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The centrality of communication norm alignment, role clarity, and trust in global project teams



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Abstract

Research has confirmed the criticality of communication norms, role clarity and trust to the workings of global virtual teams. However, the relationship among these three variables remains unclear. In this study, based on findings from a survey of 218 global project workers representing 33 distinct project teams, we demonstrate the significance of role clarity and trust to individuals' project satisfaction and role clarity to individuals' project performance. We further uncover how global project team (GPT) members' satisfaction and/or performance are affected by where the GPT members are located and whether GPT members are co-located with their project manager. These findings are complemented by 18 in-person interviews with GPT members, which show how one must simultaneously establish and maintain role clarity for oneself while consistently negotiating role clarity with others also participating on global project teams. We conclude this study by outlining an emerging model for creating and sustaining GPTs that benefits both researchers and practitioners.

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1. Introduction

Globalization has increased multinational organizations' reliance on global virtual teams (GVTs) to facilitate collaboration across dispersed employees and stakeholders (Zander et al., 2012). GVTs typically consist of interdependent groups of individuals who reside in different time zones and countries and who rely primarily on communication technology or media to accomplish a common goal (Horwitz et al., 2006; O'Leary and Cummings, 2007). Wherever they are located, GVTs allow specialists to work together, often reducing travel-related expense, time and stress (Orlikowski, 2002). However, these benefits can prove elusive to the communication interactions

of GVTs when compared to co-located work groups (Lipnack and Stamps, 2000; Olson and Olson, 2000). Differences in geographical dispersion, available technology, time zones, national and organizational cultures, and work practices present problems for global virtual team members in establishing and maintaining norms of communication that transcend their differences and facilitate collaborative work efforts (Moser and Axtell, 2013). If they are to exist, communication norms among GVT members must be aligned in order to offset their reliance on communication technologies to facilitate their interactions and information exchange in cue-deprived environments (Cramton, 2001; Crisp and Jarvenpaa, 2013; Krumm et al., 2013). No research to date explicitly examines the alignment of communication norms among GVT members.

Many GVTs also represent temporary organizations in which members work on time-limited projects with specific scope objectives and transitional human resources. As Jacobsson et al.

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(2015) explained, “Most temporary, focused, and organized endeavors can be regarded as a project and studied as a temporary organization” (p. 9). Recent research on temporary organizational configurations by Curmin et al. (2015) found that role clarity acts as a critical enabler in forming temporary organizations, such as global virtual projects, and maintaining their collaborative work practices. Role clarity refers to the extent to which individuals clearly understand the duties, tasks, objectives and expectations of their work roles (Hinkin and Schriesheim, 2008; Katz and Kahn, 1978). Organizational research has demonstrated that role clarity positively impacts both performance (Bolino and Turnley, 2005; Podsakoff et al., 2000; Salamon and Deutsch, 2006) and satisfaction (Martins et al., 2004; Moynihan and Pandey, 2007). The requirement appears high for GVT members to understand their roles and effectively communicate their expectations and requirements (Wong et al., 2007). Yet little is known about how GVT members’ role clarity interrelates with their communication norms especially in influencing important outcomes. What we do know is that through their communication behaviors and use of media, GVT members can create trust or swift trust that is necessary for clarifying their roles (Curmin et al., 2015; Gilson et al., 2015; Malhotra et al., 2007). Indeed research has shown that trust is an important predictor of employees’ overall adjustment to virtual work (Raghuram et al., 2001).

In the current study we examine the following research question: How do role clarity and trust function with the alignment of communication norms to influence global project team members’ satisfaction and performance? We focus on global *project* team members since these types of teams “derive their distinctiveness from working horizontally across flat structures with different functional areas of expertise within matrix [configurations] at local and remote sites of organizations”. As Daim et al. (2012) observed, “Globally disbursed project teams are now the new norm in every industry” (p. 201). To address our research question, we surveyed 218 GPT members representing 33 distinct virtual teams of a Northern European multi-national company (MNC). We also conducted 18 in-person interviews with GPT members at four global locations within this same company. The results from our mixed methods analyses reveal several relevant findings for both theory development and professional practice in global project management. Extending from these results, we envision the alignment of project communication norms, project role clarity and trust within an emerging contextual model for creating and sustaining GPTs. The emerging model supports the projects-as-practice framework, which advocates for the development of theory and practice emanating from studies of what employees actually do in projects (Blomquist et al., 2010).

2. Literature review

Communication norms represent a critical, but under-researched construct in the virtual work literature (Moser and Axtell, 2013). Norms for communication in virtual teams typically include expectations or agreed upon codes of conduct for behaviors such as initiating and responding to messages, sharing different types of information over different media, and

prioritizing message importance for remote versus collocated partners (Cramton and Orvis, 2003). In the complex and dynamic environment of virtual work, especially in regard to global teams, difficulty can arise in getting communication norms to ‘gel’ unless a conscious effort is made to define them (DeSanctis and Monge, 1998). Norms also require time to emerge (Krumm et al., 2013). For example, in a longitudinal study of a distributed start-up company, Ghosh et al. (2004) found that communication norms emerged “slowly over time as people subtly and often tacitly adjusted and adapted their individual practices, preferences, and expectations to be more aligned with those of other team members or the group as a whole” (p. 125). Indeed this emergent nature of communication norms toward alignment on virtual teams stems in part from team members’ dispersion, cultural diversity and differing expectations for communication and media (Bosch-Sijtsema, 2007). Research by Cheshin et al. (2013) examined the emergent nature of differing electronic communication norms within partially distributed teams in a simulated setting. Remote participants had one media (email) and those collocated had two (email and face-to-face). Their results showed that partially distributed teams developed distinctive communication norms between collocated and remote team members, i.e., from being in a dual media environment, collocated members exerted more cognitive energy and elaboration in their communications with remotes.

Research has also shown that adherence to group norms may be less likely on culturally diverse teams (Krumm et al., 2013). Certain ways of communicating as well as the medium – whether it is by telephone, email or web-based video conferencing – can be acceptable in one cultural context, but unacceptable in another (Armstrong and Cole, 1995; Hertel et al., 2006). In a recent study of norms in cross-cultural teams, Krumm et al. (2013) found that virtual “team members need to embody KSAs [knowledge, skills and abilities] related to working *conscientiously* in order to counteract the challenges of cue deprivation” (p. 40). Technological media can amplify the cultural diversity of virtual team members making mutual understanding difficult in the heterogeneous context of global teams (Cramton, 2001) and, thus, restricting ongoing information about acceptable and unacceptable communication norms (Vignovic and Thompson, 2010). As a consequence, global communication can be challenging as virtual team members may act according to norms activated by other more immediate (i.e., local) contexts. One result is that members may perceive their colleagues working remotely as outgroup members (Tyler and Blader, 2003; Webster and Wong, 2008), a condition not uncommon in multi-national organizations who typically operate with both headquarters and remote virtual members. Hinds and Bailey (2003) argue that due to the aforementioned dynamics, conflicts about work processes such as communication are common in global, virtual teamwork. The result can be a negative effect on team member outcomes such as satisfaction and performance (Bosch-Sijtsema, 2007). For example, in their study of global project teams in the banking industry, Lee-Kelley and Sankey (2008) found that members reported dissatisfaction when email and conference call communication norms were insufficient.

