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Understanding Antecedents to Conflict in Geographically Distributed Research and Development Teams

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UNDERSTANDING ANTECEDENTS TO CONFLICT IN GEOGRAPHICALLY DISTRIBUTED RESEARCH AND DEVELOPMENT TEAMS[1]

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Abstract

We investigate the antecedents of conflict on collocated as compared with geographically distributed teams. In our field study of 16 collocated and 20 geographically distributed research and development teams, we found little evidence that distributed teams have more conflict. However, we did find that distributed teams experienced more coordination problems and less healthy conflict handling norms which were, in turn, associated with more conflict. Contrary to our predictions, neither frequency of communication nor reliance on mediating technologies were related to increased affective or task conflict. Our findings suggest that the frequency of communication and the medium used may be less important than the content of the information that flows between group members and the group's ability to speak openly and deal with conflict as it arises.

1 UNDERSTANDING CONFLICT IN GEOGRAPHICALLY DISTRIBUTED TEAMS

Recent advances in telecommunication and information technologies offer new means by which globally distributed work can be carried out. Although an increasing number of organizations are relying on technology-enabled geographically distributed teams (McDonough et al. 2001), these teams present a challenge for leaders and team members. Distributed teams often suffer coordination problems (see Cramton 2001), crises of trust (Jarvenpaa and Leidner 1999), and unhealthy subgroup dynamics (Armstrong and Cole 2002). Conflict that is difficult to isolate and manage may also pose a particular challenge for distributed teams (see Mannix et al. 2002). Indeed, studies of geographically distributed teams report significant conflict between distant members (Armstrong and Cole 2002; Cramton 2001), although what contributes to high levels of conflict on distributed teams remains unclear.

Our goal in the research we report here is to provide a better understanding of the antecedents that lead to conflict in distributed teams. We compare collocated with distributed teams to understand how the factors contributing to conflict and the way in which conflict might be handled differ on these teams. We argue that distance will not automatically produce more conflict, but that distance enables certain conditions that give rise to conflict if not managed effectively. Along with others, we differentiate affective (emotional) conflict from task conflict (e.g., Eisenhardt et al. 1997; Pelled 1996; Pelled and Adler 1994). Affective conflict refers to conflicts that are characterized by anger or hostility between group members. Task conflict refers to disagreements focused on work content. A third type of conflict, process conflict, has been differentiated from task and affective conflict (see Jehn 1997). In this paper, we do not examine process conflict because it was not well established nor were the measures well developed at the time of this study.

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2 GEOGRAPHIC DISTANCE

When arguing that geographic distance will lead to more task and affective conflict, scholars have cited a number of reasons. One reason is that distributed teams are expected to exhibit more diversity which, in turn, results in more conflict. Extensive research on diversity has established that demographic, functional, and cognitive diversity lead to more conflict in teams (e.g., O'Reilly et al. 1997; Pelled 1996). Distance also impoverishes communication and impedes the development of close relationships (Athanasiou and Yoshioka 1973; Festinger et al. 1950). Thus, physical distance decreases closeness and affinity, both of which are inversely related to conflict. Another problem likely to coincide with physical distance is low mutual awareness among teammates (Dourish and Bellotti 1992; Dourish and Bly 1992; Fussell et al. 1998) which has been linked to groups' abilities to successfully coordinate their work (Cannon-Bowers et al. 1993). Finally, when conflict does arise, distributed teams may find it more difficult to manage that conflict. In the study reported here, we examine diversity (cultural), amount of communication, coordination challenges, and conflict handling norms to determine the extent to which each contributes to conflict on distributed as compared with collocated teams.

3 DIVERSITY

In numerous studies, diversity has led to affective and task conflict (e.g., O'Reilly et al. 1997; Pelled 1996). For example, Pelled et al. (1999) found that tenure and racial diversity increased affective conflict, whereas functional and tenure diversity increased task conflict in work teams. Similarly, Jehn et al. (1999) found that demographic diversity led to more affective conflict, whereas informational diversity (i.e., diversity in knowledge and perspective) increased task conflict. The relationship between heterogeneity and conflict is expected to be particularly salient in distributed teams because an increase in geographic distribution is likely to bring with it an increase in diversity, particularly cultural diversity. We define cultural diversity as heterogeneous beliefs, attitudes, and traits resulting from different cultural experiences. Team members located in Africa or Asia, for example, are likely to have a strikingly different ethno-cultural background than members located in North America. Therefore, we expect distributed teams to experience more cultural diversity and for this diversity to result in more conflict.

