might be a lot easier, because you see the person, but [in] email, sometimes it sounds like the person is really rude or really mad. And just try to kind of be a little bit more considerate, because everybody is working together. It's just, you know, I always say, 'be cool, step back a little bit, don't send email too fast; just review what you're writing.' So, I also took some lessons myself that, you know, they [email] came out too fast. And then, it's not really what I meant. And most people, you know, get a little bit upset. At the end, we have to say, 'okay, sorry,' you know, 'didn't mean that. (Participant 1, p. 10)	
Because virtual teams don't get that face to face interaction, recognition is a big, big part of making sure that they're recognized and making sure that you're calling them out, whether it's, you know, it's their birthday, or whether it's, you know, they did something, fulfilled one of the goals you set for them, or, you know, they made a project delivery, that's now visible, and things like that. (Participant 8, p.12)	Team Design and Human Dynamics
If you're used to kind of doing it yourself and just running over and doing something physically to a machine [reboot]. There is not that convenience at a distance. (Participant 12, p. 6)	Team Design and Technology
Technology on virtual meetings I think is extremely useful. It is not in absolute terms a substitute for physical meetings, but then again, it's such a good way of at least communicating and showing, I mean, meeting virtually that in relative ways it's very, very useful. Assuming that we cannot have a physical meeting, and assuming we cannot have a virtual	

Quote	Themes Represented
meeting, how do we make up [for this], is it emails? Is it writing letters and sending them pictures, or what? (Participant 10, p.16)	
If you're impolite. If you can't communicate well, it can pretty easily make relationships turn sour. Again, especially over e-mail when you can't clarify what you're saying or. I don't have any specific examples so far everything has been pretty good, but I am constantly thinking about this when I'm also typing, because I'm, you know, when I'm sending someone an e-mail. Maybe I think about it too much. [I] think about how they take this or go towards this another way. It's like you're criticizing you know something that they did, and you don't have sort of parts of body language or whatever to express yourself the way you want to feel like things can come off as kind of harsh, sometimes. Yeah, I think if you're not careful about that things get taken the wrong way. (Participant 9, p.10)	Cross-cultural Communication; Human Dynamics; Technology
The world is now one big village, one big village and everybody's communicating with each other and sharing experience. It's a big window for everybody to learn from each other, and to learn the experience from other people from other backgrounds. It's a very rich experience. And we haven't seen that before. But it's a big platform for everybody to share and learn from each other regardless of their background, or where they came from, or what degree they have. (Participant 2, p. 16)	Cross-cultural Communication; Team Design and Technology
I have found something that you know, it's very consistent. And that is what I'll call the Middle Eastern approach to time. Which is, they don't worry about time much. And they also don't like email, which makes it hard to communicate. And what I mean about time is ok, their approach to time is flexible regardless if it's time of day or day of week; oh and deadlines. I'll use a kickoff meeting as an example. We're going to start at nine o'clock in the CEO's office or the CEO's conference room. Great! So, we're all there at nine o'clock, the only people in the room are us. So eventually, you know they'll start to kind of wander in. Anybody from the customer who was actually supposed to be in the room when the meeting was supposed to start is like the most junior of underlings who was allowed to be in the meeting. Typically, the CEO and the other key players would show up, half hour, 45 minutes or an hour later, and then you get started. You know, once you realize that's just how things are, you can try to account for that. It's still kind of frustrating though, but that	

Quote	Themes Represented
was what I found common in the Middle East is this lackadaisical approach to time and deadlines. (Participant 15, p.16)	
My team likes to use the video. So, like, we can all see each other. And with some of these people, like I haven't even, like I've never met them live. So, it's really interesting to put names with faces. (Participant 3, p. 6)	Human Dynamics and Technology
I think I've slightly changed the way I work; my work style. So, in the UK, I think people are probably less direct, maybe a little more formal about how they might approach something. So, if I was to be in an office in the UK, managing a project, I probably would address people quite formally. I would be very polite about how I was asking, you know, if someone wasn't doing what I needed them to be doing on the project, I would probably have to ask it in quite a polite way, I wouldn't be able to be, you know, direct to say, 'hey, John, you're really not doing what I need you to do. (Participant 13, p.4)	Cross-cultural Communication and Human Dynamics
Listening skills and social skills. And when I think about that, I think that in a virtual working environment, listening skills and social skills are so important that, you know, they are 10 times more important than in non-virtual environments for many practical reasons because you know, you don't have the body language. We don't have all that might aid communication. Having said that, though, yes body language is very, very important in human communication. Perhaps it is more important than all the other types of communication. (Participant 6, p. 12)	

The need for adaptability and adaptive behavior for effective GVT functioning was apparent throughout the interviews. The ability to adapt to new settings is a desired and necessary competency for working on a GVT. Adaptability has been measured as a facet of emotional intelligence (Bar-On, 1997) and emotional intelligence can influence work outcomes such as team performance (Michinov & Michinov, 2020). The interplay between adaptability and team effectiveness deserves acknowledgment as it is linked directly to the experience of working on a GVT in this study.

Summary

The 21 interviews produced considerably rich data regarding the perception of working on a GVT. Across the interviews, four themes emerged: team design, cross-cultural communication, human dynamics, and technology with one meta-theme, adaptability. Within the themes, there are various sub-themes, containing various items that support each theme. The sub-themes help to capture a more complete scope of member and leader experiences of working on a GVT. Themes provide a higher-level observation of data, while sub-themes help to focus in on more detailed aspects of responses shared by participants. Additionally, adaptability helped bridge the four themes together to convey the interrelated aspects of the participants' experiences and perceptions. The themes extracted from the interview data presented in this chapter were used in the creation of a survey that can be administered to a larger sample of GVT members and leaders. The process of survey creation is discussed next.

Phase II: Quantitative Results

The next phase outlines the design and development of the survey instrument, which was created from the interview data in phase I, as well as the literature reviewed on GVTs. Some descriptive data tables provide further analysis of responses. The research question used to guide this phase is:

2. How can the thematic framework serve as the basis of an instrument to measure the quality of GVT experiences and thus identify areas for improvement within GVT teams?

Survey Design

Statements used in the survey were originally created from the themes and sub-themes that emerged in phase I, which are also prevalent in the extant research on virtual teams. This is explored in greater detail in the theoretical support section that follows. The survey comprised of 59 original statements to thoroughly capture the experience of working on a GVT as perceived

by the interview participants. Actual participant quotes were extracted from the interview data and reframed into survey items. The theoretical basis for creating survey items from qualitative data can be conferred through the scale development process, in which items can be generated through expert informants in order to aggregate a comprehensive list of attitudes, characteristics, successful traits and critical incidents (Irwing & Hughes, 2018). The interview quotes provided the raw material for survey items. A survey was chosen to allow for systemic gathering of information from participants for the purpose of understanding and eventually predicting the behavior of the population of interest (Lin, Standing, & Liu, 2008). Item-writing guidelines set forth by Irwing and Hughes (2018) were followed.

Content validity further authenticates the items. Content validity is a non-statistical type of validity that involves systematic examination of the survey content to determine whether it covers a representative sample of the domain to be measured (Anastasi & Urbina, 1997). The content domain of interest is the experiences of GVT members; therefore it was appropriate to rely upon direct quotes from interview participants who are representatives of the participant sample (GVT members) reframed as survey items, which are also supported by literature on GVTs and assured by coders who are members/leaders of a GVT. This further validates the original framework that outlines the themes (team design, cross-cultural communication, human dynamics, technology, and adaptability), which were translated into constructs of interest in the survey, to better understand GVT member experiences. Examples of these crafted survey items include:

> Quote: “When there’s a problem there’s a sort of, throw it over the wall, mentality”
>
> Survey item: Problem solving is a challenge.
>
> Quote: “I think being well informed, not spending your day either trying to find out information or being told, ‘oh didn't you know this happened or that happened’"

Survey item: I am not able to locate information I need easily.

Quote: “It's a very rich experience. And we haven't seen that before. it's a big platform for everybody to share and learn from each other.”

Survey item: There are ample opportunities for learning.

Quote: **“**most of it is email. I think I've only had two calls on WebEx, one today and the very first one that we had a couple months ago. It's been, I mean I can ask them to call them if I want to, but I also think this goes along with, you know, you don't really want to bug Someone.”

Survey item: E-mail is the most used communication tool.

Items concerning adaptability were not new. These were framed from items on each theme and sub-theme, with the addition of perceived adaptability of that theme/sub-theme. The context conveys adaptability to items within each theme. An example adaptability to the technology theme and tools sub-theme is, “The GVT I am part of adapts to technology tools.” This statement format is used for all other themes and sub-themes in the section on adaptability. In addition, 11 demographic items were included to collect participant data. The updated survey consists of 70 total items.

All statements were scaled using a six-point Likert scale (strongly disagree, disagree, somewhat disagree, somewhat agree, agree, strongly agree), and every attempt was made to make each statement brief, relevant, unambiguous, specific and objective. These characteristics of items are referred to as BRUSO model (Peterson, 2000). The acronym BRUSO represents the first letter of each guideline.

A pilot study was originally conducted to obtain feedback, which was organized by the themes: adaptability, team design, cross-cultural communication, human dynamics, and technology represented by various items in the survey. A pilot study is an important stage in a research project, conducted to identify potential problems and deficiencies in the research

instruments and/or protocol prior to implementation into the full study, such as a dissertation (Stewart, n.d.). For the original pilot survey prior to the adjustments made following feedback, there were 59 content items, seven on adaptability, 25 on team design, five on cross-cultural communication, nine on human dynamics, six on technology, seven on the overall perception of working on a GVT including the five themes, an item on the overall experience of working on a GVT, and the overall perception of interactions on a GVT. Additionally, 11 demographic items are included following the content statements. The pilot consisted of seven additional questions following each theme's items requesting feedback on the presentation and language clarity of each survey item. The section that follows will address the respondents' feedback. Data were collected through snowball sampling methods to find ideal participants. The established criteria are the same as what was used in phase I to recruit interviewees. Criteria for the study include: As a member of a global virtual team (GVT), you:

1. work on a team with a group of people (at least two other people) interdependently with a shared outcome.
2. work across space and time (geographically dispersed).
3. rely on technology for communication/information sharing.
4. work virtually to get things done.
5. have a formally appointed leader(s).

Establishing standards for the survey helps ensure respondents are familiar with the context and are able to provide feedback on the content and context as well as the clarity of items. A representative sample of respondents can also speak to establishing face validity, since members of GVTs are best suited to speak to the survey items. Content validity is enhanced by careful selection of which survey items to include (Anastasi & Urbina, 1997). All items complied

with the specifications of the survey since they were drawn from thorough investigation of qualitative data that was then used for survey creation. Foxcroft, Paterson, Le Roux & Herbst (2004) note that by using a panel of experts to review the items, the content validity of a survey can be improved since experts are able to review the items and comment on whether the they cover a representative sample of the desired domain. Feedback on survey items was collected to more clearly and accurately develop a survey instrument that can later be used to establish construct validity for measuring GVT effectiveness.

Theoretical Support

Item generation was empirically driven following data collected from interviews in phase I and verified and supported by the extant research that exists on GVTs. The connections between themes and sub-themes and the literature is investigated here.

Adaptability

Adaptability as a meta-theme is reinforced by research from the identified theoretical framework in Chapter 2, adaptive structuration theory (AST). DeSanctis and Poole (1994) adapted structuration theory (Giddens, 1984) to study the changing structure of organizations by use of advanced information technology, calling it adaptive structuration theory. The theory states how technology's structural characteristics shape interaction patterns (Maznevski & Chudoba, 2000). Similar to the premise of structuration theory and later of AST, virtual team effectiveness involves the emergence or shaping of social interaction (group processes) under the structures that exist on the virtual team (Naik & Kim, 2010). AST provides an ideal framework for studying GVTs, given their team design and structure, and the formation of leaner organizations related to electronic workflow (Fulk & DeSanctis, 1995). Beyond structuration, adaptability on virtual teams was mentioned in empirical research regarding adaptive behavior

(Qureshi & Vogel, 2001), technological adaptation (Argyrys, 1980), social adaptation (Alavi, Yoo, & Vogel 1997), and adaptability in the workplace (Pulakos et al., 2000).

The need for adaptive workers has become increasingly important (Edwards & Morrison, 1994; Ilgen & Pulakos, 1999; Smith, Ford, & Kozlowski, 1997), especially in the context of virtual teams, where the pace of work, team type, and organizational need continues to evolve.

Team Design

Team design dates back to Hackman's (1987) work on design and management of work groups as indicators of team effectiveness. Task-effective group processes are discussed as well, including group composition, norms that regulate behavior, the organizational context involving rewards, education, information systems and resources, and group synergy resulting from interactions as tasks are completed. Hackman' work is foundational to task-based teams, which GVTs are generally classified as, with backing for items identified as structured and unstructured team design features in this study (i.e., roles, meetings, feedback, and collaboration to name a few). Special attention must also be paid to the virtual context of GVTs, which impacts the composition, structure and function of the team, supported by items such as remote work and physical distance, both central to team design and the very definition of GVTs.

Cross-cultural Communication

Cultural diversity is a characteristic of GVTs explored in the literature review. High geographic dispersion is likely to increase the diversity of a GVT (e.g., Dube, Bourhis, & Jacob, 2006). It's not surprising that this emerged as a theme in terms of interactions and communication, including items such as misunderstandings, language differences or differences in language proficiency (e.g., Klitmøller, Schneider, & Jonsen, 2015), and the culture or recognizing errors as well as approaches to problem solving. It is worth noting in a cultural

context the lack of focus on racial diversity in GVTs. Generally, diversity is contextualized in terms of national culture to include ethnicity, organizational culture, language, work styles, and other cultural dimensions. We know from the literature that issues are likely to be multiplied when working with people who are culturally different, but also when working with gender, racial, ethnic, and ability diversity (Iles, 1995).

Human Dynamics

Items identified as sub-themes for human dynamics are not necessarily classified as such in the literature, but the presence of the sub-themes is prevalent. Robust research has examined trust in virtual teams, and it is known as one of the most studied variables (Gilson et al, 2015), including trust and communication (e.g., Henttonen & Blomqvist, 2005), trust and knowledge sharing (e.g., Liu & Li, 2012), and the development of trust (e.g., Lowry, Zhang, Zhou, & Fu, 2010). In addition to trust, face-to-face teams have been compared to virtual team counterparts to study the effect and impact of face-to-face interactions (e.g., Martinez-Moreno, Gonzalez-Navarro, Zornoza, & Ripoll, 2009). Member roles and relationships have also been investigated (Gibson & Gibbs, 2006), recognition (e.g., Whitford & Moss, 2009), small talk (van der Kleij, Schraagen, Werkhoven, & DeDreu, 2009), and empathy (Kayworth & Leidner, 2001).

Technology

Technology is also a key aspect of GVT research and GVT work, since technology mediates communication and interactions enabling these teams to exist in organizations. GVTs are reliant on technology for formal and informal communication purposes, information sharing, scheduling, project coordination, and process building. Technology is not a choice, but a necessity for GVT work. There has been a tendency for much of the work on GVTs to focus on expert groups, including information technology professionals (e.g., Baruch & Lin, 2012), but

it's important to note, GVTs are utilized for teams who are not necessarily in the technology sector. Technology is perhaps as researched as trust, as is expected, given the medium for communication. Technology use, choice and fit is often of interest in context of GVTs (e.g., Gibson & Cohen, 2003). Tools such as email are also widespread (e.g., Duranti & de Almeida, 2012), as well as technological capabilities (e.g., van der Kleij et al., 2009), and challenges and barriers created by technology (Rosen, Furst-Holloway, & Blackburn, 2007).

The items, as shown, are adequately supported by existing literature on GVTs. Theoretical support helps to validate the items generated as fitting to the context of study for GVTs.

Survey Responses and Feedback

A total of 15 responses were recorded, offering feedback on survey items as well as providing initial data on how the extracted themes from phase I were used and responded to in the form of survey items, providing insight for the research question on the experience of working on a GVT. Participants were recruited via academic networks and social media, LinkedIn, in a public post with the call for participation, which included the criteria as well. The survey was administered online through SurveyMonkey®. Each section of the survey introduced a theme by offering a definition. Participants were asked to respond to a set of items on each theme as if they were completing the survey items as traditional participants, and then offer feedback in open-ended format on the clarity of items as well as the relevancy and representativeness of items per the descriptions of the themes provided. Feedback was collected following each section (theme) which varied in the total amount of items. Additionally, feedback was collected following items on the overall experience of working on a GVT.

For the purposes of creating a questionnaire that assesses the experience of working on a GVT, a traditional pilot was not needed, so the response rate of 10% (DeVellis, 2003) was not stipulated. The purpose of this pilot study was to receive feedback from members of GVTs on the presentation and content of the items, further supporting the findings (themes) from phase I. However, some descriptive statistics are offered here to shed light on the data collected. The data tables show demographic information as well as the mean of each theme and overall experience of GVT work. The table shows only a snippet of demographic data. Race and ethnicity was also collected.

Table 4.8

Selected Participant Descriptive Data

Nationality[a]	Work Location [b]	Language	Sector[c]
American (6, 43%)	US (8, 57%)	English (13, 86%)	For-profit (7, 50%)
British (2, 14%)	UK (1, 7%)	Arabic (1, 7%)	NPO[d] (1, 7%)
Canadian (2, 14%)	Canada (1, 7%)	No response (1, 7%)	Education (5, 33%)
Greek (1, 7%)	Greece (1, 7%)		Public (1, 7%)
Ghanaian (1, 7%)	EU (1, 7%)		
Lebanese (1, 7%)	Singapore (1, 7%)		
Singaporean (1, 7%)	EMEA (1, 7%)		

Note. Sample N= 15. [a.] n=14. [b.] Respondents could select multiple work locations. [c.]n=14. NPO=not-for-profit.

Additional interesting demographic information in terms of GVT work included the degree of virtuality of participants. Degree of Virtuality (DoV) was measured on a 100- point scale asking respondents to indicate how they perceived their work on a continuum of traditional to purely virtual. I ran case summaries which provided the average virtuality reported (74%) and

minimum and maximum reported values (40% and 100%). Other demographic data was also gathered including gender, education, tenure on the GVT, job function, race, and age.

In Table 4.9, the information shows the data collected for items concerning respondents' adaptability within each theme (structured team design (STD), non-structured team design (NTD), cross-cultural communication (CCC), human dynamics (HD), and technology (TECH)). Furthermore, there was one item on adaptability in terms of virtual interactions to gauge adaptability to working in virtual space. An interesting observation in terms of adaptability is the differences in mean between structured (M= 5.07) and non-structured (2.53) team design.

Table 4.9

Adaptability Data

Measure	M	SD	Minimum	Maximum
Adapt_STD	5.07	.70	3	6
Adapt_NTD	2.53	1.30	1	5
Adapt_CCC	4.53	.74	3	5
Adapt_HD	4.73	1.16	2	6
Adapt_V_INT	2.47	1.46	1	5
Adapt_TECH[a]	5.07	.83	4	6
Adapt_TECH_CHAL[a]	3.14	1.46	2	6

Note. Sample N=15. [a] n=14. Adapt is short for adaptability. STD= structured team design. NTD= non-structured team design. CCC= cross-cultural communication. HD= human dynamics. V_INT= virtual interactions. TECH_CHAL= challenges with technology.