Communication norms in virtual team environments enable a shared understanding among members that can “often prevent problematic surprises” (Ghosh et al., 2004, p. 126); however, GPT members face a variety of challenges developing, aligning and sustaining norms that will guide their communication throughout their global project system. “Fragile” is an appropriate descriptor for the GPT communication process. There is a premium – that creates additional demands on GPT members’ time – in developing information (relational or non-relational), sharing information (given the inherent weaknesses in various communication media), receiving feedback, and then interpreting meanings through sufficient iterations. Past research has demonstrated that group norms in general on projects can minimize coordination problems and positively impact task performance (Janicik and Bartel, 2003), and communication agreements in particular among distributed team members have been shown to minimize misunderstandings that delay project deliveries (Verburg et al., 2013). What remains unknown is how GPT members’ perceptions of the alignment among their communication norms impact their project satisfaction and project performance. Given the paucity of research on communication norm alignment for GPTs, we propose the following two hypotheses:

Hypothesis 1a. Alignment of communication norms among GPT members will positively impact their project satisfaction.

Hypothesis 1b. Alignment of communication norms among GPT members will positively impact their project performance.

Communication norms and expectations also appear to function closely with dynamic project roles (Mortensen and Hinds, 2001). For example, Lee-Kelley and Sankey (2008) found that unclear roles and responsibilities of GPT members act as barriers to effective communication within teams. When viewing GPTs as temporary organizations, role clarity acts as a critical enabler in forming and sustaining collaborative work practices (Curnin et al., 2015). The important requirement for temporary organizations is to “‘get things done’ influenced by the ability to develop shared understanding of (evolving) situations and the respective roles of the different stakeholders involved” (Meyerson et al., 1996, p. 30). Role clarity focuses on limiting the confusion in one’s job by knowing what one is expected to do and is generally viewed as the antithesis of role ambiguity (Jackson and Schuler, 1985). Moreover, role clarity can be easily compromised if tasks are abstract and complex and employees work on several teams and/or report to several managers, which is an all too common reality for cross-functional members of GPTs (Wong et al., 2007). In modern complex organizations like multi-national companies, GPT members are constantly exposed to a variety of expectations from others (not just themselves) regarding how they carry out their organizational roles (Daim et al., 2012). While multiple roles facilitate more flexible and time-efficient employees, studies in matrix organizations, which are particularly salient to project management, have shown that multiple roles and lateral channels of communication can also create conflicts and role ambiguity (Ford, 1992; Hrebiniak and

Joyce, 1985; Rizzo et al., 1970). The clarity or ambiguity of GPT members’ roles can also include an individual’s subjective feeling of having or not having as much role information as that person would like to have. Inevitably, creating this clarity is not accomplished in isolation (at the individual level) but must be negotiated through communication across individuals (at the project team level). Thus, we further hypothesize that.

Hypothesis 1c. Alignment of communication norms among GPT members will positively impact their role clarity.

Communication norms may also form the basis for trust in GPTs (Moser and Axtell, 2013). Crisp and Jarvenpaa (2013) found that early trusting beliefs among global virtual team members emerged from their normative actions, such as communication norms. These early trusting beliefs were also critical to their endurance over time (Crisp and Jarvenpaa, 2013). Similarly, Walther and Bunz (2005) found that having explicit rules for collaboration could enhance trust in virtual groups. In the results of their classic study, Jarvenpaa and Leidner (1999) demonstrated that social, predictable and timely communication behaviors facilitated and maintained swift trust in global virtual teams. Meyerson et al. (1996) defined swift trust as a practice that involves the collective perception and ability of individuals to relate matters to issues of vulnerability, uncertainty, risk and expectations in short-lived temporary organizations. Because swift trust can be short-lived, transient and fleeting, it needs reinforcement and calibration through communication norms. Indeed “communication forms the basis for expressing and inferring trusting behaviors” in global virtual team contexts (Sarker et al., 2011, p. 284). Yet the essential relationship between communication norms, in particular GPT members’ perceptions of their alignment, and trust has not received research attention. Thus we advance the following hypothesis:

Hypothesis 1d. Alignment of communication norms among GPT members will positively impact their interpersonal trust.

Our final set of hypotheses focuses on how GPT members’ role clarity and interpersonal trust influence the relationship between the alignment of their communication norms and their project satisfaction and performance. Research by Webster and Wong (2008) showed that when roles are clear, virtual teams may develop swift trust, supporting earlier research by Meyerson et al. (1996). Subsequently, Daim et al. (2012) suggested that trust on global virtual teams is maintained by “clearly defined roles and consistent role behavior” (p. 210). In other words, since GPT members “may not have the luxury of building relationships over time” (Curnin et al., 2015, p. 31), developing role clarity can substitute as a way to experience trust in the form of reduced uncertainty. In addition, both job satisfaction and performance appear to be mediated by role clarity. For example, Ritter et al. (2014) established that perceptions of role clarity mediated the relationship between psychological empowerment and job satisfaction. In a paper that focused on newcomers, role clarity mediated the relationship between organizational socialization

tactics and self-rated task performance (Lapointe et al., 2014). Returning to communication norms and its interrelationship with trust (e.g., Jarvenpaa and Leidner, 1999), research by Sarker et al. (2011) indicated that a “mediating model best explains how communication and trust work together to influence performance” (p. 274) on global virtual teams. Taken as a whole, this body of research leads us to hypothesize the following:

Hypothesis 2a. The impact of communication norm alignment on GPT members’ project satisfaction is mediated by role clarity and trust.

Hypothesis 2b. The impact of communication norm alignment on GPT members’ project performance is mediated by role clarity and trust.

Themes discussed by Gilson et al. (2015) in a review of the past 10 years of research on virtual teams are reflected in our research, notably, team virtuality, geographic dispersion, globalization, research design (i.e., research conducted in actual field settings of real-world teams), and technology usage. These themes give rise to additional questions related to GPT member demographics. While we do not provide specific hypotheses, we do test for the potential effect of GPT member location (i.e., located at headquarters or remote), co-located (or not) with the project manager, and specific media usage among GPT members.

