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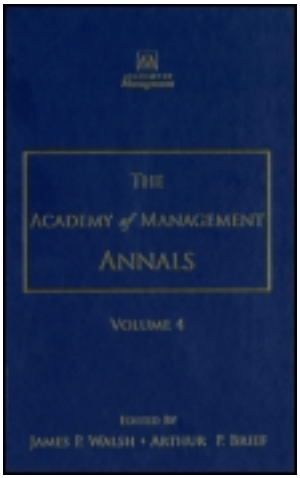

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Putting the Global in Global Work: An Intercultural Lens on the Practice of Cross-National Collaboration

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Putting the Global in Global Work:
An Intercultural Lens on the Practice of Cross-National Collaboration

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Abstract

Collaboration across national boundaries has become increasingly prevalent over the last decade, yet the management literature remains remarkably unhelpful in answering questions about what happens when people across nations and cultures work closely together. We review the management literature that reports empirical studies of global work and conclude that few of these studies, despite their explicit focus on globally distributed work,

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meaningfully examine the intercultural aspects of these collaborations. We assume an intercultural lens to understand what gets lost by not examining the global in global work and conclude that the very process by which workers who reside in different countries confront, explore, and resolve cultural differences begs for more clarity. Further, we conclude that a more contextual and dynamic view of culture is necessary to shed light on these processes. We use two examples—social networks and technology use—to illustrate how cultural differences might generate different patterns of behavior, and consider the effect of these potential incompatibilities on global work and workers as they collaborate across national boundaries.

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Introduction

Organizations are increasingly compelled to establish a presence in multiple countries as a means of reducing labor costs, capturing specialized expertise, and understanding emerging markets. In doing so, they often create conditions in which workers must collaborate across national boundaries. Research on global work and global teams has identified numerous boundaries being crossed by workers as they collaborate with their distant colleagues, including time zones, geography, functional and organizational boundaries, and national boundaries. In this paper, we take one of the least explored of these dimensions—national boundaries—and we review the relevant literature and theorize about how national culture and cultural context play out when workers are interdependent but reside in different countries. We argue that intercultural global collaboration is pervasive but has been understudied, especially in the management literature where we would most expect to find it. We also argue for a more contextual and dynamic view of culture that will enable meaningful examination of what happens when workers collaborate from far-flung places around the globe. Through our review, we identify a theme of convergence and divergence in global work, a dynamic in which workers across national boundaries adapt and adjust as they engage in intercultural collaboration, and explore the theoretical and practical underpinnings and opportunities of using such a lens in the study of global work.

By global work, we refer to situations in which workers are collaborating across national boundaries. A key aspect of this is that the workers are not only culturally diverse, but they are also geographically distant from one another and thus are embedded in different national cultures and contexts. Our definition includes globally distributed teams, but also global collaborations that do not fit neatly into the traditional definition of teams such as two workers collaborating on a deliverable or a large, dynamic project without clear boundaries for membership or a team identity (Mortensen, 2011). We include multinationals with employees collaborating around the globe and outsourcing arrangements in which vendors and clients work

closely together on joint projects but from distant locations. Our review also speaks to less traditional forms of work such as open source software development. In all cases, however, global work refers to collaborations in which workers are geographically distributed across national boundaries. Our focus is explicitly on collaboration *among workers* and not coordination across firms (e.g., international joint ventures), managers' perceptions of global work challenges, or leading or managing global workers.