Table 4.10 shows each sub-theme's computed mean (M) and standard deviation (SD) and data ranges for each sub-theme: global dispersion, roles, project specifics, and non-structured

features of team design. While not generalizable, it's worth noting the similarity across the mean for all sub-themes.

Table 4.10

Team Design Data

Measure	M	SD	Minimum	Maximum
Global Dispersion[a]	3.89	1.14	1	4
Roles	4.84	1.05	2	6
Project Specifics	4.04	1.11	1	6
Unstructured Features	3.37	1.30	1	6

Note. Sample N=15. [a] n=14.

Table 4.11 includes the same level of analysis as team design for cross-cultural communication. The largest variance in responses was for misunderstandings, with a five-point difference between the minimum and maximum responses.

Table 4.11

Cross-cultural Communication Data

Measure	M	SD	Minimum	Maximum
Language as a barrier	2.73	.884	2	4
Error recognition	2.80	1.01	1	4
Problem solving	2.67	.98	1	4
Misunderstandings	3.00	1.36	1	6
Asking for help	3.87	1.13	2	5

Note. Sample N=15.

Table 4.12 summarizes the responses for items enveloped in the theme human dynamics.

Table 4.12

Human Dynamics Data

Measure	M	SD	Minimum	Maximum
Face-to-face opportunities[a]	3.57	1.09	2	5
No Face-to-face opportunities	3.67	1.29	2	6
Small talk	3.73	1.22	1	5
Small talk (meetings)	2.53	.83	2	5
Empathy	4.53	.74	3	5
Relationship building	3.80	1.21	2	6
No relationship building	3.33	1.11	2	5
Recognition	2.13	1.13	1	5
Trust	4.73	1.03	3	6

Note. Sample N=15. [a] n=14.

Table 4.13 shares the findings for items concerning technology.

Table 4.13

Technology Data

Measure	M	SD	Minimum	Maximum
Bandwidth	2.67	1.23	1	5
Tools	4.60	1.18	2	6
E-mail (overuse)	3.53	1.30	1	6
Videoconferencing	2.40	1.24	1	6
Other challenges	2.60	1.40	1	6

Note. Sample N=15.

Lastly, Table 4.14 covers the overall experiences of GVT work that also speaks to the role of the features of each theme (team design, cross-cultural communication, human dynamics, and technology) in influencing the overall experience.

Table 4.14

Overall GVT Experience Data

Measure	M	SD	Minimum	Maximum
Overall enjoyable GVT experience	4.73	.96	3	6
Overall positive GVT interactions	4.67	.90	3	6
Overall influence by structured team design features	4.67	1.05	3	6
Overall influence by non-structured team design features	3.80	1.08	2	6
Overall influence by cross-cultural communication features	3.80	1.08	2	6
Overall influence by human dynamics features	3.80	.94	2	5
Overall influence by technology	3.80	1.06	2	5

Note. Sample N=15.

Feedback was requested in open-ended questions following sections covering each theme: adaptability, team design, cross-cultural communication, human dynamics, and technology, and also following items which assess overall experience. It was not necessary for demographic items to be reviewed, as the pilot was used for the purpose of eliciting feedback on the specific items pertaining to the GVT experience.

The respondents all qualified for the survey as members of a GVT, and completion rate was 88%. The self-reported degree of virtuality ranged from 40%-100%, with seven nationalities represented, 12 work locations (countries), and English and Arabic as the primary languages. Time spent on a GVT ranged from less than a year to 11 years and longer. Respondents represented private, public and the education sector. 45% of the respondents identified as male, and 55% female, ages ranging from 30 to 65 and older, and four ethnicities (Caucasian, Asian/Pacific Islander, Black or African American, and Other). The demographic data demonstrates an appropriate sample for providing feedback on the GVT experience.

While content responses were not collected with the intent to analyze results since it is beyond the scope of this study, some interesting findings are noted and explored in the final chapter. Such discoveries include replies provided for the item, “It is easy to become/feel isolated.” The responses were pretty evenly split, which seems surprising for GVT members with degrees of virtuality at a minimum of 40%, with degree of virtuality characterized on a scale of 0% to 100% with 100% representing no face-to-face time with one’s own team. An individual’s personality in terms of feeling isolated working virtually may imply personality as a factor.

Additionally, there are items that can directly be applied to coaching on a GVT on the basis of shared experiences working on GVTs, including, “Feedback is not provided

adequately," "I am not able to locate information I need adequately," and "There are ample opportunities for learning," to name a few provoking thoughts.

Content Feedback

Content feedback relates to respondents' perceptions and understanding of the items' meaning and intent. Experts who are representative of participant samples are primarily used to assess the comprehensibility of items and to identify items that may be biased (Demaio & Landreth, 2004; Presser & Blair, 1994; Willis, Schechter, & Whitaker, 2000). Below are selected examples of such feedback gathered from the pilot survey:

Technology

Items concerning the sub-theme challenges were perhaps too broad, and two respondents felt the need for a narrower portrayal of exact types of challenges. While the responses from phase I did include a broad spectrum of technological challenges, an item on aptitude, a concrete example of a challenge, was added to provide a specific type of challenge respondents can respond to. The sole item relating to this sub-theme was: "technological challenges negatively impact my work." Additionally, "I do not feel adequately equipped to use the required technology" was added.

Team design: Time zones. There are two items on the survey specific to time zones that are potentially complementary, not contradictory, meant to collect data on time zones as having potential barriers while at the same time advantageous to the work on GVTs. The items will remain as is, although this was flagged as confusing. Items pertaining to cultural diversity are framed similarly as well.

- Multiple time zones create a barrier to my work
- Multiple time zones are advantageous to my work

Survey intent. The intent was for respondents to select items that align with their belief and experience working on a GVT, not a general experience observed on the team. In reflection, this was not noticeably clear or as repetitious as it perhaps needed to be. For each theme's cluster of items, the wording used is, "On my GVT…" To ensure the respondents reflect on their own personal experience, the items were edited and preceded with instruction to respond to items based on the respondents own personal experience.

- Specificity of items: One respondent felt the items should have revolved around the nature and deployment of GVTs, which of course was not the purpose of the survey. The opportunity for open-ended feedback does provide noteworthy opportunities for members of a GVT to engage in topics of interest. Framing the question should take careful consideration however, and focus on the purpose of the survey, which in this case was about the experience of working on a GVT.

Stylistic feedback. Editorial feedback was provided by respondents in terms of word choice and clarity of items. Below are selected examples of such feedback gathered from the pilot survey:

- Identification of themes in items: The identification and description of themes was noted as confusing and multi-faceted. The current wording of these items is likely also too advanced, with Lexile™ reader scores of 1100+, which translates to a 9th grade reading level. Below are a few sample items in their original form and following modifications. The comments regarding clarity pertained to the final content items on overall experience. Original and modified survey items are presented in Table 4.15.

Table 4.15

Survey Item Modifications

Original item	Modified item
My experience working on a GVT is strongly affected by structured team design factors (physical dispersion, roles, and project specifics).	My experience on a GVT is strongly affected by the following: physical distance, peoples' roles, and project demands.
My experience working on a GVT is strongly affected by unstructured team design factors (knowledge sharing, flexibility, learning, isolation and collaboration).	My experience on a GVT is strongly affected by the following: information sharing, flexibility, learning opportunities, isolation, and collaboration.
My experience working on a GVT is strongly affected by cross-cultural communication factors (error recognition, problem solving, misunderstandings, asking for/receiving help, and language).	My experience on a GVT is strongly affected by the following: recognition of errors, solving problems, misunderstandings, asking for or receiving help.
My experience working on a GVT is strongly affected by human dynamics (interactions such as small talk and face-to-face time, empathy, relationships, recognition, and trust).	My experience on a GVT is strongly affected by the following: interactions, small talk, in person encounters, empathy, relationships, recognition, and trust
My experience working on a GVT is strongly affected by technology factors (bandwidth, tools, and technical challenges).	My experience on a GVT is strongly affected by the following: technology bandwidth, technology tools, technological challenges in general

- Word choice: Face-to-face was noted as ambiguous by a respondent without explicit reference to face time in person or through technology. A note was added to remedy this misunderstanding indicating face-to-face as referring to in-person interactions**.**

The major concern of eliciting experts is that of item accuracy (the extent to which a test actually measures what it is intended to measure). Various types of subject matter experts would be required to evaluate items designed to assess adaptability, team design, cross-cultural communication, human dynamics, and technology. Nevertheless, a review of items has been

shown to be effective in research. The items in use now will all be subject to fit and factor analysis before a final survey is possible. This is the goal of the third phase, which goes beyond the scope of this dissertation.

Synthesis of Mixed Methods

The survey items used for the pilot were empirically and theoretically driven, resulting from two streams of data, interview responses in phase I (themes and sub-themes) as well as extant research evidence (meta-theme). Means of quality control between qualitative and quantitative methods exist from coding team's identified codes. Lincoln and Guba (1985) devised a set of four criteria upon which to determine the trustworthiness of qualitative research: credibility; transferability; dependability and; confirmability. Confirmability refers the results of an inquiry, and whether these can be confirmed or corroborated by other researchers (Baxter & Eyles, 1997). Confirmability is "concerned with establishing that data and interpretations of the findings are not figments of the inquirer's imagination but are clearly derived from the data" (Tobin & Begley, 2004, p. 392). Credibility is defined as the confidence that can be placed in the truth of the research findings (Holloway & Wheeler, 2002). A qualitative researcher establishes rigor by adopting one of following credibility strategies: prolonged and varied field experience, time sampling, reflexivity (field journal), triangulation, member checking, peer examination, interview technique, establishing authority of researcher and structural coherence (Anney, 2014).

Transferability indicates the degree to which the results of qualitative research can be transferred to other contexts with other respondents (Bitsch, 2005) which can be obtained through purposeful sampling (p. 85). Bitsch (2005) defines dependability as "the stability of findings over time" (p. 86). Dependability is established using an audit trail, a code-recode strategy, stepwise replication, triangulation and peer examination or iterator comparisons (Ary,

Jacobs, Razavieh, & Sorensen, 2010). This study provisionally meets this criterion, and the study is set up for the purpose of replicating findings in future research to come.

The confirmability and credibility criteria are met through the use of a coding team, which ensured the inferences drawn from interviews were reviewed and confirmed by independent reviewers. Based on quality interviews and themes that emerged through a thorough integrative review of literature, the synthesis of those two sources is what lead to the creation of items. Additionally, a purposeful sample was used to meet the quality criterion transferability.

To further develop the credibility of the process, the content validity of the scale is enriched by integrating empirical data from interviews with the integrative literature review. Content validity is enhanced when you can show the relationship between items and what's actually in the research. This type of validity addresses the degree to which items of an instrument sufficiently represent the content area (Newman, Lim, & Pineda, 2013).

Summary

This research study consisted of both qualitative and quantitative methods. This allowed for a multi-strategy approach in which the data were collected separately, and integration was based on both the triangulation, and the exploratory approach (Creswell, 2009). Analysis of both qualitative and quantitative data increased confidence that the researchers' explanations of the phenomena are more plausible than alternative interpretations (Edmondson & McManus, 2007). Because this study employed an exploratory sequential mixed-methods design, no a priori hypothesis were indicated, as the quantitative analysis is preliminary to be used in a follow-up study in which an attitude scale on GVT experiences will be designed.

Chapter V. Discussion

Introduction

The final chapter of this dissertation begins by revisiting the purpose of this study, the research questions explored, and a brief description of the findings. Next, implications for research, practice, and leadership are addressed. Foundations for team development including recommendations for best practices toward effective team functioning are offered based on the data and extant literature. Lastly, the chapter closes with three limitations of the study, and the next planned phase of research.

Revisiting the Study

Global virtual teams (GVTs) consist of at least three individuals with a shared purpose, who are globally dispersed, rely on technology, work virtually, and have a formally appointed leader. This study aimed to understand the interaction among members of a GVT by gaining insight into their lived experiences and to conduct a preliminary test for the development of a scale capturing the essential qualities of these experiences. The resulting survey instrument will enable leaders of GVTs and self-managed GVTs to identify best practices and inform areas for improvement. The study addressed the following questions:

1. What are the characteristics of the lived experience of global virtual teams (GVTs)?
2. How can these experiences be transformed into a thematic framework representing the lived experiences of GVT members?
3. How can the newly developed thematic framework be used to create an instrument to measure the quality of GVT experiences in order to identify areas for improvement toward team effectiveness?

Twenty-one participants who fit the GVT criteria were interviewed and a thematic analysis was performed on their responses. The major themes of the GVT experience included structured and unstructured forms of team design, cross-cultural communication, human dynamics, and technology, with an overarching meta-theme, adaptability. While these themes are consistent with previous literature on GVTs, several unique discoveries add to and enrich the evolving field of working virtually. These include qualities of the human experience and the group dynamics of GVTs. Respondents' perceptions of their experience were positive overall, but also depended heavily on the situational and contextual variables at play.

The Gartner Group survey (Biggs, 2000) estimated that for the Global 2000 companies, virtual teams, including GVTs, would do 60% of professional and management tasks within those organizations by 2004. More recent studies such as one from Global Workplace Analytics (2019) shows that the number of non-self-employed remote employees in the United States has gone up by 173% percent since 2005. In the U.S. alone, around 4.7 million people work from home at least half-time (2019). Additionally, studies report that between 50 and 70% of all white-collar workers in OECD countries at least occasionally work on projects that require some form of virtual collaboration, with 20 to 35% involving collaborations across national borders, with the number of such interactions only increasing (Duarte & Tennant, 2011; Kurtzberg, 2014).

Although it has been reported that virtual teams fail to meet either strategic or operational objectives due to the inability to manage the distributed workforce implementation risks (Zakaria, 2016). A call for continued research is said to be critical in informing the practice of GVTs in order to avoid failure or breakdown due to complications brought on by the distributed nature of work and by the issues that arise when individuals from different cultures are brought

together to create a team. The findings from this study help contribute to understanding both positive and frustrating experiences of working on a GVT – and thus respond to the call to better inform this team type's work practice.

Positive experiences included relationships with team members, an appreciation for a diverse workforce, the learning and enrichment GVT work provides, and opportunities to use new technology tools, when these tools are user friendly for the team at large. Relationship building and cohesion have been associated with better performance and satisfaction in virtual teams (Powell et al., 2004). Frustrating experiences stemmed from established structural as well as nonstructural barriers such as working across multiple time zones, constant changes, and challenges with technology such as poor bandwidth. Miscommunications that arise via email and across cultures, or lack of acknowledgments also caused discontent. There was a sense of being lost in cyberspace, so to speak.

Telework, while the norm for most interviewed members of GVTs, was seen as a restriction by some. Telework was regarded as a preferred way to work by those who engaged in remote work given the nature of working on a dispersed team, but not outwardly regarded as a frustration by those for whom it was not permissible. There are overarching benefits of working remotely for employees as well as organizations. For workers, work-life balance increases with eliminated commute times and an increased presence at home; for organizations, it reduces real estate costs and casts a wider net for obtaining talent around the world. Environmental benefits exist as well, for example, with less vehicles on roadways, less construction of office space, and a reduced need to purchase office materials and furnishings. Nonetheless, for those who prefer a formal workspace and face time with others, organizations have a need to provide support for

personnel with certain needs (i.e., office equipment, plenty of opportunities for interaction within a team and within the wider organization and coaching on working virtually).

When asked about contributions that can enhance interactions on a GVT, several participants noted a preference for communication that resembles a face-to-face experience such as video conferencing, and with less reliance on email. Responses also included small talk as positive and important, and opportunities for relationship building on the team. Because we know from research that the critical period for developing effective communication appears to be at the initial team start up, it's vital to create team cohesion from the onset (Brake, 2006; Duarte & Snyder 2001). High quality leadership (Kayworth & Leidner, 2001) and cross-cultural communication skills training (Dubé & Paré, 2001; James & Ward, 2001; Kayworth & Leidner, 2001) are recognized as key ingredients in successful communication. Six participants did mention that the role of the leader was essential to experiencing satisfaction on a GVT. Cultural barriers such as language and cultural misunderstandings were recognized, but not overwhelmingly as a hinderance to the overall experience.

The next section discusses the experience of working on a GVT and how it impacts team effectiveness. The human experience on teams has shed light on task-based factors as well as social factors that contribute to GVTs working effectively. The relationship between social and task related factors, as well as the role and significance of communication in virtual team effectiveness has been of interest in research (Lin et al., 2008). The experience of working on a GVT, as well as the successes and challenges that can inform team practice and effectiveness was the overall goal of this study. The experience of working on a GVT can be used to identify factors that contribute to and hinder positive experiences. A supportive group ethos and group

well-being are directly related to developing relationships in virtual teams, as proposed by McGrath (1984).

The Experience of Working on a GVT and Team Effectiveness

Assessing effectiveness in teams is regarded as complex. Hackman (1987) stated that "most organizational tasks do not have clear right-or-wrong answers, for example, nor do they lend themselves to qualitative measures that validly indicate how well a group has done its work" (p. 323). Thus, various models describing team effectiveness have been developed with a variety of different criteria used to evaluate team effectiveness. Most studies on virtual team effectiveness included only performance and satisfaction (e.g., Kanawattanachai & Yoo, 2002; Kirkman et al., 2004; Lurey & Raisinghani, 2001).

Team effectiveness is defined as a team's capacity to achieve its goals and objectives (Kozlowski & Ilgen, 2006; Marks, Mathieu & Zaccaro, 2001; Salas, Zaccaro, Heinen, & Shuffler, 2009). There are many constructs of "effectiveness," such as "business results, quality, length of time to reach a decision, creativity, productivity, etc." (Einola, 2017, p. 46). How effectiveness is measured varies from team members' individual assessments to aggregate and to objective measures (Gilson et al., 2014). Other than team effectiveness, affective outcomes, like satisfaction (Chiravuri et al., 2011), team viability and turnover intentions (Ortega, Sanchez-Manzanares, Gil, & Rico, 2010), and confidence in the team's capability (Turel & Connelly, 2012) have also received empirical consideration (Gilson et al., 2014). While performance can measure business-oriented results and effectiveness of team members in meeting such objectives, team members' individual responses regarding satisfaction and perception of effectiveness should be considered as an authentic measure as well. Tirmizi (2008) proposes a model representing factors that affect multicultural team effectiveness. The

components of the model are societal/institutional factors such as culture and economy; organizational factors like structure and size; team factors including design and structure, membership, and team processes; team climate including trust and cohesion; and team effectiveness criteria encompassing satisfaction, learning, and performance (Tirmizi, 2008). The model proposes that team structure, membership, and processes determine team effectiveness.

Much of the literature on GVTs discusses diversity as a cause of team dysfunction because it causes presumptions and differences in approaches and behavior, but diversity can also be an antecedent of effectiveness. In multicultural teams, specifically, effectiveness is dependent on a deep understanding of the cultural issues at hand (Chevrier, 2003). "Most research to date does not argue for a direct link between culture and effectiveness" (Scott & Wildman, 2015, p. 18), but there are suggestions that cultural sensitivity and training are essential to fostering team effectiveness (Dubé & Paré, 2001). Cultural values can deeply affect organizational and team structure, rewards and motivation, interpersonal interactions, decision making, and effectiveness (Tirmizi, 2008). Culturally adapting one's leadership style may help overcome cultural barriers and underlying issues that will likely arise on a GVT, given its multicultural makeup.

