Culture as Kaleidoscope: Navigating Cultural Tensions in Global Collaboration

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ABSTRACT
This study proposes the metaphor of culture as "kaleidoscope" as a lens for understanding the complex culture of global teams and explores cultural tensions characterizing intercultural collaboration in virtual work arrangements. Ethnographic data from a global software team are used to illustrate the framework. Framing cultural differences in terms of dynamic tensions offers a productive theoretical framework for understanding and fostering collaboration across diverse cultures, time, and space.

Keywords: Collaboration, global teams, intercultural communication, organizational tensions

ACM Classification
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INTRODUCTION
Virtual, multicultural work arrangements are becoming increasingly common in organizations. New innovations in information and communication technologies (ICTs) allow organizations to collaborate across distances and time zones in ways that were previously impossible. Companies are adapting by restructuring their activities around new transnational organizational forms, such as virtual networks and teams, international mergers, interorganizational strategic alliances, and off-shore outsourcing [6, 33, 37]. A growing trend is the reorganization of work into geographically distributed, culturally diverse global teams. Companies are increasingly using global teams and work arrangements to extend their products and operations into the international marketplace [18]. Global work arrangements pose unique challenges to intercultural collaboration, as they are fragmented by multiple layers of culture, physical dispersion, and electronically mediated communication. New ways of understanding and managing cultural differences are needed to explain the complex culture of global teams and enable productive collaboration.

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The literature on virtual (geographically dispersed, electronically dependent) and multicultural teams has grown steadily over the past decade, and recently a number of empirical studies specifically on global [e.g., 1, 16, 26, 34] and multinational teams [e.g., 8, 49] have emerged. Few of these studies have, however, specifically examined the impacts of cultural diversity in mediated, dispersed environments. Conversely, the vast body of research on the impacts of cultural diversity in teams and groups [e.g., 9, 17, 22, 28, 36] has often assumed a co-located environment where communication takes place face-to-face, without explicitly examining intercultural communication through other media. More attention to the nature and impacts of culture in virtual environments is needed.

In addition, much of the empirical research on both virtual and multicultural teams is derived from anecdotal case studies, survey methods, and controlled artificial settings such as classroom exercises [15]. More ethnographic field research in naturalistic organizational settings is needed to explore cultural processes in situ and provide the flexibility to untangle multiple dimensions of culture and their impacts. The lack of attention to intercultural collaboration in real-world, mediated settings suggests the need for a more comprehensive theoretical approach to better explain intercultural communication processes in the context of more ephemeral, virtual and multicultural global work teams. This study proposes an interpretive theoretical framework of culture as "kaleidoscope" as a lens for understanding elements of cultural convergence and divergence within global teams. This conceptual framework retheorizes cultural dimensions as dynamic tensions rather than polar oppositions, and explores the productive implications of such a view. Evidence from ethnographic data from a global software team involved in offshore outsourcing is drawn to illustrate the framework and address the following research question: *What cultural tensions are most salient in global collaboration, and how are they evident?*

CONCEPTUALIZING GLOBAL TEAM CULTURE THROUGH A TENSIONAL VIEW
Global teams have been characterized as fraught with tensions [13, 14] and as being pulled apart by centrifugal forces such as geographical dispersion and cultural differences [2]. A framework of organizational tensions [42, 54] is useful in understanding the dynamics that both

integrate and fragment global teams. Tensional views have been employed to articulate the role of dialectical tensions and contradictions in other organizational settings [e.g., 25, 27, 40, 41, 42]. Rather than viewing organizations and teams as sites of stability, clarity and consensus, a tensional view recognizes them as conflicted sites of activity and focuses on tensions and inconsistencies as normal, routine features of organizational life which are not necessarily detrimental but can be productive [54]. This study employs a dialectical framework to understand cultural diversity in global teams. By reframing cultural differences as dynamic tensions, rather than static oppositions, as they are often regarded in the literature [e.g., 23, 24], these differences can be managed more productively and generate creative new solutions rather than leading to conflict and deadlock. Rather than suggesting that cultural differences be minimized or homogenized, this view proposes that they may generate productive intercultural collaboration when different views are in healthy tension with one another.