3. Methods

We selected a mixed methods approach to conduct our study. A mixed methods model is ideal when one is seeking complementarity between quantitative and qualitative data to more fully explain the results (Sale et al., 2002; Yauch and Steudel, 2003; Vergne, 2012). We tested our hypotheses with a survey of 218 global project team members of a MNC. Themes developed from 18 in-person interviews of GPT members were instrumental to interpreting these quantitative results and were also used to outline an emerging model for creating and sustaining GPTs in relation to the extant literature.

The target organization for our study is the research and development project group of a Northern European engineering and manufacturing MNC. Prior to data collection, the MNC had implemented a global change effort – with the help of a consultancy organization – to establish worldwide cross-culturally managed product development via project teams that operate 24-hours a day across multiple time zones. The overall goal was to transition from the MNC’s core competencies centered at its headquarters in Northern Europe to a global business where competencies are established in hubs around the globe. At the time of data collection, the research and development project group, the subject of our investigation, was led by a global project director whose responsibility was to develop and implement global projects to generate increased profits. The MNC historically had focused their products in domestic markets and Western Europe; however, it was now seeing potential growth for markets in the

United States and in the BRIC (Brazil, Russia, India and China) countries. This MNC, in partnership with the consultancy group, desired to increase cross-cultural capacity among project team members in order to improve their communication across stakeholders through various technological media.

As part of the consultancy partnership with the target MNC, a survey was developed to better understand the qualities and dynamics of the current GPT members’ work and communication on their virtual project teams. Of the 301 GPT members (representing 33 distinct project teams) participating in the survey, 218 returned completed responses. Respondents represent the following geographic areas: 59% Northern Europe; 13% Asia; 11% Central Europe; 9% North America; and 8% a mix of other nationalities.

We grouped the survey items into six sections: 1) demographics, 2) frequency of communication with particular technological media and the amounts of task versus non-task related communication, 3) communication norm alignment, 4) role clarity, 5) interpersonal trust, 6) virtual project team members’ satisfaction with their project work, and 7) GPT members’ self-reported rating of their job performance.

For the *communication frequency* items, respondents indicated on average how often they used a give communication media: face-to-face, telephone, email, and SameTime.¹ To measure *communication norm alignment*, we developed five items on a 7-point scale ranging from (1) strongly disagree to (7) strongly agree, which were adapted from the literature review of communication and norms. For the *role clarity* measure, we drew from the foundational work of Rizzo et al. (1970) to create six items using a 7-point scale ranging from (1) strongly disagree to (7) strongly agree. The four-item *interpersonal trust* scale, developed by Raghuram et al. (2001), applied a 7-point scale of (1) strongly disagree to (7) strongly agree. For measuring GPT members’ *satisfaction*, four items were adapted from West et al. (1987). Finally, there were three items adapted from Earley et al. (1987) to measure *performance* on a 7-point scale ranging from (1) strongly disagree to (7) strongly agree. Relevant survey questions are provided in Table 1.

Since our constructs were measured by the same method we applied exploratory factor analysis with principle component extraction and varimax rotation to assess the psychometric properties of the measures and to protect against the threat of common method variance (Conway and Lance, 2010; Podsakoff et al., 2003) before conducting regression analyses. The result was a five factor model – with eigenvalues greater than one – delineating project role clarity, project communication norm alignment, interpersonal trust, individual project satisfaction and individual project performance. All factor loadings, except for one, were above 0.70. One irregularity was uncovered where a lone satisfaction item loaded with the three performance items, and it was included as a project performance item. Cronbach’s

¹ A product of IBM, SameTime is a client–server application and middleware platform that provides real-time, unified communications and collaboration (Wikipedia, 2015). Functionality includes rich presence including location awareness, rich media chat, group and multi-way chat, and web conferencing.

Table 1
Survey questions.

Communication: *How often do you communicate with other virtual team members through the following media?* Face-to-face, web, Telephone, SameTime, email ([1] never, [2] once a month, [3] once a week, [4] several times a week, [5] once a day, [6] several times daily, [7] almost continuously)

Project role clarity: *Think about your job in relation to your current primary global virtual team.* (Strongly disagree to strongly agree). $\alpha = .905$.

- I feel certain about how much authority I have.
- There are clear, planned goals and objectives for my job.
- I know that I have divided my time properly.
- I know what my responsibilities are.
- I know exactly what is expected of me.
- Explanation is clear of what has to be done.

Project communication norm alignment: *Think about your job in relation to your current primary global virtual team.* (Strongly disagree to strongly agree). $\alpha = .871$.

- My norms of using different media for work purposes are entirely aligned with the other team members.
- My norms of when to communicate are entirely aligned with the other team members.
- My norms of providing feedback are entirely aligned with the other team members.
- My norms of including non-work content in virtual communication are entirely aligned with the other team members.
- My norms of when to respond to a virtual request are entirely aligned with the other team members.

Trust: *Think about "trust" in your current primary global virtual team.* (Strongly disagree to strongly agree). $\alpha = .870$.

- I trust my virtual team leader.
- My virtual team leader trusts me.
- I trust my virtual team colleagues.
- My virtual team colleagues trust me.

Project satisfaction: *Think about your job satisfaction in relation to your current primary global virtual team.* (Strongly disagree to strongly agree). $\alpha = .751$.

- I am satisfied with my job.
- I am enjoying working with my co-workers.
- My efforts are appreciated.
- I am satisfied with my performance.

Project performance: *Think about your performance in relation to your current primary global virtual team.* (Very poor to very good). $\alpha = .839$.

- How would you rate your overall job performance?
- How would you rate your ability to get required assignments completed on time?
- How would you rate the quality of your performance?

Alphas for all five resulting factors were above 0.75 and are reported in Table 1.

An important piece to our research included 18 in-person interviews with members of the global project teams in R&D. The convenience sample of 18 team members for these interviews represents Asia, Central Europe, Northern Europe, and North America. Four interviewees are female, and 14 are male. All interviews took place in English and were recorded and transcribed. The interview structure contained five open-ended questions, and interviewees were encouraged to offer any information that they wished concerning their experiences on global virtual project teams. The five questions that formed the core structure for the interviews are: (1) What is important for virtual team work?; (2) What are your experiences with the time differences?; (3) In what ways do you communicate?; (4) From your experience, what kind of challenges do you have when working virtually?; and (5) How much contact do you actually have with your teammates on virtual project teams?

We applied open-ended questioning to establish a comfortable rapport and environment for the interviewees, and overall we found interviewees open and forthcoming overall regarding unexpected insights about their virtual project team experience.

4. Analyses and results

We provide demographic variables and communication media usage frequencies, descriptive statistics, and bivariate correlation coefficients in Tables 2 and 3.