The Reality of Global Work

Although collaborations among nations have a long history, the past two decades have been unprecedented in the intensity and growth of global work thanks to a relatively stable international political order, an integrated global economy, and dramatic advances in technology that sustains work across vast spatial and temporal boundaries (United Nations, 2001). At the macro level, the prevalence and growth of global work can be estimated by the overall increase in economic activity that crosses national borders. World trade, for example, increased from $650 billion (around 20% of global GDP) to $24 trillion (60% of global GDP) between 1970 and 2006 (Walker, 2007). Offshoring, specifically outsourcing tasks to suppliers and contractors from developed to developing countries, has also accelerated with an increasing trend of offshoring more knowledge-based service work. According to research conducted by the McKinsey Global Institute (MGI) in 2005, about 11% of worldwide service employment could, in theory, be performed by people located anywhere in the world. In terms of the number of offshore employees, the estimates have increased by 173%, from about 1.5 million in 2003 to 4.1 million in 2008 (Farrell et al., 2006). Although offshoring is a much talked about form of global work, newer forms of global work such as open source software development and crowdsourcing (when a company gets work done through an "open call" on the Internet to a large undefined group of people, see Howe, 2008) are expanding. Software development was an early entrant into the global work space, in part because of the digital nature of the product itself, but global work is now touching a wide range of professions including financial services, medical imaging, civil engineering, and product design, to name a few.

At the organization level, we can see a trend of what Walsh, Meyer, and Schoonhoven (2006) called "transnational emergence"—the rapid growth of transnational corporations (TNCs, or multinational corporations/enterprises). According to United Nations Conference on Trade and Development (UNCTAD), there were 39,000 TNCs worldwide at the end of 1993 (UNCTAD, 1996). That number increased to 61,000 at the end of 2003 (UNCTAD, 2004)—a 56% increase in 10 years—and further increased to 82,000 at the end of 2008 (UNCTAD, 2010)—a 35% increase in just five

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years. As TNCs become more prevalent, their global outreach also becomes stronger, as reflected by the increased employment at foreign sites. Slaughter (2004), for example, found that while the total employment at U.S.-based TNCs had increased by 34% from 1991 to 2001, employment outside of the United States had increased more significantly—by 42% during the same period. Since the operation of TNCs often involves a substantial amount of collaboration and coordination among workers at different locations across the globe, these statistics provide insight into the pervasiveness and the external pressures driving the growth of global work.

To meet the need of these transnational corporations, many organizations assemble teams comprised of members from multiple countries as a means of securing essential but scarce expertise, integrating business and organizational resources, and tapping into low cost pools of expertise in developing countries (Cramton & Hinds, 2005). These globally distributed teams, almost unheard of two decades ago, both supported and enabled by collaboration technology, have become increasingly common today, serving as an important vehicle of global work. Industry research done in 2000, for example, estimated that 60% of professional and managerial work at Global 2000 companies would be done via virtual teams by 2004 (Biggs, 2000).

In sum, these data suggest that global work has become increasingly widespread in the last two decades. We believe, however, that global work, although a pervasive phenomenon, has been under-examined in the management literature. Although there are claims made about global work in a multitude of articles, we found that few empirical studies of global work have actually been published in the management literature, and those that do pay little attention to national culture. Cross-cultural studies (e.g., studies that compare one culture with another) are more readily available (see Y.-R. Chen, Leung, & Chen, 2009, for a review), but these, we argue, despite helpfully pointing to where cultural incompatibilities are likely to surface, will not lead to viable predictions about intercultural collaboration and could even be misleading. Cultures adapt to each other in complex ways and, as a result, predictions cannot rest on cross-cultural comparisons alone. The GLOBE studies, for example, have closely examined cultural perspectives on leadership around the globe (see House, Javidan, Hanges, & Dorfman, 2002). Although these studies have contributed significantly to our understanding of cultural differences in leaders' values and how leadership is enacted, it has not been their aim to understand the implications of cultural differences to leadership practice when workers are collaborating *across* national boundaries.