In this study, the team's perceptions based on their experience in a GVT context have contributed toward an understanding of effectiveness. This study has enriched the literature by highlighting through the data analysis the dynamic aspects of human interaction through structural and social aspects. Individuals and teams face implications when work is globalized and virtualized. Because individuals rely on their culture, background, or professional function as a form of identity, a sense of belonging, shared understanding and adaptive behaviors must be modeled and facilitated. This study helps bridge the scholarship with practice by offering

recommendations for the GVT workplace in terms of suggested ways to respond to the nature of GVTs' geographic dispersion as well as cultural and functional diversity. The characteristics and needs of GVTs as necessary aspects for consideration toward optimal team functioning are offered in the thematic map, organized by themes to create a framework.

In reviewing the data, I found that the industry (heavier technical aspects of work), functional roles (leadership), and organizational and leadership support (with structural and nonstructural assistance) strongly impacts one's perceptions of global virtual work. If GVT members' wellbeing and satisfaction is prioritized, more opportunities exist for structural support with team design, cross-cultural communication, human dynamics and technology, considering best practices from research and practice, feedback from members, and observations. Additionally, tenure on GVTs did not provide any obvious discrepancies regarding satisfaction on a GVT. I presumed those with more experience on GVTs would have a more favorable view of working on GVTs, but individuals with five years or less experience were just as optimistic about the opportunity, and the participant with the most experience (26+ years) had a very contrary view of GVT work. This supports the initial observation that satisfaction on a GVT seems to be increasingly supported by industry, role and the level of organizational support.

Furthermore, interpersonal traits such as personality and motivation stood out as considerations toward effective team processes. Persuasion and motivation may be essential for team members to act in accordance with what's desired for effective team functioning. Kavitha, Jiji, and Rajkamal (2011) discuss the need for training to strengthen cognitive and affective components of attitudes. To promote behaviors essential to teamwork, adaptability and virtual work, adequate preparation and training prompted by surveying GVT members on their perceptions of highly effective team functioning and teamwork could be greatly beneficial to

GVT success. This highlights where the need or gaps lie amongst team members. Marks et al., (2001) propose a taxonomy of team processes that incorporates interpersonal processes including motivation and confidence building. In this model, "teams motivate members by communicating their beliefs about team ability, competence on particular tasks, and feedback on team success" (p. 368). At the heart of this is communication. Kayworth and Leidner (2001) identified effective leadership communication as communicating clear goals, providing continuous feedback, and providing empathy and understanding while maintaining cultural sensitivity.

Implications and Future Research

This research contributes to the growing work on GVTs with practical applications, and advances awareness into the human experience in real-world, global, virtual work settings, identifying themes that continue to exist in the extant literature, and adding topics deserving of further exploration and analysis, such as adaptation, and a holistic overview of task and relational factors for consideration. The identified themes help to provide the language around the experiences and encountered situations or characteristics on a GVT. Adaptability helps to serve as a bridge to connect the various themes that illustrate the GVT experience. Lastly, the theoretical frameworks, structuration and adaptive structuration theories provide perspective that suggests GVT members must enact rules and resources when interacting within the social system as they navigate through and adapt structures to enhance their interaction and experiences. Implications for scholarship and practice are offered next, followed by the propositions for team leadership.

Implications for Scholarship and Practice

To function as a team in a virtual environment, contextual factors such as structure, cross-cultural communication, people dynamics, technology, and adaptability to these aspects of global virtual teamwork deserve attention and must be addressed more holistically to gain an understanding of the experiences and challenges of functioning as a GVT. Constant adaptation is required for virtual teamwork. Teamwork facilitates the achievement of collective goals and consequently, team performance. Teamwork is fundamental to the effectiveness of work teams (Cannon-Bowers, Tannenbaum, Salas, & Volpe, 1995). To wholly grasp the experience of GVTs, I'll now revisit the themes that emerged during the qualitative phase, and consider the implications for future scholarship and practice.

In terms of team design, GVTs can be designed to include the most fitting individuals for a particular project (Bell & Kozlowski, 2002). The task-based design is common for GVTs. Even so, structural (roles, project specifics and physical dispersion) and nonstructural (i.e., knowledge sharing and flexibility) components are worth exploring as facets of how individuals experience working on a GVT. These include physical dispersion, roles, and project specifics. To add, nonstructural components of team design have been identified to affect satisfaction.

When considering cross-cultural communication, "facilitating cross-cultural, interdisciplinary discussion is more a function of psychology, sociology, and interpersonal skill sets than one of technology tools and network structures" (Business Training Works, 2019). Aligning culture, values and attitudes will encourage team cohesion. Data from this study suggest that GVT members should consider factors beyond structure and technology.

Human dynamics speak to the desire for individuals to connect and feel valued and they are the human side of working virtually. Real-world perceptions, reactions and expectations

provided insight into understanding the human experience on GVTs. The human experience is deserving of greater attention in a work context that has the potential to overshadow the humanness of GVTs. While small talk, trust and the role they play in relationship building have received much consideration in existing literature, other aspects such as recognition, empathy, and the desire for face-to-face interaction aid in providing a deeper level of humanity to the culture of GVT research. In Goleman's (2011) work on emotional intelligence, he explains the psychology of understanding the needs of employees as crucial, which includes finding ways to empathize with them.

While the majority, if not all, companies use technology, the degree to which it is relied upon varies greatly. Not all members of a GVT work remotely, but the technological reliance could support a "work from anywhere" mantra. In 1995, a behavioral psychologist was hired to consult on cultural impacts of remote work at IBM and found promising results, encouraging a company-wide shift to remote work in 1996. This decision increased productivity at IBM by an estimated 50% as well as $700 million in real estate savings (Koulopoulos & Keldsen, 2014). There are multi-generational quality-of-life benefits to such efforts that contribute to retaining and supporting the workforce (GSA Office of Governmentwide Policy, 2012). With appropriate technology and a workplace culture that supports the transition to remote work, including trust and leadership values in support of employee well-being, a GVT design with its reliance on technology would be fitting.

While technology may move at an accelerating pace forcing businesses to keep up the pace, people change more slowly. Through scores of interviews conducted with business leaders, Wagner (2008) identified seven survival skills in what he referred to as the "New World" of Work (p.14), which emerges as a shift from hierarchical structures to a team-based environment.

The third skill acknowledged as necessary for survival in today's workforce is agility and adaptability. Much like the complexities discussed in Wagner's research which signifies rapid and intensifying rates of change, an overwhelming amount of data, and complex problems encountered as new and dramatic, the GVT work context similarly reflects such ever-changing and challenging work characteristics. Adaptability as a meta-theme, although not always explicitly mentioned in interviews did surface as a necessary skill for members of a GVT. Adaptability is essential not just to members, but leaders and organizations employing GVTs.

Adaptability not only connects themes as Table 4.7 displays. Additionally, it supports the theoretical framework identified to guide this study, adaptive structuration theory. AST is a model that describes the interplay between advanced information technologies, social structures and human interaction (Orlikowski, 1992). The themes (team design, cross-cultural communication, human dynamics, and technology) that emerged from the data support the relationship between technologies, social aspects and human interaction as proposed by AST. Because communication is mediated through technology on a GVT, the team context is also appropriate to support the rationale for AST as the chosen framework.

Team Leadership Implications

Leadership can be defined as the act of influencing people to follow in the achievement of a common goal (Koontz & O'Donnell, 1959, p. 435). Avolio and Kahai (2003) coined the term "E-leadership" as it relates to virtual team leaders, which seems appropriate in this context. To be effective, a team leader must apply the nature of leadership to leading a team, which becomes an even more complex phenomenon than leading groups of independent individuals. Additionally, a GVT leader must be aware of team member strengths and allow for leadership opportunities within the team.

Companies need leaders who have the know-how to quickly adjust to dozens of different cultures on a daily basis (Ang & Van Dyne, 2008). This is especially true for GVTs, with a representation of differing work and national cultures and a fast-paced work environment. The capabilities necessary to fulfill these demands can be developed and exercised by leaders and individuals working in intercultural contexts that require adaptability and cultural competencies.

Cultural intelligence is knowledge that can be learned and practiced. According to Duarte and Snyder (2006), traits a virtual team leader must have at all times include "a knowledge of how to manage across functional areas and national cultures" (p. 4).

Twenty-first century leaders now find themselves leading global teams, global projects, and global operations (Zander, Mockaitis, & Butler, 2012). They are global leaders. In essence, they can be called on to lead "anyone, anywhere, at any time" (Bird & Mendenhall, 2016, p. 117). These leaders are not dismissing the traditional leadership skills they have gained. Rather, leading global teams requires adding to that repertoire of knowledge and skills, including navigating multicultural contexts (2016). The qualitative results of this study have also contributed perceptions of competent leaders to include team and communication management, role clarity, and recognition.

Most GVT leadership research has focused on two popular areas of interest: behaviors and traits of leaders, focusing on transformational and transactional leaders (Gilson et al., 2015). Zander et al. (2012) identify three trends of virtual leaders: (a) leaders as boundary spanners, bridge makers, and blenders; (b) leaders leveraging diversity; and (c) people-oriented leadership. The importance of skills pertaining to the virtual nature of the teams has also been discussed, as well as the ability to use technology effectively and knowing how to match technology to specific situations. The literature provides insight into effective GVT leadership practice

including encouraging team cohesion, promoting diversity, and valuing the individual. All aspects that emerged from interviews are further evidence for certain leadership practices that can promote leadership effectiveness. Additionally, the boundaries (i.e., cultural, temporal, and geographical) that GVTs span and manage add to the complexity of communication, conflict management, and task-related activities (Scott & Wildman, 2015) which all require proper leadership support and guidance. When discussing how GVTs work best and most effectively, the human experience becomes of interest.

Foundations for Team Development

Considerable persuasion and motivation are essential for team members to act in accordance with the attitudes and beliefs that exist on a team. Affective and cognitive components of attitude must be strengthened through training (Kavitha et al., 2011). Marks et al. (2001) propose a taxonomy of team processes that incorporates interpersonal practices including motivation and confidence building. In this model, "teams motivate members by communicating their beliefs about team ability, competence on particular tasks, and feedback on team success" (p. 368). Negative comments about the team's lack of competence can reduce team confidence and task cohesiveness. This is demotivating, and low motivation levels reduce the amount of effort disbursed by members which can in turn decrease effectiveness.

Incorporating the current research findings with the literature, the following findings on the experiences of GVTs can help inform team awareness and identification of needs toward greater team functioning. Recommendations for practice are proposed based on the qualitative findings and the research that supports the data, relating to team design, cross-cultural communication, human dynamics, technology, adaptability, and GVT leadership. While the results of the quantitative measure are not generalizable, all results from the two phases do

resonate with virtual teams in ways that can speak to and improve their awareness and practice in terms of the identified themes.

Team Design

Team design refers to structural as well as nonstructural components of a team. One of the objectives of this research was to avoid a portrayal of GVTs being analyzed solely structurally. Teams must be seen in relation to social systems and not simply as doers and followers of structures already in place. Team design helps encompass structural (globally dispersed workforce, assigned roles on a GVT, and project specifics such as meetings and deadlines) aspects which shape the structured components of the social system in which GVTs exist, as well as nonstructural aspects. Nonstructural aspects help to connect the GVT members' humanity to existing and constraining structures as mentioned above, such as knowledge sharing, flexibility, learning and collaboration. These imply a greater emphasis on the agent and help to manipulate a more enabling versus constraining structure of team design. A focus on agency within a structure was also identified as being of interest in the literature review to better understanding GVTs in terms of the theoretical framework, structuration and adaptive structuration. A structurational perspective suggests that members of an effective team enact rules and resources to enable them to overcome communication challenges (Poole, 2013). On a GVT, structures can greatly support the team's mission and impact individual behaviors toward a desired outcome. The below are suggestions for practitioners on GVTs who resonate with the findings and identified themes that may impact their work and outcomes.

Recommendations for practice:

Physical dispersion: *Ensure that needed structures are in place to support the identified features of team design: appropriate tools and facilities for remote work; guidelines for*

schedules that take into account time differences so all included time zones take turns being inconvenienced or privileged; offer multicultural and functional diversity training and awareness for leaders and team members when the team is formed and on an ongoing basis.

Role clarity: *Clear expectations and clarity of roles for members and leaders should be conveyed. Establish roles in writing and list the tasks associated with each role. This can help identify gaps to fill, and potential overlap which is common for cross-functional teams.*

Project specifics: *Ensure changes are communicated early and often. Deadlines ought to be made available visually and aurally with open dialogues about expectations and potential challenges. Meetings should be set up with a purpose and clear agenda with opportunities for informal interaction. Feedback is valued, so be sure to provide feedback following small, short-term projects as well as longer ones.*

Non-structural features of team design*: Because of the time and space limitations on a GVT, clear pathways to knowledge and information should be established. Flexibility with work solutions should be encouraged; opportunities for learning should be offered and extended beyond the team level, offering opportunities for professional development and greater organizational knowledge; assure that measures are taken to reduce feelings of isolation (establish regular check-ins and seek input from all team members); invite collaboration and collaborative work.*

Cross-cultural Communication

Coaching practices for leaders and members of a GVT can be used to reduce misunderstandings, and create psychological safety for error recognition, problem solving, asking for/receiving help, and language differences. There is a link between relational interaction and communication practices in the workplace, learning and organizational

effectiveness. Leaders of GVTs need to ensure differences that create tensions are managed or work to maintain creative tensions in order to ensure unified practices between team members by first becoming aware of one's own cultural competence and promoting cultural intelligence. After all, success on a GVT extends well beyond mastering technical skills.

Recommendations for practice: *Ensure safe spaces exist for error recognition and problem solving in a productive manner, without blame. Acknowledge misunderstandings as soon as they arise and ensure there are avenues for seeking and receiving help as needed. With language a likely barrier to communication, encourage team members to communicate through multiple forums (e.g. a follow-up email to a meeting).*

Human Dynamics

Relationship building strategies through ample formal and informal interactions create networks and clear pathways to support. Individuals have a fundamental drive to be part of a group and to create and maintain social bonds. Aspects of human dynamics accounting for relationality, trust, face-to-face interactions, small talk, empathy and the need for recognition that were uncovered in the lived experiences of GVT members deserve greater attention in the literature.

Recommendations for practice: *Ensure social bonds and informal communication exist to enhance relationships among team members and to foster trust building. If face-to-face opportunities cannot be offered, ensure the team is equipped with the tools necessary for similarly rich communication (e.g. video conferencing). Be sure to recognize team members for the work they do, acknowledging the challenges exacerbated by working on a GVT. Empathy is the essence of human connection; exhibit empathy by being attune to other people's feelings and moods and caring for others.*

Technology

Individual perceptions of media richness and appropriate media types can vary, and thus influence the selection of the communication medium. This stems from the Social Influence Perspective (SIP) developed by Fulk et al. (1987). With technology advanced enough to support collaboration amongst GVTs, and their diverse internal knowledge with the ability to access external knowledge resources through their diverse networks, they enable organizations to take part in globally dispersed work. Exploring the degree of virtuality and the role technology plays in reducing challenges created by virtual environments or enhancing communication in virtual interactions was identified as an under-explored aspect in the research on GVTs. Adaptive structuration theory as a framework enlightens our understanding of groups adapting technologies in different ways, developing attitudes toward them, and using them for social purposes.

Recommendations for practice: *Be sure to re-examine technology tools, adequate bandwidth for all employees and challenges through team member feedback and observations, and implement necessary changes providing ample training on any new technology.*

Adaptability

Globalization and interconnectedness impact organizations and teams, especially GVTs which require adaptability, flexibility, and creativity on a grander scale. Virtual team effectiveness involves the emergence or shaping of social interaction (group processes) under the structures provided and adapted by global virtual team members. How members adapt structures (structural and social features) to achieve goals such as innovation, satisfaction and performance can be examined on GVTs. For GVT interaction, there is a need for versatile adaptation of interaction styles to the cultural values and preferences of the team members. Adaptive

structuration theory provides the support necessary for recognizing adaptability in practice as GVT members navigate, adapt and adapt to their social system, or team.

Recommendations for practice: *Model agility and adaptive behaviors necessary to create an environment where GVTs can be effective. Offer personal and professional development opportunities, resources and action planning tools that guide self-awareness, awareness of others, and adaptive behaviors to increase one's ability to take on daily challenges and changes. Task-based and social adaptability may be necessary to ensure leaders and members are equipped to deal with both types of potential challenges.*

GVT Leadership

Building on team leadership implications, assessing the quality of structural support and social interaction can help GVTs learn and develop. Better understanding the interaction between GVTs will also advise leadership and the requirements for effective coaching practices. One identified suggested practice in the GVT literature is employing brokers. Brokers are defined in various ways, including as individuals who hold a managerial position, who filter and control the communication and knowledge flow between the subgroups (Levina & Vaast, 2008; Nicholson & Sahay, 2004; Sahay, Nicholson, & Krishna, 2004), and as team members or leaders who transcend multiple cultural boundaries and help to bridge differences among colleagues separated by geographical distance and other boundaries.

Culture here can extend beyond national and ethnic culture to organizational culture, professional function culture, which has been shown to provide a bridge between teams with multiple identities and diverse backgrounds. In no way is the recommendation to stifle or reduce interaction and communication between team members, but rather to act as a buffer when needed.

It's also worth mentioning that GVT leadership may be best positioned to enable innovative work practices and enlist the teaching of design thinking since we know from research that innovative opportunities for a GVT can create more opportunity for open communication, higher level engagement and better team performance. While innovation was not a definitive aspect of the data collected from the 21 interviewees, adaptability and learning are necessary components to innovation. As mentioned in the literature review, Vygotsky's (1980) notions of team learning state that creating social contexts for learning enable higher mental functions that can foster innovation and effectiveness.

Recommendations for practice: *Promote cross-cultural training and development early on to enhance communication, flexibility, recognition, task and social support, and serve as a cultural broker between GVT members. Inclusive business practices should be considered given the global reach of GVTs and the organizations that employ them. This is discussed further in the section that follows.*

Considerations for Inclusive Business Practices

Given the developments technology has created for the workplace and the global reach it has enabled, businesses should act mindfully about ensuring the GVT context remains inclusive of generations and geography, and not further perpetuate the disparity that exists with technological access. This team design has the potential to increase opportunities for those outside of urban areas, where the workforce tends to migrate. This team design can be used to help reduce the "digital divide" in existence today, even within rapid globalization. Full global Internet access is estimated between 2020 and 2025, which may or may not seem attainable based on research conducted by Our World in Data, which shows that half of the world's population is not yet online, but a projected 27,000 new users appear every hour (Roser, Ritchie,

Ortiz-Ospina, 2019). This seems fast and profound in terms of technology's global reach, and potentially that of businesses as well. Creating opportunities globally and dipping into talent pools once thought to be out of reach are just two advantages of the GVT business model.