Hypotheses 1a through 1d were supported via linear regression analysis (see Table 4). Communication norm alignment significantly predicted role clarity ($B = 0.593$; $p < .001$) and interpersonal trust ($B = 0.286$; $p < .001$). Also significant were communication norm alignment on both individual project satisfaction ($B = 0.280$, $p < .001$) and individual project performance ($B = 0.169$; $p < .001$).

To formally test our mediation model (Hypotheses 2a and 2b) we used the Preacher and Hayes (2004) bootstrapping approach, employing Hayes' (2013) PROCESS macro for SPSS for both dependent variables: individual project satisfaction and individual project performance. Fig. 1 depicts the hypothesized mediation model – both direct and indirect effects – with communication norm alignment (independent variable), role clarity and trust (mediating variables), and individual project satisfaction or individual project performance (dependent variables).

We first discuss the individual project satisfaction results (Hypothesis 2a), which are shown in Table 5. The mediation model is significant ($F = 11.04$; $p < .001$; R -squared = .393). Overall, there was a total effect of communication norm alignment on satisfaction ($p < .001$; Bootstrap CI = .135–0.281). There was not, however, a direct effect of communication norm alignment on satisfaction ($p = .153$; CI = $-.020$ –.129). Instead, the direct effect of communication norm alignment was fully mediated by role clarity and interpersonal trust based on the 95% confidence intervals of the three indirect effects not containing zero (see Fig. 2). Thus individual project satisfaction increased when role clarity and interpersonal trust increased. Moreover, there were two significant control variable results. The usage of SameTime also increased individual project satisfaction while working at headquarters decreased a project members' satisfaction.

The mediation model for individual project performance (Hypothesis 2b) was also significant ($F = 5.0071$; $p < .001$; R -squared = .227) (see Table 5). Similar to the satisfaction results there was a significant total effect of communication norm alignment on performance ($p < .001$; CI = .080–.259) but not a significant direct effect of communication norm alignment on performance ($p = .269$; CI = $-.044$ –.156). Of the three possible indirect relationships, only one was significant (see Fig. 3). Consequently, individual project performance is fully mediated by role clarity, whereby increases in role clarity result in an increased performance. Additionally, two control variables were significant. Female GPT members reported higher overall performance than males, while being co-located with one's project manager decreases one's performance.

Table 2
Demographic and media variable frequencies.

Gender		Age		Tenure with GPT				Member location			
Male	180	82.6%	40 and under	114	52.3%	One year or less	123	56.4%	Headquarters	122	56.0%
Female	38	17.4%	41 and over	104	47.7%	More than one year	95	43.6%	Not Headquarters	96	44.0%
Co-located w/ project mgr.		Time zone									
Yes	159	72.9%	Same as PM	178	81.7%						
No	59	27.1%	Different from PM	40	18.3%						
Communication: face-to-face			Communication: telephone			Communication: email			Communication: SameTime		
Never	44	20.2%	Never	25	11.5%	Never	4	1.8%	Never	48	22.0%
Once a month	103	47.2%	Once a month	56	25.7%	Once a month	11	5.0%	Once a month	33	15.1%
Once a week	6	2.8%	Once a week	48	22.0%	Once a week	23	10.6%	Once a week	34	15.6%
Several times a week	27	12.4%	Several times a week	56	25.7%	Several times a week	61	28.0%	Several times a week	56	25.7%
Once a day	1	0.5%	Once a day	6	2.8%	Once a day	21	9.6%	Once a day	9	4.1%
Several times daily	21	9.6%	Several times daily	24	11.0%	Several times daily	64	29.4%	Several times daily	29	13.3%
Almost continuously	16	7.3%	Almost continuously	3	1.4%	Almost continuously	34	15.6%	Almost continuously	9	4.1%

Our method for analyzing the interview transcripts began with multiple meetings to discuss the overall context of our interviewees in order to create a shared understanding of their organizational, project and cultural circumstances with respect to communication norm alignment (and the media utilized), role clarity and interpersonal trust. At the forefront of these discussions was consideration of the interviewee’s location (headquarters vs. remote), potential cross-cultural differences and issues, and the tenure and experience of the interviewees. Any statements of challenges in project development and launch or of team training and development (virtual or in person) were noted.

We then read through the interview transcripts individually multiple times before discussing general impressions, and coding the content of interviewees’ statements by highlighting relevant statements that corresponded to our theoretical concepts (Bryman, 2012; Weber, 1985) of communication norm alignment or lack of it, role clarity/role ambiguity, interpersonal trust,

communication frequency and references to technology media. An initial comparison of our coding showed high agreement in the identification of examples for each of our theoretical concepts. We discussed any variances before conducting a final round of coding.

Our coding of the interview transcripts for the 18 GPT members highlighted a notable lack of communication norm alignment; high role ambiguity; mixed use of communication with a heavy reliance on email; and constraints related to available technology. The majority (over 50%) of our interviewees’ comments indicated communication norms – and thus communication norm alignment – were lacking and resulted in misunderstandings, both cross-culturally and in terms of project requirements. Moreover, the majority of these statements implied a greater need for understanding, especially with respect to cultural differences, related to information sharing, namely, what information and knowledge to share, with whom, how often and with what type of media. Other comments included references

Table 3
Descriptive statistics and correlations.

	Mean	S.D.	Mem. loc.	Co-loc.	Time zone	Age	Gender	Tenure	Face	Tele	Same	Email	Clarity	Norms	Trust	Satisf.
Member location at HQ	0.44	0.50														
Co-located w/ proj. mgr.	0.27	0.45	.52 **													
Time zone	0.18	0.39	.37 **	.78 **												
Age	0.48	0.50	-.39 **	-.09	-.07											
Gender	0.17	0.38	-.14 *	-.06	-.03	.02										
Tenure w/ project team	0.44	0.50	.00	-.12	-.15 *	-.04	-.14 *									
Comm: face-to-face	2.84	1.86	-.11	-.16 *	-.16 *	.00	-.08	.07								
Comm: telephone	3.21	1.50	.12	.14 *	.05	.08	-.01	.18 *	.37 **							
Comm: SameTime	3.31	1.80	.08	.11	.09	-.02	.06	.16 *	.23 **	.34 **						
Comm: email	4.89	1.54	.11	.12	.07	.03	-.11	.23 **	.35 **	.60 **	.49 **					
Role clarity	31.11	6.28	-.08	.04	.03	-.02	.04	.10	.04	.19 **	-.04	.21 **				
Comm. norm alignment	24.18	4.83	.16 *	.15 *	.10	-.18 **	.12	.07	-.04	.27 **	.19 **	.26 **	.45 **			
Trust	22.84	3.30	.02	.09	.05	-.06	.14 *	-.04	-.07	.14 *	-.01	.05	.34 **	.43 **		
Satisfaction	16.93	2.62	-.13 *	.00	.03	-.03	.12	.04	.05	.17 *	.12	.14 *	.52 **	.39 **	.44 **	
Performance	21.89	3.09	-.14 *	-.19 **	-.06	.00	.19 **	.13 *	.02	.04	.07	.00	.34 **	.24 **	.22 **	.48 **

n for all variables is 218

* p < .05.

