

Working Across Boundaries: Current and Future Perspectives on Global Virtual Teams

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Jimenez, A., Boehne, D., Taras, V., & Caprar, D. (2017). Working across Boundaries: Current and Future Perspectives on Global Virtual Teams Article reference. *Journal of International Management*, 23(4), 341-349.

Made available courtesy of Elsevier: <https://doi.org/10.1016/j.intman.2017.05.001>



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Abstract:

Global Virtual Teams (GVTs) are a commonplace in contemporary organizations, and an already established topic of research in international management. While we have a good understanding of advantages and challenges associated with this ubiquitous form of work groups, this special issue aims to contribute to theory development by focusing on key drivers that influence the success of GVTs, along with ways for mitigating their challenges. We briefly review current knowledge on GVTs and propose a structuring framework that can help with both organizing what we know about GVTs, and with guiding the conversation on where the research on this topic might focus next. We then introduce four special issue articles that illustrate avenues for generating new empirical evidence towards uncovering key characteristics and dynamics underlying GVTs complexities, providing useful insights for both theory development and managerial practice.

Keywords: Global Virtual Teams (GVTs) | Collaboration | Communication | Distance | Challenges

Article:

Introduction

As organizations have shifted from hierarchical and rigid bureaucratic structures towards more organic organizational designs, work teams have become more prevalent. Global expansion and mobility, along with technological developments, sparked the need and created the possibility of expanding the scope of teams beyond the traditional collocated arrangements, giving rise to the now ubiquitous Global Virtual Teams (GVTs). Also known as multinational and multicultural distributed teams (Connaughton and Shuffler, 2007), transnational team (Haas, 2006), or multinational workgroups (Hambrick et al., 1998), GVTs are most often defined as “temporary, culturally diverse, geographically dispersed, and electronically communicating work group[s]” (Jarvenpaa and Leidner, 1999). Organizations often don't even emphasize the “global” and “virtual” aspects when referring to their GVTs, as working across boundaries has become the norm, rather than an exception, with members of such teams being not just full-time or part-time employees, but also freelancers, contractors, suppliers, and other collaborators.

The popularity of GVT has not been limited to the business world – it is a widely spread form of work in other domains, including academia. For instance, the editors of this special issue are based in North America, Europe and Australia: we have never met face-to-face in preparing this special issue, nor have we been in one same location while working on it. Even in organizations based in a single country, employees often have to complete projects in GVTs, as the company's supply chains and distribution networks increasingly cross national borders, include culturally diverse team members (even if operating within the borders of one country), and address projects that cross a range of boundaries.

The Gartner Group survey estimated in 2000 that by 2004 up to 60% of all professional and management tasks within world's biggest multinational corporations would be completed by virtual teams, including GVTs (Biggs, 2000). More recent 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, and of those 20 to 35% involve collaborations across national borders – and the number of such interactions is increasing (c.f., Duarte and Snyder, 2011; Kurtzberg, 2014). At the same time, there is a sobering evidence that at least half of such GVTs fail to fully meet their strategic objectives due to inability to manage the complexities arising from global virtual collaboration (Zakaria et al., 2004).

Researchers have recognized the complexities, as well as the potential of GVTs. The management literature has begun to accumulate valuable knowledge around this phenomenon. A Google Scholar search for “Global Virtual Teams” returns virtually no hits prior to 1996, but reaches about 800 studies per year by 2012, a figure which is relatively maintained since (Fig. 1). The results are similar when searching for studies focused on “virtual teams”, “transnational teams”, and related terms, suggesting that the scholarly community is genuinely interested in the phenomenon or working across boundaries, beyond popular catch-phrases of terms.

GVTs have been touted as an effective work arrangement for problem solving, global innovation and project management (EIU, 2015). Indeed, they offer a number of advantages, including flexibility with respect to geography and timing. However, they also face unique challenges of communication and coordination. We next review advantages and challenges commonly mentioned in the literature on GVTs, along with suggesting an organizing framework for this knowledge. We then introduce the four articles included in this special issue, showing how they address current gaps in the field, and how they point out to potential avenues for future research. We conclude with our own suggestions for important related questions to be considered in developing this line of research, in particular in relation to recent changes in the context of work that might further change how GVTs are used, how the function, and what might be the best way to manage them.