Through the use of technology, which reduces the distance between the members of a team who are already dispersed and multicultural, teambuilding and team cohesion can be implemented and turned into a sustained practice, if the value and purpose are clear. Researchers argue that ground rules about when and how to communicate should be rapidly established (DeSanctis et al., 2000; Kayworth & Leidner, 2001). Kayworth and Leidner identified effective leadership communication as communicating clear goals, providing continuous feedback, and providing empathy and understanding while maintaining cultural sensitivity. Dubé and Paré (2001) advise that cultural training should be given to GVT members at the beginning of a project, regardless of previous experience, in order to enhance communication and generate conditions for effective team practices.

Limitations

This study like all others faced limitations to its design and research practices. The following are identified limitations:

1. The sample- While the sample size of interviewees was adequately representative of GVTs, the sample size itself is small, and five of the total 21 interviewees were from the education publishing sector, with an additional five individuals from more general publishing or media publishing. Because almost half of the sample came from similar sectors, the data may be more applicable for such roles and sectors. Innovative capacity was something that was explored in only two interviews and was interest for this study. The participants' work type may have affected this, but there's no way of knowing, and

information regarding task-based work in publishing versus non-task based or innovative opportunities can only be presumed. Additionally, the sample was not random, but instead obtained through snowball sampling, and publishing as the greatest represented sector is not surprising, since that is the professional sector I belong to.

2. Potential coding bias- Multiple coders were used to enhance qualitative analysis and coding reliability. Coding is a subjective practice which can introduce bias. This is a threat to coding reliability and a limitation of this study. Braun and Clarke (2013) argue that coding agreement between coders demonstrates that the coders have been trained to code in the same way using a predetermined code book with identified themes, not that coding is actually reliable or accurate. Hence, a more reflexive and flexible coding practice is suggested with thematic analysis (Braun and Clarke (2014).
3. Generalizations and predictions regarding team effectiveness cannot authentically be concluded without a proper sample for statistical analysis. Only recommendations for practice can be made. The next phase of research to follow this preliminary study will provide a survey instrument that can be distributed, analyzed, and generalized offering training and development recommendations for GVT effectiveness.

The final section, preceding concluding remarks discusses in more detail the final phase to this research study, that will follow the current, provisional research on assessing GVT effectiveness by developing the current survey instrument into a scale using measurement theory, and factor analyses.

Future Research: Phase III

The next phase of this study requires gathering enough response data for the survey instrument to link what the survey measures to proven team effectiveness, which could then lead

to potential generalization of the data for the specific constructs measured (the five extracted themes), how they convey GVT members' experiences, and help to determine what aspects of the identified themes are absent based on members' perceptions that could impact effectiveness of functioning of their own teams. This can have profound implications since attitudes guide behavior toward valued goals and away from aversive events (Baron & Byrne, 1994).

The intent of exploratory sequential design is that the results of the first, qualitative method can help develop or inform the second, quantitative method (Greene et al., 1989). This study established the provisional content validity of a scale using interview data and already-published research; the next step is to submit survey items to a larger research sample to determine construct validity.

In accordance with Pedhazur and Schmelkin (1991), each cluster (theme) already includes at least 5-6 items to allow for at least three items after conducting Exploratory Factor Analysis (EFA), which will follow administration of the scale as a survey with a 10% pilot sample to precede. After the pilot and initial analysis, hypotheses will be developed. After refining the items, I will then administer the refined scale to a research sample. Analysis will include EFA using 1/3 of the sample and Confirmatory Factor Analysis (CFA) using 2/3 of the research sample. CFA goodness of fit criteria for the hypothesized model will be based on standards established by Byrne (2001). This tool can then be used to inform best practices and coaching for GVTs and GVT leadership. Additionally, the scale can capture a group-level construct, based on composition models (Chan, 1998; Schneider, Salvaggio, & Subirats, 2002). According to James (1982), a composition model is "the specification of how a construct operationalized at one level of analysis is related to another form of that construct at a different level of analysis" (p. 220).

Phase three is an essential next step to ensure that the survey data have utility in a variety of contexts, and the identified themes can help inform a GVT member's experience and perception of the team's effectiveness. The ultimate objective of the scale is to provide coaching to GVTs and facilitate discussion on perceptions of contributions to team effectiveness and ineffectiveness. This will provide continued awareness, support and education to GVTs, as they continue to grow in presence and organizational reliance.

In addition to phase three, innovative capacity on GVTs is of interest. Because GVTs are often assembled for task or project-specific purposes should not exclude them from consideration for innovative work. Because organizations are increasingly reliant on GVTs, exploring their place in the rapidly changing and competitive future business landscape leveraging innovative opportunities and design thinking becomes an essential step to embracing this team design and their interactive potential.

Concluding Remarks

Chapter 1 outlined the purpose of this study presented through a practitioner lens, which provided real-world guidance for this dissertation. Understanding the lived experiences of GVT members, realizing GVT's full potential and gaining insight into how they may work most effectively given the challenges of working virtually across boundaries such as space, time and national culture, was the recognized problem in practice. The need for structure, relationality, well-being and adaptability specified through work vignettes were later acknowledged as necessary in literature and in thematic representation of data.

Chapter 2 transitioned from a practitioner point of view to a scholarship driven one. It provided a critical review of literature, with AST as the selected theoretical framework, which

successfully backs the findings of this study, highlighting the necessities for work provided by structure, and the agency which exists in a team context that often diminishes the human aspect.

Chapter 3 defined the design of the sequential mixed methods study including next steps toward scale development to enhance this foundational research. Chapter 4 provided an examination of data from both qualitative and quantitative phases which showcased rich data that speak to the experience of working on a GVT. The data were supported by extant research and the theoretical framework further explained the structural and nonstructural components of the experiences of working as a member and leader of a GVT.

This chapter summarized the findings, offered practical applications of the data, and advanced knowledge into working on a GVT, providing considerations for GVTs, GVT leadership, and inclusive practices. Although limitations may impact the ability to generalize the findings of this study, several conclusions are still warranted. First, the issue of GVT effectiveness was addressed by determining critical success factors from members and leaders on GVTs. The participants in phase I came from a variety of locations, industries, backgrounds and work tasks, which provides insight across multiple organization types that are relying on or may consider utilizing GVTs. This study can better support the work and eventually training for GVTs with data to support the structural and non-structural support needed for GVT effectiveness. Overall, the survey as a tool brings value to GVTs who may also be encountering similar experiences as expressed by the selected themes.

Working effectively on GVTs requires structural and social support. The work environment is constantly evolving due to organizational need and growing reliance on employing GVTs. GVTs face situations that require adaptability and adaptive behaviors. Helping

global virtual teams face adaptive situations is a process of mobilizing and enabling, rather than one of planning and controlling (Duarte & Snyder, 2001). Traditional styles of leadership do not serve GVTs well, and team leadership that takes into account cultural competency, and the support to maintain a cohesive GVT is essential. In addition to adaptability and leadership on GVTs, findings from this study that further support successful practices on GVTs include special attention to the team design and the logistical needs of GVTs, and nonstructural needs that enable GVTs to complete their work such as availability of information, flexibility, learning opportunities and collaboration. Social and relational practices are also essential for performance and satisfaction, including cross-cultural communication awareness and training, as well as opportunities to develop trust, relationships and empathy. Lastly, technology is identified as not only a logistical need, but instead deserves greater recognition when planning, implementing, and conducting business on GVTs.

This study aimed to shed light on a team type that is increasingly present in organizations around the world, and the needs of such a team type. In addition to the complexity of functioning as a team, GVTs face unique challenges working across space and time, with high levels of cultural and functional heterogeneity, varying degrees of virtuality and reliance on technology for communication, project management and knowledge sharing. By growing awareness of the structural, social and relational features that impact GVT effectiveness, the body of research has been enhanced and tangible resources for practice are provided in hopes of providing support to GVTs in ways that require a holistic approach to meet their work and human needs.

References

A Primer on Communication Studies. (2012). Retrieved from https://www.scribd.com/

Agarwal, D., Bersin, J., Lahiri, G., Schwartz, J., & Volini. E. (2018). Introduction: The rise of the social enterprise. *Deloitte Global Huamn Capital Trends*. Retrieved from https://www2.deloitte.com

Alavi, M., & Tiwana, A. (2002). Knowledge integration in virtual teams: The potential role of KMS. *Journal of the American Society for Information Science and Technology, 53*(12), 1029–1037. https://doi.org/10.1002/asi.10107

Alavi, M., Yoo, Y., & Vogel, D.R. (1997). Is learning in virtual teams real? (working paper). Boston, MA: Harvard Business School.

Amason, A. (1996). Distinguishing the Effects of Functional and Dysfunctional Conflict on Strategic Decision Making: Resolving a Paradox for Top Management Teams. *The Academy of Management Journal, 39*(1), 123–148. https://doi.org/10.2307/256633

Anastasi, A., & Urbina, S. (1997). *Psychological Testing* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Anderson, M. R., & Carletta, J. B. (2007). Virtual team meetings: An analysis of communication and context. *Computers in Human Behavior*, *23*(5), 2558–2580. https://doi.org/10.1016/j.chb.2007.01.001

Andres, M. R., Broncano, S. G., & Monsalve, J. N. M. (2015). Could innovative teams provide the necessary flexibility to compete in the current context? *Cuadernos de Gestión, 15*(1), 145–163. https://doi.org/10.5295/cdg.130446mr

Ang, S., & Van Dyne, L. (2008). Conceptualization of cultural intelligence: Definition, distinctiveness, and nomological network. In S. Ang & L. Van Dyne (Eds.), *Handbook of Cultural Intelligence: Theory, Measurement, and Applications* (pp. 3–15). Armonk, NY: M. E. Sharpe.

Anney, V. (2014). Ensuring the quality of the findings of qualitative research: Looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS), 5*(2), 272–281.

Argyris, C. (1980). T-Groups for organisational effectiveness. *Harvard Business Review*, *58*, 115– 125.

Armborst, A. (2017). Thematic proximity in content analysis. *SAGE Open*. https://doi.org/10.1177/2158244017707797

Armstrong, D. J., & Cole, P. (2002). Managing distances and differences in geographically distributed work groups. In P. Hinds & S. Kiesler (Eds.), *Distributed work* (pp. 167–189). Cambridge, MA, US: MIT Press.

Ary, D., Jacobs, L. C., Razavieh, A., & Sorensen, C.K. (2010). Introduction to research in education (8th ed.). New York, NY: Hult Rinchart & Wiston.

Avolio, B.J. & Kahai, S. (2003). Adding the "e" to e-leadership: How it may impact your leadership. *Organizational Dynamics, 31*(4), 325–338. https://doi.org/10.1016/S0090-2616(02)00133-X

Bal, J., & Teo, P. K. (2000). Implementing virtual teamworking. Part 1: A literature review of best practice. *Logistics Information Management*, *13*(6), 346–352. https://doi.org/10.1108/09576050010355644

Bar-On, R. (1997). *Bar-On emotional quotient inventory (EQ-i)*: TechnicalmManual. Toronto, Canada: Multi-Health Systems.

Barley, S. R. (1986). Technology as an occasion for structuring: Evidence from the observation of CT scanners and the social order of radiology departments. *Administrative Sciences Quarterly, 31(1)*, 78–109.

Baron, R.A., & Byrne, D. (1994). *Social psychology: Understanding human interaction*. Boston, MA: Allyn & Bacon.

Baruch, Y., & Lin, C. P. (2012). All for one, one for all: Coopetition and virtual team performance. *Technological Forecasting and Social Change*, *79(6)*, 1155–1168. https://doi.org/10.1016/j.techfore.2012.01.008

Baxter, J., & Eyles, J. (1997). Evaluating qualitative research in social geography: Establishing 'rigour' in interview analysis. *Transactions of the Institute of British Geographers*, *22*(4), 505–525. https://doi.org/10.1111/j.0020-2754.1997.00505.x

Bélanger, F., Watson-Manheim, M. B., & Swan, B. R. (2013). A multi-level socio-technical systems telecommuting framework. *Behaviour & Information Technology*, *32*, 1257–1279. https://doi.org/10.1080/0144929X.2012.705894

Bell, B. S., & Kozlowski, S.W.J. (2002). A typology of virtual teams: Implications for effective leadership. *Group and Organization Management*, *27*(1), 14–49. https://doi.org/10.1177/1059601102027001003

Biggs, M. (2000). Assessing risks today will leave corporate leaders well-prepared for the future of work. *InfoWorld, 22*(39), 100.

Bird, A, & Mendenhall, M. E. (2016). From cross-cultural management to global leadership: Evolution and adaptation. *Journal of World Business, 51*(1), 115–126. https://doi.org/10.1016/j.jwb.2015.10.005

Bitsch, V. (2005). Qualitative research: A grounded theory example and evaluation criteria. *Journal of Agribusiness, 23(*1), 75–91. https://doi.org/10.22004/ag.econ.59612

Bjørn, P., & Ngwenyama, O. (2009). Virtual team collaboration: Building shared meaning, resolving breakdowns and creating translucence. *Information Systems Journal, 19*, 227–253. https://doi.org/10.1111/j.1365-2575.2007.00281.x

Blomqvist, K. & Levy, J. (2006). Collaboration capability—a focal concept in knowledge creation and collaborative innovation in networks. *International Journal of Management Concepts and Philosophy*, *2*(1), 31–48. https://doi.org/10.1504/ijmcp.2006.009645

Boutellier, R. O., Grassman, O., Macho, H., & Roux, M. (1998). Management of dispersed product development teams: The role of information technologies. *R&D Management*, *28*, 13–26. https://doi.org/10.2189/asqu.51.3.451

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA, US: Sage Publications, Inc.

Bradley, J., White, B. J., & Mennecke, B. E. (2003). Teams and tasks: A temporal framework for the effects of interpersonal interventions on team performance. *Small Group Research*, *34* (3), 353–387. https://doi.org/10.1177/1046496403034003004

Brake, T. (2006). Leading global virtual teams. *Industrial and Commercial Training, 38*(3), 116–121. https://doi.org/10.1108/00197850610659364

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77–101. https://dx.doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2013). *Successful qualitative research: A practical guide for beginners*. London, UK: Sage.

Braun, V., & Clarke, V. (2014). What can ‘‘thematic analysis’’ offer health and wellbeing researchers? [Editorial]. *International Journal of Qualitative Studies on Health and Well-being, 9.* https://doi.org/10.3402/qhw.v9.26152

Brewer, P. E. (2015). *International Virtual Teams: Engineering Global Success*. Hoboken, NJ: John Wiley & Sons.

Brown, M. K., Huettner, B., & James-Tanny, C. (2007). *Managing virtual teams: Getting the most from wikis, blogs, and other collaborative tools*. Sudbury, MA: Wordware Publishing, Inc. and Jones and Bartlett Publishers.

Brown, S. L., & Eisenhardt, K. M. (1995). Product development: Past research, present findings, and future directions. *Academy of Management Review*, *20*(2), 343–379. https://doi.org/10.2307/258850

Business Training Works. (2019). Collaborative thinking skills: Driving teams toward better results. Collaboration Skills Training. Retrieved from https://www.businesstrainingworks.com

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming.* Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Cabello-Medina, C., López-Cabrales, A., & Valle-Cabrera, R. (2011). Leveraging the innovative performance of human capital through HRM and social capital in Spanish firms. *The International Journal of Human Resource Management, 22*(4), 807–828. https://doi.org/10.1080/09585192.2011.555125

Cannon-Bowers, J. A., Tannenbaum, S. I., Salas, E., & Volpe, C. E. (1995). Defining team competencies and establishing team training requirements. In R. Guzzo, E. Salas, & Associates (Eds.), *Team effectiveness and decision making in organizations* (pp. 333–380). San Francisco, CA: Jossey-Bass.

Carter, D. R., Seely, P. W., Dagosta, J., DeChurch, L. A., & Zaccaro, S. J. (2015). Leadership for global virtual teams: Facilitating teamwork processes. In Wildman, J.L, Griffith, R.L. (Eds.), *Leading Global Teams* (pp. 225–252). Springer, New York. https://doi.org/10.1007/978-1-4939-2050-1_10

Cascio, W. F. (2000). Managing a virtual workplace. *Academy of Management Executive*, *14*(3), 81–90. https://doi.org/10.5465/ame.2000.4468068

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology, 83*, 234–246. https://doi.org/10.1037/0021-9010.83.2.234

Chang, S., van Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies, 41*(2), 178–184. https://doi.org/10.1057/jibs.2009.88

Chevrier, S. (2003). Cross-cultural management in multinational project groups. *Journal of World Business, 38*(2), 141–149. https://doi.org/10.1016/s1090-9516(03)00007-5

Chiravuri, A., Nazareth, D., & Ramamurthy, K. (2011). Cognitive conflict and consensus generation in virtual teams during knowledge capture: Comparative effectiveness of techniques. *Journal of Management Information Systems*, *28*(1), 311–350. https://doi.org/10.2753/mis0742-1222280110

Chutnik, M., & Grzesik, K. (2009). Leading a virtual intercultural team: Implications for virtual team leaders. *Journal of Intercultural Management*, *1*(1), 82–90. https://depot.ceon.pl/handle/123456789/10044

Clear, T., & MacDonell, S. G. (2011). Understanding technology use in global virtual teams: Research methodologies and methods. *Information Software Technologies*, *53*, 994–1011. https://doi.org/10.1016/j.infsof.2011.01.011

Connaughton, S., & Daly, J. (2004). Identification with leader, a comparison of perceptions of identification among geographically dispersed and co-located teams. *An International Journal Corporate Communications*, *9*(2), 89–103. https://doi.org/10.1108/13563280410534294

Connaughton, S. L., & Shuffler, M. (2007). Multinational and multicultural distributed teams: A review and future agenda. *Small Group Research*, 38, 387–412. https://doi.org/10.1177/1046496407301970

Costa, A.C., Fulmer, C.A., & Anderson, N.R. (2017). Trust in work teams: An integrative review, multilevel model, and future directions. Journal of Organizational Behavior, 39, 169–184. https://doi.org/10.1002/job.2213

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

Daft, R. L., & Lengel, R. H. (1984). Information richness: A new approach to managerial behavior and organization design. *Research in Organizational Behavior*, *6*, 191–233. https://doi.org/10.21236/ada128980

Dahlin, K. B., Weingart, L. R., & Hinds, P. J. (2005). Team diversity and information use. *Academy of Management*, *48*, 1107–23. https://doi.org/10.5465/amj.2005.19573112

Daim, T.U., Ha, A., Reutiman, S., Hughes, B., Pathak, U., Bynum, W., & Bhatla, A. (2012). Exploring the communication breakdown in global virtual teams. *International Journal of Project Management*, *30*, 199–212. https://dx.doi.org/10.1016/j.ijproman.2011.06.004

De Dreu, C. K. W., & Weingart, L.R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, *88*(4), 741–749. https://doi.org/10.1037/0021-9010.88.4.741

Demaio, T., & Landreth, A. (2004). Do different cognitive interview methods produce different results. In S. Presser, J. Rothgeb, M. Couper, J. Lessler, E. Martin, J. Martin, and E. Singer (Eds.), *Questionnaire development and testing methods*. New York, NJ: John Wiley & Sons, Inc.