Further, this dialectical framework suggests a more fluid, multi-faceted view of culture. Organizational culture has traditionally been conceived of as a set of shared assumptions, values, artifacts and behaviors [47]. Culture is often regarded as providing a mechanism for building organizational cohesiveness by giving its members a sense of identity, team or organizational loyalty and commitment [4, 30]. The prevalent "corporate culture" perspective assumes that companies with "strong," integrated cultures will achieve higher performance [10]. This view has received much critique, however, and has been expanded beyond "managerial" notions of culture as integrated and subject to managerial control to include alternative conceptions of culture as differentiated or fragmented [12, 32, 50, 51]. As Stohl writes (p. 357), "culture enters organizations artfully, unself-consciously, and piecemeal through several avenues simultaneously" [52]. In global teams there are likely to be multiple constructions of culture [10], and the team organizational culture is aptly described as a "nexus" made up of the interaction between differing cultural practices, values, assumptions, or interpretations [32]. Much of the emerging literature on global and virtual teams, however, is still predicated upon the assumption that creating shared understanding and a unified or "jelled" team culture [5] are prerequisites for global team success.

Global teams, by definition, challenge traditional conceptions of culture. What does culture mean for a global team? Rather than being stable and shared, the culture of a global team is likely to be disjointed, fluid, and ephemeral due to virtuality features such as geographical dispersion, electronic dependence, and turnover [16], as well as being composed of multiple subcultures (deriving from national, organizational, and functional levels of culture, among others) rather than one integrated culture. Instead of treating culture as organizational "glue" that helps the team to either cohere or create clear divisions along national or ethnic lines, there may be value in taking a more multi-faceted, dynamic view of culture.

CAPTURING CULTURAL TENSIONS THROUGH A KALEIDOSCOPE LENS

Much of the organizational culture and cross-cultural management research assumes a singular cultural focus. For example, comparative cross-cultural studies such as Hofstede's work [23, 24] tend to equate culture with country or nationality and isolate this as the source of cultural differences among organizational members. This cross-cultural research certainly makes an important contribution in focusing attention on cultural difference and challenging the prevalent misperception that organizational theories and practices are universally applicable [44], which often presents a stumbling block for multinational corporations. Hofstede's cultural dimensions, namely power distance, individualism/collectivism, uncertainty avoidance, masculinity/femininity, and long-term/short-term orientation [23, 24], however, suggest a totality and fixity to national culture that does not account for the dynamic and complex nature of culture in a global environment, as well as the fact that different cultural dimensions may become salient in different situations or contexts.

Scholars are starting to recognize the multidimensional nature of cultural identity and develop multi-faceted frameworks to account for more complex, dynamic interactions among co-existing cultural groups by acknowledging levels of culture other than organizational and national, such as professional, functional, regional, gender, and ethnicity that factor into team members' identities and comprise additional dividing lines within organizations [19, 35]. Sackmann and her colleagues address this notion of cultural complexity through their "multiple cultures perspective," which acknowledges that organizational members are simultaneously carriers of multiple cultures, and that all these potential cultural identities influence the organization's cultural context [45].

Cultural complexity exists at the team level as well. Members of teams and groups possess and negotiate multiple cultural identities derived from organizational and social group affiliations [35]. National culture is not always paramount; for example, a shared functional or professional background may dampen differences in national culture if this identity is made salient to team members. Different cultural identities may become salient at different times, triggered by the situation at hand or the organizational context [46]. Rather than being unitary, fixed, and predictable, culture is differentiated and layered, and not necessarily shared by all organizational members. In this sense, culture can divide as much as it unifies, depending on whether one is a member of the cultural in-group or out-group. Individuals are acknowledged as members of multiple cultures and may have multiple, even competing, identifications [35]. This view recognizes that global teams are often composed of multiple national, organizational, and professional cultures–they may be

international, interorganizational, and cross-functional. Culture and the various cultural identifications of global team members are seen as dynamic and continuously created and recreated by team members through their communication practices [48]. The team culture is thus constituted through the interaction of its members, which is informed both by the larger social and cultural networks in which they are embedded as well as characteristics of the organization.