Existing research insights about GVTs

The extant research provides a detailed review of the phenomenon of GVTs (for detailed reviews, see Axtell et al., 2004; Gibson and Cohen, 2003; Gilson et al., 2015; Martins et al., 2004; Maznevski et al., 2006; O'Leary and Cummings, 2007; Scott and Wildman, 2015). We focus here on a review of the opportunities and challenges associated with GVTs that are commonly described in the literature.

GVT;s opportunities

One category of advantages often cited in the literature stem from the economic benefits of GVTs. For instance, having the ability to bring together best talent regardless of the team members' locations and without them having to leave their home saves cost and time. Moreover, dispersing project members around the globe allows for a 24-h relay workflow where GVT members located in Asia and Australia work on the project during their business hours, pass it on to their colleagues in Europe/Africa for further processing during their business hours, and then on to the colleagues in Americas, who can work on it while their more eastern team members are asleep, and then back on to the team members in Asia in Australia when their new days starts. This can dramatically speed up project completion time, which could be a great competitive advantage.

Further, team diversity can have a positive impact on GVT's ability to solve problems. Although still comparatively small, a growing body of research finds that team diversity improves GVT effectiveness. Indeed, diverse backgrounds of team members can create value by providing a greater diversity of perspectives which, in turn, allows for tapping a wider range of information sources, feeding off more networks, and thus aiding creativity and problem solving (DiStefano and Maznevski, 2000; Ng and Tung, 1998).

According to the information processing theory, a large pool of information and a variety of perspectives aid problem solving, facilitate creativity, innovation, and adaptability (Simon, 1978). Diversity gives rise to minority viewpoints, induces task conflict, which motivates consideration of a larger number of alternatives and solutions (Williams and O'Reilly, 1998). Homogeneity, in contrast, may lead to “groupthink”, conformity, and narrow-mindedness (Janis, 1982). This hampers effective decision-making, creativity, and innovation (Jackson, 1992; Nemiro, 2002; Watson et al., 1993). In other words, GVT members are more likely to experience constructive conflict, which has been shown to improve task performance (Kirchmeyer and Cohen, 1992; Paul et al., 2004a, 2004b).

GVT member diversity also increases the diversity of the resources available to the team (van Knippenberg et al., 2004). Accordingly, the more diverse GVT members have access to more learning opportunities and sources, compared to their traditional team counterparts (Wernerfelt, 1984). Diversity broadens the pool of cognitive resources, knowledge and perspectives to which the team has access, which aids problem solving (Cox et al., 1991).

Similarly, the knowledge-based view (KBV) emphasizes the role of knowledge characteristics (Cannella et al., 2008). Complementary knowledge is considered particularly valuable. Complementarities in knowledge, skills, and abilities are more likely to exist when team members possess knowledge bases that are diverse. The organizational learning theory suggests that environmental diversity facilitates exploratory learning and innovation by increasing the knowledge, skills, and abilities of the team members (Grant, 1996). In contrast, similarity can prevent such learning by protecting the status quo (March, 1991; Schulz, 2001).

Research also shows that diverse teams might recognize the challenges team diversity will present and respond with greater effort as they are preparing to deal with these challenges (Magnusson et al., 2014). Diverse teams prepare for more challenges and work harder to overcome them. In contrast, more homogenous teams may overestimate the ease of working as a team and this complacency may lead them to overlook challenges as they arise (O'Grady and Lane, 1996).

Lastly, in contrast to potential damaging effects arising from diversity discussed later, some studies suggest the beneficial effects of electronic communication. Media lean communication channels (email, online chat) may actually reduce conflict and social

fragmentation in an intercultural context (Stahl et al., 2010). At the other end, sophisticated online tools, videoconferencing and virtual reality systems are readily available to everyone, even in the most remote places, so that online-mediated communication can be relatively similar to face-to-face meetings.

Last but not least, studies show that work in GVTs can create positive experiences, enhance motivation and job satisfaction, often due to challenging tasks and demands for new skills, team members' greater autonomy, and a work environment that facilitates focusing on particular tasks (Nurmi and Hinds, 2016). However, above advantages are most often paired up with a wide range of challenges, which we review next.