A gap therefore remains in the literature—a gap that we believe is an invitation to management scholars who are uniquely equipped to investigate the cultural, organizational, and social processes at play in global work. In this paper, we define our point of view on culture, review the relevant literature, explore the process by which work practices evolve in global work, and describe

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two specific domains—social networking and use of communication technologies—as illustrations of the research opportunities available. In doing so, we challenge the disturbing trend toward identifying and championing global best practices, which rests on an assumption that what works "best" in one cultural context can be exported to another and remain "best" without disrupting or even severely disadvantaging one or more sites involved in the collaboration. Finally, we contend that as long as we continue to theorize without grounding in the phenomenon of global work, accumulating a body of evidence and generating coherent theory will remain elusive. We call, therefore, for more grounded field-based empirical research of global collaborations.

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National Culture: Beyond Beliefs and Values

Before embarking on an article that deals with national culture, it is important to define what we mean by culture. While there are many definitions of national culture—ranging from culture as "software of the mind" (e.g., Hofstede, 1980) to a mosaic of multiple identities that are inextricably intertwined (e.g., Chao & Moon, 2005)—previous research on organizational behavior has largely assumed a view of culture that is static and "in the head" (see Leung, Bhagat, Buchan, Erez, & Gibson, 2005, for a review). That is, culture has generally been taken to be synonymous with belief and value schemas broadly held by nations of people, and which do not perceptibly change except over decades of evolution (Hofstede, 1980). This conceptualization has helped to introduce national culture to organizational research in a tractable manner; it is markedly insufficient, however, for understanding the intercultural dynamics of global work.

One key distinction between definitions has to do with whether or not culture is defined only by relatively persistent beliefs and values or encompasses behaviors and, relatedly, the extent to which national culture may in fact be quite dynamic due to the complex influences of the *entire* cultural context in which people are embedded. Our observations of global work and our review of research on the topic suggest that national culture is indeed expressed in the *behaviors* of workers and that these behaviors are dynamically constrained and enabled by cultural beliefs, as well as many other aspects of the cultural context in which workers are embedded. This is consistent with Kitayama's (2002) "system view of culture," which asserts that culture is intertwined with the local context in which actors work and that this local context plays an important role in shaping behavior. In line with this, we borrow Spencer-Oatey's (2000) definition of culture as "a fuzzy set of attitudes, beliefs, behavioral norms, and basic assumptions and values that are shared by a group of people, and that influence each member's behavior and his/her interpretations of the 'meaning' of other people's behavior" (p. 4).

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The Current State of the Literature

Our review of the literature on virtual teams and global work confirms that national culture, by any definition, has been largely ignored. Over the last decade, several reviews have been published on the topic of virtual teams (e.g., Martins, Gibson, & Maynard, 2004; Schiller & Mandviwalla, 2007; see also MacDuffie, 2008), but we were surprised to find that these reviews ignored or deemphasized culture. Martins et al. (2004), for example, treated culture as one aspect of diversity, devoting two sentences to the discussion of culture. MacDuffie (2008), in his review in the *Academy of Management Annals*, describes the challenges of distributed work and opportunities for organizations to develop the capacity for coping with distance, but focuses largely on distance, not culture.

To understand better the state of the literature, we reviewed empirical studies of global work published in top management journals. We examined all articles published between 2000 and 2010 in the top 25 management journals rated as having the highest impact factor (over five years, from 2005 to 2009) in the ISI Social Science Index. We further screened for and eliminated journals with an article influence score below 1.0, for example, *Cornell Restaurant and Administration Quarterly* (see Table 1 for our final list of journals). To be included, articles were required to report on an *empirical* study of workers collaborating across national boundaries. Given this criterion, the data and analysis needed to be at the individual, team, project, or network level, not at the firm level. This condition enabled us to isolate our search to studies that actually examined the phenomenon of global work. Experiments were not systematically excluded but only met our criteria if participants were collaborating while located in (and from) different countries. After identifying the 38 articles that met our criteria, we captured the methods used for data collection, the sample characteristics (including countries or regions represented and type of industry), the study focus (e.g., independent and dependent variables and/or analytical frame), the unit or focus of analysis, and whether or not the study(ies) dealt in a substantial way with culture or national boundaries and, if so, how they treated culture (see Table 2). For inclusion into this last category, the study was required to capture data on culture or national boundaries and report findings in a more than incidental way. Quantitative studies, for example, were expected to measure culture and treat it as an independent or dependent variable. Qualitative studies were expected to use culture or national boundaries as a primary analytical frame. Using these criteria, we found that only 11 of the 38 published empirical studies of global work closely examined the role of national culture. Of the 38 articles, we also noted that North America (mostly the United States), Europe, and Asia (particularly India and Japan) were heavily represented, whereas only a handful of studies included workers in South/Central America, the South Pacific, the Middle East, and Africa. Most of the studies were of teams,

