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Situated Coworker Familiarity: How Site Visits Transform Relationships Among Distributed Workers

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Previous research describes significant benefits from coworker familiarity but has largely assumed proximity and that familiarity accrues simply with the passage of time. Based on a qualitative study of 164 workers on globally distributed teams, we propose that relationships transform as a result of *situated coworker familiarity* established when people are collocated in a shared space for an extended period of time. Site visits play a pivotal role in enabling coworkers to become more familiar with one another's communication and work styles, capabilities and interests, personalities, work and social roles, and the cultural context in which they are embedded, thus transforming their relationships. After returning home, situated familiarity fosters behaviors reflecting closer ties, which then reinforce those bonds, suggesting that the situated nature of site visits transforms work relationships between distant coworkers in enduring ways. We contribute grounded theory about how *situated coworker familiarity* comes about and how coworker relationships transform as a result, particularly when workers spend most of their time apart.

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Introduction

The last decade has generated a steady stream of articles on distributed workers and work teams. In most of this research, distant workers are assumed to meet rarely, if ever. If such meetings do occur, they are treated as incidental to the research. As pointed out by Mortensen and Neeley (2012) as well as Maznevski and Chudoba (2000), however, many distributed coworkers meet face-to-face at least occasionally, and many visit their distant colleagues on a regular basis. We have, nevertheless, little understanding of the interplay between site visits and distant work and the effect of these events on relationships among coworkers. To further complicate matters, research on the value of face-to-face interaction for distributed work is inconclusive. In a recent review, for example, Connaughton and Shuffler (2007) note that the role of face-to-face interaction is a continuing theme in the study of distributed teams but that results are ambiguous, with some studies suggesting that face-to-face interaction is crucial to distributed work and others indicating that technology-enabled communication is adequate for collaboration at a distance. In the end, we are left with little understanding of what happens during face-to-face interaction between otherwise distant coworkers and how this matters to their work together. In our qualitative study of 164 workers on globally distributed teams, we found that workers became more familiar during site visits, and more importantly, familiarity was situated in the experience of day-to-day work and social interaction and observations made while side by side. This *situated coworker familiarity* then provided a foundation for closer coworker relationships after returning home—relationships characterized by increased responsiveness, more frequent communications, increased personal disclosure, and more discussion of difficult topics. We build theory about what situated coworker familiarity is, how it comes about, and what it means for ongoing relationships among coworkers.

The Role of Site Visits in Distributed Work

Proximity has long been considered one of the conditions necessary for ongoing relationships. In a study of friendship among students, Back et al. (2008) report that students who sat next to each other were more likely to be friends. Proximity increases perceptions of familiarity (Zajonc 1968; see also Kiesler and Cummings 2002), which contribute to the development of relationships (Berscheid and Reis 1998, Sias and Cahill 1998). Not all research, however, agrees that proximity and face-to-face interaction are important to relationships among coworkers. Walther (1992, 1996), for example, leverages social information processing theory to argue that, although the process may be slower, rapport among members of distributed dyads that never meet

can eventually exceed that of collocated dyads. Similarly, Wilson et al. (2006) demonstrate that trust starts lower in mediated groups but develops to levels comparable to face-to-face groups (although pure electronic groups never achieved the same levels of cooperation as those who met face-to-face). Field research on virtual teams has also claimed that knowledge repositories are an adequate substitute for face-to-face interaction (Malhotra et al. 2001). There are numerous studies of the role of proximity and face-to-face interaction in building rapport, but it remains unclear whether face-to-face contact is necessary for strong ties to develop and, if so, what transpires during face-to-face interaction that transforms these relationships. Most research also compares exclusively collocated with exclusively distant coworkers or partners but rarely examines the interplay between the two, further limiting our understanding of these dynamics.

The handful of studies that examine the role of face-to-face meetings interspersed with distributed work consistently suggest that face-to-face meetings are crucial for establishing strong relationships among distant coworkers. In their study of globally distributed software development teams, Grinter et al. (1999), for example, report that coworkers who did not meet face-to-face had more difficulty creating rapport and developing a long-term working relationship. Alge et al. (2003) also find that coworkers who met face-to-face and got to know one another before embarking on a mediated collaborative task reported as much openness and trust as those who worked face-to-face the entire time. In an early review, Olson and Olson (2000) conclude that face-to-face interaction is important to establishing the conditions necessary for distributed work. In their longitudinal study of three globally distributed teams, Maznevski and Chudoba (2000) further describe how regular face-to-face meetings create the rhythms that enable higher-level coordination. Touching (e.g., handshakes, pats on the back) and "breaking bread" together also have been found to contribute to a state of communicative readiness among distant workers (e.g., Nardi 2005). With few exceptions, research on distributed work consistently points to the importance of face-to-face contact as a means of building trust and rapport (e.g., Orlikowski 2002), translating locally situated knowledge (Sole and Edmondson 2002), interacting more rapidly on tasks (Crowston et al. 2007), and building social networks (Orlikowski 2002). This research generally suggests that periodic face-to-face interaction plays an important role for distributed workers, although what happens during these encounters remains largely a mystery.

We know of few studies that examine what transpires when workers visit the location of their far-flung team members and spend an extended time working and socializing with their otherwise distant collaborators—a pervasive practice among distributed workers. One exception is a recent study by Mortensen and Neeley (2012) that shows that workers who travel to the location of their coworkers have more knowledge, both direct (about their distant coworkers) and reflected (about their own location), and that this knowledge is associated with feelings of closeness and trust. Despite advances made by Mortensen and Neeley, limitations of their quantitative data preclude a deeper understanding of what happens during site visits that contributes to the closer relationships they document. Our data suggest that site visits deepen coworker familiarity; that this familiarity comes about when interactions provide visibility into how people think, behave, and are treated within the day-to-day context of work; and that it sets the stage for transforming relationships between coworkers.

Coworker Relationships

The dearth of research on the development of coworker relationships is not isolated to studies of distributed and global work. Despite the recognized importance of work relationships, "organizational scholars have yet to understand the dynamics, mechanisms, and processes that generate, nourish, and sustain positive relationships at work" (Ragins and Dutton 2006, p. 3). In her recent review, Sias (2009, p. 57) concludes that the "overwhelming predominance of supervisor-subordinate relationship research" has drawn attention away from peer coworker relationships. Workplace relationships, however, affect how we define ourselves (Sluss and Ashforth 2007) and how we feel about our work (Sias and Cahill 1998). They are essential building blocks that facilitate loyalty, problem solving, learning, and other positive organizational outcomes (e.g., Stohl 1995). Close relationships or strong ties, for example, promote learning (Meyers and Wilemon 1989), psychological safety (Carmeli et al. 2009), information sharing (Krackhardt and Stern 1988, Hansen 1999), innovation (Ibarra 1993), job satisfaction (Sias 2009), and cooperation (Jehn and Shah 1997); they also reduce turnover (Krackhardt and Porter 1985). More broadly, research concludes that coordination is fundamentally a relational process and therefore depends heavily on the quality of employee–employee relationships (Bechky 2006, Faraj and Sproull 2000). Faraj and Sproull (2000, p. 1557), for example, reveal how effective coordination in software development requires "an environment supportive of free and content-rich interpersonal interactions." Notions of social capital also have a relational component, which is said to encompass trust, cooperation, and communication between parties (see Boland and Tenkasi 1995, Nahapiet and Ghoshal 1998). Vogus (2006, p. 165), for example, argues that "at the most micro level, social capital manifests itself through interactions grounded in trust, honesty, and mutual respect that enable the development of a nuanced understanding

of a situation and allow for real time synthesis of meaning when unseen situations arise." Gittell (2002) has also demonstrated that relational coordination—a process whereby communication and relationships mutually support one another—is essential for high-performance teams in uncertain environments. It enables, she argues, fewer mixed signals between employees and fewer errors when working together.

Despite strong evidence that close relationships are important at work, we have amassed little knowledge about how coworker relationships develop. Research has attempted to identify factors that influence the development of workplace friendships, including contextual factors (e.g., proximity, organizational culture; see Hodson 1996), individual characteristics (e.g., gender; see Sias 2009), and relational characteristics (e.g., similarity; see Carley 1990). In an early study, Sias and Cahill (1998), for example, find that proximity, shared tasks, and extraorganizational socializing were the most influential factors in the transformation of relationships from acquaintance to friend. The transformation of relationships from friend to close friend was characterized by discussion of work-related problems and life events. Although informative, research to date on the development of close relationships among coworkers is limited and says little about how relationships at work form beyond identifying the factors that predict workplace friendships. Research has yet to identify what activities deepen relationships and lead to the increased responsiveness that characterizes close relationships at work (Clark and Lemay 2010). Furthermore, nearly all of the research on close relationships at work has been conducted with collocated coworkers, with limited theorizing about what people *do* to strengthen relationships.

One relevant line of research in the management literature that bears on the topic of workplace relationships is familiarity. That is, familiarity increases attraction which, in turn, increases closeness. In the workplace, familiarity is associated with increased productivity (Espinosa et al. 2007, Goodman and Leyden 1991, Jehn and Shah 1997) and increased information sharing in hidden profile tasks (Gruenfeld et al. 1996). In their study focusing on familiarity in distributed teams, Espinosa et al. (2007), for example, find that shared task experience (having contributed to the same piece of software code) improved performance. With regard to relationships, team member familiarity, in particular, leads to clearer expectations (e.g., Cramton 2001), better communication, and better coordination of expertise (e.g., Faraj and Sproull 2000), and it enables the development of cognitive structures related to roles and team member characteristics (Harrison et al. 2003, Lépine et al. 1997, Okhuysen and Waller 2002) and thus facilitates trust development (see Harrison et al. 2003). Team member familiarity also leads to the desire to work together, but only when previous experience is positive and the ties that develop are strong (Hinds et al. 2000).