GVTs challenges

First and foremost, time-zone dispersion presents the most immediately obvious hurdle. Time-zone differences can conflict with a healthy work-life balance and transferring tacit knowledge is harder over medium-lean online communication channels (Kankanhalli et al., 2006; Montoya-Weiss et al., 2001). As such, virtual work makes coordination much harder (Hinds and Bailey, 2003; Muethel and Hoegl, 2010). Further, in truly global teams, team members are located in different time zones, which makes it hard to bring all team members together for a live teleconference or online chat (c.f., Wildman and Griffith, 2015). While the time-zone dispersion is sometimes cited as an advantage (i.e., the team can virtually work non-stop as tasks are “passed on” from one time zone to the other), communication can also be slowed down as a result of time differences. For example, if two team members are separated by several hours (e.g., one is in the U.S. and the other one is in Japan), when the team member in Japan sends an email in the afternoon hours, the US-based team member is likely asleep and, thus, the email will not be seen until the next day. Even if the US-based team member replies promptly, the reply will likely reach the team member in Japan after the business hours in her time zone so it will not be seen until the morning of the next day in this time zone. This way, even if all team members reply promptly to their incoming messages, it will be at least a full day before one can expect a reply. These purely technical delays may be interpreted as a lack of participation or dedication, leading to tension and conflicts in teams (Kankanhalli et al., 2006; Montoya-Weiss et al., 2001).

Second, members of GVTs often come from countries with different native languages, which obviously presents a communication problem. Fluency in a common language increases communication frequency and knowledge sharing (Barner-Rasmussen and Aarnio, 2011; Welch and Welch, 2008; Zander et al., 2012). However, even when the team members are all conversational in a single working language, their proficiency level is likely to vary. The team members who are less proficient in the working language may be excluded from the conversation or may be attributed lower expertise and their opinion or input may be valued less (Reinares-Lara et al., 2016; Tsalikis et al., 1991). The electronic communication channels that GVTs rely on are inferior to face-to-face communication with respect to the media channel richness. Much, if not most, of the information exchange happens through nonverbal communication, via gestures, intonation, and mimics, all of which are lost if the communication relies on text or audio only channels commonly used by GVT members (DiStefano and Maznevski, 2000; Maznevski and Chudoba, 2000). Rich media, such as videoconferencing platforms, allow for transmitting verbal and non-verbal signs of support or disagreement, but they still cannot fully replace face-to-face contact (Andres, 2002) even though technological advances in virtual reality

seem to come ever closer to personal meetings (Zakrzewski, 2016). However, such state-of-the-art technologies are not yet available everywhere, and limited bandwidths, commonplace both in some developing and developed economies may make their use impractical.

Furthermore, communication not only fosters information exchange. It is a foundation for building relationships and trust (Jarvenpaa and Leidner, 1998). Trust, commitment, power and cohesion are communicated through the non-verbal interaction channels that are typically present only when communicating face-to-face (c.f., Scott and Wildman, 2015; Knapp et al., 2015). Members of collocated teams are much more likely to interact outside the office, such as birthday celebrations or just lunch together, which promotes friendship building. Members of GVTs do not have this luxury and it is not likely that online communication tools will be ever able to replace this sort of direct interpersonal contact.

Moreover, language differences often lead to social categorization and biases, which can severely damage team dynamics (Klitmøller et al., 2015) and may amplify team conflicts (Barner-Rasmussen and Aarnio, 2011; Welch and Welch, 2008). The communication tools used by the team may affect these processes. Surprisingly, reliance on non-verbal communication channels (e.g., email) could actually alleviate this problem. As reported by Klitmøller et al. (2015), there is less social categorization and prejudice due to language proficiency differences when the communication is text-based and involves no audio-video conferencing. Unfortunately, the lack of live communication may resolve some of the social categorization problems, but it comes at the expense of increases chances of misinterpretation (Desanctis and Monge, 1998). In other words, as illustrated by Kankanhalli et al. (2006), virtual communication may reduce interpersonal conflict while increasing task conflict.