Derven, M. (2016). Four drivers to enhance global virtual teams. *Industrial and Commercial Training, 48*(1), 1–8. https://doi.org/10.1108/ICT-08-2015-0056

DeSanctis, G., & Gallupe, R. B. (1987). A foundation for the study of group decision support systems. *Management Science*, *33*(2), 589–609. https://pubsonline.informs.org/doi/abs/10.1287/mnsc.33.5.589

DeSanctis, G., & Poole, M. S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization Science*, *5*(2), 121–147. https://doi.org/10.1287/orsc.5.2.121

DeSanctis, G., Poole, M.S., & Dickson, G. (2000). Teams and technology Interactions over time. *Research on Managing Groups and Teams, 3*, 1–27. https://doi.org/10.1016/S1534-0856(00)03002-4

DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage Publishing.

DeVellis, R. F. (2016). *Scale development: Theory and applications* (4th ed.). Thousand Oaks, CA: Sage Publishing.

Duarte, D., & Snyder, N. T. (2001). *Mastering virtual teams: Strategies, tools, and techniques that succeed* (1st ed.). San Francisco: Jossey-Bass.

Duarte, D.L., Snyder, N. T. (2006). *Mastering virtual teams: strategies, tools, and techniques that succeed* (3rd ed.). San Francisco: Jossey-Bass.

Duarte, L, S., & Tennant, D.L. (2011). *Mastering virtual teams: Strategies, tools, and techniques that succeed* (3rd Ed.). New York: John Wiley and Sons, Ltd.

Dube, L., Bourhis, A., & Jacob, R. (2006). Towards a typology of virtual communities of practice. *Interdisciplinary Journal of Information, Knowledge, and Management*, *1*(1), 69–93. https://doi.org/10.28945/115

Dubé, L. & Paré, G. (2001). Global virtual teams. *Communications of the ACM*, *44*(12), 71–73. https://doi.org/10.1145/501317.501349

Dubrin, A. J. (1998). *Leadership: Research findings, practice, and skills* (2nd ed.). New York, NY: Houghton Mifflin.

Dubrovsky, V. J., Kiesler, S. & Sethna, B. N. (1991). The equalization phenomenon: Status effects in computer-mediated and face-to-face decision making groups. *Human-Computer Interaction*, *6*(2), 119–146. https://doi.org/10.1207/s15327051hci0602_2

Duranti, C. M., & de Almeida, F. C. (2012). Is more technology better for communication in international virtual teams? *International Journal of e-Collaboration, 8*(1), 36–52. https://doi.org/10.4018/jec.2012010103

Earley, P. C. (2002). Redefining interactions across cultures and organizations: Moving forward with cultural intelligence. In B.M. Staw and R.M. Kramer (Eds.), *Research in Organizational Behavior* (pp. 271–299). Oxford, UK: Elsevier.

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review, 32*, 1155–1179. https://doi.org/10.5465/amr.2007.26586086

Edwards, J. E., & Morrison, R. F. (1994). Selecting and classifying future naval officers: The paradox of greater specialization in broader areas. In M. G. Rumsey, C. B. Walker, & Harris, J. H. (Eds.). *Personnel selection and classification*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Einola, K. (2017). Making sense of successful global teams ((Doctoral dissertation). University of Turku, Turkey. Retrieved from https://www.utupub.fi

Eisenberg, J., & Mattarelli, E. (2017). Building bridges in global virtual teams: The role of multicultural brokers in overcoming the negative effects of identity threats on knowledge sharing across subgroups. *Journal of International Management, 23*, 339–411. https://dx.doi.org/10.1016/j.intman.2016.11.007

Ewin, N., Luck, J., Chugh, R., & Jarvis, J. (2017). Rethinking project management education: A humanistic approach based on design thinking. *Procedia Computer Science, 121*, 503–507. https://doi.org/10.1016/j.procs.2017.11.067

Farh, J. L., Lee, C., & Farh, C. I. C. (2010). Task conflict and team creativity: A question of how much and when. *Journal of Applied Psychology*, *95*, 1173–1180. https://doi.org/10.1037/a0020015

Fiol, C. M., & O'Connor, E. J. (2005). Identification in face-to-face, hybrid, and pure virtual teams: untangling the contradictions. *Organization Science, 16*, 19–32. https://doi.org/10.1287/orsc.1040.0101

Fletcher, J. K. (1999). *Disappearing acts: Gender, power and relational practice at work*. Cambridge, MA: MIT Press Practice.

Foxcroft, C., Paterson, H., Le Roux, N. & Herbst, D. (2004). Psychological assessment in South Africa: A needs analysis: The test use patterns and needs of psychological assessment practitioners: Final report. July.

Fulk, J., Steinfield, C. W., Schmitz, J., & Power, J. G. (1987). A Social Information Processing Model of Media Use in Organizations. *Communication Research, 14*(5), 529–552. https://doi.org/10.1177/009365087014005005

Fulk, J., & DeSanctis, G. (1995). Electronic communication and changing organizational forms. *Organization Science, 6*(4), 1–13. https://doi.org/10.1287/orsc.6.4.337

Gallup. (2017). State of the American workplace. Retrieved from https://www.gallup.com

Gamero, E., González-Romá, V., & Peiro´, J. M. (2008). The influence of intra-team conflict on work teams' affective climate: A longitudinal study. *Journal of Occupational and Organizational Psychology, 81*, 47– 69. https://doi.org/10.1348/096317907x180441

Gera, S. (2013). Virtual teams versus face to face teams: A review of literature. *IOSR Journal of Business and Management, 11*(2), 1–4. https://doi.org/10.9790/487x-1120104

Gibson, C. B., & Cohen, S. G. (2003). In the beginning: Introduction and framework. In S. G. Cohen & C. B. Gibson (Eds.), *Virtual teams that work: Creating conditions for virtual team effectiveness*, 1–13. San Francisco: Jossey-Bass.

Gibson, C. B., & Gibbs, J. L. (2006). 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. https://doi.org/10.2189/asqu.51.3.451

Gibson, C.B., Huang, L. Kirkman, B. L., & Shapiro, D. L. (2014). Where global and virtual meet: The value of examining the intersection of these elements in twenty-first-century teams. *The Annual Review of Organizational Psychology, 1,* 217–244. https://doi.org/10.1146/annurev-orgpsych-031413-091240

Gibson, C. B., & Vermeulen, F. (2003). A healthy divide: Subgroups as a stimulus for team learning. *Administrative Science Quarterly, 48*(2), 202–39. https://doi.org/10.2307/3556657

Giddens, A. (1976). *New rules of sociological method: A positive critique of interpretive sociologies*. London: Hutchinson.

Giddens, A. (1979). *Central problems in social theory: Action, structure and contradiction in social analysis.* Berkeley and Los Angeles: University of California Press.

Giddens, A. (1981). A contemporary critique of historical materialism, Vol.1. *Power, Property and the State*. London: Macmillan.

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley and Los Angeles: University of California Press.

Giddens, A. (1993). *New rules of sociological method: A positive critique of interpretive sociologies* (2nd ed.). London: Hutchinson.

Gilson, L. L., Maynard, M. T., Young, N. C. J., Vartiainen, M., & Hakonen, M. (2015). Virtual teams research: 10 years, 10 themes, and 10 opportunities. *Journal of Management*, *41*(5), 1313–1337. https://doi.org/10.1177/0149206314559946

Gino, F. (2018). The business case for curiosity. Harvard Business Review. Retrieved from https://hbr.org

Global Workplace Analytics (2019). Telecommuting trend data. Retrieved from https://globalworkplaceanalytics.com/

Glückler, J., & Schrott, G. (2007). Leadership and performance in virtual teams: Exploring brokerage in electronic communication. *International Journal of e-Collaboration*, *3*, 31–52. https://doi.org/10.4018/jec.2007070103

Goleman, D. (2011). *Leadership: The power of emotional intelligence*. Florence, MA: More Than Sound.

González-Navarro, P., Orengo, V., Zornoza, A., Ripoll, P., & Peiró, J. M. (2010). Group interaction styles in a virtual context: The effects on group outcomes. *Computers in Human Behavior, 26*, 1472–1480. https://doi.org/10.1016/j.chb.2010.04.026

González-Romá, V., & Hernández, A. (2014). Climate uniformity: Its influence on team communication quality, task conflict, and team performance. *Journal of Applied Psychology, 99*(6), 1042–1058. https://doi.org/10.1037/a0037868

Greene, J., & Caracelli, V. (1997). *Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms* (New directions for evaluation, no. 74). San Francisco: Jossey-Bass.

Greene, J. C., Caracelli, V. J., & Graham, W.F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Education Evaluation and Policy Analysis, 11*(3), 255–274. https://doi.org/10.3102/01623737011003255

Greer, L. L., Jehn, K. A., & Mannix, E. A. (2008). Conflict transformation: A longitudinal investigation of the relationships between different types of intragroup conflict and the moderating role of conflict resolution. *Small Group Research, 39*, 278–302. https://doi.org/10.1177/1046496408317793

Griffin, E. (2008). *A first look at communication theory* (7th ed.). New York, NY: McGraw-Hill Companies, Inc.

Griffith, T. L., Sawyer, J., & Neale, M. (2003). Virtualness and knowledge in teams: Managing the love triangle of organizations, individuals, and information technology, *MIS Quarterly, 27*(2), 265–87. https://doi.org/10.2307/30036531

Groves, K. S., & Feyerherm, A. E. (2011). Leader cultural intelligence in context: Testing the moderating effects of team cultural diversity on leader and team performance. *Group & Organization Management*, *36*(5), 535–566. https://doi.org/10.1177/1059601111415664

Gu, R., Higa, K., & Moodie, D. R. (2011). A study on communication media selection: Comparing the effectiveness of the media richness, social influence, and media fitness. *Journal of Service Science and Management*, *4*, 291–299. https://doi.org/10.4236/jssm.2011.43035

Hackman, J. R. (1987). The design of work teams. In Lorsch, J. (Ed.), *Handbook of Organizational Behavior* (pp.315–42). Prentice-Hall, Englewood Cliffs, NJ.

Hagedoorn, J. & Duysters, G. (2002). Learning in dynamic inter-firm networks: The efficacy of multiple contacts. *Organization Studies, 23*(4), 525–548. https://doi.org/10.1177/0170840602234002

Hardy-Vallee, B. (2012). The cost of bad project management. *Gallup Business Journal*. Retrieved from https://businessjournal.gallup.com

Hare, A. P. (2003). Roles, relationships, and groups in organizations: Some conclusions and recommendations. *Small Group Research*, *34*(2), 123–154. https://doi.org/10.1177/1046496402250430

Heckman, R., Crowston, K., & Misiolek, N. (2007). A Structurational perspective on leadership in virtual teams. In K. Crowston, S. Sieber, E. Wynn (Eds.), Virtuality and virtualization, Vol. 236 (pp. 151–168). Boston: Springer.

Henttonen, K., & Blomqvist, K. (2005). Managing distance in a global virtual team: The evolution of trust through technology-mediated relational communication. *Strategic Change, 14*(2), 107–119. https://doi.org/10.1002/jsc.714

Hertel, G., Geister, S., & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. *Human Resource Management Review*, 15(1), 69–95. https://doi.org/10.1016/j.hrmr.2005.01.002

Hofstede, G. (1991). Cultures and Organizations: Software of the Mind. New York: McGraw-Hill.

Holloway, I., & Wheeler, S. (2002). *Qualitative research in nursing* (2 ed.). Malden, MA: Blackwell.

Hung, Y. C., & Nguyen, M. T. T. D. (2008). The impact of cultural diversity on global virtual team collaboration – a social identity perspective. Proceedings of the 41st Hawaii International Conference on System Sciences 2008 conference (pp. 1–10). Waikoloa, HI: IEEE.

i4cp. (2008). Virtual teams now a reality: Two out of three companies say they will rely more on virtual teams in the future. Retrieved from https://www.i4cp.com

Ilgen, D. R. (1999). Teams embedded in organizations: Some implications. *American Psychologist, 54*, 129–139. https://doi.org/10.1037/0003-066X.54.2.129

Ilgen, D. R. & Pulakos, E. D. (1999). Employee performance in today s organizations. In D.R. Ilgen & E.D. Pulakos (Eds.), *The changing nature of work performance: Implications for staffing, motivation, and development* (pp.165–208). San Francisco: Jossey-Bass.

Irwing, P., & Hughes, D.J. (2018). Test development. In P. Erwing, T. Booth, & D.J. Hughes (Eds.), The wiley handbook of psychometric testing: A multidisciplinary reference on survey, scale, and test development (pp. 3–48). West Sussex, UK: John Wiley & Sons Ltd.

James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology, 67*(2), 219–229. https://doi.org/10.1037/0021-9010.67.2.219

James, M., & Ward, K. (2001). Leading a multinational team of change agents at Gloxo Wellcome (now GlaxoSmithKline). *Journal of Change Management, 2*(2), 148–159. https://doi.org/10.1080/714042500

Jarvenpaa, S. L., Knoll, K., & Leidner, D. E. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of Management Information Systems*, 14, 29–64.

Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organization Science*, *10*(6), 791–865. https://doi.org/10.1111/j.1083-6101.1998.tb00080.x

Jarvenpaa, S. L., & Staples, D. S. (2000). The use of collaborative electronic media for information sharing: An exploratory study of determinants. *Journal of Strategic Information Systems*, 9, 129–154. https://doi.org/10.1016/S0963-8687(00)00042-1

Jarvenpaa, S. L., Shaw, T. R., & Staples, D. S. (2004). Toward Contextualized Theories of Trust: The Role of Trust in Global Virtual Teams. *Information Systems Research, 15*(3), 250–267. https://dx.doi.org/10.1287/isre.1040.0028

Jehn, K. A., & Bendersky, C. (2003). Intragroup conflict in organizations: A contingency perspective on the conflict-outcome relationship. *Research in Organizational Behavior*, *25*, 187–242. https://doi.org/10.1016/s0191-3085(03)25005-x

Jehn, K. A., & Mannix, E. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44*, 238–251. https://doi.org/10.2307/3069453

Jimenez, A., Boehe, D. M., Taras, V., & Caprar, D. V. (2017). Working across boundaries: Current and future perspectives on global virtual teams. *Journal of International Management, 23*(4), 341–349. https://dx.doi.org/10.1016/j.intman.2017.05.001

Johnson, P., Heimann, V., & O'Neill, K. (2001). The "wonderland" of virtual teams. *Journal of Workplace Learning*, 13(1), 24–29. https://doi.org/10.1108/13665620110364745

Juran, J. (1995). *A history of managing for quality: The evolution, trends, and future directions of managing for quality*. Milwaukee, Wisconsin: ASQC Quality Press.

Kanawattanachai, P., & Yoo, Y. (2002). Dynamic nature of trust in virtual teams. *The Journal of Strategic Information Systems, 11*(3–4), 187–213. https://doi.org/10.1016/s0963-8687(02)00019-7

Kang, H. (2003). Why personal interaction drives innovation and collaboration. Retrieved from https://www.forbes.com

Kankanhalli, A., Tan, B.C., Wei, K.K. (2006). Conflict and performance in global virtual teams. *Journal of Management Information Systems, 23*(3), 237–274. https://doi.org/10.2753/mis0742-1222230309

Kavitha, V., Jiji, R. S., & Rajkamal, P. J. (2011). Perception of effectiveness of group functioning by the members of women self-help groups in goat farming. *Veterinary World, 4*(11), 507–510. https://doi.org/10.5455/vetworld.2011.507-510

Kayworth, T. & Leidner, D. E. (2000). The Global Virtual Manager: A Prescription for Success. *European Management Journal, 18(2)*, 183–194. https://dx.doi.org/10.1016/S0263-2373(99)00090-0

Kayworth, T. R., & Leidner, D. E. (2001). Leadership effectiveness in global virtual teams. *Journal of Management Information Systems, 18*(3), 7–40. https://doi.org/10.1080/07421222.2002.11045697

Kiesler, S., & Sproull, L. (1992). Group decision making and communication technology. *Organizational Behavior and Human Decision Processes, 52*(1), 96–123. https://doi.org/10.1016/0749-5978(92)90047-B

Killingsworth, B., Xue, Y., Xue, Y., Liu, Y., & Liu, Y. (2016). Factors influencing knowledge sharing among global virtual teams. *Team Performance Management, 22*(5/6), 284–300. https://doi.org/10.1108/tpm-10-2015-0042

Kirkman, B., Rosen, B., Gibson, C. B., Tesluk, P. E., & McPherson, S. O. (2002). Five challenges to virtual team success. *Academy of Management Executive*, 16, 67–81. https://doi.org/10.5465/ame.2002.8540322

Kirkman, B. L., Rosen, B., Tesluk, P. E., & Gibson, C. B. (2004). The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *Academy of Management Journal, 47*, 175–192. https://doi.org/10.5465/20159571

Klitmøller, A., Schneider, S. C., & Jonsen, K. (2015). Speaking of global virtual teams: language differences, social categorization and media choice. *Personnel Review, 44*(2), 270–285. https://doi.org/10.1108/PR-11-2013-0205

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Koontz, H., & O'Donnell, C. (1959). *Essentials of management* (4th ed.). New York, NY: McGraw-Hill.

Koulopoulos, T. & Keldsen, D. (2014). *The gen z effect: The six forces shaping the future of business*. Abingdon, Oxfordshire: Routledge.

Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest, 7*(3), 77–124. https://doi.org/10.1111/j.1529-1006.2006.00030.x

Kurtzberg, T.R. (2014). *Virtual teams: Mastering communication and collaboration in the digital age.* Westport, CT: Praeger.

Laitinen, K., & Valo, M. (2018). Meanings of communication technology in virtual team meetings: Framing technology-related interaction. *International Journal of Human-Computer Studies, 111,* 12–22. https://doi.org/10.1016/j.ijhcs.2017.10.012

Larson, B. Z., & Makarius, E. E. (2018). The virtual work skills you need— even if you never work remotely. *Harvard Business Review.* Retrieved from https:/www./hbr.org

Lau, D. C., & Murnighan, J. K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review*, *23*(2), 325–340. https://doi.org/10.5465/AMR.1998.533229

Layder, D. (2006). *Understanding social theory* (2nd ed.). London: Sage Publications.

Lebie, L., Rhoades, J. & McGrath, J. (1996). Interaction processes in computer-mediated and face-to-face groups. *Computer-supported Cooperative Work, 4*, 127–54. https://doi.org/10.1007/bf00749744

Lee, C. & Benza, R. (2015). Teaching innovation skills: Application of design thinking in a graduate marketing course. *Business Education Innovation Journal, 7*(1), 43–50.

Levina, N., & Vaast, E. (2008). Innovating or doing as told? Status differences and overlapping boundaries in offshore collaboration. *MIS Quarterly, 32*, 307–332. https://doi.org/10.2139/ssrn.1136880

Liedtka, J. (2018). Why design thinking works. *Harvard Business Review*. Retrieved from https:/www./hbr.org

Liedtka, J., & Ogilvie, T. (2011). *Designing for growth: A design thinking tool kit for managers*. West Sussex, NY: Columbia University Press.

Lin, C., Standing, C., & Liu, Y. (2008). A model to develop effective virtual teams, decision support systems. *Information Technology and Systems in the Internet-Era, 45*(4), 1031–1045. https://doi.org/10.1016/j.dss.2008.04.002

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology, 86*(1), 114–121. https://doi.org/10.1037/0021-9010.86.1.114

Lingham, T. (2009). An experiential approach to team interaction: Developing a measure to capture its diverse dimensions and aspects. INGRoup Conference, July 16–18, Colorado Springs, CO.