Definitions of familiarity, however, have been inconsistent. In some studies, familiarity is simply defined as having a history of interaction (Harrison et al. 2003) or prior experience working with one another (Huckman and Staats 2011), whereas in others it speaks more to shared task experience (e.g., Espinosa et al. 2007), interpersonal knowledge of coworkers (e.g., Okhuysen 2001), or strong ties between coworkers (e.g., Goodman and Leyden 1991), characterized by deep versus shallow knowledge about one another (Harrison et al. 2003). Task and team member familiarity are examined, both at the dyad and team levels, oftentimes under the general heading of familiarity. Team familiarity, which is closely tied to coworker familiarity, generally refers to knowledge about team members, including their skills, personalities, and work patterns (e.g., Harrison et al. 2003, Espinosa et al. 2007). It is important to note that familiarity has been distinguished from workplace friendships, with familiarity referring exclusively to knowledge about coworkers and friendship incorporating affective ties (Goodman and Leyden 1991). Despite diverse definitions, for the most part, familiarity has been operationalized as either a prior relationship at the outset of the task together or an amount of time spent together. As a result, when examining the development of familiarity, not surprisingly, time is generally seen as the primary medium for achieving familiarity among coworkers (see Guzzo and Dickson 1996). In other words, more time together leads to more familiarity, although a plateau seems to be reached fairly quickly in laboratory settings (e.g., Harrison et al. 2003). Equating the passage of time to increasing familiarity has, however, obscured a more nuanced and deeper understanding of how familiarity develops among coworkers, particularly what coworkers *do* that cultivates familiarity. Thus, in spite of an extensive body of literature on familiarity, substantial gaps remain in our understanding of how familiarity comes about. As a result, our understanding of relationships at work and how they develop remains limited.

In sum, our reading of the relevant literature suggests a scarcity of research focusing on relationships among coworkers and that what exists is, for the most part, silent on the question of what workers do to promote strong workplace relationships. Research on coworker familiarity has been popular in organizational studies but tends to focus on shared task experience among team members, often operationalized as time together, so it yields few insights into how workplace relationships develop. Studies of distant work have established that face-to-face meetings and site visits are probably important, but research is inconclusive and has yet to illuminate what happens during those events, especially site visits, that transforms relationships among otherwise

distant workers. Site visits likely contribute to closer relationships between distant coworkers, but we have little understanding of why, nor do we have a principled understanding of what transpires during these visits.

In the study reported here, we introduce the concept of situated coworker familiarity and build grounded theory about how it comes about and how situated coworker familiarity, in turn, transforms relationships among coworkers. We define *situated coworker familiarity* as multiplex understanding that coworkers have of their counterparts in relation to themselves and their work together. We do so through a qualitative study of globally distributed workers who occasionally visit their distant colleagues. During these site visits, we noticed that relationships transformed, and our analysis clarifies what transpired and how it affected future work together. Our study focuses on situated coworker familiarity among globally distributed workers, but the context enables us to make broader contributions to understanding how familiarity comes about among coworkers. That is, research on familiarity is typically conducted with collocated workers and equates time collaborating together with familiarity. In the extreme context in which coworkers rarely spend time together face-to-face, we are able to see in more stark relief how familiarity actually comes about (or, in some cases, does not).

Method

Our five-person research team conducted in-depth ethnographic interviews and observations at two large high-tech multinational companies, GlobalTech and GlobalCom (pseudonyms), both headquartered in Europe. In Phase 1, the research team traveled to two cities in India, two cities in Germany, and five cities in the United States to conduct interviews with 164 team members involved in nine engineering projects in GlobalTech and two in GlobalCom. In Phase 2 (approximately one year later), the two authors returned to GlobalTech[1] to conduct follow-up interviews with each of the managers of the teams and meet with the teams to discuss topics that arose during our initial analysis. Our main focus at the outset of the study was to understand intercultural collaboration on globally distributed teams. The role of site visits was not something that we initially anticipated would be interesting, but it emerged out of our conversations with informants as an important theme.

Most informants were software engineers with the exception of 18 informants who served as liaisons between engineers and the sales organization at GlobalTech and about 15 participants who handled quality assurance and documentation for GlobalTech and GlobalCom projects. The teams were selected by our contacts at GlobalTech and GlobalCom based on our request for global teams split across two (and only two) sites[2] and whose work was highly interdependent. We asked for a range of teams with some that were having great success with global collaboration and some who were struggling. At our request, we were not told by our contacts at the outset which teams were doing well or poorly. In all cases, the team members were part of the same company, not members of subsidiaries or vendors. The team members worked closely together on joint projects involving the design, development, and maintenance of software development systems. In some cases, the teams were working on back-end development while others were focused on creating user interfaces. Several teams were transitioning projects to the maintenance phase, although even those teams had frequent requests from clients for new features and functionality. Depending on the project structure and phase, the amount of interdependence between specific team members varied, but there was, at any point in time, significant interdependence between some distant team members on every team. Teams generally held at least one joint meeting each week, and distant coworkers who were working closely together often exchanged emails or spoke by phone a minimum of several times per week as well as participated in teleconferences or videoconferences with the key people involved in that aspect of the project. There was no question that informants believed that their own success was dependent on the performance of their coworkers, both local and distant.

Informants in Germany, for the most part, were of German origin in their 30s to 40s with many years of experience. They were extremely knowledgeable about the functionality of the software, the domains in which the software would be used, and the market; they were relied on by team members from elsewhere for their expertise. The United States had an ethnically and culturally diverse group with informants who were from not only the United States but also India, Germany, China, Pakistan, and so forth. Like the Germans, they were mostly in their 30s to 40s and were highly experienced. They also had expertise in the functional domain in which the software was being used as well as the market. In India, the informants were primarily natives of India and were younger (early to mid-20s) and less experienced (zero to five years) than their German or U.S. colleagues. They often relied on their counterparts in the United States or Germany to fill in gaps, particularly those related to customer needs. In many cases, the technical, market, and domain expertise were distributed across the two locations, thus increasing interdependence across sites.

The work varied by worker, by day, and by phase in the project, but workers generally spent a significant amount of their time in front of their computers writing code, doing design work, and reading and writing emails. They also had informal meetings in coffee corners periodically and at least a few formal meetings each week with coworkers to review their work

together. Oftentimes, there was a weekly videoconferences or teleconference with the entire team across both locations.

Ethnographic Interviews

Spradley (1979) argues that an ethnographic interview is characterized by having an explicit purpose, involving explanations, and being composed of ethnographic questions such as questions that invite descriptions or contrasts. Following procedures for conducting ethnographic interviews (Spradley 1979), we interviewed with the aim of learning about informants' experiences related to their membership in an internationally distributed work team. Topics included informants' experiences in working with people located in different countries, communication and collaboration processes across sites, and the nature of their interpersonal relationships with coworkers. Sample questions included, "What is it like for you to work with colleagues in other countries?" and "How do you interact with your colleagues at other sites?" Although our goal when embarking on this research was to learn about intercultural collaboration on global teams, our inquiries were open ended so that the most pressing issues for individual informants guided the conversations.

Each interview averaged about one hour and were mostly conducted in conference rooms, private offices, and on some rare occasions, in cafeterias where informants and interviewers were seated in isolated areas. Interviews were recorded and transcribed. Occasionally we collected diagrams, email correspondences, and other artifacts that informants offered to supplement interviews. Our data for Phase 1 of this study represent approximately 170 hours of interviews. We also conducted some observations, several months after the interviews, but there were few site visits during our observations, so those data were not used in the analysis reported here.

Meetings with Teams

We returned one and one half years after the last set of interviews at GlobalTech to meet with the teams. Our goal was to learn about changes in the teams, as well as discuss, validate, and better understand some of the observations from our preliminary analysis of the interviews. The authors returned to the GlobalTech offices in Germany, India, and the United States. We interviewed 16 managers representing all nine of the GlobalTech teams in our study. In some cases, we interviewed a manager at each site, and in others we interviewed the previous as well as a newly appointed manager of the team. In addition to interviews with managers, we met with members from eight of the nine teams in our study.[3] In the team meetings, we described more details of the study to the participants (for example, we had not previously explained the composition of the sample) and shared with them some of our initial observations. In most meetings, two researchers were in attendance so that one could present while the other documented the discussion that took place. Through these meetings, we were able to explore with informants some of the insights from the first round of data collection in which we identified site visits as a theme. We spoke specifically in these meetings about our insights regarding the role of site visits and learned more about their value to workers.