Building on the multiple cultures perspective [45], this paper proposes a framework of culture as kaleidoscope, which takes into account multiple cultural dimensions. The multi-dimensional culture of a global virtual team is constituted by the interaction between a number of cultural identifications: national (including regional and ethnic), functional (engineering versus sales, for example) and professional, corporate (employing organization, such as Microsoft versus Intel), microorganizational (team, department, or other internal organization), and sociodemographic (age, gender, religion, etc). Each of these layers of culture may unify or divide the team, depending on the degree to which it is shared and the relative salience for team members. For example, an international team of engineers may share a strong connection due to their shared functional culture that dampens the effects of national culture differences. By the same token, a cross-functional team of Americans may be divided along functional lines.

In global teams (unlike traditional co-located teams), culture is mediated by virtuality features such as geographical dispersion (including both temporal and spatial differences), electronic dependence (the degree of reliance on communication technologies such as email, phone, and videoconferencing), and dynamic structure (the degree of permanence of the team and its members), each of which range on a continuum from low to high [16]. These factors are likely to influence team members' expectations about team culture, as well as the degree and ways in which cultural differences become salient. Cultural differences over email, for example, may produce different effects than face-to-face settings. The culture of the global team is thus a constellation of all these factors, being shaped by, as well as shaping, the communicative interaction of its team members. The multi-faceted, dynamic nature of culture in a global team can be likened to a kaleidoscope, in which cultural elements combine into different patterns or configurations that are not stable, but shift according to the context or situation. Although certain elements or relationships may endure, the complex and dynamic environment results in frequent organizational changes and corresponding shifts in its culture. Drawing on a fragmentation view of culture [32], a kaleidoscopic view regards culture as characterized by ambiguity rather than clarity and consensus, and as never fully coalescing along rigid faultlines but forming different patterns as communicative events and situations dictate (see Figure 1).

This study applies the tensional, kaleidoscope framework to analyze culture in a global team, grounded in a symbolic-interpretive perspective [31]. Such a perspective regards culture as something an organization *is*, not something it *has* [50] and as constituted by communicative practices [10, 38, 39, 43]. As such, culture is not an isolated variable with predictable outcomes or something that can be managed but a root metaphor, something that is continually shaped and reshaped through the symbolic interactions, rituals, and narratives of all organizational members. The culture kaleidoscope framework will be further elaborated using ethnographic data from a global software team.