Table 1 Selected Journals Used in the Review and Number of Empirical Articles on Global Work Found in Each Journal

Journal (Ranked by ISI 5-Year Impact Factor)	Number of Empirical Articles on Global Work Found 2000–2010
Academy of Management Review	0
Academy of Management Journal	4
MIS Quarterly	11
Strategic Management Journal	2
Administrative Science Quarterly	2
Organization Science	7
Journal of International Business Studies	4
Personnel Psychology	0
Journal of Management	1
Information Systems Research	3
Journal of Management Studies	1
Journal of Operations Management	0
Management Science	2
Leadership Quarterly	0
Journal of Organizational Behavior	1
Journal of Product Innovation Management	0
Research Policy	0
Research in Organizational Behavior	0
Organizational Behavior and Human Decision Processes	0
Decision Sciences	0
International Journal of Management Reviews	0
Total:	38

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although a handful was at the individual, project, or network level. The articles represented a wide variety of methods, including archival, survey, and interviews, although few observational and longitudinal studies were reported. We were somewhat surprised (and disappointed) to see that 20 of the 38 (53%) articles were in the last half of the decade (2006–2010), suggesting little growth in the study of global work, particularly since six (30%) of these were published in a special issue on "information systems offshoring" in *Management Information Systems Quarterly* in 2008. In fact, 9 of the 20 articles (nearly 50%) from 2006 to 2010 were published in *MISQ*, suggesting a strong bias toward research on information systems and technology in the study of global work. Of those 11 articles that empirically examined national culture, most used constructs and measures based in Hofstede's dimensions of national culture. We believe that these articles provide an important

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Table 2 Empirical Research on Global Work

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Agterberg, van den Hooff, Huysman, & Soekijad (2010). *Jrl of Mgmt Studies*	Case study using archives, interviews, observations, and survey	22 networks of practice (NOPs) in a geographically dispersed development aid organization headquartered in the Netherlands. NOP members were located in Europe, Asia, Latin America, and Africa.	The relationships between four kinds of embeddedness and knowledge sharing in networks of practice.	Networks of practice	
Ahuja, Galletta, & Carley (2003). *Mgmt Sci*	Archival analysis, interviews	Members of an online research group, distributed throughout the US, Europe, and Asia (27 locations).	Individual role characteristics and structural position (centrality) predicting individual performance.	Individual	
Baba, Gluesing, Ratner & Wagner (2004). *Jrl of Org Beh*	Archival analysis, interviews, observations	One globally distributed team with members in seven locations in North America, Europe, Asia, and South America	Relationship between cognitive convergence and performance.	Team	Cognitive structures, as expressed in differences between locations

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Birkinshaw, Toulan, & Arnold (2001). *Jrl of Intl Bus Stud*	Interviews, survey	35 informants in 10 MNC's, plus 106 survey respondents who were global account managers from 16 MNC's whose home countries included Sweden, USA, UK, and "varied"	Relationship between scope of account, communication, support systems, centralization, customer dependence and account performance.	Global account
Cummings (2004). *Mgmt Sci*	Archival analysis, survey	182 work groups in a Fortune 500 telecommunications firm. Group members were from recently completed projects across the United States-Canada (63%), Europe (15%), Latin-South America (3%), India-China (5%), Japan-Korea-Malaysia (9%), and Middle East-Africa (5%).	The moderating effect of structural diversity on the relationship between external knowledge sharing and group performance.	Team