Data Analysis

We coded our data following empirical grounded theory procedures (Strauss and Corbin 1998, Charmaz 2006). The first step involved open coding in which the authors coded all of the data to identify dominant themes. The importance of site visits and the role they played in future collaboration was revealed as a common theme in the data across sites, teams, and companies. Both coders independently identified site visits as a strong and important theme in the data. After identifying site visits as a theme worthy of deeper examination, we conducted *focused coding* (Charmaz 2006) to synthesize and explain how our informants understood site visits. From our focused coding, it became evident that there were activities that consistently occurred during site visits and that these activities were related to the transformation of relationships among distant coworkers. As we iterated with the data and the scholarly literature, it became apparent that what transpired during site visits was deeply situated and enabled coworker familiarity and closer relationships following site visits. Moving to *axial coding*, we iterated with different theoretical frames and coding schemes until a clear, coherent set of categories and relationships occurred. During this stage, we coded at the individual level based on how informants described their activities during site visits, how they described the situated familiarity that emerged in relation to their distant colleagues, and how they described their relationships following site visits. We created a series of data tables with multiple lenses on the data, for example, data tables organized by the location of the informant (e.g., Germany, India, United States), the combination of locations involved (e.g., Germany–India, India–United States, United States–Germany), and whether the informant was a traveler or host. From these different lenses on the data, we were able to identify patterns across individuals, locations, combinations of locations, and whether or not the person had traveled. In general, there were few notable differences between locations or combinations of locations involved, so the findings we report here focus on the shared experience of site visits.

Findings

In our data, most of the informants talked extensively, without prompting, about the importance of site visits—whether it was their own visits to the location of their distant colleagues, visits by their distant colleagues to their own site, or the insights gathered from other colleagues who had traveled. We found it intriguing that many of the informants who talked about site visits said something about "feeling more comfortable" with their distant colleagues after having a chance to spend time at their location. We explored this with them and propose a model for why workers felt more comfortable and how it transformed relationships during and after they participated in site visits either as travelers or hosts. We focus on extended site visits because short-term face-to-face interactions, such as at a conference or when traveling for a short meeting, were not described as having the same intense benefits as site visits. Having the distant colleague embedded in their own work context was an important ingredient to the enduring benefits articulated by our informants. By (extended) site visits, we refer to visits to the location of distant colleagues that lasted from multiple days to multiple months. Most importantly, during site visits, substantial time was spent by the traveler in and around the office of their distant colleagues, not cloistered in meeting rooms that allowed little insight into the local context.

Site visits were a practice supported by GlobalTech and GlobalCom, and nearly 40% of our informants reported having visited the site of their distant colleagues, although there was more travel to the headquarters office of GlobalTech in Germany, and few people from either company traveled to India. Table 1 provides details on the distribution of team members and the patterns of travel within each team. For the most part, GlobalCom travel was from India to the United States, although this was a new strategy, and they anticipated more travel from the United States to India in the future. Site visits ranged from three days to three months in length, with most visits lasting two to four weeks. Both companies hoped to bring about knowledge transfer and promote the accomplishment of joint tasks during site visits. The leadership also believed that site visits would help to build rapport and strengthen ties across sites, so they encouraged travel in both directions for at least some members of all teams. In our conversations with informants, over 75% of them told us that during site visits (either as visitors or as hosts) they got a better sense of their distant colleagues' work styles, communication styles, personalities, their role in the work context and social network, and their personal situations, such as whether or not they had children and how they commuted to work. They also learned more about what their distant colleagues were working on, how they approached and solved problems, and what knowledge they invoked when conducting their work. They learned this by being situated day in and day out with their distant colleagues.

Relationships existed prior to travel but were transformed as a result of site visits and the familiarity that developed during these visits. Not only did informants gain a situated understanding of their coworkers in context during the site visits, stronger relationships endured long after the travelers went home. Once people spent time with one another, an environment was created that made close relationships more effortless. Because they were less anxious and fearful, informants were more likely to pick up the phone and call a distant colleague. They were more likely to ask about vacations and children's well-being and to disclose personal information about themselves. They had a better sense of when people might be reachable, what information should be shared with whom, who got things done, and who were the respected developers in the group, all of which was situated in their work together. People were more responsive to their distant colleagues, replying to emails and inquiries more rapidly. After site visits, closer relationships made possible newly evolving practices that promoted ongoing maintenance of these relationships, as indicated in Figure 1.

Activities Evoked by Site Visits

Our data suggest that there were two primary types of activities that were made possible during site visits and were instrumental in generating familiarity—interacting and observing. Each of these had a work and a personal component to them. Informants, for example, relayed to us many stories about how they *interacted* with their distant colleagues during site visits. They talked often and at length about work, they asked questions, they presented ideas to one another, and they explored the meaning of their work together. At the same time, they talked about their personal lives, values, and anxieties. People asked coworkers questions, disclosed information, and invited situations that were relaxing so that coworkers were more inclined to share personal information. Similarly, when describing site visits, informants talked about *observing* their colleagues at work, seeing pictures displayed on walls and screen savers, observing their colleagues interacting and networking with others at the site, taking breaks from intense work to go to lunch, going for weekend or evening outings together, and being invited to their colleagues' homes for dinner. They said that they were able to *see* how people worked, when they came into the office in the morning and left in the evening, how often they checked email, who they spoke with, and how they treated and were treated by their collocated colleagues.

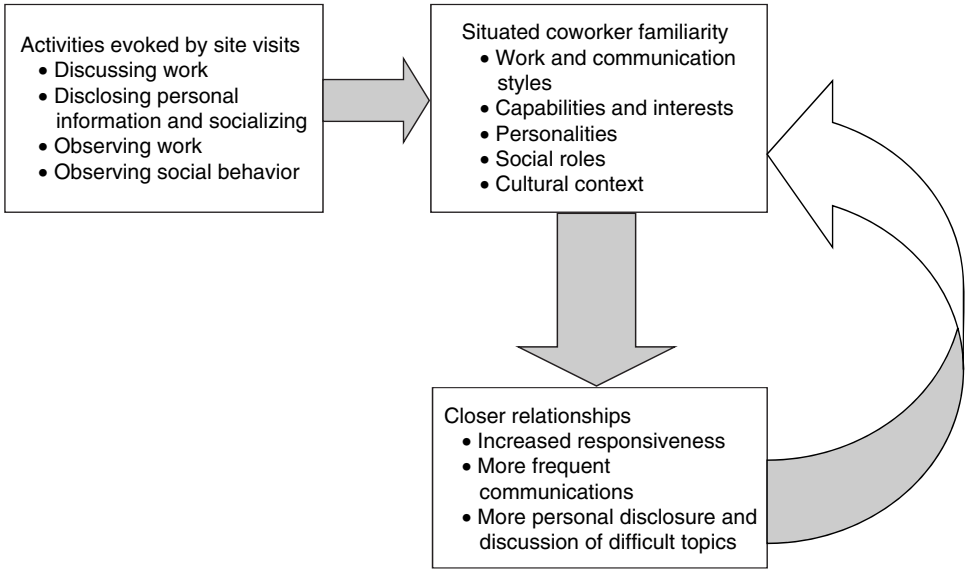
Interacting with Coworkers. As our informants worked side by side with their coworkers, they had opportunities to discuss difficult and complex topics

Table 1 Team Characteristics

	Number of team members		No. of team members who mentioned traveling	Typical duration of a visit	Typical direction of a visit	Amount of interaction during visits
U.S.–Germany	U.S.	Germany				
GlobalTech 1	7	9	7	2 weeks	Both directions	High levels of interaction and observations of work during visits, some personal interaction and socializing during and outside of work
GlobalTech 2	2	7	2	2 weeks	Only to Germany	Few site visits, but high levels of interaction and observations of work during visits, significant personal interaction and socializing during and outside of work
GlobalTech 3	6	12	7	1–3 weeks	Both directions	High levels of observations of work during visits, but limited interaction between visitors and hosts at or outside of work
U.S.–India	U.S.	India				
GlobalTech 4	4	6	4	3 months	Only to United States	Some work interaction, but limited opportunity for observations of work during visits, limited personal interaction and socializing outside of work
GlobalTech 5	6	7	3	3 weeks	Only to United States	Few site visits, but high levels of interaction and some observations of work during visits, some personal interaction and socializing outside of work
GlobalTech 6	7	4	7	3 days to 2 months	Both directions, mostly to United States	High levels of interaction and observations of work during visits, some personal interaction and socializing during breaks at work
GlobalCom 1	14	7	5	6–8 weeks	Mostly to the United States	Few site visits, but high levels of interaction and observations, some personal interaction and socializing during and outside of work
GlobalCom 2	10	3	2	6–8 weeks	Mostly to the United States	Few site visits, but high levels of interaction and observations, some personal interaction and socializing during and outside of work
India–Germany	India	Germany				
GlobalTech 7	16	8	8	1 week to 3 months	Both directions	High levels of interaction and observations of work during visits, some personal interaction and socializing outside of work
GlobalTech 8	14	4	9	2–3 months	Both directions, mostly to Germany	High levels of interaction and observations of work during visits, some personal interaction and socializing outside of work
GlobalTech 9	6	5	7	1.5 to 3 months	Both directions, mostly to Germany	High levels of interaction and observations of work during visits, limited personal interaction and socializing

together. They told us about how they could return time and time again as their understanding of a topic became more nuanced and could talk about it briefly each time and understand their coworkers' perspectives. They also told us how they gained deeper insight into how their coworkers were thinking about complex issues. One informant from the United States said that he sat with his coworkers in Germany for the two to three weeks that he was there. He said, "There would be periods where I'd be off by myself for an hour writing something, but I can't remember a span of more than an hour where I wasn't talking with one of them. I was sitting right there. They had questions, you know. . . . Who really said what about what? What do you think about this?" People talked in their offices formally and informally, in hallways, and in coffee

Figure 1 Process by Which Situated Coworker Familiarity Was Created and Closer Relationships Were Established a Result of Activities Made Possible During Site Visits



clusters about what they were working on and what problems they were having. Henrietta describes the visit of her U.S. coworker to her site in Germany:

> And she showed me the way she's working. I showed her the way my translation side is working and this went smoother afterwards because we understood a little bit more what . . . where the problems are and where we have to take care of or where we have to keep an eye on.