METHOD

Research setting

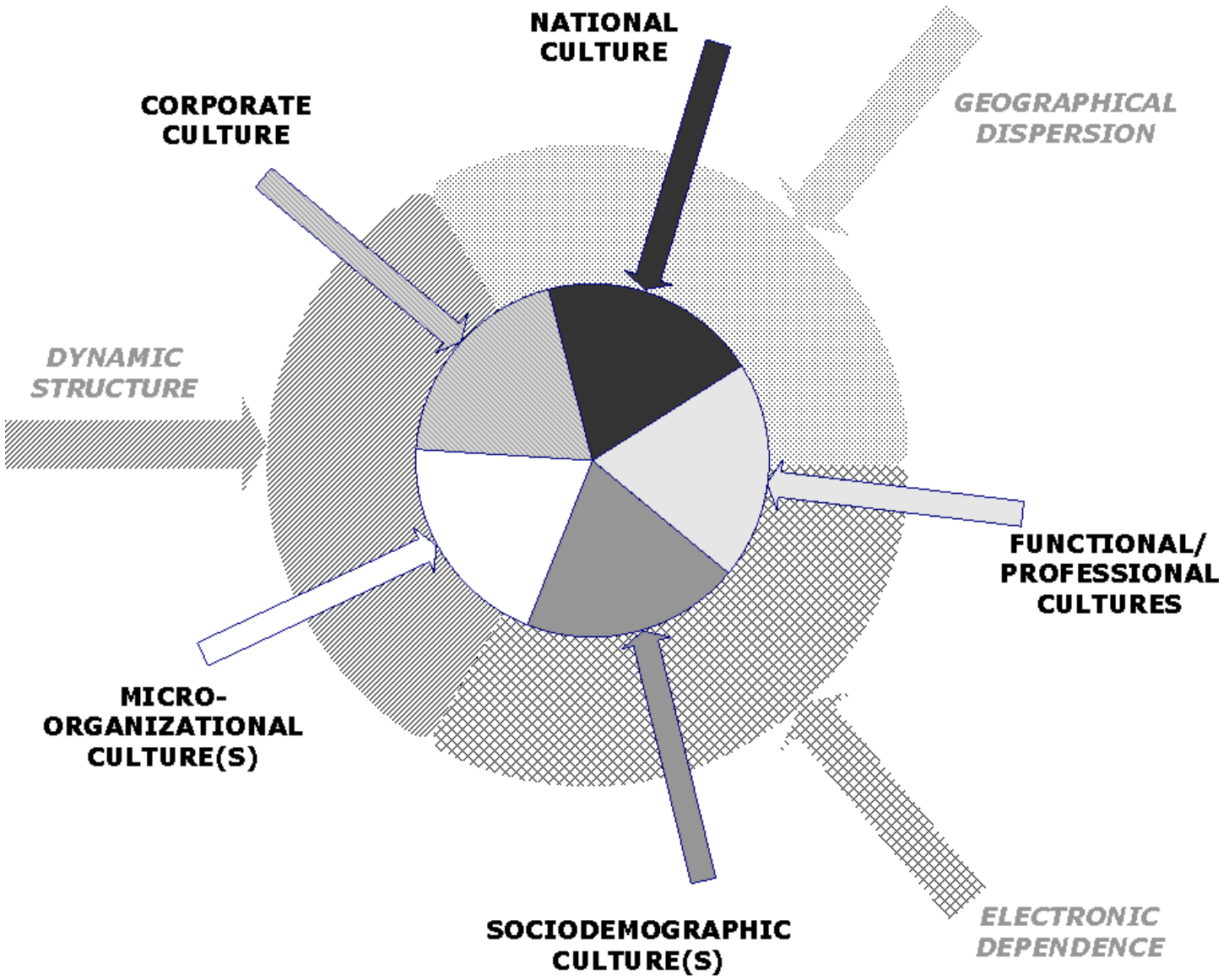
One form of intercultural collaboration that is becoming more prevalent occurs in global software teams, in which internationally dispersed, culturally diverse team members actively collaborate on a common software project [2]. Due to high demand and a shortage of IT professionals and software development skills in the U.S., many high-tech companies are turning to off-shore outsourcing of software engineers from international markets such as India, Singapore, Ireland, and Brazil to attain these much-needed skills [3]. These work arrangements may involve a combination of remote and collocated intercultural collaboration, depending whether the work is performed off-shore or on-shore. The goals of the off-shore outsourcing model are typically to gain access to needed software skills to enable the achievement of shorter development cycles and to take advantage of talented pools of developers at lower labor costs [2].

Data for this paper are based on an ethnography of a global software team in a large digital imaging corporation, which will be referred to by the pseudonym "PrintTech." The primary global team analyzed in this study is referred to as GlobTemp, an offshore outsourcing organization that provided human resource assistance to software development teams within PrintTech. The team outsourced work to GlobTemp-owned software centers in Brazil, China, India, Ireland, Singapore, and the UK. This outsourcing frequently required software developers from these centers to spend time overseas as foreign "assignees" in the East and West Coast-based project teams on short-term assignments lasting from about 6 months to 2 years.

Data collection

Data were gathered through multiple methods, which enabled triangulation to verify particular sources. The two primary sources used in this paper are participant observation (I was employed as an intern/consultant and thus held the dual role of both insider and outsider) and in-depth interviews on both the East and West Coasts with a total of

FIGURE 1. CULTURE AS KALEIDOSCOPE



50 foreign assignees, managers, and customers involved in outsourcing activities. More detail has been reported on the study methods elsewhere [13]. Focus groups were also conducted with assignees from each center addressing the acculturation, housing, and benefits issues they were facing while abroad. Additional contextual data were collected from e-mail communications, notes from team meetings and conference calls, informal conversations, and other company documents, as well as a field log of observations and reflections from my 18 months of study in the organization.