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Table 2 Empirical Research on Global Work (Continued)

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Cummings, Espinosa, & Pickering (2009). *Info Sys Res*	Survey	675 globally distributed project members and managers (representing 5,674 pairs of members) across 108 projects in a multinational semiconductor firm. Respondents worked in 54 locations across 22 countries in North America, Europe, Asia, South America, South Pacific, and Middle East.	Main and interaction effects of communication methods (synchronous & asynchronous) and spatial and temporal boundaries on coordination delays.	Dyadic relationship	
Cramton (2001). *Org Sci*	Archival analysis, case analysis	13 6-member graduate student teams, with each team consisting of members located in different countries, including U.S., Canada, Australia, and Portugal.	The effects of context and attributions on mutual knowledge, team cohesion and learning.	Team	

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Dibbern, Winkler & Heinzl (2008). *Mgmt Info Sys Qrtly*	Case study using interviews	27 interviews of members of 6 teams for 6 projects offshored to Indian software vendors by a German company. Vendors had varying number of onshore representatives.	Relationship between increase in client post-contractual costs and requirements specification and design, knowledge transfer, control, and coordination.	Team	Cultural distance, based on Hofsteade and Kogut & Singh
Earley & Mosakowski (2000). *Acad of Mgmt Jrl*	Qualitative field study followed by confirmatory laboratory studies	37 members from 5 teams within a multinational firm, members were based in 5 countries (China, Indonesia, Thailand, U.S., Vietnam) and represented 8 nationalities (Australia, China, Indonesia, Malaysia, Thailand, U.K., U.S., Vietnam)	Relationship between team heterogeneity and team effectiveness.	Team	Nationality
Espinosa, Slaughter, Kraut, & Herbsleb (2007). *Org Sci*	Archival analysis	1170 "modification requests" (MRs) from project teams within a large telecommunications firm, with some of the teams having members distributed across U.S. and U.K.	Relationship between task familiarity, team familiarity, task complexity, team coordination complexity and team performance.	Team	

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Table 2 Empirical Research on Global Work (Continued)

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Gibson & Gibbs (2006). *Admin Sci Qrtly*	Qualitative interviews followed by quantitative survey	Interviews with 177 members of 14 teams, 9 of which had members located in more than one country. Survey of 266 members of 56 aerospace design teams, some of which had members located in more than one country.	Relationship between geographic dispersion, electronic dependence, dynamism of structural arrangements, national diversity, psychologically safe communication climate and innovation.	Team	Nationality
Gibson & Vermuelen (2003). *Admin Sci Qrtly*	Qualitative interviews followed by quantitative survey	Interviews with 107 members of 52 teams in North America, Europe, South America, and Asia. Survey of 724 members of 156 teams in same regions.	Relationship between team heterogeneity, subgroup strength, organizational design features and team learning behavior.	Team	
Haas (2006). *Org Sci*	Qualitative interviews and observations followed by quantitative survey	Interviews with and observations of 20 managers and staff based in U.S. and Russia. Survey of 485 members of 46 teams in U.S. (headquarters), the client country, and in other countries.	Relationship between source of knowledge (internal vs. external), type of knowledge (technical vs. country), type of team members (locals vs. cosmopolitans) and project quality.	Team	