As Henrietta says, through discussing work together during a site visit, a new understanding emerged about how they were each approaching the problem.

Personal information was also revealed in conversations over the course of a visit during breaks from work, lunches, and evenings out; it was also interwoven with work discussions. Gerta, for example, described how personal information was disclosed during a site visit as she and her U.S. colleague worked together in Germany:

> When they were here, I mean we also talked about that . . . I mean, we know that she has a family and she has kids so it's not as easy for her to travel and come here at certain times. But, she still can arrange of course, but I know that about her background. I know that she was originally from Australia, so things like that. I mean, while she was here, we talked about a lot of things and quite open and on a personal basis.

The importance of socializing outside of work hours was emphasized by our informants. A manager in Germany, for example, said, "I think it always changes the relationship, when you have had personal contact. When they [colleagues from the United States] are here, we can go and have a beer together in the evening or just discuss a bit longer, go to lunch together and so on, you get a bit outside the pure business thing." As indicated in this quote, these activities—having a beer together or discussing things longer—prompted familiarity and, ultimately, a closer relationship. An informant from India who had traveled to the United States also expressed the importance of informal interaction as a window into coworkers' lives. Contrasting what happens in the office, he said,

> When you're in the office, you're expected to be polished enough and you're expected to be like, have a mask . . . whereas when you are out of the office, you tend to let yourself go loose and talk frankly. . . . Once we were driving . . . we had a good discussion about Krishna and Christianity and all, democrats and republicans.

Discussing work and disclosing personal information helped people to learn more about their distant colleagues. Interaction was frequent, informal, and deeply contextualized in the work and in local colleagues' day-to-day lives. As a result, they became more familiar with coworkers' styles and preferences and their place in the social fabric of their locale.

Observing Coworkers. Being able to see the context in which people worked and see people as they interacted within this social context was also critical to making sense of their behavior. As described by an informant from India after a several month trip to the German site, "I could see them, I could see the way they work . . . I mean you're sitting next to them, you observe them, they work and then you get to know a lot about them." A colleague on the same project said, "You just see the person, the way they work . . . you see people, how they organize themselves, how they interact. . . ." In another example, a manager at the German site, Aldrich, talked about the difficulty he was having with one of the Indian

workers who reported to him. Aldrich said that he would send out an email to five people and he would hear back from the other four, but he would not hear from this fifth person and he did not understand why. As a result of going to India, Aldrich realized that the reason this person was not answering was because he was working it out in his head, in a very detailed way. Then, he would come up with an elegant, perfect solution. It was not until the site visit that Aldrich understood that the seemingly unresponsive Indian employee was extremely talented but needed time to consider the problem before responding. Another informant from Germany talked about the importance of working near one another. He said, "Videoconferencing is not the same as knowing. You must sit together and when you see . . . yeah, if you work together for one week, two weeks or so, and you see how hard the other is working or how good he is working, and then you get some respect for the other." One of the project leads in India emphasized the importance of seeing her colleagues at work when talking about her experiences traveling to the U.S. site in saying, "I guess you learn the way they work and what are their priorities and, you know, what makes them tick." In sum, the informants in our study relied heavily on the practice of observing people at work as a means of developing situated familiarity with their distant colleagues.

Observing team members as they interacted with others was also informative because it provided insight into the "real" personality of coworkers and gave a sense of coworkers' place in the work and social network. One informant from India, Abhay, described a tense relationship with his colleague from Germany. Hans, he said, was always abrupt and even rude to him. Abhay said that he had tried to work with Hans and had been especially accommodating, but nothing seemed to matter because Hans clearly disliked him, so Abhay gradually started avoiding Hans. During a visit to the site in Germany, however, Abhay was surprised to see how Hans interacted with his German colleagues. Hans was even more abrupt and seemingly rude. Abhay realized that Hans' behavior toward him was not personal and that Hans may have been trying to be friendly, in his own way. Seeing Hans's behavior in context with his local colleagues provided the more nuanced information Abhay needed to better interpret Hans' behavior toward him. An informant from the United States summarized the value of observing social behavior when he said, "You just have this more personal . . . you can see their facial expressions. You can see their body language, which you can read a lot, obviously from it. Like is it negative? Is it positive?"

Many informants also attended social gatherings during their visits and observed behaviors and customs as a way of understanding their coworkers. One of our Indian informants described outings during her visit to the United States:

> So there is a personal rapport also developed with them. We have had instances where we all had a get-together in [U.S. city] . . . we went to a beach resort during the Memorial Day weekend, so you exactly understand what their kind of lifestyle is. And during our time there was a person leaving the company, so we went for farewell. So we know how things take place. And it is a farewell, people are very casual, they talk about how they proposed to their wives . . . you exactly know, I mean what their real personality is.

Observing coworkers was a big part of establishing familiarity. Informants in our study frequently talked about being able to see what others were working on, how they solved problems, what information they used, and the nature of their collaborations with others. Familiarity derived from observation was essential for predicting and interpreting the motives, actions, and goals of others and for coordinating activities in a complex social environment.

In contrast, the work practices engaged in at a distance, prior to these site visits, afforded less exposure to insights about distant colleagues, and thus less familiarity. In our data, being embedded with their distant colleagues, in the context of their work, in their social context, and in their lives was a critical part of establishing familiarity. Telephone and videoconferences, from their perspective, simply did not provide the same opportunity. The teleconferences and videoconferences that we observed were structured, people were formal, there was a fixed start and stop time, and the format and structure discouraged one-on-one discussions. As one informant from Germany put it, "So when you hear the voice on the phone, it's kind of hard to imagine how the person looks like and also to understand the intention. When you talk on the phone a lot of things get lost." Another German informant said, "But you cannot get this experience when you have a videoconference . . . you have to work together, to sit together." The ability to observe one's colleagues, sit next to them for days on end, and break bread together enabled situated familiarity to be deepened. These kinds of exchanges seemed to happen after days or weeks of working together. This is not to say that teleconferences and videoconferences do not contribute to familiarity. They do. But in our data, the familiarity that could be gained was severely limited because the workers were not able to engage together in the same physical and social world.

Throughout our data, we found evidence of closer relationships between distant coworkers following site visits. As stated by one of our Indian informants, referring to his site visit to the United States, "So that's when we really got to know them a little bit on a personal level . . . as a personal friend, I would say." They responded more quickly to one another, interacted more often, and disclosed more personal information after having spent time together in a shared work location.

Situated Coworker Familiarity Achieved During Site Visits

The interacting and observing that was evoked by site visits contributed to *situated coworker familiarity*. Although some familiarity was gained about the work itself, much of it reflected familiarity gleaned about their distant colleagues and the work and social context in which they were embedded. The familiarity that emerged during site visits was of five types: familiarity with coworkers' work and communication styles, familiarity with coworkers' capabilities and interests, familiarity with coworkers' personalities, familiarity with coworkers work and social roles, and familiarity with the cultural context in which the coworker was embedded, each of which we describe below.

Familiarity with Coworkers' Work and Communication Styles. Our data were rife with comments symptomatic of informants' fear and anxiety about their ability to anticipate and predict the behaviors and responses of their distant colleagues prior to site visits, about knowing how to act in situations involving these people who were hardly known to them. Vijay, in India, for example, described his discomfort at contacting a colleague in Germany, Manfred, who he had not met. Vijay said, "So initially, that fear was there . . . because I don't know how he looks like and then, how will he take my mail or what mood he will be because. . . ." Vijay went on to say that he was nervous waiting for Manfred's replies because he never knew what to expect. Another informant explained, "Before I met this guy I was thinking . . . hmm, what does he mean? Is he serious or is he just kidding or what? What does this guy mean? But now it's clear that what's the sense of an email. . . . If you know the people, then you can imagine." Meeting his distant colleague made it possible to "fill in the gaps" of things that went unsaid. In both of these cases, prior to site visits, they were anxious about interacting with their distant colleagues because they did not know enough about them to know how to behave appropriately. Similarly, following a visit from his Indian colleagues, an informant from the United States said,

> I think there will be less anxiety about them misunderstanding . . . because they will know that you never had any ill intent or any reason for asking that thing that they might perceive as, or misinterpret as being anything but what you thought it was. So, I think that's one thing. I think you'll relieve any need to try to really read between the lines in emails.

Numerous informants said "I just felt closer" after a site visit. One informant from Germany working with people at the U.S. site said, "You see the way people move and speak and it's . . . I think it tells you much more about the person and so you get a more personal relation." Another German team member explained how beneficial it was to have his Indian colleagues on site. He said, "And you are doing work together for one day, eight hours, and so then you get a feeling for how the other will react or yeah, the other understands yourself." Rajat, from India, also described what he learned by visiting the site in the United States and seeing his colleagues at that site work. Rajat said,

> And the other thing is that how do their time schedules match. I mean how rigid are their timings and what is the exact . . . sitting here, I'm not sure actually. I wasn't sure until I reached there that there are certain people who are used to coming in late and are used to leaving late. There's certain people who are used to coming in early and who are used to leaving early. . . . So you kind of know as to . . . when I came back, I said, "Hey, I can always get in touch with the person, this person should be in office by now." It's like that. So, that way, I mean, you kind of know as to what exactly their working styles are and how they approach a problem, whether they, I mean, whether they actually discuss it with the project lead over there or work it amongst themselves . . . so we got an insight into their working styles.