H1a: Cultural heterogeneity will be greater in distributed teams than in collocated teams.

H1b: Cultural heterogeneity will be associated with higher affective and task conflict, especially for distributed as compared with collocated teams.

4 COMMUNICATION

Geographic distance often reduces communication (Athanasiou and Yoshioka 1973; Festinger et al. 1950). People tend to favor communication with others who are nearby as proximity allows for more informal, spontaneous interaction. When employees are located more than 30 meters apart, they are in less frequent contact and communicate less often (e.g., Allen 1977; Kraut and Streeter 1995). Also, to communicate over physical distance, geographically distributed teams must rely on communication technologies to mediate their interactions (Fulk and DeSanctis 1995; Sproull and Kiesler 1991). Frequency and type of communication between team members can, in turn, affect conflict on teams (e.g., Williams and O'Reilly 1998). Communication can lead to increased task conflict as team members bring more of their differences to the surface (Jehn and Mannix 2001). However, communication may lead to less affective conflict, as task related issues are resolved openly, with less opportunity to fester and deteriorate into personal attacks (see Jehn and Chatman 2000). These arguments suggest that communication will be associated with higher task and lower affective conflict and that this effect will be particularly strong for geographically distributed teams.

H2a: Communication will be less frequent in distributed teams than in collocated teams.

H2b: Frequency of communication will be associated with higher task and lower affective conflict, especially in distributed as compared with collocated teams.

5 COORDINATION CHALLENGES

Physical distance also gives rise to coordination issues as a result of low mutual awareness among teammates. Mutual awareness has been identified as critical, but difficult to maintain within distributed groups (Dourish and Bellotti 1992; Dourish and Bly 1992; Fussell et al. 1998). This awareness, in particular the structure of a project task, member roles and responsibilities, and ways to assess progress toward the group goal have been linked to groups' abilities to successfully coordinate their work (Cannon-Bowers et al. 1993). Cramton (2001) found that because members of distributed teams lacked direct information about the contexts within which other team members were working, they relied on each other to provide these cues. Often, however, team members failed to provide enough cues about their environments, resulting in coordination challenges among distributed team members. Coordination challenges, in turn, are likely to lead to conflict on distributed teams. As Cramton notes, an imbalance in information and misattributions of fault resulted in conflict on distributed teams. Consistent with this, in a study of MBA student project teams, Jehn et al. (1997) reported that information diversity contributed to task conflict. Given different contexts, team members are likely to have different goals and different perspectives on the task. These cognitive differences are the basis of conflict on work teams (Kilduff et al. 2000). Therefore, we argue that coordination problems will be more extreme on distributed teams and will engender task conflict.

H3a: Coordination challenges will be greater in distributed teams than in collocated teams.

H3b: Coordination challenges will be associated with higher task conflict, especially in distributed as compared with collocated teams.

6 CONFLICT HANDLING

Conflict is not necessarily detrimental to team success. If task conflict is managed effectively, it can increase team creativity and performance (e.g., Eisenhardt et al. 1997; Jehn 1995). However, not all teams handle conflict in healthy ways. Thomas (1979) proposed that conflict handling reflected two dimensions: assertiveness (self-interest) and cooperation (concern for others). Teams that are operating with high levels of both are described as *collaborating* and those operating with low levels of both are described as *avoiding*. When teams engage in collaborative conflict handling as compared with being only self or other interested, they are likely to resolve conflict in ways that create win-win situations for all involved (Weingart and Jehn 2000). Win-win solutions and conflict resolution processes that are healthy and open will likely breed more trust, laying the groundwork for more collaborative negotiations over time (Lovelace et al. 2001). Distributed teams, however, may have more difficulty handling conflict in healthy ways. Due to reduced proximity to their teammates, members of distributed teams may find it hard to surface and resolve conflicts. A win-win solution requires that team members share information about each party's interest and engage in discussion that surfaces innovative solutions that meet everyone's needs (Lovelace et al. 2001). Such information sharing and discussion may be particularly difficult for members of distributed teams because of the limits of mediating technologies (see Kraut et al. 2002). Mediating technologies, for example, contribute to uneven distribution of information and to information being weighted differently (see Cramton 2001). Furthermore, distance often entails spanning multiple time zones, which means teams are unable to engage in synchronous communication for much of the workday. In such situations, team members may be unavailable to discuss issues that arise (Armstrong and Cole 2002). Thus, we anticipate that distributed teams will be less able than collocated teams to engage in healthy conflict handling.