** p < .01.

Table 4
Regression analyses: communication norm alignment as predictor.

	Role clarity	Interpersonal trust	Satisfaction	Performance
	Coefficient (Std. Error)	Coefficient (Std. Error)	Coefficient (Std. Error)	Coefficient (Std. Error)
Member location HQ	-2.452 (0.968) *	-0.564 (0.533)	-1.311 (0.423) **	-0.411 (0.520)
Co-located w/ PM	1.170 (1.016)	0.419 (0.560)	0.315 (0.445)	-1.091 (0.546) *
Age	-0.170 (0.836)	-0.158 (0.461)	-0.316 (0.366)	0.103 (0.449)
Gender	0.141 (1.024)	0.612 (0.564)	0.345 (0.448)	1.129 (0.550) *
Tenure w/ GPT	0.883 (0.788)	-0.293 (0.434)	0.008 (0.345)	0.804 (0.423)
Communication: face-to-face	0.107 (0.231)	-0.088 (0.127)	0.022 (0.101)	0.027 (0.124)
Communication: telephone	0.144 (0.329)	0.250 (0.182)	0.132 (0.144)	0.018 (0.177)
Communication: email	0.676 (0.339) *	-0.100 (0.187)	0.004 (0.148)	-0.213 (0.182)
Communication: SameTime	-0.815 (0.241) **	-0.168 (0.133)	0.039 (0.105)	0.101 (0.129)
Communication norm alignment	0.593 (0.084) ***	0.286 (0.047) ***	0.208 (0.037) ***	0.169 (0.045) ***
Adjusted R-squared	0.283	0.212	0.210	0.149
F-ratio	8.159 ***	5.576 **	5.497 ***	3.638 ***

* p < .05.
** p < .01.
*** p < .001.

to not knowing the level of detail that should be included in their emails, specifically, and concerns over how this would be received by co-workers in other countries. Table 6 summarizes interviewees' statements about the challenges in developing, and thus maintaining, communication norm alignment.

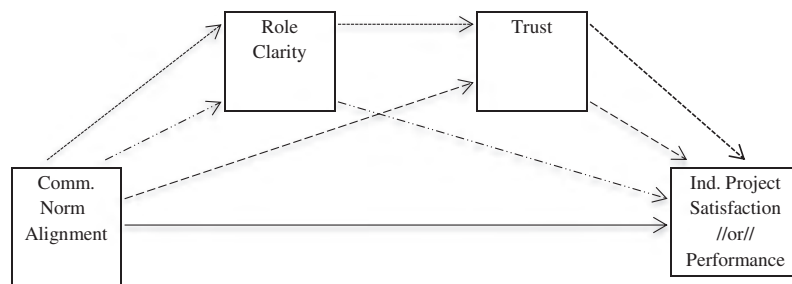
Pertinent to the challenges related to role clarity (see Table 6), the majority of interviewee comments reflected a lack of a cohesive project methodology. The results appear to be a sense of ambiguity regarding project specifications, project scope (e.g., project completion targets and dates), project roles, and schedule progress toward finish dates. Interviewees also expressed being challenged to understand their various project roles given the differential number of GPT members by various locations.

The 18 interviewees commented frequently on the type of media being used or desired in their GPT work. Overall,

there was a lack of alignment regarding their basic use of email messaging (e.g., when to use, how to use, the length of emails), and when to use video conferencing to facilitate meetings versus conference calls. Sixty percent of interviewees commented that face-to-face meetings, including when team members traveled to others' sites, were the best way to offset miscommunications from email. In fact, there was overall agreement that face-to-face meetings, though infrequent, are the most effective communication medium to either avoid or work out miscommunications. Finally, there were expressed challenges (i.e., technical problems) with newly implemented technology.

5. Discussion

Previous research has demonstrated the importance of communication norms (e.g., Cheshin et al., 2013; Ghosh



Effect	Independent	Mediating	Dependent
Direct	Comm. Norm Alignment		Ind. Project Satisfaction //or// Performance
Indirect	Comm. Norm Alignment	Role Clarity, Trust	Ind. Project Satisfaction //or// Performance
	Comm. Norm Alignment	Role Clarity	Ind. Project Satisfaction //or// Performance
	Comm. Norm Alignment	Trust	Ind. Project Satisfaction //or// Performance

Fig. 1. Hypothesized mediation model.

Table 5
Mediation analyses: satisfaction and performance.

	Satisfaction		Performance	
	Coefficient (Std. Error)	LLCI–ULCI	Coefficient (Std. Error)	LLCI–ULCI
Member location HQ	–0.809 (0.379) *	–1.556 to –0.061	–0.004 (0.506)	
Co-located w/ PM	0.044(0.393)		–1.300 (0.525) *	–2.335 to –0.265
Age	–0.256 (0.322)		0.143 (0.430)	
Gender	0.194 (0.396)		1.049 (0.528) *	0.008 to 2.091
Tenure w/ GPT	–0.069 (0.305)		0.705 (0.407)	
Communication: face-to-face	0.024 (0.089)		0.020 (0.119)	
Communication: telephone	0.057 (0.128)		–0.026 (0.170)	
Communication: email	–0.080 (0.132)		–0.300 (0.176)	
Communication: SameTime	0.202 (0.096) *	0.014 to 0.391	0.235 (0.127)	
Communication norm alignment	0.055 (0.038)		0.056 (0.051)	
Role clarity	0.156 (0.027) ***	0.103 to 0.210	0.144 (0.036) ***	0.072 to 0.215
Interpersonal trust	0.211 (0.049) ***	0.114 to 0.309	0.963 (0.066)	
Constant	5.985 (1.455) ***	3.117 to 8.853	12.471 (1.942) ***	8.644 to 16.299
Adjusted R-squared	0.393		0.227	
F-ratio	11.043 ***		5.007 ***	