As Rajat says, he was able to get insight into when people are at work, when they can be reached, and how they approach problems. This insight into work styles, he said, made collaboration easier. A German informant summed it up. He told us that "with emails, you cannot actually imagine . . . okay, what actually happens in a working day, how people are interacting, how the work is being done. How the things get done. So that's a little bit difficult." Our evidence thus suggests that the activities engaged in during site visits helped informants to build familiarity about their work and communication styles so that they could anticipate the behaviors and reactions of their coworkers in the context of their work together.

Knowing Coworkers' Capabilities and Interests. In addition to understanding their colleagues' work and communication styles, informants talked about being able to see for themselves the capabilities of their distant colleagues, e.g., knowing who had what expertise and what that meant for them in the context of their shared work. In one situation, Steve, a project manager in the United States, was skeptical about the skills of his team members in India. He described to us how important a site visit by these Indian team members was to understanding their skills and what they needed to be successful. Steve said,

> But I think a lot of us had different views, like, or different perceptions of who these people were. And, actually being able to work with them, like in person, it really changed that view over the two months that they were here . . . I guess the biggest thing we had was them being able to deliver . . . because we thought, oh, we're not sure if they have the skills that they need to do what we're asking them to do. And, but it was when they came here and were able to ask questions and us being able to

> show them . . . we really got to see that, wow, no, the only problem was that we just weren't giving them enough information.

As indicated by Steve, and supported by other informants, it was only in seeing workers acting on their knowledge and working directly with them as they did so that coworkers truly began to understand the capabilities of their coworkers and how they needed to work together to leverage those skills most effectively. Informants explained how they were able to understand not only their capabilities but their interests. One said that the site visit "gave us a little bit better understanding of what their interests are, what their skill sets are . . . because before that, I knew their names, I have read their emails, but I have no clue what their interests are or what they really wanted to do. Because ultimately, everything is based on the people's skills and like personal things."

Familiarity with Coworkers' Personalities. In addition to understanding and anticipating team members' work styles, capabilities, and interests, informants told us repeatedly that personalities became more transparent during site visits and that this element of familiarity helped in predicting coworkers' behaviors. An informant from India described how information acquired during a site visit about a distant colleague's personality helped to decipher this colleague's behavior. He told us,

> I could understand him better. I knew that this is his style of writing an email. Though he sounds angry, he's actually not angry, he's just giving you information. Maybe this is not a German, Indian, or locational issue, or even an ethnic or cultural issue. Maybe it's just an individual personality. But then these things do get amplified with distance. So, but I know very clearly . . . this guy is not angry. It's just how he sounds always. He might sound a bit rude, but that's not what he means and you don't have to do much about it.

In telling us "you don't have to do much about it," this informant reiterated how knowing his German colleague's personality helped in "making sense" of this coworker's behavior and knowing how to respond (or not) to the benefit of the collaboration. Another informant mentioned that during distant work, a picture was formed but was transformed during site visits. He laughed, saying there would be a "picture you draw of the person when you don't see him or her. That gets erased then. You get a new picture." An Indian informant visiting Germany described how he was astounded to see his boss come into the office in his bicycling clothes and saw, as a result, that he was not such a formal person. Aditya said, "He sometimes comes to the office cycling with a total cycling suit, a cap and everything and with three quarter pants and he will come into the office in that dress . . . I feel that there should not be anything like, you know, very formal and that kind of thing." As a result of learning that "he was not such a formal person," Aditya behaved less formally with his boss. As coworkers became more familiar with the personalities of their coworkers, they were able to adjust the attributions they made about coworkers' behaviors and the way that they interacted and collaborated together. Knowing the personalities of coworkers was an important and often mentioned part of what familiarity meant to our informants.

Familiarity with Coworkers' Work and Social Roles. Interacting with and observing coworkers also provided insight into the roles that people played both formally and informally on the projects and in the organization. As stated by one of the seasoned managers in India working with an Indian–U.S. team, "So once I came to know those guys, I met up with [colleagues in the United States], I really understood the hierarchy, or structure, in [U.S. city] and who was handling what." Understanding peoples' roles in the shared task as well as within the larger organization and gaining insight into their position in the social network reflected deeper levels of familiarity. A German informant, Erich, who was one of the few who visited his colleagues in India, described how site visits helped him and his team members better understand their work together. Erich said that before the visit, "I knew people only by name and wrote some emails and some of them I didn't even know the role in the team, . . ." but after visiting, he "noticed that some guys are really well appreciated by others. You cannot get this by simply writing emails or by getting phone calls. I think that's only possible if you see the people, how they interact with each other." He learned that some people's "opinions are more valuable" than others. It was important to Erich to know whose opinions were valued because it helped him to interpret the dynamics on the team and to know how to interact with his coworkers to get work done. Erich went on to say that he thought that his team members in India also knew him better after the visit. He said, "I had the feeling that they now understand what my role is . . . and before, I was not quite sure if they know. . . ." Informants also described how site visits provided insights into what information coworkers needed and leveraged to accomplish their work. An informant from Germany described how, in the absence of transparency, he could not make sense of requests that came over email. He said,

> I think that it's easier to understand the issue that they have . . . so sometimes before, there came some requests . . . I thought "Why the hell do they need this?" Oh, and when we've talked about it a little more, it's better to understand, you know, the background. I think the same information and the same awareness would come after a lot of phone conferences as well, but to see them face-to-face makes it much faster.

Overall, during site visits, coworkers got a better sense of how their coworkers and the work they performed fit into the context of the local work environment and social structure. It clarified colleagues' roles, in terms of both task structure and social networks. It also led them to better understand the information needed by others and to feel better understood as well.

Familiarity with Coworkers' Cultural Context. Informants also talked about developing more insight into the cultural context in which their coworkers were embedded and, as a result, beginning to get a better sense of the meaning of their coworkers' behaviors and, thus, how to interact more effectively with them. One of the U.S. informants, Karen, talked about her trip to Germany, saying, "I could identify their work with their culture because if you see how Germans work in their life, they're very . . . for them quality . . . you know, is utmost. And when you are in that country and you see everybody else, as well, working that way, then you understand why they are so . . . emphasize that so much more in their work." By understanding the emphasis on quality in Germany, Karen was able to adjust her expectations of her German coworkers in a way that eased the collaboration. Another informant, Greta, from Germany discussed her visit to India and how it allowed her to "learn a lot about India and the Indian people and how they feel and how they live." Coworkers also attempted to determine whether or not their own behaviors were culturally appropriate through interactions as they got to know each other. This was a dynamic process in which adjustments were made based on the results of their behavioral experiments. As stated by one of our U.S. informants,

> And also when you are talking to each other, so I'm very often kidding and fooling the others and I cannot be sure if maybe somebody from India, different culture, if he's thinking that's funny of if he's insulted about this. But if you have somebody close to you and you are joking and he's laughing, then you know he's understanding. And if he's not laughing, then maybe the next time you don't do it. . . .

Knowing their coworkers as part of the work and cultural context in which they were embedded, overall, helped them to understand and anticipate their behaviors and, as a result, feel more comfortable with them.

Familiarity with coworkers was frequently cited as an outcome of site visits and an avenue for establishing closer relationships. Unlike previous research on familiarity, however, we noticed that the coworker familiarity achieved during site visits was deeply situated in the work and the context of the daily life of coworkers. During site visits, coworkers observed and reflected on their colleagues' behavior in situ. In doing so, they came to understood more about how their coworkers worked, what they cared about, who they were as people in those situations, and what that meant for their collaboration together.

Closer Relationships Following Site Visits

Our data were rife with comments about how getting to know distant coworkers helped our informants to better anticipate or predict others' behavior, understand other's expectations of them, understand where the other person was "coming from," and to be "seen" and understood themselves. When asked what collaboration was like prior to site visits, our informants commonly said that they were fearful. They were afraid that they would inadvertently offend someone, that there would be a misunderstanding, and that the collaboration would be damaged. They simply did not trust that contact with their distant colleague would go smoothly, nor did they trust themselves to behave appropriately to avoid a mishap. A German informant, for example, told us, "If I just tell him or her the facts, he or she will totally be screwed up and will not understand it . . . will react in a way that I don't want him or her to react and so on." After site visits, however, they felt that they could better predict the behavior of their distant coworkers. As described by an Indian developer who had traveled to the United States, "We know exactly, like when you hear their voice, you know how their reaction is going to be." A German informant who hosted colleagues from the United States similarly said, "You know how those people talk and that makes a difference when you, for example, talk to them over the phone . . . I think you can better judge their reaction." Another informant told us that after site visits, "Like you know the person. And while talking, you'll exactly know what is his feeling and what is his reaction about certain points."