By virtue of being international, GVTs tend to be comprised of people of diverse backgrounds. These differences often present a risk of so-called “fault lines” in the team's structure; divides along which the team can split into sub-teams, which in turn can hinder information exchange, reduce team identification and commitment, can lead to power struggle and conflict (O'Leary and Mortensen, 2010; Polzer et al., 2006; Tsalikis et al., 1991).

GVT members tend to differ from one another in many ways, which are not limited to cultural or demographic differences. Some of the greatest challenges may actually arise from institutional differences. Global dispersion usually means that the GVT members represent different organizations, but even if they are working at different regional offices of the same organization, their local institutional and organizational environments may be different. Objectively, different rules, procedures, protocols, goals, performance appraisal systems, and even different personalities of their supervisors may create conflicting incentives and expectations for the different GVT members (e.g., House et al., 2004 discuss the effects of institutional differences in the workplace at length).

Even greater challenges arise from the subjective perceptions of team member diversity. Diverse teams have been shown to struggle more with building inter-member trust, especially swift trust in the early stages of team life (Crisp and Jarvenpaa, 2013), which adversely impacts knowledge sharing (Killingsworth et al., 2016). Team building and training has been shown to improve trust in GVTs, but only to a degree (Crisp and Jarvenpaa, 2013).

Similarity-attraction theory (Abrams and Hogg, 2006; Berscheid and Hatfield, 1969; Byrne, 1971) and social identity theory (Ambos et al., 2016; Tajfel, 1974) shed light on how GVT member diversity can further damage team dynamics. According to the similarity-attraction theory, people prefer to associate with those who are similar to them, both socially and professionally. Observable similarity in terms of nationality, race, or origin creates real or

perceived familiarity. This leads to a sense of comfort, closeness, and efficiency in interaction (Kirkman et al., 2004; Thomas, 1999). Thus, team homogeneity facilitates integration and cohesion, whereas heterogeneity has the opposite effect (Williams and O'Reilly, 1998).

The social identity theory reasoning is similar (Tajfel, 1974). Individuals depend on protection from the group. As such, people identify themselves as members of specific groups and categorize others as members or non-members of those groups based on a range of attributes, including visible and perceived similarities (Bleijenbergh et al., 2010). To show group loyalty, people tend to treat their in-groups with favoritism and, often, out-groups with prejudice. Thus, GVTs often deal with group fragmentation and subgroup rivalry, inhibiting inter-subgroup communication and cooperation.

Research in social psychology, organizational psychology, and communication have shown that the social context creates a powerful set of forces that influence group members' cognitions and behaviors, in particular with respect to preventing deviant behaviors and social loafing (Burnstein and Vinokur, 1973; Hackman, 1987; Maass and Clark, 1984). In traditional collocated teams, social obligation and reciprocity among team members arise from closer acquaintanceship, shared experiences, common interests, and integration in one another's personal networks, including those external to the team (Hackman, 2002). The separation of GVT members in time and geography greatly weakens the social cohesion forces, thereby removing social pressures that minimize social loafing (Falk and Fischbacher, 2006). Socializing – an essential pre-requisite for good collaboration and essential in doing business in high context cultures – risks being neglected, and, as a consequence, trust-building and team-effectiveness can be compromised (Klitmøller et al., 2015). Without the opportunity to interact at the personal level outside the frames of the project, GVT members have a hard time to develop close interpersonal ties and cultivating a sense friendship and mutual social obligation. Often, GVT members are no more than an email address to one another and it is entirely possible that they may not know each other's gender (i.e., unfamiliarity with international names may make it hard to guess a person's gender) or age. The sense of obligation and commitment may just not be as strong when dealing with an email address as when dealing with a friend.

To a large extent, these benefits and challenges of GVTs align with gains and losses associated with cultural diversity in multicultural groups (Stahl et al., 2010). On the one hand, knowledge creation based on diversity of perspectives is paramount for global problem solving and innovation, but on the other hand, harnessing the benefits of such perspectives and divergent backgrounds requires proper management and particular strategies. Understanding why, when, and how GVTs are effective means to achieve their intended outcomes and benefits remains a work-in-progress endeavor.