H4a: Healthy conflict handling norms will be reduced in distributed as compared with collocated teams.

H4b: Healthy conflict handling norms will be associated with lower affective and task conflict, especially on distributed as compared with collocated teams.

7 METHOD

To test our hypotheses, we conducted a Web-based survey of geographically collocated and distributed research and development teams located within a single multinational organization. The surveys were followed by interviews intended to provide a richer understanding of the teams and their processes.

7.1 Sample

A total of 402 individuals, situated within 42 teams were initially contacted, with a response rate of 62 percent (250 respondents). Only teams with at least a 29 percent response rate and at least three respondents were included in the analyses reported here. Thus, our final sample consists of 36 teams, ranging in size from three to 21 members. Of the 36 teams in our sample, 16 consisted of members who all were geographically collocated whereas the remaining 20 teams included members situated at two or more locations. All geographically distributed teams were distributed between Europe and the United States.

7.2 Dependent Variables

Affective and task conflict were measured using a scale based on Jehn's (1994, 1995) relationship conflict scale. Respondents rated 10 statements using a five-point scale anchored by 1 = not at all and 5 = very much (see Figure 1). These ratings were averaged based on Jehn's (1994) model to form reliable indices of affective and task conflict (α = .89, α = .86 respectively).

Measures
Affective Conflict
How much friction is there among members in TEAM?
How much are personality conflicts evident in TEAM?
How much tension is there among members in TEAM?
How much emotional conflict is there among members in TEAM?
Task Conflict
How often do people in TEAM disagree about opinions regarding the work being done?
How frequently are there conflicts about ideas in TEAM?
How much conflict about the work you do is there in TEAM?
To what extent are there differences of opinion in TEAM?
Coordination Issues
Incompatibility between different team members' tools and/or work processes
Team members having different priorities
Delays in receiving hand offs from other team members
Differences in the information held by team members
Incomplete or inaccurate information about what other team members are doing
Healthy Conflict Handling Norms
Conflict is dealt with openly in the TEAM
People in the TEAM try to avoid conflict at all costs.
If conflict arises in the TEAM, the people involved initiate steps to resolve the conflict immediately
Conflict is detrimental to getting the work done in the TEAM
Differences of opinions about job responsibilities are avoided in the TEAM

Notes: TEAM indicates a value that was tailored to reflect the name of the respondents' project team.

Figure 1. Survey Items Measuring Affective Conflict, Task Conflict, Coordination Issues, and Conflict Handling Norms

7.3 Independent Variables

To generate a measure of geographic distribution, we identified the office location of each team member. Teams were considered distributed (= 1) if team members were spread across at least two locations and collocated (= 0) if all team members were based at the same location (building or campus).

To measure demographic variation, we used a derivation of the relational demography scores used by O'Reilly and his colleagues (O'Reilly et al. 1989; Tsui et al. 1992; Tsui and O'Reilly 1989).[2] The relational demography score was calculated as the square root of the summed squared differences between an individual S_i's value on a specific variable and the value of that variable for every other individual in S_i's team, divided by the total number of team members. In the case of categorical variables, (e.g., ethnicity), the formula was modified such that differences were replaced by a 0–1 coding (0 if the respondents were the same, 1 if they were different). In the case of both continuous and categorical variables, individual level scores were averaged to produce a team-level score. Finally, to measure cultural heterogeneity, we pooled the difference scores of three variables (ethnicity of the respondent, country in which the respondent was raised, and languages in which the respondent was fluent before the age of 10) and applied the formula outlined above.

For our measures of communication, we asked respondents to report how often they interacted with each of their team members face-to-face and using different communication technologies (videoconference, teleconference, telephone, voicemail, AltaVista Forum, LiveLink, text-based chat, e-mail, fax, and paper documents). We divided the total number of interactions per week by the number of team members to produce a measure of overall communication. Similarly, dividing mediated communication (all non-face-to-face communication) by overall communication yielded the percentage of overall communication that was mediated. Averaging across individual team members yielded team-level communication measures.

A measure of the prevalence of coordination problems was created using respondents ratings about the extent to which they faced a set of coordination challenges on their teams.[3] We provided five known issues (see Figure 1) and asked respondents to rate them using a five-point scale anchored by 1 = not at all and 5 = very much. These items yielded a reliable (α = .84) measure of coordination issues. Finally, respondents were asked to rate the accuracy of seven statements derived from Jehn's (1995) conflict norm scale, using a five-point scale anchored by 1 = not at all accurate and 5 = very accurate. To achieve a reliable scale of healthy conflict handling norms (α = .72), the scale was reduced to five items (see Figure 1).