Lingham, T., & Richley, B. (2015). Teamwork: High-impact teams. In S.M. Dahlgaard- Park (Ed.). *The Sage Encyclopedia of Quality and the Service Economy*. Thousand Oaks, CA: Sage Publications.

Lingham, T., & Richley, B. (2018). *High-impact engagement: A two-phase approach for individual and team development.* Bloomington, IN: iUniverse, Incorporated.

Lipnack, J., & Stamps, J. (2000). *Virtual teams, people working across boundaries with technology* (2nd ed.). NJ: Wiley.

Lippert, H., & Dulewicz, V. (2018). A profile of high-performing global virtual teams. *Team Performance Management: An International Journal, 24*(3/4), pp.169–185. https://doi.org/10.1108/TPM-09-2016-0040

Liu, Y. C., & Li, F. C. (2012). Exploration of social capital and knowledge sharing: An empirical study on student virtual teams. International *Journal of Distance Education Technologies, 10*, 17–38. https://doi.org/10.4018/jdet.2012040102

Lockwood, J. (2015). Virtual team management: What is causing communication breakdown?, *Language and Intercultural Communication*, *15*(1), 125–140. https://doi.org/10.1080/14708477.2014.985310

Lowry, P. B., Zhang, D. S., Zhou, L. N., & Fu, X. L. (2010). Effects of culture, social presence, and group composition on trust in technology-supported decision-making groups. *Information Systems Journal, 20*, 297–315. https://doi.org/10.1111/j.1365-2575.2009.00334.x

Lurey, J. S., & Raisinghani, M. S. (2001). An empirical study of best practices in virtual teams. *Information & Management, 38*(8), 523–544. https://doi.org/10.1016/s0378-7206(01)00074-x

McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal, 38*(1), 24–59. https://doi.org/10.2307/256727

McDonough, E. F., III, Kahn, K. B., & Barczak, G. (2001). An investigation of the use of global, virtual, and collocated new product development teams. *Journal of Product Innovation Management, 18*, 110–120. https://doi.org/10.1016/S0737-6782(00)000734

McDowell, T., Agarwal, D., Miller, D., Okamoto, T., & Page, T. (2016). Organizational design: The rise of teams. *Deloitte Insights*. Retrieved from https://www2.deloitte.com/

McGrath, J. E. (1984). *Groups: Interaction and performance*. Englewood Cliffs, NJ: Prentice-Hall.

McKay, M., Davis, M., & Fanning, P. (1995). *Messages: Communication skills book*, (2nd ed.). Oakland, CA: New Harbinger Publications.

Maley, L., & DeRosa, G. (2016, April). Contextualizing language learning: Using CBI in IEPs. Paper presented at TESOL International Association, Baltimore, MD.

Malhotra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. *Academy of Management Perspectives*, *21*(1), 60–70. https://doi.org/10.5465/amp.2007.24286164

Maloney, M. M., & Zellmer-Bruhn, M. (2006). Building bridges, windows and cultures: Mediating mechanisms between team heterogeneity and performance in global teams, *Management International Review, 46*(6), 697–720. https://doi.org/10.1007/s11575-006-0123-5

Marks, M. A., Mathieu J., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review, 26*, 356–376. https://doi.org/10.2307/259182

Martínez-Moreno, E., González-Navarro, P., Zornoza, A., & Ripoll, P. (2009). Relationship, task and process conflicts on team performance. *International Journal of Conflict Management, 20*(3), 251–268. https://doi.org/10.1108/10444060910974876

Martinez-Moreno, E., Zornoza, A., Gonzales-Navarro, P. & Thompson, L. F. (2012). Investigating face-to-face and virtual teamwork over time: When does early task conflict trigger relationship conflict? *Group Dynamics: Theory, Research, and Practice, 16*(3), 159–171. https://doi.org/10.1037/a0029569

Matthew, C., & Sternberg, R. (2006). Leading innovation through collaboration. Emerald *Group Publishing Limited*, *12*, 27–52. https://doi.org/10.1016/S1572-0977(06)12002-6

Mayer, M. (2010). *The virtual edge: Embracing technology for distributed team success, second edition.* Newtown Square, PA: Project Management Institute.

Maynard, M. T., Mathieu, J. E., Rapp, T. L., & Gilson, L. L. (2012). Something(s) old and something(s) new: Modeling drivers of global virtual team effectiveness. *Journal of Organizational Behavior, 33*(3), 342–365. https://doi.org/10.1002/job.1772

Maznevski, M. L., & Chudoba, K. (2000). Bridging space over time: global virtual team dynamics and effectiveness. *Organization Science, 11*(5), 473–492. https://doi.org/10.1287/orsc.11.5.473.15200

Meyer, E. (2014). *The culture map: Breaking through the invisible barriers of global business*. New York, NY: Public Affairs.

Michinov, E., & Michinov, N. (2020). When emotional intelligence predicts team performance: Further validation of the short version of the Workgroup Emotional Intelligence Profile. *Current Psychology*. https://doi.org/10.1007/s12144-020-00659-7

Montoya-Weiss, M.M., Massey, A.P., & Song, M. (2001). Getting it together: Temporal coordination and conflict management in global virtual teams. *Academy of Management Journal, 44*(6), 1251–1262. https://doi.org/10.2307/3069399

Morley, S., Cormican, K., & Folan, P. (2015). An analysis of virtual team characteristics: A model of virtual team managers. *Journal of Technology Management and Innovation, 10*(1), 188–203. https://doi.org/10.4067/S0718-27242015000100014

Munkvold, B. E., & Zigurs, I. (2007). Process and technology challenges in swift-starting virtual teams. *Information and Management, 44*, 287–299. https://doi.org/10.1016/j.im.2007.01.002

Naik, N., & Kim, D. (2010). *An extended adaptive structuration theory framework for determinants of virtual team success*. Sprouts Working Papers on Information Systems, 325. Available at https://aisel.aisnet.org/sprouts_all/325

Newman I., Lim J., & Pineda F. (2013). Content validity using a mixed methods approach: Its application and development through the use of a table of specifications methodology. *Journal of Mixed Methods Research, 7*(3), 243–60. https://doi.org/10.1177/1558689813476922

Newell, S., Tansley, C., & Huang, J. (2008). Social capital and knowledge integration in an ERP project team: The importance of bridging and bonding. *British Journal of Management, 15*. 43 – 57. https://doi.org/10.1111/j.1467-8551.2004.00425.x

Nicholson, B., & Sahay, S. (2004). Embedded knowledge and offshore software development. *Information Organization, 14*(4), 329–365. https://doi.org/10.1016/j.infoandorg.2004.05.001

Northouse, P.G. (2018). *Leadership: Theory and practice* (8th edition). Los Angeles, CA: Sage.

Nurmi, N., & Hinds, P.J. (2016). Job complexity and learning opportunities: A silver lining in the design of global virtual work. *Journal of International Business Studies, 47*(6), 631–654. https://doi.org/10.1057/jibs.2016.11

Oakley, J. (2005). The road to success. Review of Ophthalmology, *29*.

Oertig, M., & Buergi, T. (2006). The challenges of managing cross-cultural virtual project teams. *Team Performance Management, 12*(1), 23–30. https://doi.org/10.1108/13527590610652774

O'Hara-Devereaux, M., & Johansen, R. (1994). *Globalwork*. San Francisco: Jossey-Bass.

Orlikowski, W. (1992). The Duality of Technology: Rethinking the concept of technology in organizations. *Organization Science, 3*(3), 398–427. https://doi.org/10.1287/orsc.3.3.398

Ortega, A., Sanchez-Manzanares, M., Gil, F., & Rico, R. (2010). Team learning and effectiveness in virtual project teams: The role of beliefs about interpersonal context. *Spanish Journal of Psychology, 13*(1), 267–276. https://doi.org/10.1017/S113874160000384X

Padgett, D. K. (1998). *Qualitative methods in social work research: Challenges and rewards.* Thousand Oaks, CA: Sage.

Page, S. (2007). *The difference: How the power of diversity creates better groups, firms, schools and societies*. Princeton, NJ: Princeton University Press.

Patton, P. M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

Pauleen, D. J., & Yoong, P. (2001). Relationship building and the use of ICT in boundary-crossing virtual teams: A facilitator's perspective. *Journal of Information Technology, 16*, 205–220. https://dx.doi.org/10.1080/02683960110100391

Paulus, P. B. Kohn, N. W., & Arditti, L. E. (2011). Understanding the group size effect in electronic brainstorming. *Small Group Research, 44*(3), 332–352. https://doi.org/10.1177/1046496413479674

Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design, and analysis: An integrated approach.* Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Peterson, R. A. (2000). *Constructing effective questionnaires*. Thousand Oaks, CA: Sage.

Poole, M. S. & DeSanctis, G. (1992). Microlevel structuration in computer-supported group decision-making. *Human Communication Research, 19*, 5–49. https://doi.org/10.1111/j.1468-2958.1992.tb00294.x

Poole, M. S., & Jackson, M. H. (1992). Communication theory and group support systems. In Edited by: L. M. Jessup & J. S. Valacich (Eds.), *Group support systems: New perspectives* (pp. 82–293). New York: Macmillan.

Poole, M.S., Holmes, M., Watson. R., & DeSanctis, G. (1993). Group decision support systems and group communication: A comparison of decision-making in computer-supported and non-supported groups. *Communication Research, 20*(2), 176–213. https://doi.org/10.1177/009365093020002002

Poole, M. S., Seibold, D. R., & McPhee, R. D. (l985). Group decision-making as a structurational process. *Quarterly Journal of Speech, 71*, 74–l02. https://doi.org/10.1080/00335638509383719

Poole, M.S. (2013). Structuration research on group communication. *Management Communication Quarterly, 27*(4), 607–614. https://doi.org/10.1177/0893318913506265

Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: A review of current literature and directions for future research. *ACM Sigmis Database, 35*(1), 6–36. https://doi.org/10.1145/968464.968467

Presser, S., & Blair, J. (1994). Survey pretesting: Do different methods produce different results? In P. Marsden (Ed.), *Sociology methodology*, *24*, pp. 73–104. Washington, DC: American Sociological Association.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the work place: Development of taxonomy of adaptive performance. *Journal of Applied Psychology, 85*(4), 612–624. https://doi.org/10.1037/0021-9010.85.4.612

Pulakos, E. D., Dorsey, D. W., & White, S. S. (2006). Adaptability in the workplace: Selecting an adaptive workforce. In C. S. Burke, L. G. Pierce, & E. Salas (Eds.), *Advances in human performance and cognitive engineering research (Vol. 6). Understanding adaptability: A prerequisite for effective performance within complex environments* (p. 41–71). Oxford, UK: Elsevier. https://doi.org/10.1016/S1479-3601(05)06002-9

Raven, A. (2003). Team or community of practice: Aligning tasks, structures, and technologies. In C. B. Gibson & S. G. Cohen (Eds.), *Virtual teams that work: Creating conditions for virtual team effectiveness* (pp. 292–306). San Francisco, CA: Jossey-Bass.

Reed, A. H., & Knight, L. V. (2010). Effect of a virtual project team environment on communication-related project risk. *International Journal of Project Management, 28*(5), 422–427. https://doi.org/10.1016/j.ijproman.2009.08.002

Robbins, S. P., Coulter, M. & Langton, N. (2006). Management. NY, NY: Pearson Education.

Rogbeer, S., Almahendra, R., & Ambos, B. (2014). Open-innovation effectiveness: When does the macro design of alliance portfolios matter? *Journal of International Management, 20*(4), 464–477. https://doi.org/10.1016/j.intman.2014.09.003

Rose, J. (1998, June). Evaluating the contribution of structuration theory to the information systems discipline. In *6th European Conference on Information Systems* (pp. 910–924).

Rosen, B., Furst-Holloway, S., & Blackburn, R. (2007). Overcoming barriers to knowledge sharing in virtual teams. *Organizational Dynamics, 36*(3), 259–273. https://doi.org/10.1016/j.orgdyn.2007.04.007

Roser, M., Ritchie, H., & Ortiz-Ospina, E. (2019). Internet. Retrieved from https://ourworldindata.org/internet

Rowan, N., & Wulff, D. (2007). Using qualitative methods to inform scale development. *The Qualitative Report, 12*(3), 450–466. Retrieved from https://www.nova.edu/ssss/QR/QR12-3/rowan.pdf

RW3 Culture Wizard. (2010). The challenges of working in virtual teams (Report). New York, NY.

RW3 Culture Wizard. (2018). Virtual teams survey (Executive Brief). Retrieved from https://www.culturewizard.com

Sahay, S., Nicholson, B., & Krishna, S. (2004). *Global IT outsourcing: Software development across borders*. Cambridge University Press, Cambridge, UK; New York.

Saldaña, J. (2009). *The coding manual for qualitative researchers*. London, UK: Sage.

Sarason, Y. (1995). A model of organizational transformation: The incorporation of organizational identity into a structuration theory framework, *Academy of Management Journal* (Best papers proceedings), 47–51. https://doi.org/10.5465/ambpp.1995.17536267

Sarker, S., Lau, F., & Sahay, S. (2001). Using an adapted grounded theory approach for inductive theory building about virtual team development. *Database for Advances in Information Systems, 32(*1), 38–56. https://doi.org/10.1145/506740.506745

Saunders, C., Van Slyke, C., & Vogel, D. R. (2004). My time or yours? Managing time visions in global virtual teams. *Academy of Management Executive, 18*(1), 19–31. https://doi.org/10.5465/ame.2004.12691177

Schneider, B., Salvaggio, A. N., & Subirats, M. (2002). Climate strength: A new direction for climate research. *Journal of Applied Psychology, 87*(2), 220 –229. https://doi.org/10.1037/0021-9010.87.2.220

Schweitzer, L., & Duxbury, L. (2010). Conceptualizing and measuring the virtuality of teams. *Information Systems Journal*, *20*(3), 267–295. https://doi.org/10.1111/j.1365-2575.2009.00326.x

Scott, C. P., & Wildman, J. L. (2015). Culture, communication, and conflict: A review of the global virtual team literature. In Wildman, J.L., Griffith, R.L. (Eds.), *Leading global teams: Translating multidisciplinary science to practice* (pp.13–32). New York: Springer.

Scott, M. E. (2013). "Communicate through the roof": A case study analysis of the communicative rules and resources of an effective global virtual team. *Communication Quarterly, 61*(3), 301–318. https://doi.org/10.1080/01463373.2013.776987

Seers, A. & Woodruff, S. (1997). Temporal pacing in task forces: Group development or deadline pressure? *Journal of Management, 23*(2), 169 –187. https://doi.org/10.1177/014920639702300204

Sewell Jr., W. H. (1992). A theory of structure: Duality, agency, and transformation. *American Journal of Sociology*, *98*(1), 1–29. https://doi.org/10.1086/229967

Shen, Z., Lyytinen, K., & Yoo, Y. (2014). Time and information technology in teams: A review of empirical research and future research directions. *European Journal of Information Systems*. https://doi.org/10.1057/ejis.2014.8

Short, J., Williams, F., & Christie, B. (1976). *The social psychology of telecommunications*. New York: Wiley and Sons.

Silverthorne, C. (2000). Situational leadership theory in Taiwan: A different culture perspective. *The Leadership and Organization Development Journal, 21*(2), 68–74. https://doi.org/10.1108/01437730010318156

Simons, T. L., & Peterson, R. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology, 85*, 102–111. https://doi.org/10.1037/0021-9010.85.1.102

Smith, E. M., Ford, J. K., & Kozlowski, S. W. J. (1997). Building adaptive expertise: Implications for training design. In M. A. Quinones & A. Dudda (Eds.), Training for 21st century technology: Applications of psychological research (pp. 89–118). Washington, DC: APA Books.

Sole, D., & Edmondson, A. (2002). Situated knowledge and learning in dispersed teams. *British Journal of Management, 13*(2), 17–34. https://doi.org/10.1111/1467-8551.13.s2.3

Snowdon, C. (2011). Expat know how. https://www.expatknowhow.com

Stahl, G. K., Maznevski, M. L., Voigt, V., & Jonsen, K. (2010). Unraveling the effects of cultural diversity in teams: A metaanalysis of research in multicultural work groups. *Journal of International Business Studies, 41*(4), 690–709. https://doi.org/10.1057/jibs.2009.85

Staples, S. D. & Webster, J. (2007). Exploring traditional and virtual team members' 'best practices'. *Small Group Research, 38*(1), 60–97. https://doi.org/10.1177/1046496406296961

Steinfeld, E. S. (2004). In S. Yusuf, A. Altaf, & K. Nabeshima (Eds.), *Global Production Networking and Technological Change in East Asia*. New York: Oxford University Press.

Stewart, P. W. (n.d.). Small or pilot study. GCRC protocols which propose "pilot studies." Cincinnati Children's Hospital Medical Center.

Strauss, S. G., & McGrath, J. E. (1994). Does the medium matter? The interaction of task type and technology on group performance and member reactions. *Journal of Applied Psychology, 79*(1), 87–97. https://doi.org/10.1037/0021-9010.79.1.87

Subramaniam, M., & Youndt, M.A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal, 48*(3), 450–463. https://doi.org/10.5465/amj.2005.17407911

Teddlie, C., & Tashakkori, A. (2008). *Foundations of mixed methods research: Integrating quantitative and qualitative techniques in the social and behavioral sciences*. Thousand Oaks, CA: Sage Publications.

Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A longitudinal study of team conflict, conflict management, cohesion, and team effectiveness. *Group and Organization Management, 34*(2), 170–205. https://doi.org/10.1177/1059601108331218

Tirmizi, A.S. (2008). Towards understanding multicultural teams. In C. B. Halverson, & A. S. Tirmizi (Eds), *Effective multicultural teams: Theory and practice* (pp. 1–20). New York: Springer.

Tirmizi, A.S. (2008). The impact of culture in multicultural teams. In C. B. Halverson, & A. S. Tirmizi (Eds), *Effective multicultural teams: Theory and practice* (pp. 21–42). New York: Springer.

Tobin, G. A., & Begley, C. M. (2004). Methodological rigour within a qualitative framework. *Journal of Advanced Nursing, 48*(4), 388–396. https://doi.org/10.1111/j.1365-2648.2004.03207.x

Townsend, A., DeMarie, S., & Hendrickson, A. (1998). Virtual teams: Technology and the workplace of the future. *Academy of Management Executive, 12*(3), 17–29. https://doi.org/10.5465/ame.1998.1109047

Turel, O., & Connelly, C. (2012). Team spirit: The influence of psychological collectivism on the usage of e-collaboration tools. *Group Decision and Negotiation, 21*(5), 703–725. https://doi.org/10.1007/s10726-011-9245-7

U.S. General Services Administration (GSA). (2012). Office of governmentwide policy overview. Retrieved from https://www.gsa.gov

Vaismoradi, M., & Snelgrove, S. (2019). Theme in qualitative content analysis and thematic analysis. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, *20*(3). https://dx.doi.org/10.17169/fqs-20.3.3376

van der Kleij, R., Schraagen, J. M., Werkhoven, P., & De Dreu, C. K. W. (2009). How conversations change over time in face-to-face and video-mediated communication. *Small Group Research, 40*(4), 355–381. https://doi.org/10.1177/1046496409333724

Van de Ven, A.H. (2007). *Engaged scholarship*: *A guide for organizational and social research*. New York: Oxford University Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes* (Rev. ed.). Cambridge, MA: Harvard University Press.

Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need-and what we can do about it*. New York: Basic Books.

Wakefield, R. L., Leidner, D. E., & Garrison, G. (2008). A model of conflict, leadership, and performance in virtual teams. *Information Systems Research, 19*(4), 434–455. https://doi.org/10.1287/isre.1070.0149

Warkentin, M. E., Sayeed, L. & Hightower, R. (1997). Virtual teams versus face-to-face teams: An exploratory study of a web-based conference system. *Decision Sciences, 28*(4), 975–996. https://doi.org/10.1111/j.1540-5915.1997.tb01338.x

Watson, W. E., Kumar, K., & Michaelson, L. K. (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task groups. *Academy of Management Journal, 36*(3), 590–602. https://doi.org/10.2307/256593

Weiss, R. W. (1994). *Learning from strangers: The art and method of qualitative interview studies.* New York: The Free Press.

Wekselberg, V., Goggin, W.C., & Collings, T.J. (1997). A multifaceted concept of group maturity and its measurement and relationship to group performance. *Small Group Research, 28*(1), 3–28. https://doi.org/10.1177/1046496497281001

West, M.A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology-an International Review-Psychologies Appliquee-Revue Internationale*. *51*(3), 355–387. https://doi.org/10.1111/1464-0597.00951

Whitford, T., & Moss, S. A. (2009). Transformational leadership in distributed work groups: The moderating role of follower regulatory focus and goal orientation. *Communication Research, 36*(6), 810–837. https://doi.org/10.1177/0093650209346800

Willis, G., Schechter, S., & Whitaker, K. (2000). A comparison of cognitive interviewing, expert review and behavior coding: What do they tell us? In, *Proceedings of the section on survey methods, american statistical association* (pp. 28–37). Alexandria, VA: American Statistical Association.

Wittenbaum, G. W., Hollingshead, A. B., Paulus, P. B., Hirokawa, R. Y., Ancona, D. G., Peterson, R. S., Jehn, K. A., & Yoon, K. (2004). The functional perspective as a lens for understanding groups. *Small Group Research, 35*(1), 17–43. https://doi.org/10.1177/1046496403259459

Zakaria, N. (2016). *Culture matters: Decision-making in multicultural teams*. Boca Raton, FL: CRS Press.

Zakaria, N. (2017). Emergent patterns of switching behaviors and intercultural communication styles of global virtual teams during distributed decision making. *Journal of International Management*, *23*(4), 350–366. https://doi.org/10.1016/j.intman.2016.09.002

Zakaria, N., & Mohd Yusof, S.A. (2020). Crossing cultural boundaries using the internet: Toward building a model of swift trust formation in global virtual teams. *Journal of International Management, 26*(1), 1–19. https://doi.org/10.1016/j.intman.2018.10.004

Zander, L., Mockaitis, A. I., & Butler, C. L. (2012). Leading global teams. *Journal of World Business, 47*(4), 592–603. https://doi.org/10.1016/j.jwb.2012.01.012

Zaug, H., & Davies, R. S. (2013). Communication skills to develop trusting relationships on global virtual engineering capstone teams. *European Journal of Engineering Education, 38*(2), 228–233. https://doi.org/10.1080/03043797.2013.766678

Zhuang, L. (1995). Bridging the gap between technology and business strategy: A pilot study on the innovation process. *Management Decision, 33*(8), 13–21. https://doi.org/10.1108/00251749510093897

Zimmermann, A. (2011). Interpersonal relationships in transnational, virtual teams: Towards a configurational perspective. *International Journal of Management Reviews, 13*, 59–78. https://dx.doi.org/10.1111/j.1468-2370.2010.00284.x

Zouhbi, O. (2013). *Virtual leadership and effective virtual teams: Cultural intelligence, effective communication, and successful projects* (Doctoral dissertation). Retrieved from PQDT Open Dissertation and Theses database. (UMI No. 3634117).

Appendix A

Appendix A: Research Participation Consent Form

This informed consent form is for participants who work on a global virtual team (GVT), meaning the members:

1. work interdependently with a shared purpose
2. work across space and time (geographically dispersed)
3. Rely on technology for communication/information sharing

who we are inviting to participate in a research project titled "Global Virtual Team Interaction: An Exploratory Study"

Name of Principle Investigator: Lejla Bilal-Maley
Name of Organization: Antioch University, PhD in Leadership and Change Program
Name of Project: Dissertation

You will be given a copy of the full Informed Consent Form

Introduction
I am Lejla Bilal-Maley, a PhD candidate for Leadership and Change at Antioch University. As part of this degree, I am completing a dissertation on Global Virtual Teams (GVTs) and their experiences. I am going to give you information about the study and invite you to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to reflect on whether you want to participate or not. You may ask questions at any time.

Purpose of the research
The purpose of this project is to gain more insight into the experiences of team member interactions when working on a team that is globally dispersed, and not face-to-face, forcing them to communicate via technology alone**.** This information will help us to better understand how people who connect via technology view their experiences (both rewarding and frustrating) working as part of a virtual team.

Type of Research Intervention
This research will involve your participation in an interview where feedback regarding your experiences on the team will be asked. Each of these interviews will be tape recorded solely for research purposes, but all of the participants' contributions will be de-identified prior to publication or the sharing of the research results. These recordings, and any other information that may connect you to the study, will be kept in a secure location.

Participant Selection
You are being invited to take part in this research because you are a member of a global virtual team that fits the criteria for research (works interdependently towards a shared goal, geographically dispersed, and relies on technology for communication). You should not consider participation in this research if according to the criteria, you are not part of a global virtual team who works with geographically dispersed members; you do not work interdependently towards some shared purpose; you do not rely on technology for communication.

Voluntary Participation
Your participation in this study is completely voluntary. You may choose not to participate. You will not be penalized for your decision not to participate or for any of your contributions during the study. Your position in your current organization will not be put into jeopardy. You may withdraw from this study at

any time. If an interview has already taken place, the information you provided will not be used in the research study.

Risks
No study is completely risk free. However, I do not anticipate that you will be harmed or distressed during this study. You may stop being in the study at any time if you become uncomfortable If you experience any discomfort as a result of your participation, employee assistance counselors will be available to you as a resource.

Benefits
There will be no direct benefit to you, but your participation may help others in the future.

Reimbursements
You will be entered into a drawing for a $25 Amazon gift card as a thank you for your time.

Confidentiality
All information will be de-identified, so that it cannot be connected back to you. Your real name will be replaced with a pseudonym in the write-up of this project if you choose to participate in a follow-up interview, and only the primary researcher will have access to the list connecting your name to the pseudonym. This list, along with tape recordings of the discussion sessions, will be kept in a secure, password protected location. For the interview, names will not be requested.

Limits of Privacy Confidentiality
Generally speaking, I can assure you that I will keep everything you tell me or do for the study private. Yet there are times where I cannot keep things private (confidential). The researcher cannot keep things private (confidential) when:

- **The researcher finds out that a child or vulnerable adult has been abused**
- **The researcher finds out that that a person plans to hurt him or herself, such as commit suicide,**
- **The researcher finds out that a person plans to hurt someone else,**

There are laws that require many professionals to take action if they think a person is at risk for self-harm or are self-harming, harming another or if a child or adult is being abused. In addition, there are guidelines that researchers must follow to make sure all people are treated with respect and kept safe. In most states, there is a government agency that must be told if someone is being abused or plans to self-harm or harm another person. Please ask any questions you may have about this issue before agreeing to be in the study. It is important that you do not feel betrayed if it turns out that the researcher cannot keep some things private.

Future Publication
The primary researcher, Lejla Bila-Maley does **not** reserve the right to include any results of this study in future scholarly presentations and/or publications. All information will be de-identified prior to publication.

Right to Refuse or Withdraw
You do not have to take part in this research if you do not wish to do so, and you may withdraw from the study at any time without your job being affected.

Who to Contact
If you have any questions, you may ask them now or later. If you have questions later, you may contact Lejla Bilal-Maley

If you have any ethical concerns or your rights as a research participant about this study, contact Lisa Kreeger, Chair, Institutional Review Board, Antioch University Ph.D. in Leadership and Change, Email: [redacted].

This proposal has been reviewed and approved by the Antioch Institutional Review Board (IRB), which is a committee whose task it is to make sure that research participants are protected. If you wish to find out more about the IRB, contact Dr. Lisa Kreeger.

DO YOU WISH TO BE N THIS STUDY?
I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Print Name of Participant_____

Signature of Participant _____

Date _____
Day/month/year

DO YOU WISH TO BE AUDIOTAPED IN THIS STUDY?

I voluntarily agree to let the researcher audiotape me for this study. I agree to allow the use of my recordings as described in this form.

Print Name of Participant_____

Signature of Participant _____

Date _____
Day/month/year

To be filled out by the researcher or the person taking consent:

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this Informed Consent Form has been provided to the participant.

Print Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____
Day/month/year

Appendix B

Appendix B: Recruitment Statement for Research Participation

Hello, my name is Lejla Bilal-Maley. I am a doctoral candidate at Antioch University studying Leadership and Change. I am conducting research on global virtual teams (GVT) and members' experiences working as part of a GVT. I am inviting you to participate if you qualify for the study based on the following criteria. Note a team is defined as 2+ people working together to achieve a common goal.

As a member of a GVT, you:

1. work on a team with a group of people (at least one other person) interdependently with a shared purpose.
2. work across space and time (geographically dispersed).
3. rely on technology for communication/information sharing.
4. have an appointed leader (i.e., someone you report to on the team).

Participation in this research includes taking part in an interview asking general questions about your experiences as a member of a GVT. The survey will take approximately15 minutes to complete.

If you have any questions or would like to participate in the research, I can be reached at [redacted] or [redacted]

Appendix C

Appendix C: Dissertation Interview Guide

I. Opening
A. Introductions
B. Reminder of research intent

C. (Purpose) I would like to ask you some questions about your experience as a member of a global virtual team (GVT). This is all based on your own perceptions and experience. There's no right or wrong answer. I am interested in your own responses.

D. (Motivation) I intend to use this information to inform my dissertation and research questions. I am studying GVTs, and I am interested in the type of work they do and don't do, and what sorts of experiences they have as members of a virtual team.

E. (Time Line) The interview should take about 45 minutes. Do you have any questions for me before we start? Thanks for agreeing to have this interview recorded. Shall we begin?

F. Confidentiality: I would just like to remind you that this interview is confidential. Once I begin recording, I will not ask you identifying information about yourself. I will keep the recording secure on a password protected device, and the research will be used by me only.

II Body
A. Interview Questions: To begin, I'd like to ask you some background questions.

1. **How long have you been a member of a GVT?**
2. **What is your current role?**
3. **Do you like working on a GVT? (Would you like to share any specifics)**

In the next set of questions, I would like for you to think of specific experiences working on a GVT. Be as detailed as you can.

4. **Tell me about a time when you had a positive/good experience working on a GVT?**
5. **Tell me about a time when you had a fun experience working on a GVT?**
6. **What me about a time when you had a frustrating experience working on a GVT?**
7. **What do you think can help contribute to good GVT interactions? Any specific factors?**
8. **What do you think can harm GVT interactions and make them not so good?**
9. **Are there any other thoughts or comments you would like to add about your experiences when interacting with GVT members and leaders?**
10. **What in your opinion would make GVT experiences satisfying and would make you feel valued as a member (or as a leader)?**

III. Closing
A. Thank you so much for taking the time to have this conversation with me. I really appreciate your help in contributing to this research stream. Let me know if you have any questions. Take care.

Appendix D

Appendix D: Survey Questionnaire

Copy of The Experience of Working on Global Virtual Teams (GVTs)

1. Welcome

I would like to thank you for your help with this research study. Without your cooperation, this would not be possible. This survey is part of my dissertation research at Antioch University in the PhD in Leadership and Change program. The results of this study will be published with my dissertation, and may be used in future presentations and publications.

This project has been approved by the Institutional Review Board at Antioch University. If you have any questions about your rights as a research participant, please contact: Dr. Lisa Kreeger, Chair, Institutional Review Board PhD in Leadership and Change program, Antioch University at LKreeger@antioch.edu.

The aim of this study is to assess the experience of working on a Global Virtual Team (GVT) by measuring themes such as Adaptability, Team Design, Cross-cultural Communication, Human Dynamics, and Technology. Note a team is defined as 2+ people working together to achieve a common goal.

The questions consider personal characteristics and your perception of working as a member or leader of a global virtual team. Please read each item carefully. The best results are obtained when you give a well-considered response to all the questions. Please note that this survey is completely anonymous, and the information on this questionnaire will not be communicated to third parties. The questionnaire consists of 29 questions. It will take approximately 20 minutes of your time.

If you have any questions or remarks, please contact me, Lejla Bilal-Maley, at lmaley@antioch.edu

1

Copy of The Experience of Working on Global Virtual Teams (GVTs)

2. Criteria for Participation

Hello. You have been invited to take part in a research study on global virtual teams (GVT). Please read the following criteria of a global virtual team (GVT) and answer the screening question that follows:

As a member of a GVT, you:

1. work on a team with a group of people (at least two other people) interdependently with a shared outcome.

2. work across space and time (geographically dispersed).

3. rely on technology for communication/information sharing.

4. work virtually to get things done

5. have a formally appointed leader(s).

* 1. Based on the criteria of a global virtual team (GVT), do you qualify for this research study?

- ◯ Yes, I am part of a GVT based on the outlined criteria
- ◯ Not sure
- ◯ No, I am not part of a GVT based on the outlined criteria

Copy of The Experience of Working on Global Virtual Teams (GVTs)

3. Adaptability

I. General information about your overall perception of **adaptability** on your GVT.

Adaptability is defined as the quality of being able to adjust to new conditions.

Using a scale of 1-6, with 1 representing strongly disagree and 6 representing strongly agree, please respond to the following statements about your experience with **adaptability** on your GVT:

2. My GVT/The GVT I am part of:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Easily Adapts to factors such as physical distance, roles, and project specific characteristics	○	○	○	○	○	○
Has difficulty adapting to features such as sharing information and collaborating	○	○	○	○	○	○
Adapts to aspects including language, misunderstandings and problem solving	○	○	○	○	○	○
Adapts to elements such as trust, small talk and empathy	○	○	○	○	○	○
Has difficulty adapting to virtual interactions without face-to-face time	○	○	○	○	○	○
Adapts to technology tools	○	○	○	○	○	○
Has difficulty adapting to technological challenges in general	○	○	○	○	○	○

3. Please comment about any items above that appear unclear, making any wording suggestions. Also, make any remarks about the clarity of items and their relationship to adaptability:

Copy of The Experience of Working on Global Virtual Teams (GVTs)

4. Team Design

II. General information about your overall perception of team design on your GVT.

Using a scale of 1-6, with 1 representing strongly disagree and 6 representing strongly agree, please respond to the following statements about your experience with team design (structured: physical dispersion, roles, project specifics and unstructured: knowledge sharing, flexibility, learning, isolation, and collaboration) on your GVT:

4. Physical Dispersion

On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am able to work remotely to complete tasks	○	○	○	○	○	○
Physical distance cannot be overcome	○	○	○	○	○	○
Multiple time zones create a barrier to my work	○	○	○	○	○	○
Multiple time zones are advantageous to my work	○	○	○	○	○	○
GVTs are a cost saving option for work	○	○	○	○	○	○
Cultural diversity is an asset	○	○	○	○	○	○
Cultural diversity creates barriers	○	○	○	○	○	○

5. Roles

On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
The leader fulfills the functions of their role	○	○	○	○	○	○
The leader ensures every team member is heard	○	○	○	○	○	○
I am part of a cross-functional team	○	○	○	○	○	○
Roles are clearly outlined	○	○	○	○	○	○
The project manager is essential to the work	○	○	○	○	○	○

6. Project Specifics

On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
There are constant changes to the workflow/work process	○	○	○	○	○	○
There are constant changes in our project	○	○	○	○	○	○
Deadlines are tight	○	○	○	○	○	○
Goals are clearly defined	○	○	○	○	○	○
Meetings are structured appropriately	○	○	○	○	○	○
Feedback is not provided adequately	○	○	○	○	○	○

7. Unstructured Team Design Features

On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am not able to locate information I need easily	○	○	○	○	○	○
Team members are flexible	○	○	○	○	○	○
There are ample opportunities for learning	○	○	○	○	○	○
Different work styles are acknowledged	○	○	○	○	○	○
It is easy to become/feel isolated	○	○	○	○	○	○
There are not many opportunities for collaboration amongst team members	○	○	○	○	○	○
There are not many opportunities for professional growth	○	○	○	○	○	○

8. Please comment about any items above that appear unclear, making any wording suggestions. Also, make any remarks about the clarity of items and their relationship to team design (physical dispersion, roles, project specifics, unstructured features):

Copy of The Experience of Working on Global Virtual Teams (GVTs)

5. Cross-cultural Communication

III. General information about your overall perception of cross-cultural communication on your GVT.

Using a scale of 1-6, with 1 representing strongly disagree and 6 representing strongly agree, please respond to the following statements about your experience with cross-cultural communication (misunderstandings, language, error recognition, asking for/receiving help, and problem solving) on your GVT:

9. On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Language is a barrier	○	○	○	○	○	○
People do not identify mistakes within a reasonable time frame	○	○	○	○	○	○
Problem solving is a challenge	○	○	○	○	○	○
Misunderstandings are common	○	○	○	○	○	○
People are not hesitant to ask for help	○	○	○	○	○	○

10. Please comment about any items above that appear unclear, making any wording suggestions. Also, make any remarks about the clarity of items and their relationship to cross-cultural communication:

Copy of The Experience of Working on Global Virtual Teams (GVTs)

6. Human Dynamics

IV. General information about your overall perception of human dynamics on your GVT.

Using a scale of 1-6, with 1 representing strongly disagree and 6 representing strongly agree, please respond to the following statements about your experience with human dynamics (interactions, empathy, relationships, recognition, and trust) on your GVT:

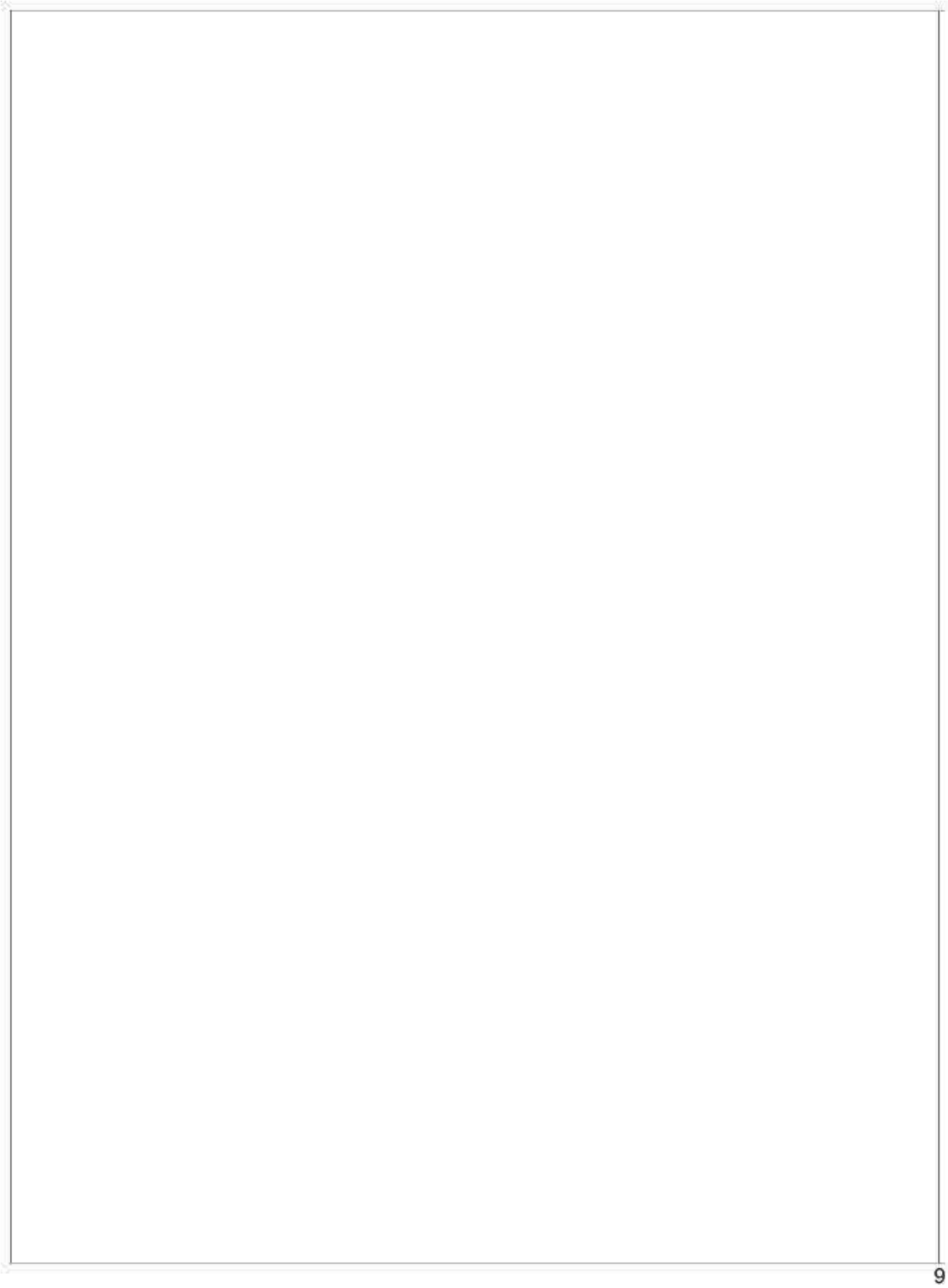
Note: face-to-face time refers in in-person interaction

11. On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Face-to-face time is desirable	○	○	○	○	○	○
Opportunities for face-to-face time do not exist	○	○	○	○	○	○
There are sufficient opportunities for informal conversation	○	○	○	○	○	○
Meetings have too much informal conversation	○	○	○	○	○	○
Team members show empathy	○	○	○	○	○	○
There are sufficient opportunities to form relationships with team members	○	○	○	○	○	○
Relationship building is not a priority	○	○	○	○	○	○
I am not recognized for my work	○	○	○	○	○	○
Trust exists between me and my team members	○	○	○	○	○	○

12. Please comment about any items above that appear unclear, making any wording suggestions. Also, make any remarks about the clarity of items and their relationship to human dynamics:

8


9

Copy of The Experience of Working on Global Virtual Teams (GVTs)

7. Technology

V. General information about your overall perception of technology on your GVT.

Using a scale of 1-6, with 1 representing strongly disagree and 6 representing strongly agree, please respond to the following statements about your experience with technology (tools, bandwidth, technical challenges) on your GVT:

13. On my GVT:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Not all members have access to proper internet bandwidth	○	○	○	○	○	○
The appropriate technology tools are used	○	○	○	○	○	○
There is too much reliance on email	○	○	○	○	○	○
E-mail is the most used communication tool	○	○	○	○	○	○
Video conferencing tools such as WebEx, Zoom, JoinMe are not used sufficiently	○	○	○	○	○	○
Technological challenges negatively impact my work	○	○	○	○	○	○
I do not feel adequately equipped to use the required technology	○	○	○	○	○	○

14. Please comment about any items above that appear unclear, making any wording suggestions. Also, make any remarks about the clarity of items and their relationship to technology:

Copy of The Experience of Working on Global Virtual Teams (GVTs)

8. The Overall Experience

VI. General information about your overall perception of the experience of working on a GVT.

Using a scale of 1-6, with 1 representing strongly disagree and 6 representing strongly agree, please respond to the following statements about your overall perception of working on a GVT:

15. Overall:

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
My experience working on a GVT has been an enjoyable one.	○	○	○	○	○	○
Interactions amongst team members on my GVT have been positive.	○	○	○	○	○	○
My experience working on a GVT is strongly affected by factors such as physical dispersion, roles, and project specifics.	○	○	○	○	○	○
My experience working on a GVT is strongly affected by factors such as knowledge sharing, flexibility, learning, isolation and collaboration.	○	○	○	○	○	○
My experience working on a GVT is strongly affected by factors such as recognizing errors, problem solving, misunderstandings, asking for/receiving help, and language.	○	○	○	○	○	○
My experience working on a GVT is strongly affected by elements such as interactions such as small talk and face-to-face time, empathy, relationships, recognition, and trust.	○	○	○	○	○	○
My experience working on a GVT is strongly affected by technology factors such as bandwidth, tools, and technical challenges.	○	○	○	○	○	○

12

16. Please comment about any items above that appear unclear, making any wording suggestions. Also, make any remarks about the clarity of items and their relationship to the overall perception of the GVT team experience:

13

Copy of The Experience of Working on Global Virtual Teams (GVTs)

9.

Thank you for your time. Please respond to the following two questions to assist with the final survey draft.

17. Approximately how long did it take you to complete this survey?

18. Do you have any other feedback regarding clarity, content, or anything else?

Copy of The Experience of Working on Global Virtual Teams (GVTs)

10.

Demographic Information

VII. General information about you, your team, and your organization.

19. Which range below best represents your age group?

- 20-24
- 25-29
- 30-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55-59
- 60-64
- 65+

20. What race or ethnicity do you identify with most?

- Caucasian
- Hispanic or Latinx
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Other

21. What is your identified gender?

- Male
- Female
- Other (please specify)
- I prefer not to answer

22. What is the highest degree or level of education you have received?

- ◯ Less than a high school diploma
- ◯ High school graduate, diploma or the equivalent (for example: GED)
- ◯ Some college, no degree
- ◯ Associate degree
- ◯ Bachelor's degree
- ◯ Master's degree
- ◯ Professional degree (J.D., M.D., etc.)
- ◯ Doctorate degree

23. With what nationality do you identify with most?

24. What language do you primarily speak?

25. Where do you currently work? List all countries that apply separating each with a comma

26. Which of the following best describes your job title?

- ◯ Individual contributor
- ◯ Manager
- ◯ Director
- ◯ Other (please specify)
- ◯ Vice president
- ◯ Top level management/C-level
- ◯ Owner

27. How long have you been a member of the global virtual team (GVT) you currently work with?

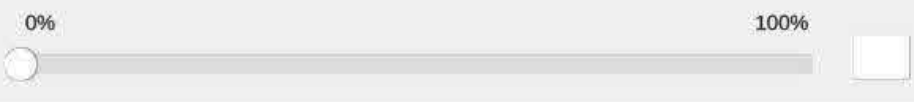
- ◯ Less than 1 yr.
- ◯ 1-2 yrs.
- ◯ 3-4 yrs.
- ◯ 5-6 yrs.
- ◯ 7-8 yrs.
- ◯ 9-10 yrs.
- ◯ 11+ yrs.

28. In which sector does your organization belong?

- ◯ For profit or private
- ◯ Not-for-profit
- ◯ Other (please specify)
- ◯ Education
- ◯ Public sector

16

29. On a scale of 0% to 100%, where 0% represents working from an office setting full-time with all other members of your team, and 100% represents no face-to-face time with other team members, how would you best describe your degree of virtual work?



17

Appendix E

Appendix E: IRB Approval

Online IRB Application Approved:Dissertation: "Global Virtual Teams: An Exploratory Study of Member Experience and Interaction" June 4, 2019, 6:26 am Inbox ×

[redacted] Tue, Jun 4, 2019, 6:26 AM

to me, lkreeger, bsammons

Dear Lejla Maley ,

As Chair of the Institutional Review Board (IRB) for 'Antioch University Ph.D., I am letting you know that the committee has reviewed your Ethics Application. Based on the information presented in your Ethics Application, your study has been approved.

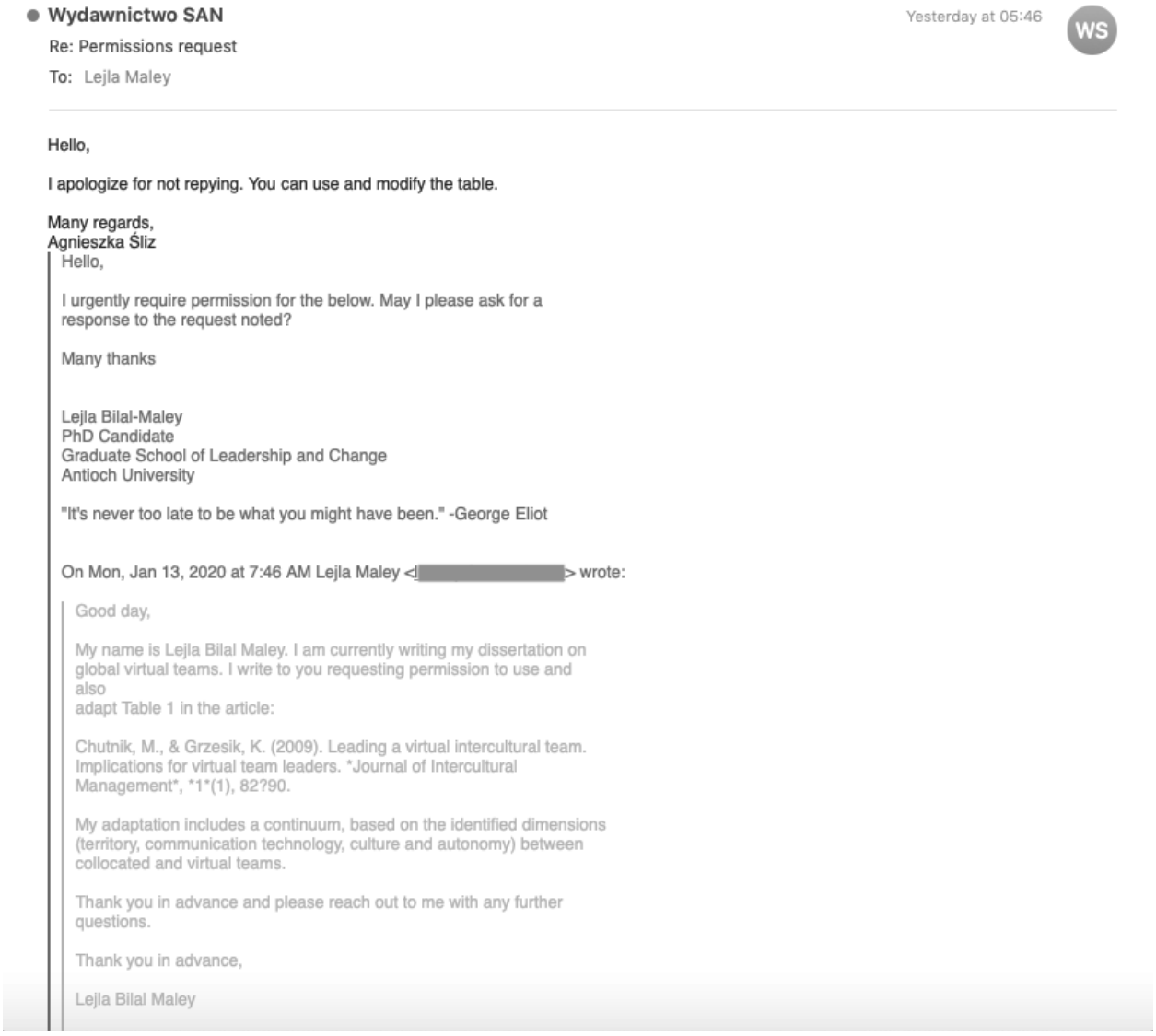
Renewal is not required, however, any changes in the protocol(s) for this study must be formally requested by submitting a request for amendment from the IRB committee. Any adverse event, should one occur during this study, must be reported immediately to the IRB committee. Please review the IRB forms available for these exceptional circumstances.

Sincerely,

Lisa Kreeger

Appendix F

Appendix F: Copyright Permission for Table 2.1 and Table 2.2



Wydawnictwo SAN Yesterday at 05:46 WS

Re: Permissions request

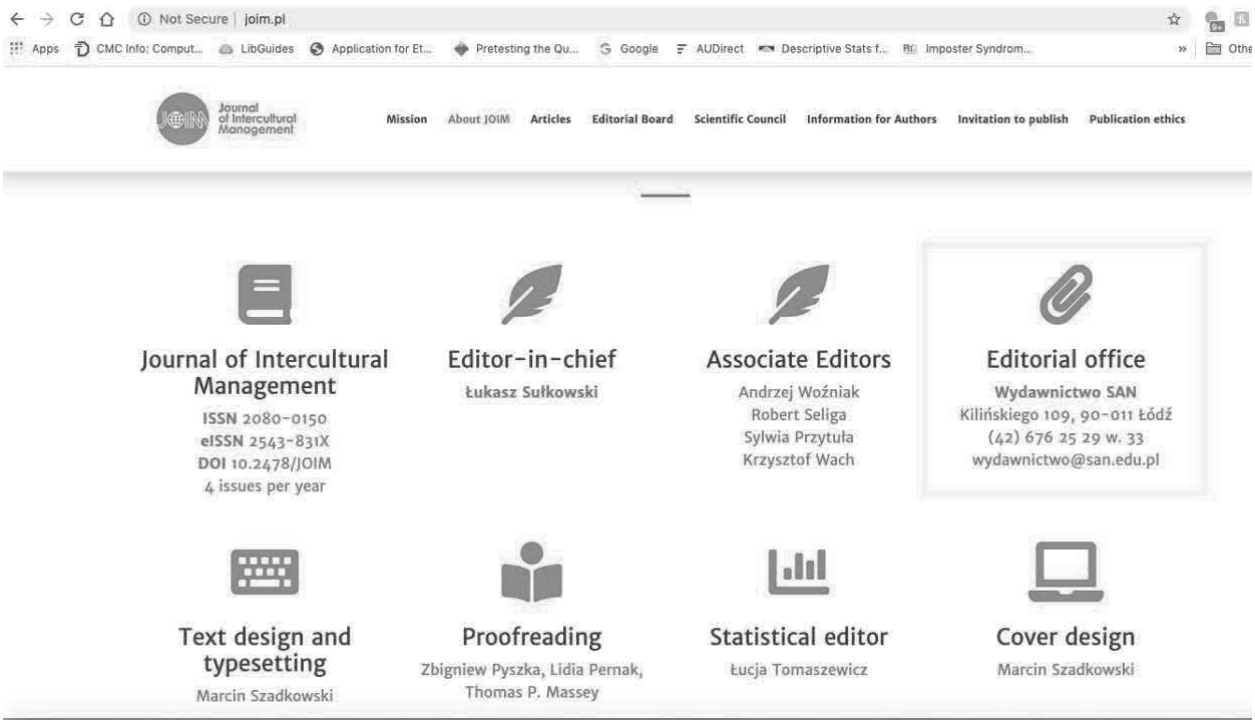
To: Lejla Maley

Hello,

I apologize for not repying. You can use and modify the table.

Many regards,
Agnieszka Śliz

> Hello,
>
> I urgently require permission for the below. May I please ask for a response to the request noted?
>
> Many thanks
>
> Lejla Bilal-Maley
> PhD Candidate
> Graduate School of Leadership and Change
> Antioch University
>
> "It's never too late to be what you might have been." -George Eliot
>
> On Mon, Jan 13, 2020 at 7:46 AM Lejla Maley <l[redacted]> wrote:
>
> > Good day,
> >
> > My name is Lejla Bilal Maley. I am currently writing my dissertation on global virtual teams. I write to you requesting permission to use and also
> > adapt Table 1 in the article:
> >
> > Chutnik, M., & Grzesik, K. (2009). Leading a virtual intercultural team. Implications for virtual team leaders. *Journal of Intercultural Management*, *1*(1), 82?90.
> >
> > My adaptation includes a continuum, based on the identified dimensions (territory, communication technology, culture and autonomy) between collocated and virtual teams.
> >
> > Thank you in advance and please reach out to me with any further questions.
> >
> > Thank you in advance,
> >
> > Lejla Bilal Maley


Not Secure | joim.pl
Journal of Intercultural Management
Mission
About JOIM
Articles
Editorial Board
Scientific Council
Information for Authors
Invitation to publish
Publication ethics
Journal of Intercultural Management
ISSN 2080-0150
eISSN 2543-831X
DOI 10.2478/JOIM
4 issues per year
Editor-in-chief
Łukasz Sułkowski
Associate Editors
Andrzej Woźniak
Robert Seliga
Sylwia Przytuła
Krzysztof Wach
Editorial office
Wydawnictwo SAN
Kilińskiego 109, 90-011 Łódź
(42) 676 25 29 w. 33
wydawnictwo@san.edu.pl
Text design and typesetting
Marcin Szadkowski
Proofreading
Zbigniew Pyszka, Lidia Pernak, Thomas P. Massey
Statistical editor
Łucja Tomaszewicz
Cover design
Marcin Szadkowski

From: **Lejla Maley** [redacted]
Subject: Re: Permissions request
Date: February 23, 2020 at 1:14 PM
To: Wydawnictwo SAN [redacted]

LM

Good day,

While I thank you again for permission to use and adapt the table from Chutnik and Grzesik's (2009) article. I wanted to properly indicate the table as is as well as my adaptation for our records.

Original:

Table 2.1

Dimensions of Virtual Teams

	Collocated Teams		Virtual Teams
Territory	concentrated	dispersed nationally	dispersed internationally
Communication technology	traditional		modern
Culture	monocultural		multicultural
Autonomy	low	medium	high

Note. From Chutnik & Grzesik, 2009

Adaptation:

Table 2.2

Continuum of Identified Dimensions of Virtual Teams

	Collocated Teams **Teams**	**GVT**
Territory	collocated <----------> globally dispersed	
Communication technology	synchronous <----------> asynchronou	
Culture	monocultural <----------> multicultur	
Autonomy	low <----------> high	

Note. Adapted from Chutnik & Grzesik, 2009

Agan, my sincerest thanks as I look to conclude the doctoral journey.

Lejla

Lejla Bilal-Maley
PhD Candidate
Graduate School of Leadership and Change
Antioch University

"It's never too late to be what you might have been." -George Eliot