Towards a structuring framework for understanding GVT complexities

Inspired by insights from the information and communication science, the tripartite of time, space, and society (Castells, 2011), and the link between place and space (Dourish, 2006), we suggest three key dimensions in defining an organizing framework for understanding and further exploring the factors that influence the success of GVTs: Location, Distance and Time (Fig. 2). Grasping the complexities arising from the impact of these dimensions and their interactions creates the setting that highlights why communication, boundary-spanning and social networking across teams, subgroups and team-members are essential underpinnings of GVT performance.

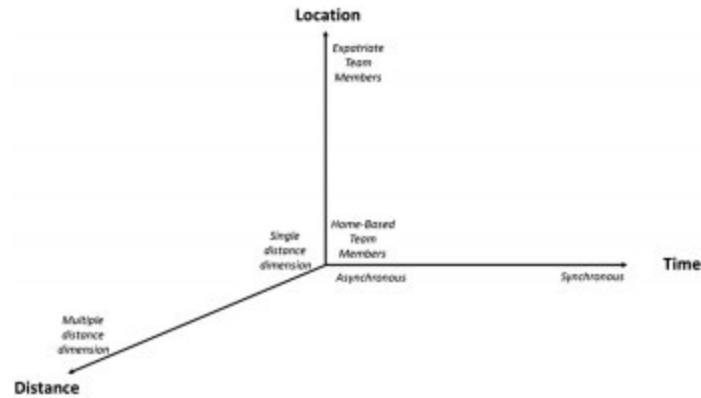


Fig. 2. Complexity dimensions of GVTs.

Location, the first dimension, represents the place or local context in which GVTs members are embedded, in terms of their social networks, norms and cultural values of their local communities, their organizational memberships and administrative frameworks with their respective rules and behavioral incentives. Since different GVT members are embedded in different locations, it is not surprising that most GVT members tend to have only a limited understanding or insights in their teammates' respective locational contexts. In contrast, if a team was located in the same country or city, the locational context would be the same and therefore straightforward to realize. What makes GVTs management even more complex is that locations can change over the process of GVTs' work, i.e., team members can (and often do) move out of their “home” contexts, relocate abroad and join host locations molded by their respective social networks and institutions (Gilson et al., 2015). Hence, the location-bound pressures and incentives weighing upon each member become even less transparent, particularly to the extent that distance between team members increases.

Distance, the second dimension, is akin to space and multidimensional as it extends beyond geographic distance to institutional, economic, technological, educational or demographic distances (Berry et al., 2010). Notably, different types of spatial distances are not equivalent. A high distance in one dimension may coexist with a low distance in another dimension, since some remote geographic locations may be close in language or culture (e.g., Australia and UK), while other close-by locations may be rather different in many respects (e.g., Mexico and the United States). In a similar vein, economic distance may be significant while technological distance might be drastically reduced as even developing countries are adopting latest technologies, sometimes at increased pace compared to developed countries. Managing a GVT seems to become increasingly complex when several overlaying dimensions of distance create disparities within the same team. While different kinds of distances pose known challenges to dyads of team members, overall team diversity tends to amplify such challenges.

Time, the third dimension, has been related to distance and also location in the past, in as much as connecting distant locations or overcoming their differences required a considerable amount of time. Beyond that, time is generally shaped by the cultural and technological characteristics of a particular location (Hall, 1984). Communication technologies and virtual realities (Colbert et al., 2016), however, have disrupted such relations, i.e., overcoming distance has increasingly become independent of time and the locational factors shaping time tend to overlap with the non-location bound imperatives of GVTs. In its very essence, GVTs organize in a synchronous manner (e.g., using video-conferencing or virtual reality enhanced technologies,

among others) or in an asynchronous one, i.e., by sequenced communication (e.g., using e-mails, social media, among others). Holding meetings simultaneously by telephone or video-conferencing is demanding for obvious reasons, not alone due to time zone difference, but also because language and behavioral differences become more exposed and more troubling when communication among participants with different educational backgrounds becomes less rich in the absence of personal, face-to-face, meetings. While asynchronous (such as e-mail) communication allows for more care and preparation, it is nonetheless subject to its own idiosyncratic challenges.