Data analysis

Nearly all of the in-depth interviews were audio-recorded, and all tapes and notes were transcribed. Data were analyzed using the constant comparison method outlined by Glaser and Strauss [53]. Interview transcripts and field notes were coded line by line and analyzed using Atlas.ti content analysis software. Coding was an iterative process: new codes were added throughout the process, and then earlier transcripts were recoded to include these new codes. Also, some codes were collapsed or removed when they appeared to be conceptually the same, using Atlas.ti's automatic recoding function. This analysis relies on the set of codes related to cultural differences specifically. These codes were nested such that a general code for "cultural differences" existed with subcodes for levels of culture emerging from the data such as national, organizational, and functional, and within these, subcodes were identified for emergent dimensions such as individualism-collectivism, power distance, and high vs. low context. Analysis of excerpts containing these codes and subcodes is used to explicate the kaleidoscope framework.

FINDINGS

A great deal of cultural heterogeneity was evident within GlobTemp. Foreign assignees, in particular, managed multiple cultural identifications, the most salient of which were national, organizational, and functional cultures, as well as multiple organizational identities including corporate, home organization, GlobTemp team, and temporary project team. Team members were constantly negotiating various cultural identities to preserve equilibrium between integration and fragmentation within the team. The unifying versus divisive effects of culture were continually shifting as different cultural identities (national, functional, or organizational) were activated, such that they existed in tension with one another.

Tensions in national culture. National culture differences had a significant impact on team interaction. Many of the key cultural dimensions identified in previous research [20, 21, 23, 24, 29] were evident within GlobTemp and between GlobTemp assignees and customers. Whereas the software centers tended to cohere along national cultural lines, national culture differences were most salient among the U.S.-based assignees and their customer teams. The three most prevalent dimensions that emerged were individualism-collectivism [7, 23, 24], power distance [23, 24], and high vs. low context [20]. Examples of other cultural dimensions were also observed, such as formality-informality [11], discipline/work ethic [29], and different orientations to time [21, 29], but only the most prevalent dimensions will be discussed here.

Other than the limited phone, email, and videoconferencing communication that occurred between U.S. headquarters (HQ) and center management, the main intercultural contact within the GlobTemp team was between the temporarily U.S.-based assignees and their customer managers, as well as between assignees and the U.S. HQ staff. Assignees received no explicit intercultural training before leaving on assignment, and they often had no more than 10 days' notice to finish up their current projects and prepare for their international assignments. Assignees thus came over with little preparation for their work and living environments. Some assignees mentioned being told only what computer language they would be working in, such as C++, without being given any training on the type of product they would be working on. Once in the U.S., GlobTemp management did little more than logistical orientation, such as (at most) meeting new arrivals at the airport, securing their rental cars and showing them to their apartments, and telling them where to go for their badges the first day of work. GlobTemp did no official orientation (intercultural or otherwise) but assignees were expected to report directly to the customer to begin work. As the customers had usually hired the assignees as temporary workers to perform time-critical work, they generally did not provide assignees with training and often left them with materials or source code to read in order to get up to speed on the project.

This lack of preparation for their overseas assignments was a great source of contention among the assignees. Assignees generally felt they did not receive enough information about project assignments in advance, and they also tended to feel that customer managers and fellow project team members did not provide adequate support and guidance once they started. While this might be frustrating for anyone, the orientation and expectations of assignees as compared to their customers toward their assignment revealed a tension between *collectivism and individualism.* Most of the assignees were from more collectivistic cultures and expected more support from others, close mentoring and guidance by their customer manager. This collectivistic orientation also translated into perceptions that their teammates were 'unfriendly' and 'cold' because they did not socialize with them after work or help them acclimate. The U.S. managers and teammates, on the other hand, tended to take a more individualistic orientation by expecting assignees to be self-reliant and take the initiative to figure things out on their own and ask questions if they needed help. This cultural tension is evident in the following statements from a U.S.-based customer and a Singaporean assignee (who was originally from China):