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Haas (2010). *Acad of Mgmt Jrl*	Archival analysis, interviews, survey	485 members from 96 teams within a multinational organization. Teams conducted financial and technical projects for clients in Europe, Asia, Latin America, and Africa[i].	Relationship between team autonomy, sources of external knowledge, knowledge characteristics (country vs. technical), task characteristics (uncertainty, pressure) and strategic and operational effectiveness.	Team	
Hansen & Lovas (2004). *Strat Mgmt Jrl*	Archival analysis, survey	Project managers of 121 projects in 41 subsidiaries in North America, Europe, Asia, and the South Pacific.	Effects of formal structure, informal relations, geographical distance and relatedness of competencies on intrafirm subsidiary competence transfer.	Dyadic relationship between product development teams & subsidiaries	Kogut & Singh cultural distance index (derived from Hofstede)
Hinds & Mortensen (2005). *Org Sci*	Web-based survey followed by interviews	288 members from 43 R&D teams within a large multinational firm, of which 22 were collocated and 21 distributed (at two or more locations in U.S. and Europe).	Relationship between geographical distribution and task and interpersonal conflicts, moderated by shared identity, shared context, and spontaneous communication.	Team	

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Table 2 Empirical Research on Global Work (Continued)

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Jarvenpaa, Shaw, & Staples (2004). *Info Sys Res*	Experiment, survey	Study 1: 94 students from 11 universities in 8 countries (16 teams) in North America, Europe, South America, South Pacific (Australia), and Middle East. Study 2: 150 students from 13 countries (26 teams) in North America, Europe, Asia, South America, and South Pacific.	Effects of trust on team attitudes and performance under conditions of weak, moderate, and strong group structure.	Team	
Jensen & Szulanski (2004). *Jrl of Intl Bus Stud*	Survey	271 questionnaires from 8 large organizations in 19 countries representing North America, Europe, Asia, Central and South America, South Pacific, and Africa.	Relationship between adaptation, institutional distance and stickiness of the knowledge, also recipient motivation.	Instance of knowledge transfer	Kogut & Singh cultural distance index (derived from Hofstede)
Leonardi & Bailey (2008). *Mgmt Info Sys* Qrtly	Interviews, observations	Interviews with and observations of coordinators, engineers, and managers in U.S., Mexico, and India.	Knowledge transformation tools and knowledge transfer problems and practices in offshoring work.	Site	

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Levina & Vaast (2008). *Mgmt Info Sys Qrtly*	Case study using interviews	69 interviews with management and non-management members of onshore and offshore teams in North America, Europe, and Asia, covering over 40 projects.	Relationship between country and organizational contexts, status and resource imbalances and impaired collaboration effectiveness.	Firm	Power distance (based on Hofstede)
Manev & Stevenson (2001). *Jrl of Intl Bus Stud*	Archival analysis, interviews, survey	Multinational NGO, 55 key informants (interviews) and 203 managers as survey respondents. Locations included UK, Kenya, Tanzania, Zimbabwe, Sri Lanka, and Nepal.	Relationship between differences in nationality, culture, and status and the strength of instrumental ties and expressive ties.	Dyadic relationship	Cultural distance (based on Hofstede)
Maznevski & Chudoba (2000). *Org Sci*	Case study using archives, interviews, observations, and questionnaires	3 global virtual teams within a multinational firm, with members distributed in U.S., Europe, and East Asia.	Temporal pattern, established by face-to-face meetings (high intensity of interaction) in global virtual teams.	Team	
Metiu (2006). *Org Sci*	Interviews, observations	A distributed team composed of two groups of software engineers based in U.S. and India	Relationship between status and geographical distance, especially informal status closure strategies.	Team	

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Table 2 Empirical Research on Global Work (Continued)

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Montoya-Weiss, Massey, & Song (2001). *Acad Mgmt Jrl*	Experiment	A sample of 175 graduate students residing in 4 universities in the United States (3) and Japan (1). They were organized into 35 five-person teams, with members distributed in the two countries.	Relationship between perceptions of conflict management behaviors and team performance (decision quality), moderated by temporal coordination mechanism	Team	
O'Leary & Cummings (2007). *Mgmt Info Sys Qrtly*	Case study[ii]	5 teams with members dispersed in various configurations across sites in North America, Europe, Asia, South America, and Middle East.	Defining and demonstrating indexes for spatial, temporal, and configurational differences between dispersed teams.	Team	
Olsson, Conchuir, Agerfalk & Fitzgerald (2008). *Mgmt Info Sys Qrtly*	Interviews, workshops	20 Interviews with personnel from the Irish offices of two US MNCs. The Irish offices bridged U.S. headquarters with vendors in Asia, 2 interviews with Indian vendor personnel.	Coordination of two-stage offshoring "bridges" related to team integration, org. level implementation, and hierarchy.	Multiple levels, primarily cross-site	