Needless to say, the interplay of Location, Distance and Time exacerbate above-mentioned challenges within GVTs. In other words, conflicting pressures and incentives enhanced by multiple locations in which GVT members are embedded, the intersections of distinct distances and adding the drawbacks of asynchronous and synchronous communication are the ingredients that make GVT both thought-provoking and managerially demanding. However, such challenges are not necessarily negative; on the contrary, they may encourage team members to learn new skills (Nurmi and Hinds, 2016).

Why continued research on GVTs is needed

GVTs are inherently relevant for organizational and work design and managerial practice, and likely to become even more important as the future of work is predicted to be one of connection across boundaries (Bhalla et al., 2017). The international dimension and the reliance on virtual communication has fundamentally changed how team members gather, share, exchange information, make decisions, and monitor progress. Thus, studying GVTs fulfills important prerequisites of understanding the future of work, and as such, is a potential source of path-breaking research (Tushman and O'Reilly, 2007). The more GVTs become part of individuals' and corporations' global strategies alike, practitioners need to develop tools and managerial systems that exploit GVTs' advantages while mitigating its downsides. While how to achieve this is still fraught with major uncertainties, academic research – e.g., the studies published in this Special Issue – can make important practical contributions. Theories at different ends of the disciplinary and epistemological spectrums – e.g., from transaction costs economics to organizational sensemaking – may become challenged or beg extensions once we factor in the new social, economic, and technological realities in which GVTs operate. GVTs, and in general, the inter-institutional online collaboration, are already remodeling management, and management education. For instance, experiential learning projects involving international student collaboration projects are becoming increasingly popular, if not a requirement in today's management education (Taras et al., 2013).

As highlighted in the Call for Papers for this Special Issue, we aimed at creating a forum for cutting-edge research that examines factors affecting and predicting GVT performance. In particular, this Special Issue seeks to inform managerial practice as well as theoretical knowledge on how practitioners can avoid common pitfalls of GVTs and how they can improve GVT performance. The four articles published in this issue converge in suggesting that adopting effective communication strategies, be it through conventional e-mail exchange, by implementing boundary-spanning communication-brokerage, or by social networking, are essential in bridging the divides among team members, units and subunits within and across globally-acting organizations. Although far from exhaustive, they zoom into common traps in GVTs and inform how to overcome them, while also suggesting further areas of investigation.

Overview of the special issue

This special issue seeks to present theory developments and new empirical evidence on some of the aforementioned opportunities, challenges, and complexities surrounding GVTs. We received 26 submissions in response to our call for papers, plus an additional dozen of informal inquiries from researchers who were discouraged to submit their work because their papers did not fit the aims of the Special Issue. After extensive work assisted by extremely helpful reviewers on assessing the fit and further developing the submitted papers, we selected four articles addressing a number of issues related to GVTs that have been overlooked in the past. The introductions of these papers follow.

In the first article, titled “Emergent Patterns of Switching Behaviors and Intercultural Communication Styles of Global Virtual Teams During Distributed Decision Making”, Zakaria (forthcoming) addresses the topic of intercultural communication styles in GVTs. Drawing on Hall's (1976) high versus low context framework and conducting a content analysis of archival online messages between civil society participants at the United Nation World Summit on Information Society (WSIS), Zakaria finds evidence that cultural orientation affects the distributed decision making process of GVTs throughout three distinct stages, namely problem identification, proposal making and solutions. Notably, she also finds evidence of a context-based “switching” behavioral pattern, showing that some individuals change their communication styles when working with people from other cultures. While the exploratory nature of the study and the limited scope of the analyses (restricted to one particular setting such as the WSIS conference) call for further research efforts in this direction, the study is useful in two ways. First, its findings extend our understanding of the complex relationship between culture and communication in GVTs. Second, and perhaps most important, the study opens up interesting research opportunities, not only via empirically validating its preliminary findings through more sophisticated statistical methods, but also by conducting finer-grained analyses of how various purposes, roles, tasks, situations and relationships can influence team members to adjust their communication styles in ways that assist the manifestation of GVTs benefits, and mitigate their challenges.