In addition to predicting the reactions of distant colleagues, informants talked about adapting their own behavior to better suit the relationship. An Indian informant, for example, said, "If I have to work with someone in another location, if I see him, I interact with him one week, then I know at what level I have to interact. Whether I can be informal, whether I have to be formal, and other things." Such insight enabled perspective taking. As described by an Indian developer, "He might be trying to tell from the point he thinks or from the point he thinks she is thinking, but I will try to tell the point from the point she actually thinks. So that's the difference. If you don't go, you might not be able to explain some things sometimes." The combination of being able to anticipate others' reactions and adapt one's own behavior to increase the likelihood of a smooth interaction was said to significantly alleviate the anxiety previously associated with the distant collaboration, which, in turn, transformed situated coworker familiarity into what were perceived as closer relationships. In many instances, coworkers also began to feel that they were being "seen" by their colleagues. As explained by one Indian informant on a German–Indian team,

> [How we communicated with Germany city] was through emails and calls. We had even not seen them. . . . And the

> two colleagues who came from [German city], they were actually very, very impressed at the things going on here. Because they are people with big experience behind them and we just say two or three months in the same company, or maybe five months into the company. And their expectations are actually shattered. Yeah, then they had to rethink over what they expect from us because we were catching up really fast.

As this informant explains, their German colleagues had to "rethink over what they expect from us," thus reconstituting their ways of working together based on this newfound insight into their Indian colleagues' capabilities and interests. Being "seen" was a crucial part of deepening relationships because it led people to believe that their distant colleagues understood them and could therefore could be trusted to act in ways consistent with their position, knowledge, and preferences.

In tandem with feeling more confident in their own ability to engage successfully in these distant relationships, informants made consequential changes to their behavior with one another after returning home. These new behaviors reflected relationships that were closer and more trusting—both trusting the others' behavior and trusting one's own ability to behave appropriately. Behavioral changes included increased responsiveness, more frequent communication, and more disclosure and discussion of difficult topics.

Increased Responsiveness. Increased responsiveness was the most frequently cited evidence of closer relationships gained through site visits. Informants told us that after site visits, they and their distant coworkers responded in a much more timely manner to emails and requests. Arabel,[4] from Germany, said laughingly, "It's human nature. Once you know . . . the person behind the email, you have more personal relationship there and you just . . . well, I won't say you don't answer other emails as quickly or not as quickly as someone, but somehow it makes it more comfortable." Another informant, Samar, who was from India but working at the German site, concurred:

> And if you meet the people first, that's much easier to work together with those people. Because I remember when I used to be there, you had contact, it sometimes took a while and then you went over here and met these people and say, "Oh yeah, actually he's a nice guy and so easy." And the next time you send emails, you call them, you get the answer right away. So it really made an improvement that you met these people.

Increased responsiveness not only referred to being more rapid in replying but also going out of one's way to help a distant colleague. An informant in the United States described how collaboration with her colleagues in Germany was enhanced after she visited them. She said,

> And also sometimes people sound, not rude, but kind of like "rrr rrr rrr" on the phone and you really have to not take that personally because that's, number one, the way they are really and, number two, I think they are less "rrr rrr rrr" on the phone if they know you . . . we really spend time with them and they really go out of your way to help if you have a problem at work. And they will spend the time to talk on the phone and do things rather than just say, well, just put it in an email or do this formal way we do things.

Another informant, this one from India, said, "And the difference that you find after that is once you go back, the level of interaction or the level of reaction time or the level of support that you get is much more enhanced or better."

More Frequent Communication. In addition to responding more quickly, our informants told us that they talked more frequently after site visits. Informants said that they felt comfortable calling one another more often and speaking for longer after site visits. They were not as stymied by fears of misunderstandings or inadvertent insults. An informant from Germany described his experience by saying, "If you know the people, then it's easier just to call . . . 'Hey, how are you doing? What's up, what's new?' and just 'Okay, nothing much. Okay, just wanted to check.' And so you keep it on a personal level, which you don't do if you don't know the person." Hansel, from Germany, explained, "Not a problem at all, you know, just to make phone calls from home, because you know someone. If you don't know someone, you probably don't do this." Informants also told us how they talked at much more length with their distant coworkers about their work. One developer from Germany explained that emails had previously been "one sentence . . . two sentences," but after the site visit that "becomes one paragraph now."

More Disclosure and Discussion of Difficult Topics. Not only did informants respond more quickly and invest more time in conversations with distant colleagues, but they frequently referred to more personal disclosure and discussion of difficult topics after site visits. Rapesh, from India, for example, described how it became more comfortable to have personal conversations after his visit to the United States. Rapesh explained, "But now we ask, 'Okay, how is your weekend? You're going on a vacation?' So, this kind of talks we have. 'How is the climate over there?' Or something like that. But initially there was nothing like that. It was directly to the agenda." A German informant described how she was able to explain her behaviors more openly after a site visit. Hilda said, "Yeah, because you talk on a different level and its rather this like . . . once I had met Sandra, it was like, say 'ooh, I'm really stressed because of this and that, so sorry if I'm not working properly at the moment' or whatever. I wouldn't say this to someone . . . that I haven't met before." Another informant captured this sentiment by saying that after site visits, the meaning of asking "how are you?" changes. She

said, "Perhaps not just a flowery phrase, but you know each other, right? And then that already is something totally different together." Disclosure not only affected personal topics but also reflected an increased comfort in talking about problems at work. Talking about raising difficult topics after a site visit, an informant from India who had visited the site in Germany said, "Ultimately, your knowledge grows. That's the best part about going and traveling or them coming over here. You get to know them personally better, if you have any problems, you can just call them up and ask them, 'What's the problem?' So, it gives you a lot more freedom to basically intermingle or interact with the person once you know them in person."

Our data suggest that the relationships between distant coworkers grew stronger after the site visits and that this persisted after visitors returned home. Evidence clearly shows that team members talked more often and at more length with each other, were more responsive, discussed prickly problems that would have previously gone unnoticed or festered, and appropriated media to disclose personal information, all indicators of close relationships. None of these activities felt *quite right* prior to the site visit, but after becoming more familiar with each other, these same activities came naturally, and bonds strengthened among distant coworkers.

Our data further suggest that these behaviors reinforced situated coworker familiarity even after the site visits had ended and coworkers returned home. The new behaviors perpetuated ongoing learning about one another as they talked more often, at more length, and more openly. In doing so, they leveraged the situated coworker familiarity developed during site visits, referencing knowledge about their work styles, their family situations, their cultural contexts, and even shared jokes. Although not situated in the same work context together after site visits, leveraging situated coworker familiarity after returning home created lasting effects.

When Site Visits Go Poorly

So far, we have highlighted the positive effects of site visits. Most of our informants who traveled benefited tremendously from these site visits, but a few described being ignored and poorly treated by their hosts. In some cases, bad feelings prior to the visit were reignited and then smoldered well beyond the visit. One informant from Germany described a visit from a U.S. colleague who "didn't even present himself" when he arrived in Germany. He did not introduce himself or go to lunch with the German team members. Eva said, "You never really spoke to him, so he's just as blank as before, basically, with a slightly negative touch because he didn't use the opportunity when he was here." An Indian on an extended visit to the German location also described having a difficult time getting to know people. He said, "They have a very reserved attitude; it's difficult . . . it's difficult to break in and I was just there for three months, so it didn't matter whether I made friends." In both of these cases, the visitors did not engage in the activities that we found were building blocks of situated familiarity, and relationships were not deepened (and were sometimes damaged).

In another case, all except one of the team members from India visited the U.S. site. As described by several of the Indian informants on that trip, the Indian visitors did not feel welcome or well integrated into activities with their U.S. colleagues. At lunch, they sat apart from their U.S. colleagues at a separate table in the same cafeteria. Although vegetarian, they were escorted to restaurants whose menus were dominated by meat dishes and were often left to fend for themselves in the evenings and on weekends. One informant described going to McDonald's because they were "starving" and ordering a cheeseburger thinking that it would have "just a layer of cheese and bun" but was frustrated to find beef. One of the Indian visitors described his reaction to his visit to the United States as inhospitable. He told us,

> In India if a newcomer is coming, or say somebody is coming from [German city], we give them already a warm welcome. Like we'll take care . . . where they are sitting and all those things. Small, small things like seating arrangements and other stuff, but there they don't bother about it. It's up to you to ask about these things, so sometimes you feel lost.

When asked whether he had the chance to build personal relationships during his visit, he responded, "Not with anybody." An informant from the United States that hosted the team from India said that the Indian visitors "pretty much stayed together." He continued, "I didn't really see anybody . . . they pretty much worked together, stayed together. . . ." In these cases, the site visits lacked the activities that established situated coworker familiarity. In fact, they fed the distrust that preceded the visit. A host from Germany also described a site visit that did not live up to expectations. He told us that when a group of colleagues from India came to visit, they would "hang out with their own group . . . when we do sit down and eat, they hang out with who they are comfortable with, which is their own colleagues from India." Together, the visitors and those being visited did not engage in the activities of personal discussions or socializing together. They spent very little time working side by side or observing their colleagues interacting with others. Thus, situated coworker familiarity was not developed, and relationships suffered.