> Singaporeans – typically with Asians, because I've worked with the Taiwanese too. They will, in a very course and crude way of describing it, they're followers. If you don't tell them what to do, they won't take the initiative to go ahead and do it. They're by far, they're capable. By far, they're sophisticated educationally as well as intellectually to go ahead on their own and do things, but they won't. There's this – you get the sense of master and slave type of relationship. And that's very, very typical of the Asian community. (Customer)
>
> In Singapore it is very organized and systematic, people tend to be very disciplined; over here it is open and flexible, you are trusted to do things you think are right. It takes a lot of personal judgment; it's your judgment call. In Singapore most of the time you don't have to worry about that part, because your manager or project leader will tell you what is the right thing to do, you don't think about it too much and still can do it; over here people have more freedom and more flexibility. For certain people who have grown up in a very disciplined way from school and working environment, it takes time to think about it and make the decision. (Singaporean Assignee)

These accounts reveal cultural tensions between individualism and collectivism in that American managers often expected their employees to take more individual initiative and make their own decisions, whereas the assignees expected more guidance and detailed instructions from their supervisors/co-workers. Navigating this tension often required them to meet somewhere in the middle.

Assignees' interactions in their project teams were also conditioned by tensions between *low and high power distance*. Assignees from cultures with greater respect for hierarchy such as Brazil, China, India, and Singapore expected managers to make decisions and provide guidance and supervision (as reflected in the quotes above). The U.S.-based customer managers, on the other hand, tended to have more egalitarian, low power distance expectations for their employees to take initiative, participate, and give honest feedback even if it was critical. U.S. customer managers were often frustrated that assignees were reluctant to say no to unrealistic deadlines or tell them in advance if they were going to miss a deadline, to ask for help or ask questions that showed their ignorance, and to volunteer information, making it difficult to gauge how much and what they knew. As one Singaporean assignee explained, "most of the time we wait for people to ask before we speak. Here people speak when they feel like it. We look quiet, it's not that we don't have a problem." This difference could be frustrating for both sides.

An example occurred in a project with several assignees from Singapore. These assignees worked extremely hard on a development project with a tight deadline to launch a new product. They had to work evenings and weekends to meet their deadline. They complained to other assignees from their center that they felt overworked and exploited by their customer manager, but said nothing directly to their boss. The GlobTemp customer interface manager heard of the situation and spoke with the customer, who said he had told the assignees several times that they could take time off to compensate for the overtime they had worked, but they continued to come in to work every day diligently. The assignees continued to work excessively long hours and returned to Singapore exhausted and embittered, immediately after reaching their deadline. Due to their cultural respect for their manager's authority and desire to save face, the assignees did not feel comfortable speaking up to express their feelings and felt obligated to work to meet their deadline. The low power distance manager remained unaware that the assignees were so overburdened because they did not say anything and continued to take advantage of their strong work ethic, inadvertently exploiting them in the process.

Although the previous example occurred in relatively collocated team interaction, cultural differences were exacerbated by a degree of geographical dispersion. These Singaporean assignees were physically separated from the rest of their teammates on another floor, increasing their feelings of isolation – although from the customer's perspective they were integrated into the team. They reported having little interaction with their teammates and turned to the other Singaporeans for subcultural support. In this case, subcultural faultlines coalesced when physical separation contributed to cultural rifts becoming salient. Cultural clashes were also more likely to emerge when several assignees from one center were working together; as other studies have found [9], the formation of strong subcultures created an in-group/out-group mentality which divided the team and prevented assignees from integrating with the rest of their colleagues. In teams that were more culturally diverse and employed assignees from several different centers, such divisions were not apparent.