In “Influence of Social Identity on Negative Perceptions in Global Virtual Teams” Vahtera et al. (forthcoming) expand the scope of research on GVTs by looking at the relationship between GVT members and out-group members in their organizational network. That is, their analysis is not limited to the team itself, but explores how GVT members see their place in the larger organizational structure. The authors analyze the conditions under which social capital can induce negative attitudes in GVTs. The study demonstrates that the structural configuration of social capital can cause individuals to adopt increasingly negative attitudes towards out-group members. An interesting aspect of the study is the consideration of network analysis. Network density contributes to the aforementioned outcome: the denser the in-team network, the more negative perceptions the team members have towards out-group member. Furthermore, brokers and central actors within identity groups also had negative attitudes towards out-group. That is, those team members who are doing most of the coordination and play the key role within the team tend to be even more negative towards the out-group members. The study shows how these negative perceptions in Global Virtual Teams resulted in poor performance evaluations from other network participants. At the same time, social capital significantly improved perceived performance. The study shows that when team members see themselves as a closely-knit group

independent from the larger organizational environment, they tend to overestimate their performance, which can have an adverse effect on the team's actual performance.

Mattarelli et al. (forthcoming) explore “The Role of Brokers and Social Identities in the Development of Capabilities in Global Virtual Teams”. They define brokers as team members who link different team members together, and reveal how these brokers contribute to developing GVTs routines and building GVT capabilities. Similar to the previous article, this study essentially explores a possible “dark side” of two generally positive phenomena: team brokerage and team identification. The study shows that while brokers and team identification are important for team success, if not managed properly, they can actually do more harm than good. More specifically, while brokers help in the creation of mutual knowledge, they reduce the accuracy of perceptions about distant coworkers. Mutual knowledge, combined with limited accuracy of perceptions, diminishes the need to adapt team routines over time. The negative effect of brokers on the creation of team capabilities is reduced when individual professional identities trigger the search for more accurate perceptions of distant colleagues and clients with the objective of adapting team routines and performing more stimulating work. On top of this, organizational identity further enables the process of adaptation of team routines. To put it in plain language, instead of facilitating knowledge sharing, brokers may become bottlenecks that hamper knowledge sharing. The information between sub-teams may flow slower or may get distorted by brokers. Thus, brokers may facilitate short-term effectiveness, but they may also hamper the long-term functioning of the team. Lastly, team brokers may make it harder for all GVT members to get to know each other. That study concludes that while brokers could be useful and even indispensable, if everyone communicates via a broker, people have little knowledge, and often a negative perception, about the other team members.

The fourth article, “Building Bridges in Global Virtual Teams: The Role of Multicultural Brokers in Overcoming the Negative Effects of Identity Threats on Knowledge Sharing Across Subgroups”, is also focused on brokers. However, this time Eisenberg and Mattarelli (forthcoming) look at how brokers connect sub-teams in a GVT. This is a conceptual paper proposing a positive role of brokers. Unlike the empirical work presented in the previous article, the authors make here a theoretical argument suggesting that brokers integrate the team, which positively influences the relationship between identity threats and knowledge sharing. The model proposes that identity threats across subgroups of Global Virtual Teams have a negative impact on knowledge sharing quality and quantity. The model contends that the presence of multicultural brokers help alleviates the negative effects of identity threats over knowledge sharing through a curvilinear moderating effect. It further proposes that the role (leader versus member), type of appointment (formal versus emergent), situated coworker familiarity with different subgroup members, and level of cultural intelligence of the multicultural broker play unique moderating roles on the relationship between identity threats and knowledge sharing quality and quantity.

Key insights and future avenues for research

The papers included in this Special Issue offer new understanding and empirical evidence on the challenges faced by GVTs and possible solutions to these challenges. Namely, they look beyond the obvious challenges and opportunities presented by GVTs and explore dynamic relationships and more subtle relationships among the team members, sub-teams, and the team within a larger organizational structure. Furthermore, they explore both the positive and the

negative effects of some of the aspects of GVT dynamics, such as the role of team brokers, sub-teams, and team member identities. Most importantly, these studies also suggest new perspectives and insights, pointing out to both ways in which we could further expand research on GVTs, and issues that need further investigation.