7.4 Control Variables

Prior research suggests that demographic characteristics (e.g., average member age and tenure; heterogeneity of gender, age, and tenure) may affect conflict (see Jehn et al. 1999). In our analyses, the only variable that was significantly related to distribution was age—older employees were more likely to be on distributed teams—but none of the control variables were significantly related to conflict, so they were removed from the reported analyses.

8 RESULTS

Teams ranged in size from three to 21 members, with an average size of 6.94 members. Most of the teams provided technical development (37%) or technical services (40%) to clients internal to the larger organization. Distributed teams reported longer average tenure in the team (M = 32.64 versus 25.57 months) than members of collocated teams. The data also suggest that

[2]Although the Blau (1977) measure is a more standard measure of diversity in studies of conflict, we were unable to use this measure. The Blau measure assumes a single valid category per person per question (e.g., either female or male). We, however, allowed respondents to indicate multiple valid categories, e.g., *all* languages in which they were fluent before the age of 10. We used the relational demography score because it is based in the aggregation of dyadic comparisons. To compare the two measures, we calculated cultural diversity based only on ethnicity and country in which the respondent was raised (both requiring single categories) and found the same pattern of results.

[3]It is important to note here that our measure of coordination problems specifically asked about difficulties that team members faced (e.g., delays in receiving handoffs) and not about conflicts that arose from these difficulties, thus differentiating this measure from measures of process conflict.

members of distributed teams saw their work as less routine (as measured by a four-item scale adapted from Kraut et al.'s [1998] task analyzability scale) than did members of collocated teams ($F[1,41] = 14.15$, $p < .001$).

Table 1 provides the descriptive statistics for and correlations between our primary variables of interest. These data suggest that teams in our sample experienced more task than affective conflict (M = 2.50 versus 1.98) and relied on mediated technologies (e.g., email, voice mail, chat, or fax) for 44 percent of their intragroup communications. As reported in other studies, we found task and affective conflict to be highly correlated on these teams ($r = .87$, $p < .001$) with little difference between the collocated and distributed teams. Geographic distribution was highly correlated with reliance on mediated communication ($r = .38$, $p < .05$) and coordination problems ($r = .36$, $p < .05$).

Table 1. Descriptive Statistics and Correlations Between Dependent and Independent Variables (n = 36)

Variable	Mean	Std. Dev.	1.	2.	3.	4.	5.	6.	7.
1. Affective conflict[a]	1.98	.60							
2. Task conflict[a]	2.50	.57	.87**						
3. Geographic distribution[b]	.56	.50	.19	.28					
4. Cultural heterogeneity[c]	.58	.11	.19	.05	.11				
5. Amount of communication[d]	13.26	16.32	–.33	–.31	–.15	–.18			
6. Mediated technology (%)	.45	.17	–.04	.17	.38*	–.41*	.01		
7. Coordination problems	2.78	.46	.57**	.58**	.36*	–.02	–.55**	.40*	
8. Healthy conflict handling	3.43	.44	–.63**	–.55**	–.26	–.19	.39*	.05	–.57**

[a] Measured on a five-point scale with 5 equal to higher levels of conflict.
[b] Distributed = 1 and collocated = 0.
[c] Measured on a scale from 0–1 with 1 equal to high levels of heterogeneity and 0 equal to low levels of heterogeneity.
[d] Amount of communication reflects the sum of the average number of times respondents interacted with teammates
** $p < .01$, * $p < .05$

Previous work has argued that distributed teams, as compared with collocated teams, would experience more conflict. In our sample, we confirmed that affective and task conflict were higher in distributed than in collocated teams (M = 2.08 versus M = 1.86 and M = 2.64 versus M = 2.32, respectively). Models 1a and 2a (Table 2) regress geographic distribution on conflict (affective and task, respectively). The results suggest positive, but non-significant relationships between distribution and affective ($\beta = .19$, n.s.) as well as task conflict ($\beta = .28$, $p<.10$). Consistent with Mortensen and Hinds (2001), these data provide little support for the idea that distribution will be associated with increased intrateam conflict.