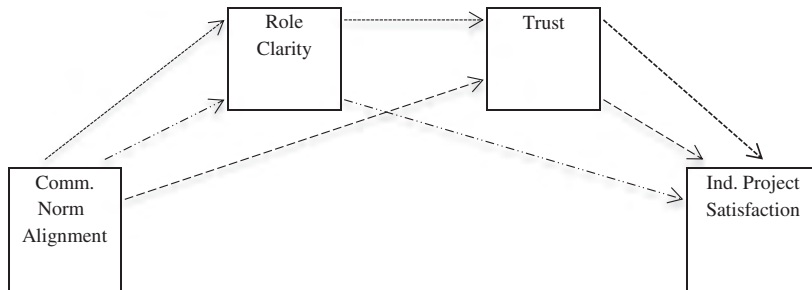
	Satisfaction		Performance	
	Effect (Std. Error)	LLCI–ULCI	Effect (Std. Error)	LLCI–ULCI
Total effect	0.208 (0.037) ***	0.135–0.281	0.169 (0.045) ***	0.080 to 0.259
Direct effect	0.055 (0.038)	–0.020 to 0.129	0.056 (0.051)	–0.044 to 0.156
Indirect effect(s)				
Norms — <i>role clarity</i>	0.093 (0.033)	0.040 to 0.167	0.085 (0.038)	0.028 to 0.172
Norms — <i>clarity, interpersonal trust</i>	0.012 (0.010)	0.000 to 0.039	0.005 (0.006)	
Norms — <i>interpersonal trust</i>	0.049 (0.019)	0.0156 to 0.088	0.022 (0.016)	

Number of bootstrap samples for 95% confidence intervals: 10,000.

* p < .05.
** p < .01.
*** p < .001.

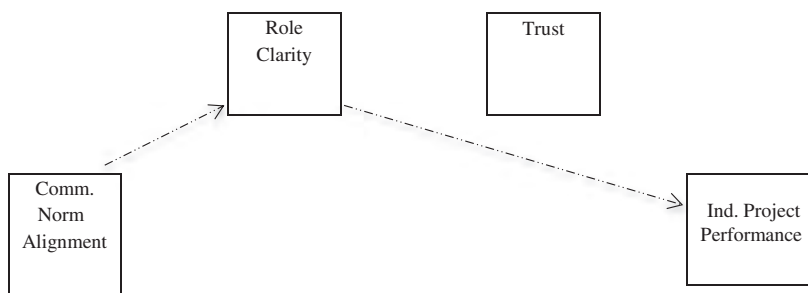
et al., 2004; Moser and Axtell, 2013), role clarity (e.g., Curnin et al., 2015; Daim et al., 2012), and interpersonal trust (e.g., Crisp and Jarvenpaa, 2013; Curnin et al., 2015; Sarker et al., 2011) to global virtual teams. Our study,

based on the confirmation of the mediation model, highlights the dynamic relationship among communication norm alignment, role clarity, and interpersonal trust for global project team members.



Effect	Independent	Mediating	Dependent	Result
Direct →	Comm. Norm Alignment		Ind. Project Satisfaction	Not Significant
Indirect ·····→	Comm. Norm Alignment	Role Clarity, Trust	Ind. Project Satisfaction	Significant
·····→	Comm. Norm Alignment	Role Clarity	Ind. Project Satisfaction	Significant
·····→	Comm. Norm Alignment	Trust	Ind. Project Satisfaction	Significant

Fig. 2. Mediation model: individual project satisfaction.



Effect	Independent	Mediating	Dependent	Result
Direct →	Comm. Norm Alignment		Ind. Project Performance	N.S.
Indirect →	Comm. Norm Alignment	Role Clarity, Trust	Ind. Project Performance	N.S.
→	Comm. Norm Alignment	Role Clarity	Ind. Project Performance	Significant
→	Comm. Norm Alignment	Trust	Ind. Project Performance	N.S.

Fig. 3. Mediation model: individual project performance.

The establishment of role clarity is critical to an individual GPT member’s project satisfaction and performance. The quantitative results show that role clarity fully mediates the relationship between communication norm alignment and individual project performance (Hypothesis 2b). Role clarity and interpersonal trust mediate fully the relationship between communication norm alignment and individual project satisfaction (Hypothesis 2a). Developing and sustaining one’s role clarity, especially in relation to other project team members, is critical to GPT members; however, such a conclusion does not diminish the importance of communication norm alignment to ultimate project success.

The interviews clearly demonstrate that communication norm alignment is critical to individual perceptions of project satisfaction and performance. Although a causal relationship cannot be inferred, given the current study’s design, previous research reflects how the establishment of communication norms at the outset of a project is crucial (Daim et al., 2012; Jarvenpaa and Leidner, 1999). GPT members need to be able to communicate effectively and efficiently in order to share

information. It is likely that through the establishment of these initial communication norms, GPT members develop alignment over time. During this alignment process, they create role clarity for themselves and in relation to others. And, it is the development of communication norm alignment and role clarity that helps build trust among project team members, and vice versa. Put another way, all three are necessary but not individually sufficient if we consider ultimate project success, including individual team member satisfaction and performance.

Several interviewees remained hopeful that their current state of information and knowledge sharing would change while navigating time zones, language and cultural differences, and technologies. Their comments indicate a strong awareness of what needs to improve in terms of communication norm alignment on their projects. In particular, interviewees cite the lack of an overall project management methodology, guidelines and metrics for the achievement of milestones, and the overall project objective and scope. Examples from our interviewees about areas for improvement include: communication agreements about what media to use in sharing particular types of content

Table 6
Challenges in developing and maintaining communication norm alignment and role clarity.

Communication norm alignment challenges	Role clarity challenges
<ul style="list-style-type: none"> Perceived weak tolerance for the amount of iterations needed to understand one another’s technical explanations and assumptions (especially subject matter experts). Expectation ambiguity for verbal, written, and/or image-based messages or communication. English proficiency and its effect on sharing knowledge and expertise. Having a network of individuals within the project environment and the MNC in order to know the right person (including subject matter experts) to contact (especially at headquarters) for relevant and/or timely information. Knowing with whom to share or receive information. Knowing whether to communicate with one’s project manager or one’s line manager regarding information needed. 	<ul style="list-style-type: none"> Balancing demands between different managers (project vs. line). Different responsibilities of their project roles (as compared to other project members) due to the differential sizes of their respective locations. Distance from their project managers and other key stakeholders. Being placed on projects due to one’s availability, not one’s skill set.

messages and with whom (roles); identification of key stakeholders within a primary project network for sharing and understanding information; communication norms for communicating with project managers vs. line managers vs. senior managers; more meetings to get to know others personally; general guidelines on use of email, phone conferences, and web-based conferences; and an effective agenda methodology for teleconferences and phone conferences. These collective findings confirm how specified systems and roles can reduce the chances for misunderstood expectations and intentions in communication on GPTs (Wilson et al., 2008).