The site visits that were not associated with closer relationships seemed to be of two types. At least half of the informants who described negative experiences during site visits were part of teams with a strong feeling of threat and distrust prior to the visit. In these situations, the work was moving to India and there was some resistance on the part of the other location (the

United States in one case and Germany in the other) to transfer the work. Even before the site visits, there were hard feelings between coworkers with the Indians feeling devalued and the U.S. and German colleagues distrustful of the Indian colleagues' product knowledge and ability to do the job. In these cases, there was often little interaction and minimal socializing, and the Indians felt unwelcome during their stay. As a result, little familiarity about one another was developed, and relationships either stayed the same or worsened. The other type of visit that went poorly seemed to be related to individuals' personalities. Despite sitting near their local hosts, these visitors were described as "reserved" or "blank" because they did not take advantage of the opportunity to talk with and get to know their hosts. In these cases, hosts were disappointed and felt that an opportunity for familiarity was squandered. These cases reinforce that the benefits of site visits are embedded in and derived from the activities that reinforce situated coworker familiarity as the visit unfolds and not simply the result of being in the same office or meeting face-to-face.

Travelers vs. Hosts

Our analysis reveals important differences in situated coworker familiarity based on whether or not our informants traveled or primarily hosted coworkers traveling from distant sites. Most of our informants were hosts, because at least some travel occurred in both directions on most teams, and hosting was typically a responsibility shared by all team members. The number of visitors hosted, however, varied greatly between teams. We found that travelers, compared with hosts, described deeper situated coworker familiarity as a result of having been embedded in the context of their distant team members for several weeks to several months. In particular, travelers more frequently referenced the value of observing coworkers at work and in social settings during their visits. They were more likely to talk about gaining familiarity with the work styles and practices of their distant colleagues and work roles at the distant site, including the pressures experienced by their far flung coworkers. This pattern is consistent with the notion of coworker familiarity being deeply situated, since work styles and the context and structure within which they occur are highly intertwined.

In cases in which informants were not able to travel and were therefore less familiar with the current practices of workers at the distant site, they sometimes relied on collocated colleagues who had recently traveled. This was particularly true for nontravelers who also had minimal opportunity to host because of no or infrequent travel to their location. By asking traveling team members for insights about the distant site, nontraveling team members were able to get access to some of this newly gained or updated knowledge. We noticed that informants asked collocated colleagues who had traveled for information about the communication preferences, personalities, and work styles of their distant colleagues. They also asked for advice about when to call, how to craft emails, and how to approach these distant strangers. One Indian team member who had not yet had a chance to travel to visit his colleagues in Germany and whose team had hosted only a few visitors from Germany said, "From what I have been told from my colleagues who have visited there—yes, it is very different there. From what I know, I think the biggest difference is the people think different, they work different. They . . . I think they work a little bit less independent." Similarly, an informant from Germany when asked how he learned about his colleagues in the United States said, "I just know it from people who have been there and told me. It's more like that they, for example, they mix up private and professional life, I think more than they do here." Having a colleague who had insight into the distant location seemed to be highly valued by the informants in our study, particularly those in India who were working with the German site and attempting to understand cultural differences and expectations for behavior. These third-party informants were an important avenue for reducing the uncertainty of those who had not yet traveled, although the nontravelers' descriptions of the people and practices were distinctly more superficial, and their level of comfort rarely matched those who had traveled. In other words, learning second-hand, without first-hand experience with the context and the ability to develop familiarity with these distant colleagues in situ, severely limited the situated coworker familiarity that could be accomplished. These coworkers rarely described the behaviors suggesting closer relationships—they did not feel comfortable asking personal questions or disclosing personal information, calling distant coworkers by phone, or communicating frequently. Instead, they remained fearful of missteps that would harm the relationship.

Discussion

Our research suggests that situated coworker familiarity is fostered when people are collocated in a shared space for an extended period of time. As they interact with and observe one another, they become more familiar with one another's work styles, capabilities, personalities, roles, and cultural context, which enables bonds to strengthen, in large part because coworkers feel more confident in being able to predict the behavior of their distant coworkers and in their own ability to behave appropriately in those relationships. The behaviors that emerge both facilitate future collaboration and reinforce the situated coworker familiarity that has developed as people continue to talk more often and more openly. Through our analysis of 164 workers on globally distributed teams, we extend theory about how familiarity develops and establish an alternative to familiarity

as a linear function of time. We introduce the concept of situated coworker familiarity, defined as a multiplex understanding that coworkers have of their counterparts in relation to themselves and their work together. Situated coworker familiarity is thus a cognitive state that contributes to an affective state in which people *feel* closer and behave accordingly. We also explicate how the activities made possible by site visits evoke situated familiarity. Research has yet to describe how familiarity develops, most likely because research on familiarity has almost exclusively examined collocated workers. When workers are collocated, interacting and observing becomes so routine that is does not enter workers' (or researchers') awareness. It simply happens. Through our study of globally distributed teams, we provide a broader framework within which to understand familiarity. We also advance theory about the role of site visits in global work and, more broadly, among workers who have limited opportunities for collocation.

From our analysis, what emerges is that familiarity does not necessarily develop as a linear function of time as assumed (often implicitly) in the extant literature. In our sample, there was an inflection point that occurred during site visits. Prior to site visits, familiarity was accumulating, but it took a dramatic leap forward during site visits, and the character of the familiarity that developed was distinctly different, suggesting that events that enable situated interaction and observation may be pivotal to coworker familiarity. Harrison et al. (2003) argue that familiarity can be surface level or deep, which they relate to weak versus strong ties, and note that scholarly literature has conflated the surface- and deep-level familiarity. Our results indicate that in the absence of working side by side in a shared context, the development of deep familiarity may not be possible. In a recent paper, Ballinger and Rockmann (2010, p. 373) introduce the idea of *anchoring events,* which "can suddenly and durably change the rules for organizational relationships." They argue that anchoring events are characterized by "one exchange or a short sequence of exchanges marked by extreme emotional and instrumental content" (p. 373). Although site visits do not strictly conform to their definition of anchoring events, the effects of site visits for distributed coworkers appear to be similar; that is, they result in lasting changes to the rules for and the way that coworkers perceive relationships. Our insight about the inflection point was evident for site visits in the context of distributed coworkers, but it also likely applies to collocated workers who are in different buildings or rarely have visibility into the others' work activities (e.g., telecommuters, shift workers).

Our work also identifies dimensions of situated coworker familiarity that were important to informants. They repeatedly said that learning about others' work and communication styles, capabilities and interests, personalities, work and social roles, and cultural contexts were important aspects of getting to know these coworkers. Previous research on familiarity has been relatively inconsistent in how it is defined and what aspects are measured. The concept of team familiarity generally incorporates knowledge about team members, including skills, personalities, and work patterns, but unfortunately, despite more extensive theorizing, it is often measured as time on the same team (Guzzo and Dickson 1996). Our work further specifies the construct of familiarity. Each dimension of situated coworker familiarity developed during site visits was described by informants as being situated in the work and in the locale. Work styles and personalities were informed by how coworkers were seen interacting with others in situ. Coworkers' interests and capabilities became clearer when it was possible to see what information they used and how they approached problems that arose in particular instances. Social roles and cultural context, which have been largely ignored by previous research on familiarity, were only possible to discern in situ. Familiarity develops in the absence of collocation, but we argue that it remains shallow, a limit that constrains the benefits that can be achieved, without situated coworker familiarity.

Our work has implications for the study of familiarity in distributed and collocated teams. We argue that familiarity is a continuum with decontextualized (surface) familiarity on one end and situated (deep) familiarity on the other. This has implications for how familiarity is measured. When familiarity is measured as how frequently people have been on the same team, or how long they have know each other, we may be only learning about surface-level familiarity. If, however, we ask questions such as "To what extent do you understand how your coworker deals with challenging work problems?" or "To what extent do you understand how your coworker's personal situation affects his or her work with you?" we are more likely to capture situated coworker familiarity because these questions are not only about the character of the coworker but about how he or she behaves in work situations relevant to the respondent. Such changes in measurement would help us to differentiate time spent together or on the same team from deep familiarity, which often develops when collocated, but it need not be. Unless we refine our approach to the study of familiarity, such distinctions will remain obscured. With regard to distributed teams, we argue that it is important to determine whether or not coworkers have met face-to-face. In the study reported by Espinosa et al. (2007), for example, we speculate that an alternative explanation for better performance in their globally distributed teams that had shared task experience (e.g., working on the same piece of software code) may have been because teams that worked longer together also were more likely to have traveled or hosted a site visit by distant coworkers. We argue that to advance scholarship,

we need to dispense with measuring collocation and distribution as dichotomous. Understanding how site visits are interspersed with distant work is vital to understanding the dynamics on and performance of these teams.

Cramton (2001) was one of the first to explore the role of context (and its absence) in globally distributed work. Based on a study of student teams spread across three locations (two in the United States and one outside of the United States), she reports problems with mutual knowledge as a result of contextual differences between sites and concludes that missing contextual information ultimately resulted in inaccurate attributions and poorer-quality decisions. Chudoba et al. (2005) also argue that different approaches and views about the way things should be done can disrupt collaboration on global teams. A handful of researchers have expanded on this situated perspective of dispersed teams in an attempt to understand how situated knowing evolves when collaborators are distant from one another. In their study of geographically distributed product development teams, for example, Sole and Edmondson (2002, p. S30) describe *situated knowledge* as knowledge embedded in the work practices of a particular site and conclude that "conceptual misunderstandings did not appear to result as much from differences in taken-for-granted knowledge within a function as from situated knowledge. . . ." They conclude that situated knowledge was "hard to recognize and hard to apply, unless team members had direct, local experience of the knowledge." Based on a study of seven dispersed cross-functional development teams, they argue that access to resources varied by site and resulted in different practices even within the same profession or function. Although Sole and Edmondson focus almost entirely on content knowledge such as the manufacturing processes, ingredients for the mixes being used, and processing techniques, they note that a lack of awareness of social ties at distant sites also created collaboration challenges. Orlikowski (2002) similarly observes dispersed teams as they navigated and negotiated the boundaries they encountered. She finds that they "dynamically and recurrently" constituted their practices around distributed organizing. In the large software development organization she studied, she documents their development of a collective competence at distributed organizing that was "an ongoing accomplishment, a situationally enacted capability inseparable from the practices that constitute it recurrently over time" (Orlikowski 2002, p. 267). More so than Cramton or Sole and Edmondson, Orlikowski took a step toward exposing what we are calling situated coworker familiarity. She reports that "knowing the players in the game" happened through face-to-face interaction and contributed to trust, respect, social relationships, and information sharing. Our work builds on hers by introducing the notion of *situated coworker familiarity* to capture what results from site visits, identifying the activities that enable it, and showing how it transforms relationships among otherwise distant workers.