We now set out to understand the factors associated with conflict on distributed as compared with collocated teams. In our first set of hypotheses, we argued that distributed teams would be more culturally diverse (H1a) and that cultural diversity would lead to conflict (H1b). From Table 1, we find little support for either of these hypotheses. Cultural heterogeneity was not significantly correlated with geographic distribution ($r = .11$, n.s.), affective conflict ($r = .19$, n.s.), or task conflict ($r = .05$, n.s.). Consistent with this, cultural heterogeneity did not predict either affective ($\beta = .17$, n.s.) or task ($\beta = .02$, n.s.) conflict in the regression models reported in Table 2 (models 1b and 2b). Given the weak relationship between cultural heterogeneity, distribution, and conflict, we removed cultural heterogeneity from further analyses.

We also predicted (H2a and H2b) that geographically distributed teams would communicate less and that communication would be associated with higher task and lower affective conflict. In our reasoning leading up to hypotheses 2a and 2b, we also argued that reliance on mediating technologies would contribute to more conflict. As expected, distributed teams communicated with one another less frequently than did members of collocated teams (M = 10.87 versus 14.18) with mediated communications making up a larger percentage of their overall communication (M = 51% versus 35%). In regression models predicting conflict, amount of overall communication was negatively but weakly related to both task and affective conflict (models 1c and 2c), but percentage of mediated communication was not associated with conflict. Contrary to H2a, these analyses provide weak support for the idea that communication is associated with not only lower affective conflict, but also lower task conflict. When an interaction term (distribution × frequency of communication) was added to a regression model predicting task and affective

conflict, there was no evidence of an interaction (β = –.17, n.s. and β = –.10, n.s., respectively). These data provide little support for the idea that frequency of communication or communication medium are the source of conflict on these teams.

Table 2. OLS Estimates for Regression Analyses Predicting Affective and Task Conflict

	Model				
Affective Conflict	**1a**	**1b**	**1c**	**1d**	**1e**
Geographic distribution	.19	.17	.19	–.02	–.05
Cultural heterogeneity		.17			
Amount of communication			–.30†	–.01	–.04
Mediated technology (%)			–.11		
Coordination problems				.58**	.36†
Healthy conflict handling					–.58**
Adj. R^2	.01	.01	.06	.27	.40
F	1.25	1.14	1.71	5.27**	6.83**
df	*1,34*	*2,33*	*3,32*	*3,32*	*4,31*
Task Conflict	**2a**	**2b**	**2c**	**2d**	**2e**
Geographic distribution	.28†	.28	.20	.08	.06
Cultural heterogeneity		.02			
Amount of communication			–.29†	.01	.04
Mediated technology (%)			.09		
Coordination problems				.56**	.40*
Healthy conflict handling					–.32†
Adj. R^2	.05	.02	.08	.28	.42
F	2.92†	1.42	2.06	5.59**	7.35**
df	*1,34*	*2,33*	*3,32*	*3,32*	*4,31*

† p < .10, * p < .05, ** p < .01

One of reasons we expected geographically distributed teams to experience more conflict was because of the challenges that we argued they would face in attempting to coordinate work at a distance. Consistent with this, we found that distributed as compared with collocated teams in our sample experienced more coordination problems (M = 3.00 versus 2.58) and that these coordination problems were highly correlated with conflict (see Table 1). In our regression models predicting conflict (models 1d and 2d), we found that coordination problems were strongly associated with both affective (β = .58, p < .01) and task (β = .57, p < .01) conflict. In fact, the addition of coordination problems to the model significantly improved the model fit with the data. To better understand how coordination problems impact conflict on collocated as compared with distributed teams, we examined the interaction between distribution and coordination issues. These analyses suggest that distributed teams may be more negatively impacted by coordination problems than are collocated teams. When an interaction term (distribution × coordination issues) was added to a regression model predicting affective conflict, there was some weak evidence of an interaction effect, β = 1.70, p<.10. These effects were not present when predicting task conflict. These analyses provide support for hypothesis 3a and partial support for hypothesis 3b.

In our final hypotheses (H4a and H4b), we argued that geographically distributed teams would have less healthy conflict handling norms and that this would be positively associated with conflict. However, using our five-item measure of conflict handling, we found that distributed as compared with collocated teams were only marginally less well equipped to deal effectively with conflict (F[1,34] = 2.41, p = .13), thus providing little support for H4a. On the other hand, consistent with hypothesis 4b, our regression

models predicting conflict suggest that healthy conflict handling norms are associated with less affective conflict ($\beta = -.58$, $p < .01$) and marginally less task conflict ($\beta = -.32$, $p < .10$). These final models yield adjusted r-squares of .40 and .42 when predicting affective and task conflict, respectively, suggesting that these are reasonably good models for predicting conflict on these teams. To understand how conflict handling differed on distributed as compared with collocated teams, we added an interaction term (distribution × healthy conflict handling) to a regression model predicting task and affective conflict. Although the results for affective conflict are suggestive, there was no evidence of a significant interaction between conflict handling norms and either task or affective conflict ($\beta = -.87$, n.s. and $\beta = -1.66$, n.s., respectively).