While at times virtuality features such as geographical dispersion served to heighten cultural divisions, other times they served to buffer tensions and reduce awareness of them. Electronic dependence often resulted in buffering conflicts among relatively autonomous, distributed team members (such as between GlobTemp HQ and center managers) and minimizing the need to resolve them. For example, American managers revealed a *low context* cultural orientation [20] as they reported spending excessive amounts of time crafting lengthy emails to center managers and assignees from other cultures in an attempt to convey a clear, emotionally neutral message verbally without the aid of contextual and nonverbal cues. Often they would use email to raise sensitive issues or resolve differences of opinion with center managers from more *high context* cultures (Brazil, China, India, Singapore) and then wonder why they received limited or no response back by email. These cultural differences due to preferences

for direct, explicit versus indirect, implicit communication styles were often compounded by the technological infrastructure, as American managers were never sure whether the other manager was not responding because he was offended or simply did not receive the email. Rather than opening a space for dialogue, expressing confrontational feelings over email often resulted in minimization of conflict; even when high context managers engaged in the debate, it was easy for the conflict to be dropped if the parties involved came to an impasse. Team members were more insulated from conflict when they communicated by email than if they worked across the hall from one another in frequent contact that would necessitate resolving the conflict. Many times conflicts raised electronically were simply dropped, as team members worked autonomously enough that issues did not require resolution for them to conduct their daily work. Although not problematic in the short term, it led to further decoupling of the team that may have resulted in negative long-term consequences.

Tensions in corporate culture. A tension existed in PrintTech's culture between organizational similarities and regional differences. To some extent GlobTemp employees were all unified as "PrintTech employees," although there were regional differences in corporate culture, even between the U.S. East and West Coasts. The PrintTech organizational culture was itself split between regional or national differences in organizational culture, due to the fact that PrintTech entities abroad had historically been acquired through joint ventures with local companies, which had initially retained a 50% share and influenced the organizational cultures in each country. When questioned, many of the assignees did not even consider themselves "PrintTech" employees, as they equated PrintTech with the U.S. operation rather than their home country organization. The corporate culture of PrintTech was strongly influenced by American cultural values, and regional differences were evident in corporate culture. There were cultural differences between PrintTech's North America, Europe, and Asia regional divisions, not just in norms and values but differences in organizational structure and policy as well. This resulted in conflicting goals, priorities, and processes for GlobTemp team members due to the different regional company cultures and structures in which their work activities were embedded, although such tensions were also necessary to preserve such organizational differences.

Tensions among microorganizational identities. Within the team, multiple organizations were represented, and individual team members had to negotiate between multiple organizational identities. Assignees in particular were faced with managing at least four different organizational identities, as members of their local software centers, their temporary customer project teams, GlobTemp, and PrintTech. Given the often confusing nature of navigating between so many identities, it is perhaps not surprising that assignee's loyalties were bifurcated, although their primary allegiance was to their home software centers rather than their temporary project teams or even GlobTemp, which they distinguished as separate from their home organization and a temporary identity as well. This was reflected in the following accounts from two Indian assignees who were asked which unit they identified with most:

> ABC [project team]. When I'm working with ABC. When I go back to Delhi, then I identify myself as PrintTech India. I will never identify, I mean, if someone asks who sponsored you here, then I'll have to say GlobTemp, because GlobTemp sponsored me.

> First I am identified as PrintTech India employee. We immediately identify with the team we are working on, then if someone else asks how you come to PrintTech U.S., then you say we come through GlobTemp. First PrintTech India, then the team we are working in, last GlobTemp.

These quotes reveal two insights: first, assignees negotiated identity tensions by compartmentalizing or prioritizing them. Second, of all their organizational affiliations, GlobTemp was the least salient. The difficulty of achieving identification with GlobTemp as a global team could be seen in the relationship between GlobTemp's management team and the software centers. The team leader felt that "face-time" was crucial in overcoming the "out of sight, out of mind" tendency to forget about other locations and building team cohesiveness and identification with the global team, and spent much of his time traveling to the software centers. Recent company travel restrictions had made this difficult, though, and he said he had noticed the detrimental impact of restricted travel on team unity.

> …little things. They're, it's hard to make a cause and effect relationship. All of a sudden I find local management is making decisions without consulting me, that they should consult me on. And to me that just means they're forgetting that they're part of this larger organization and they're going back and moving closer to the organization they're in, which I'm trying to move them in the opposite direction…they're not thinking GlobTemp first, they're thinking local operation first. (GlobTemp Team Leader)

This quote reveals the struggle to preserve allegiances to both the team and the local software centers. The Team Leader's comments illustrate the dynamic tension that existed between identification with GlobTemp and the local centers. Although this posed a challenge for the Team Leader, this tension was necessary given the global team's embeddedness in diverse regional organizational structures, as members of each center needed to maintain allegiances to both GlobTemp and their home center and organization.