The interviews provide further information given the unexpected finding that project performance decreased for GPT members co-located with their project managers (see Table 5). Several interviewees commented on their confusion over their changing reporting relationships, and in a number of cases indicated identification with their department manager and/or line manager, not their project manager. Others indicated a cross-cultural effect whereby addressing issues related to the culture of remote sites took precedence over seeking directions from co-located project managers from headquarters. Interviewees described their project managers' extensive travel, yet when the project managers did visit the GPT members, they (the team members) were able to clarify project issues and establish more personal relationships. Taken together, these interview findings suggest a potential either- or dilemma, namely that GPT members experience either too much or too little contact with their respective project managers at any given time.² Only the use of SameTime as a communication media had a significant effect on GPT member project satisfaction as compared to email or telephone. SameTime appears to come closest to replicating face-to-face communication in regard to satisfaction.

In an additional and unexpected finding, women GPT members reported a higher project performance than men (see Table 5). This finding is reflective of studies by (Henderson and Stackman, 2010; Henderson and Hunter 2015) that substantiate the critical role of gender in project management. Women's participation on dispersed project teams enables them to develop social capital and a significant role in organizational networks with visibility (Henderson, et al., 2013), regardless of their location. Moreover, as suggested by these findings on women project managers, women project team members may be more advanced in selling issues and leveraging challenges posed by their jobs to their advantage.

GPT members located at headquarters reported lower project satisfaction (see Table 5), potentially reflecting the impact of the organizational restructuring effort of our target MNC. Based on our interview results, we further speculate that the lower satisfaction for members located at headquarters emanates from their frustrations in communicating with others at remote sites, reflective of potential "fault-lines" between sub-groups (Mosser and Axtell, 2013). In regard to their performance, we infer from our interviews that a number of GPT members at headquarters are

able to compensate for these and other frustrations since they have the most technical expertise at their disposal and are seen as valuable subject-matter experts.

Critical to GPT collaboration is technology and its use. As shown in Table 2, 54.6% of GPT members use asynchronous email at least once a day (the sum of once/day @ 9.6%; several times daily @ 29.4%; and almost continuously @ 15.6%). While the GPT members utilize other media, none of the percentages for these same three categories approached 25% usage of at least once a day or more. Drawing from media synchronicity theory (Dennis et al., 2008), the predominance of email indicates that GPT members over-utilize the capabilities of this media, which helps to explain a number of the interviewees' comments regarding the time spent on miscommunications and misunderstandings. The ultimate goal of media synchronicity theory for virtual workers is to understand others' interpretations of information (convergence), not just information itself (conveyance). Though email does not appear to facilitate as high of levels of synchronicity as do face-to-face and video conferencing, it does serve a purpose toward understanding aspects of the communication gestalt between media and message. Our findings suggest that instead of assuming that technology reliance negatively impacts team performance, researchers studying distributed teams should separate "the level of reliance (degree of use) from the form of reliance (type of use)" with respect to information and communication technologies (Malhotra and Majchrzak, 2014, p. 389).

Reducing ambiguity in communication requires greater awareness of matching one's message with the media best capable of supporting one's intention. Needless to say, focusing on communication media – current and not yet developed – in creating communication norm alignment and role clarity that attenuate misunderstandings and enhance team learning (individual and collective) will require additional study. Any attention directed at improving knowledge sharing and understanding is not limited to dyadic relationships within a virtual team but to all potential multi-person relationships. Creating the time, not just the means, to develop understanding among GPT members should not be underestimated. At issue is minimizing the real and perceived threats due to a lack of physical proximity. Research by O'Leary et al. (2014) has shown that individuals' frequent communication of shared topics (across all types of media) positively relates to their perceptions of others' proximity. Espinosa et al. (2007) use the term "presence awareness", where team members keep each other informed of their availability and accessibility. Indeed the perception of proximity (presence) offers a hopeful goal for GPT members and project managers to develop and align their communication norms. With greater perceived proximity (presence), we expect that team members will experience stronger norms, more robust learning from one another, stronger team member and project manager relationships, and greater willingness to work together in the future (Wilson et al., 2008).

6. Emerging model of creating and sustaining GPTs

Through extant literature and this study's results, a model for creating and sustaining collaboration on global project teams is emerging (see Fig. 4). Working collaboratively on GPTs creates

² A longitudinal study design is necessary to substantiate the likelihood of GPT members experiencing both too much and too little contact with their project managers over the life of the project.

Role Taking [Forming (Prelaunch Events)]	Role Making [Storming/Norming]	Role Negotiating [Performing]	Outcomes
Prelaunch Communication, including Project Definition and Goals Project Team Socialization Events, including Media/Technology Training Specific Communication Norms	Communication Norm Alignment Role Clarity Interpersonal Trust Project Member: Age, Gender, Location, Tenure (with Organization) Spatial/Temporal Differences Located at Headquarters or Remotely Media/Technology Types Individual: Time Spent at Headquarters; Previous GPT Experience Team Member Cultural Differences	<i>Negotiated Communication Norm Alignment across Team Members</i> <i>Negotiated Role Clarity across Team Members</i> Interpersonal Trust Perceived Proximity Media Synchronicity Project Team Membership Fluidity Introduction of New Technology	Individual (Project): Satisfaction, Performance Project Team: Performance

Fig. 4. Emerging model for creating and sustaining GPTs.

relationship demands and alters interactions among project team members with respect to frequency, form, media and content of communication messages. It expands the roles of team members, who juggle their formal (non-project) work roles with those of their project assignments. The development and maintenance of communication norm alignment from a project’s inception is critical to the development and maintenance of these project roles and interpersonal trust. Communication norm alignment, role clarity, and interpersonal trust are necessary for long-term success at both the individual and project levels on GPTs. In the emerging model, we adapt a three-phase sequence for the development of role clarity from [Graen and Scandura \(1987\)](#): role making, role taking and role negotiating. These three phases mirror the well-known model of team development by [Tuckman \(1965\)](#): forming, storming and norming, and performing. Both individual and project team satisfaction and performance on GPTs depends on continuing success at role taking, role making and role negotiating.

Role taking focuses on GPT member potentiality with respect to what they can do and are likely to do at the outset of their project. Here, the project manager plays a critical role in setting the stage for his or her responsibilities on the project during role taking. Through pre-launch communications with their team and early team socialization events (including communication media/technology training), global project managers can set the tone for establishing communication norm alignment and role clarity while defining and planning the project scope and objectives with team members. The underlying goal is to surface, clarify and initially establish GPT member expectations for their communication interactions during the lifecycle of the project. These expectations or norms become especially critical for GPTs and their project roles given the constraints caused by the geographic dispersion of members from different cultural backgrounds. Investment in face-to-face interactions during role taking can be an effective precursor to establishing good communication, as it helps to

build trust among team members, establish common ground, and resolve questions about project objectives and plans ([Daim et al., 2012](#)).