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Orlikowski (2002). *Org Sci*	Archival analysis, Interviews	78 employees at the headquarters and five other local development units of a large software company.	How "knowing" that is enacted through the everyday and ongoing work practices in global work.	Practices	
Orr & Scott (2008). *Jrl Intl Bus Stud*	Case study using interviews	39 managers in 29 organizations in the construction industry. The sample represented projects in over 15 countries, including North America, Europe, Asia, the Middle East, and Africa. Projects generally included two locations.	Relationship between awareness/ignorance of local institutions, perceived deviance, and sensemaking and learning/adaptation and project costs.	Project (with a focus on key events)	Institutional differences (cultural-cognitive, normative, and regulative)
Piccoli & Ives (2003). *Mgmt Info Sys Qrtly*	Experiment	201 graduate (89 percent) and undergraduate (11 percent) students from six schools in the United States, Europe, and New Zealand, comprising 51 virtual teams of three and four members.	Relationship between externally enforced behavior controls and trust in temporary virtual teams.	Team	
Polzer, Crisp, Jarvenpaa, & Kim (2006). *Acad Mgmt Jrl*	Experiment, survey, qualitative case study	266 graduate students of 45 teams located at 14 universities in 10 countries	Relationship between configurational dispersion, conflict and trust	Team	

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Table 2 Empirical Research on Global Work (Continued)

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Rai, Maruping, & Venkatesh (2009). *Mgmt Info Sys Qrtly*	Archival analysis, surveys	155 U.S. client projects carried out by an Indian offshore vendor, majority (102 projects) with client representative at offshore site.	Influence of relational factors (communication challenges and misunderstandings due to cultural differences) on strategic offshore IS project success	Project	Cultural values and organizational norms (based on Hofstede)
Ramasubbu, Mithas & Kemerer (2008). *Mgmt Info Sys Qrtly*	Archival analysis, interviews	42 projects with team members distributed across two Indian software vendor sites (one in India, one in US). Interviews with senior managers and project members.	The relationship between teams' adoption of structured process models on mitigating the negative effect of work dispersion on performance.	Project	
Sarker & Sarker (2009). *Info Sys Res*	Interviews	25 interviews with informants in a B2B division of a software development MNC at varying management and non-management levels in the U.S. and India.	How breaking down agile software methods into resource, process, and linkage dimensions of agility helps make sense of difficulties in developing agility in distributed IS development settings.	Team, focusing on specific practices	

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Subramaniam & Venkatraman (2001). *Strat Mgmt Jrl*	Survey	90 cases of transnational product development from 57 informants in upper middle management in 45 multinational companies	Relationship between cross-national teams, teams with members who have prior overseas experience, or teams whose members communicate frequently with overseas managers and transnational product development capabilities.	Team
Thomas & Bostrom (2010). *Mgmt Info Sys Qrtly*	Interviews	13 virtual team leaders, covering 52 "incident" stories from 30 projects. Each project discussed involved virtual teams involved in IS development with at least two organizations across at least two countries or time zones.	Relationship between structural dimensions of virtual teams (internal/ external constraints and inadequacies) and technology adaptation management by virtual team leaders.	Project
Vlaar, van Fenema, & Tiwari (2008). *Mgmt Info Sys Qrtly*	Interviews, survey, case analysis	Interviews with and survey of 16 members of a major Indian software vendor onsite in the U.S. and offshore in India.	Relationship between knowledge and experience asymmetries, requirements and task characteristics, sensegiving, sensedemanding, sense-breaking, and actionable understandings.	Team