One of the most surprising findings from our research was that the effects of site visits lingered long after the visitors returned home. Not only did coworkers feel better about one another and their relationships in the moment, their way of interacting fundamentally changed until long after the visit concluded. After returning home, they continued to be more responsive, communicate more, and disclose more with one another, thus reinforcing the ties that had been established. This is a critical piece of our contribution. That is, it is not simply that site visits lead to people feeling better about one another. Rather, it actually changes behavior that persists after the site visits, behaviors that continue to reflect and reinforce the bonds that have been forged.

Our study speaks to the development of relationships at work, an area of investigation that has been lacking in organizational studies (see Ragins and Dutton 2006), despite its importance to organizational outcomes (e.g., Stohl 1995). Close relationships are characterized by interdependence (e.g., Lewicki et al. 1998), responsiveness (Clark and Lemay 2010), mutual investment (e.g., Borden and Levinger 1991), and interpersonal disclosure (e.g., Berscheid and Reis 1998), all of which we documented following site visits. We advance research on close relationships at work by developing theory about how this happens and specifying the role played by situated coworker familiarity. Our data on performance are limited, so we are not able to establish a strong link between site visits, situated coworker familiarity, close relationships, and performance. We do, however, point to previous literature, which establishes that close relationships among coworkers can lead to more benefits, including information sharing (Hansen 1999), job satisfaction (Sias 2009), and less turnover (Krackhardt and Porter 1985), among others.

As far as we know, ours is one of the few studies of site visits among distributed workers. Site visits afforded situated coworker familiarity by allowing coworkers to assess themselves in relationship to their distant colleagues and try out new behaviors and ways of interacting to facilitate better working relationships. Communication media do not lend themselves well to the activities that people engaged in during site visits. Coworkers learned about others by observing them for hours or days at a time, a luxury not available over most communication media. Also, informal interaction created a setting in which much personal information was exchanged. Although GlobalTech and GlobalCom were modern, high-tech companies with communication media comparable to other Fortune 500 companies we have studied, communication media were not accessible or inviting enough to engender the type of interaction and observation we heard about from our informants.

One question raised by our findings is whether or not our results can be explained by bandwidth—that is, if it is a matter of providing more and richer information across distance, would higher bandwidth technologies such as better videoconferencing accomplish the same goal as site visits? Much work contrasting face-to-face and mediated collaboration has taken a bandwidth perspective. That is, mediating technologies reduce the bandwidth for transmission of cues, which results in impoverished communication (Daft et al. 1987, Sproull and Kiesler 1991). Driven by our data, our point of view in this paper extends beyond the bandwidth perspective, which is centered on the limitations of the communication technologies themselves. We argue that a more situated view is required to understand the relationship between the physical, social, and work contexts in which people are embedded. We argue that although information sharing is important, this sharing must take place within the context of an ongoing set of activities for the depth of familiarity and closeness that we observed. Occupying the same social and physical context was crucial to informants' being able to interpret situated behaviors with confidence and for close relationships to occur. Coworkers were able to unobtrusively observe one another over an extended period of time and were able to create situations, such as coffee breaks or lunches, that invited disclosure. These rituals set the tone for the type of information that *could* be shared. Regardless of the amount of bandwidth, if people are unable to understand and negotiate behavior in context, behavior that is embedded in the activities of day-to-day work and life, then situated coworker familiarity will remain incomplete and ungrounded, and shallow relationships will persist.

The foregoing raises the question of why the open source community and other online communities are so successful at collaborating without site visits. This is an intriguing question and invites more research, but we have two thoughts based on the study we report here. First, people in many open source projects *do* meet face-to-face, although the effects are rarely explored in open source research. An exception is a study of GNOME (Wagstrom et al. 2010), which suggests that face-to-face interaction increases participation in subsequent distributed activity. Crowston et al. (2007) also report that face-to-face meetings in Free/Libre/Open Source Software communities were important for a variety of reasons, including socializing and socialization of members. So spending time together may be important in open source projects, but this aspect of open source has yet to be widely explored by researchers. Second, the type of interdependence in much open source collaboration is somewhat different than the reciprocal interdependence observed in the teams we studied. In many cases, the open source work is modularized to the extent that one contributor creates a patch or a piece of code that can be dropped into the code base. Interdependence, therefore, is more sequential than reciprocal. In our study, coworkers had high levels of reciprocal interdependence and were required to work with each other on a weekly or daily basis. We believe that site visits and the concomitant increase in situated coworker familiarity are more consequential among workers who have high levels of reciprocal interdependence and anticipate that the interdependence will continue for many months or years.

One of the interpretations of this work might be that people involved in distributed collaboration should travel more often. We are reluctant to make such a blanket recommendation, particularly given the potential affect on the carbon footprint of these teams and, in turn, on the environment. Instead, we hope that our findings will aid organizations in determining who should travel and for how long. For example, we would favor sending one or two team members for periodic site visits over having all team members travel for "cross-cultural training" or even a kickoff meeting. We therefore challenge previous claims that travel is most important for kickoff meetings, events that often occur in a neutral location. Instead, our observations would suggest that periodic travel over the duration of a project might be more fruitful if a choice has to be made between the two. We would also advocate for longer visits in which team members work side by side and get to know each other in the context of their joint work. These findings also suggest potential opportunities for technology development. Rather than focusing on technologies to support meetings, for example, our results suggest that technologies that provide a window into the local day-to-day interactions of distant colleagues may be a more fruitful avenue for exploration.

Another question raised by our research is the ideal length of a site visit. Our data suggest that site visits need not be long. Clearly, more situated coworker familiarity is developed if the visit is longer, but much is exchanged within the first few days of a site visit if colleagues are spending time working and socializing together during this time. In our example with Steve and the developers from India, Steve reported that it took mere days to understand the talents of the Indian developers visiting the United States. An informant from India reported that some of his team members from Germany should come to India or go from India to Germany "at least for a few weeks" to understand what is occurring at the distant site. This is a matter for future research, but based on our data, we posit that site visits of approximately four to five days are the minimum to accrue the enduring benefits we heard so much about.

Unfortunately, we do not have data to draw conclusions about how often coworkers need to travel to different sites to maintain situated coworker familiarity and close relationships. Transparency and situated familiarity are harder to maintain as the work, work practices, projects, and peoples' lives evolve. Entropy therefore

occurs unless future visits are made. We speculate that travel needs to occur on a regular basis with intervals of about six months, plus or minus depending on the ambiguity of the project. Based on our findings, we suggest that a pattern of periodic travel rotating through many, if not all, team members may be a particularly effective use of limited resources. Our data bear this out. Our highest-performing teams generally had about 50% of the team members traveling at periodic intervals. These team members then answer questions about the distant site when they return home and update their local coworkers on changes at the distant site. Situated familiarity is helped by one-directional travel, but considerably more benefit amasses with travel in both directions, because workers develop reciprocal situated familiarity across sites. We found that having managers travel was critical for informational and symbolic reasons but that workers still had to travel to accrue the enduring benefits described in this paper. Most importantly, it is what people do during site visits that seems to matter. As a result, site visits need to be planned and orchestrated, particularly if distrust already exists among distant coworkers.

In the study we report here, we examined workers' experience as members of distributed teams and found that site visits were instrumental in transforming relationships as coworkers talked frequently and at length with one another and observed one another in their work and social settings. Through our grounded theory building approach, we introduce the concept of situated coworker familiarity to capture the situated nature of what was learned through this process and show that the development of familiarity may not develop solely as a function of time but through a set of activities that promote it. Our results also provide guidance for global workers and managers, particularly by articulating the activities and conditions for site visits to benefit those working at a distance.

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Endnotes

[1]Because of issues with proprietary information, it was not possible to conduct observations at GlobalCom. Although we returned to the Indian location of GlobalCom, we could not go to the U.S. site or collect a second round of data as we did in GlobalTech.

[2]There were two GlobalCom 2 sites within the United States, but only two team members were located at the second site. Those at the second U.S. location had little interaction with the rest of the team because of their peripheral involvement in the project, so it was effectively a team split between two locations.

[3]We were not able to schedule meetings with members of the ninth team because the team members in Germany had shifted all work to India and been assigned to other projects. The remaining team members in India were feeling time pressure and could not spare the time to meet. Overall, we were able to meet with approximately 80% of the same team members in Phase 2.

[4]All names are pseudonyms to protect the identities of informants.

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