Tensions between national and functional culture. A further tension was evident between national and functional culture. Whereas national culture differences tended to be divisive, the shared functional culture worked to dampen these differences. Most of the team members, including management, shared a common engineering background, and most of the assignees shared the same professional culture, as software developers. The common, low context engineering functional culture had the effect of dampening some of the other cultural differences and providing common ground for engineers who otherwise may have had nothing in common. Due to the nature of their work, which consisted largely of writing and exchanging technical code, the engineers had a strong preference for email and engaged in very little social communication with their co-workers, reducing the possibility for cultural misunderstanding to occur. Outside of work, assignees from different centers formed social bonds to some extent through discussion of their work and projects. They also shared commonalities in age and status as expatriates. Overall, the shared software development engineering culture served as a unifying force that brought the team together.

Although national culture differences played a significant role in certain situations, some participants felt no strong conflicts existed among team members. This could be confounded by the low-context software engineering culture, in which communication between team members was characterized primarily by the exchange of technical information, with a minimum of social and personal interaction. This also translated into a preference for "leaner" communication media such as email rather than phone or face-to-face. While media choice was influenced to some extent by national cultural differences as well, there was also a strong common preference for email for exchanging technical information, like documents and code. This was often the first route for software engineers, with follow-up phone calls only being made as needed, when there was a problem or delay or clarification was needed. The nature of software development work–namely, performing discrete and autonomous tasks such as writing code–often required very little interaction with others and email was usually sufficient. The shared software development culture played a cohesive role in unifying team members from different national cultures. Assignees who socialized from different software centers often found common ground talking about technical issues they were facing in their work projects. As one customer put it,

> I think that the cultural differences are hidden a lot of times based on the software development culture, which is a culture within itself. (GlobTemp Customer)

DISCUSSION

This study has proposed a new conceptual lens of culture as kaleidoscope for studying the complex culture of global teams. This framework was used to analyze data from an ethnography of a global software team. Applying the culture kaleidoscope framework, it became evident that differences due to national culture were indeed salient, as were differences in microorganizational identities. These differences may, in fact, have been mediated by commonalities shared by respondents in functional culture (as engineers), and to a lesser extent corporate culture (as PrintTech employees), and project-based culture (as members of the GlobTemp team). Such similarities appeared to dampen the effects of national cultural differences, in e.g., the perception among management and a number of employees that cultural differences either did not exist or did not present a problem in communication. Additionally, the engineering culture may be a particularly low-context one in which technical code served as a common language and facilitated communication. In GlobTemp, shared functional culture was more salient and stronger than the corporate or team culture, though, due to regional differences in the corporate culture worldwide, as well as the bifurcation of loyalties to multiple microorganizational identity targets.

Conceptualizing culture as kaleidoscope has important implications for the study of intercultural collaboration and organizational culture. This approach extends dominant views of organizational and national culture as integrated or monolithic to highlight the complex, multi-faceted and fragmented nature of global team culture. Furthermore, this research articulates a kaleidoscopic view of organizational culture within a global team, in which multiple cultural identities are negotiated in an ephemeral, fluid environment mediated by technology, distance, and temporality. Given the rising prevalence of multicultural, mediated work environments in organizations today, the impact of such features on team performance should be given more attention by organizational theorists. The proposed view draws our attention to cultural tensions that are often overlooked by integrated models that assume that cultural effects will be stable and predictable across contexts and situations. A limitation of this study is that only one team was studied and thus the insights gained from this data may not generalize to other types of global teams. Further research should apply the kaleidoscope framework to other virtual, intercultural forms of collaboration to further refine it and test its application on sample groups other than engineers and high-tech professionals. Further articulation of conditions and mechanisms influencing the salience of different identity targets is also needed. Finally, future research should explore in more detail how cultural tensions work to enable global collaboration. This study contributes an important new way of examining cultural complexity in global virtual teams.

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