One important area of further investigation is the place of GVTs in the larger company context. The existing research on GVTs has primarily focused on interactions within the team, while interactions between different GVTs or between GVTs and their larger organizations have been largely ignored. One of the articles in this special issue begins to address this gap by analyzing how ingroup/out-group biases form within GVTs. However, much more can and needs to be done in this regard, in particular considering even the broader context of organizations. So far, the research on GVTs has been largely conducted under the assumption of increased globalization and interconnectedness. Yet, recent political and social developments suggest a potential turn towards nationalism and isolationist policies. How will GVTs be affected by these new trends in the international context, where divides are re-affirmed and enhanced – at least in political discourse, if not also in the way managers, and workers, might begin to think? There are multiple issues that might arise from these developments, and understanding the particular dynamics of in-group/out-group perceptions might be essential to capitalizing on GVTs' benefits in the future.

Another important area of future research, not directly addressed in this special issue, but hinted at by findings that reaffirm the importance of communication in GVTs is the role of new, more advanced online collaboration tools. So far, the research has been primarily revolving around (1) time-zones, (2) cultural differences, and (3) media-lean communication channels. The latter applies to the 90s and 00s, when the focus was on the use of email and Skype in GVTs, and in business in general. Today, we have much more advanced tools for team collaboration, such as Slack, Trello, Dropbox, Google Docs, Basedcamp, and it is most likely that new, even more advanced forms of virtual communication and collaboration will emerge. So far, there is not extensive research on how these developments might change online working, and in particular, how they might redefine the opportunities and challenges offered by GVTs. Besides, firms will likely have to manage heterogeneous GVTs including workers with a very different grasp of these new technologies (such as the Millennials or the Generation Z cohorts) but also with quite distinct motivational factors and career orientation than traditional workers (Pereira et al., in press).

Related to the above developments, there is also need for more research on the role of work and collaboration platforms that might extend beyond the current understanding of GVTs. Some might even claim that the “traditional” GVTs are now sort of outdated: much of the work is done now via platforms where people come together to complete specific projects more as free-lancers, rather than members of a traditional teams. The short-term versus long-term nature of the GVTs needs more attention as we see increased interactions in these vaguely-defined temporary crowds of collaborators, which are clearly different from that of the traditional GVT teams.

Last but not least, the theme of “brokerage” in teams, while already studied and clearly a key topic in this special issue, needs further exploration. Research on multicultural individuals (i.e., individuals that identify with more than one culture), on cultural archetypes (i.e., holistic pattern of multiple cultural dimensions) and on cultural and emotional intelligence has already pointed out to some important insights on how multicultural identification can facilitate work in multicultural teams (e.g., Fitzsimmons et al., 2011; Gunkel et al., 2014; Richter et al., 2016; Yagi

and Kleinberg, 2011). The next step is to integrate such insights with the research specific to GVTs, as members' identity dynamics are directly connected to, and influenced by, the context and dynamics of the GVTs, along with the broader phenomena in which these teams operate (i.e., organizational and societal contexts). Especially given the findings that brokers can both help and hinder the functioning of GVTs, it is essential to better understand when, and which types of brokers, are indeed helpful in facilitating the strategic benefits of GVTs.

We hope the readers will find new insights and inspiration in the collection of articles included in this Special Issue. GVTs are rapidly becoming more ubiquitous in the workplace and evolving from a mere collection of individuals working on a shared project from different geographic locations and communicating via email and Skype to more sophisticated forms of collaboration and work design. The research on GVTs conducted in the 1990s and 2000s served us well in explaining the basics of global virtual collaboration. However, it has not always been able to keep up with the latest developments in online collaboration technologies and the more prominent role GVTs are now playing in organizations. This Special Issue offers a few sample studies that advanced our understanding of the GVT phenomenon by digging deeper (e.g., sub-teams, team member identities) and looking at a larger picture (e.g., the place of GVTs in larger organizational structures), and by exploring the positive and the negative effects of the same factors (e.g., team brokers). These papers certainly do not answer the many remaining questions, but provide examples of promising venues for future research.

Acknowledgements

We are grateful to the many reviewers who tremendously helped improve the papers in this Special Issue, and to Editor in Chief Masaaki Kotabe and Sandra Sokols for their guidance and help during the process.

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