9 DISCUSSION

Contrary to much of the theory predicting increased conflict on geographically distributed teams, our results indicate that geographic distance does not necessarily engender conflict. The assumptions underlying many of the predictions about conflict in distributed as compared with collocated teams revolve around issues of reduced communication and increased diversity. We found little evidence that these factors were at the source of conflict on distributed teams. We did, however, find that coordination problems and healthy conflict handling norms were important determinants of conflict on the collocated and distributed teams in our sample. These findings suggest that the content and nature of the communication may be more important than the frequency or medium used.

We also looked more closely at the coordination problems being reported by the teams in our sample. Our scale for coordination problems was composed of five items (see Figure 1), so we looked across all of the items to better understand the coordination issues facing distributed as compared with collocated teams. We found that the biggest differences in coordination problems between distributed and collocated teams was incompatibility between different team members' tools or work processes ($M = 2.84$ versus 2.32, $F[1,34] = 8.65$, $p < .01$) and incomplete or inaccurate information about what other team members are doing ($M = 3.03$ versus 2.52, $F[1,34] = 9.30$, $p < .01$). Differences in the information held by team members also varied somewhat between collocated and distributed teams ($M = 2.81$ versus 2.51, $F[1,34] = 3.14$, $p < .10$). These analyses suggest that distributed teams face coordination difficulties that may be magnified by distance.

We hypothesized that coordination problems would be associated with task conflict on distributed teams as team members develop different perspectives on the task and operate from different information. Although this was supported, we found that coordination problems also were related to higher affective conflict. High task conflict can lead to increased affective conflict, especially in teams with lower trust (Simons and Peterson 2000). Without a strong foundation of trust, team members are more likely to doubt team members' intentions and make more harsh attributions. Distributed teams may have a more difficult time establishing and maintaining trust (Jarvenpaa and Leidner 1999) and may, therefore, be more prone to unsympathetic attributions, thus allowing coordination difficulties to deteriorate into affective conflict.

The results show that conflict handling was an important predictor of conflict on the distributed and collocated teams we studied. Teams reporting more healthy conflict handling norms reported less task and affective conflict. Although the interaction between geographic distribution and conflict handling was not significant, the results were approaching significance and may have been weak because of the size of our sample. More work is needed to understand how conflict is handled on distributed teams.

Not surprisingly, our data suggest that members of geographically distributed teams rely more on mediating technologies to facilitate their interactions. It also appears that coordination problems arise more frequently when teams rely heavily on mediating technologies, $F[1,34] = 6.61$, $p < .05$. It is, however, important to note that many collocated teams also were heavily dependent upon mediating technologies for their intrateam interactions. Within the collocated teams studied, the percentage of interaction mediated by technology ranged from 13 to 67 percent, as compared to 25 to 79 percent among the distributed teams. These data suggest that reliance on mediating technologies may lead to coordination problems, but that it is a concern for collocated as well as distributed teams.

There are several limitations to the study we report. First, our sample of 36 teams, particularly given that only 16 of these were collocated, is relatively small. With a larger sample of collocated teams, we might expect stronger effects. For example, our results indicate a marginal relationship between geographical distribution and task conflict. In a larger sample, we expect that this relationship might be significant. Second, although geographic distribution may be more complex, we used a dichotomous scale. This was, in part, because we intentionally selected a sample in which number of locations (distributed teams were distributed between two sites), actual location (distributed teams were distributed between one site in Europe and one site in the United States), and time zone differences were held constant. Still, a more complex analysis of how the teams were distributed

(e.g., number of team members at each site) would be a valuable next step in this research. Third, we have reported no performance data in this study, so the link between conflict and performance is not clear. Although much research on conflict suggests a positive relationship between task conflict and performance and a negative relationship between affective conflict and performance (see Jehn 1995; Jehn and Mannix 2001), recent research reported that both affective and task conflict were particularly detrimental for distributed teams (Mortensen and Hinds 2001). We, therefore, anticipate that the conflict we witnessed would be detrimental for distributed teams, but look for further validation of this effect.

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