Role making occurs as each GPT member learns how others will behave in various situations. It is in this phase that interdependencies related to contributions of valued resources are tested. The area highlighted in gray in [Fig. 4](#) represents the focus of our current study. As evidenced by our results, all of these variables studied are relevant to a role making phase of a GPT. Pertinent to role making are three other variables suggested by our research. The first is time spent by an individual GPT member at an organization’s headquarters prior to a project team launch. Second, there is the amount of previous experience any individual GPT member has had working on a GPT or on a GPT with other members of the team, including the project manager. And third, we acknowledge the cultural differences among GPT members, especially in regard to within-culture communication norm alignment, their meanings, saliency, and potential for adaptability to other cultures. While all of these variables are relevant at the launch of a GPT, we view them as particularly critical during the storming/norming phase associated with team development.

Lastly, role negotiating is necessary for effective functioning on GPTs as mutual expectations and functional interdependencies become apparent and are accomplished through the process of close collaboration on project tasks over time. Here we find a more nuanced and more distinctive meaning for role ambiguity. Role ambiguity appears to indicate an important space in which GPT members need to be in the process of consistently negotiating their roles with respect to others on their teams. Changes in work roles are therefore not only at an individual level, but also have impact at a dyadic level and team level ([Barley and Kunda, 2001](#)). The clarity that can be achieved with role negotiating acts with interpersonal trust to increase GPT members’ project satisfaction. Drawing from our previous discussion, we also see perceived proximity

and media synchronicity as germane to the dynamic of role negotiating throughout the life cycle of global projects. In the next section, we discuss two additional role negotiating variables: project team member fluidity and the emergence of new technology.

7. Limitations and future research

No research is without its limitations. Reliance on a single survey with self-reports of technology use, performance and satisfaction is not ideal. With any survey difficult decisions must be made about what data to gather (or not) while keeping the time needed to complete the survey reasonable. Our mixed method approach adds more in-depth investigation and was instrumental in the development of an emerging model for creating and sustaining GPT collaboration, yet the study, based on one organization, potentially limits the generalizability of our findings. While it could be argued that data from one company, given its unique characteristics culture, could bias our results, we view this as a strength of the paper. There is a distinction to be made in that we have studied one company and individuals from 33 distinct teams, not 33 different project teams from 33 different companies. Regarding the latter, 33 distinct companies would reflect myriad characteristics and ways of working that could not be controlled for.

The unique results of our study correspond to the projects-as-practice stream of relevancy for research (Blomquist et al., 2010) and direct attention toward future research in several ways. First, more investigation of why, when and how given technologies are used, especially with respect to the development of communication norms is needed. At issue is the extent of media synchronicity related to information conveyance and convergence (Dennis et al., 2008) and whether the preferred technology of project members matches their level of reliance (degree of use) and the form of reliance (type of use) (Malhotra and Majchrzak, 2014), as these affect performance. Second, research has demonstrated the potential difficulties (conflicts) for GPT members working across cultures (e.g., Oertig and Buergi, 2006). How these differences are dealt with and leveraged via communication norms are important at each stage of the model from forming to performing and successful project completion. Third, as with communication norm alignment and role clarity, we include *interpersonal trust* in role making and role negotiating. One of the major reasons for failures of GVTs is the inability to sustain trust among project members, especially since inconsistent role behavior and blurring of roles can erode trust (Daim et al., 2012). As cited in Gilson et al. (2015), trust is influenced by communication behaviors, timely responses, open communication and giving feedback (Henttonen and Blomqvist, 2005). To maintain trust, GPT members need predictable, substantial and timely interactions with each other.

There are noteworthy trends related to future GVT research that will impact the study of GPTs (Gilson et al., 2015). One, generational shifts are remaking the workplace. For the younger generation working with technology to create a virtual presence is likely more natural compared to working in a

face-to-face environment for the baby boomer generation. Two, the application of more longitudinal designs coupled with social network analysis will allow us to better understand the effects of time as team members work toward their project's completion. Tracking GPT membership (including members leaving or being added to the team) and mobility (within the GPT) is vital to understanding just how collaborative the team is. Additionally, over time, subgroups can develop within a GPT, positively or negatively affecting team performance. Collaboration in a distributed team may “sometimes amount to a fragile link spanning powerful nested local communications” (Cramton and Hinds, 2014, p. 1076), as the existence of subgroups should not be underestimated (Carton and Cummings, 2012; O’Leary and Mortensen, 2010; Cramton and Hinds, 2005).

The final trend – the emergence of new technologies – is the most significant to all future research on global project teams. “Research is needed not only to determine how more mindful usage of technology influences employee engagement and effectiveness, but also to determine how to most effectively create norms around these practices” (Colbert et al., 2016, p. 736). With new and improved technologies being developed seemingly daily, the pressure is on project managers and team members to integrate them within the GPT at any time (and one would hope with the help of the IT department). This study was conducted just as web-based video was emerging, and so the heavy reliance on email is not a surprise. Still, email is not face-to-face communication, though we know email with a good friend is ‘richer’ than a first face-to-face meeting with a foreign partner (Wilson et al., 2008). Cummings et al. (2009) found email reduced coordination delay more when pairs of members had overlapping work hours. Having a small amount of overlap in work hours helps members take greater advantage of communication technologies. How much longer will email be dominant since it has become a cultural symbol of excessive work demands (Colbert et al., 2016)? In addition, the general increased use of technology has become potentially associated with declining levels of empathy. In less than a century, we have moved from face-to-face and mail communication, to the telephone, to email and desktop computing, to IM and text, and now to web-based video communication. It is highly probable that a new dominant technology will create a more realistic face-to-face feel, one that has a less negative impact on human empathy, thus creating the potential to greatly enhance GPT performance. By enabling the frequency, depth and interactivity of the communication processes (Wilson et al., 2008) the potential of technology may only be limited by our own capabilities to collaborate.

8. Conclusion

Previous research has demonstrated the importance of communication norms, role clarity, and interpersonal trust to the effective and efficient functioning of global virtual teams. Our study extends this understanding by documenting the relationship among the three concepts. Clearly, establishing communication norms early on and sustaining their alignment throughout the life cycle of a global project is important as team members develop

role clarity and trust. However, our results significantly single out the importance of role clarity on individual GPT members' project satisfaction and performance. It is critical that GPT members know what they are supposed to do and how they contribute to their project. The centrality of role clarity to project satisfaction and performance does not minimize the value of communication norm alignment – especially with respect to information sharing – and interpersonal trust among project members. The relationship between communication norm alignment, role clarity, and interpersonal trust can best be described as reciprocal in nature. Effective communication norms help establish and sustain role clarity alignment and interpersonal trust. And, high interpersonal trust, once established among project team members, helps sustain communication norm alignment and role clarity.

Conflict of Interest

There is no conflict of interest.

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