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Table 2 Empirical Research on Global Work (Continued)

Paper	Methods	Sample	Study Focus	Unit/Focus of Analysis	Treatment of Culture
Walsham, G. (2002). *Mgmt Info Sys Qrtly*	Case studies[iii]	Jamaican onsite programmers and Indian offshore programmers at an Indian software vendor	Conflict in intercultural global collaboration. Different views on power relations and behavioral norms for working, including conflict management, coordination, perspectives on deadlines, etc.	Team	Emphasis on a more dynamic and behavioral view, beyond (Hofstede) attitude measures.
Yang, Mudambi, & Meyer (2008). *Jrl of Mgmt*	Survey	105 MNC subsidiaries reflecting international acquisitions (44 in Poland, 21 in Lithuania, and 40 in Hungary). The acquiring MNCs were primarily based in Western Europe and North America.	Effects of organizational characteristics, knowledge characteristics, and host country location on knowledge flows between headquarters and acquired subsidiaries.	Knowledge flows	

[i] The author did not specify which countries were represented. It seems that all team members were based in America (HQ), and they either worked in the HQ or in the client country office (one control variable is "team location": 1-HQ, 0-CountryOffice).
[ii] Data collection methods were not specified (e.g., interviews, archives, etc.).
[iii] Although primarily a theoretical paper, Walsham (2002) relies on two empirical studies reported elsewhere. We ultimately decided to include the paper, applying our criteria leniently in this case.

foundation for research on cross-national collaboration, but that it is time to consider more seriously the role of national culture in globally distributed work. In addition to empirical articles, we found many theory papers among the same set of journals, all of which dealt with topics of intercultural collaboration and national boundaries, further suggesting that this line of research merits attention and, frankly, making the absence of empirical work puzzling.

National Culture and Global Work

One might argue that the absence of published articles reporting findings grappling with culture reflects a lack of explanatory power. The handful of studies of global work that reported findings on national culture, however, provide ample evidence that the lack of research on culture cannot be explained away as being unimportant. Despite the dearth of empirical studies, the 11 studies we identified that directly investigate and report significant findings illuminating the role of culture in global work provide inspiration from which to chart a direction for research.

Baba, Gluesing, Ratner, and Wagner (2004), for example, conducted a rich, longitudinal study of a team executing a marketing strategy from seven countries spanning the globe. They report that the team struggled to develop a shared way of understanding the work because they lacked common learning experiences, were not able to make visible knowledge at distant sites, and had difficulty seeing their interests as aligned. Earley and Mosakowski's (2000) much cited research on team cultures further shows that teams with low or high levels of national diversity performed better than those with a moderate level of national diversity. In study 1, Earley and Mosakowski report observations of five teams in a multinational clothing firm. They found that a hybrid team culture, which resulted from borrowing elements from both cultures to create a unified or shared culture, was important to performance and that this was accomplished through agreed upon rules for interaction, high expectations for team performance, effective communication and conflict management, the development of a shared identity, and cross-cultural empathy. Walsham (2002), in a study of a Jamaican–Indian collaboration, found that conflict resulted due to their different ideas and norms about work, including conflict management, deadlines, and power relations. In more recent studies of offshoring, authors similarly conclude that differences in cultural values and work practices between clients and vendors increase transaction costs (Dibbern, Winkler, & Heinzl, 2008) and interfere with project success (Rai, Maruping, & Venkatesh, 2009). Orlikowski (2002) also concludes that shared identity creates a common vocabulary and framework for making sense of global teams' project work. Taken together, these studies suggest that teams with a shared identity, aligned interests, and congruent practices might have more fruitful cross-national collaboration and fewer coordination costs.

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Cross-border adaptation processes among global workers have also been explored in several studies. In their study of 23 "institutional exceptions" in global construction projects, for example, Orr and Scott (2008) found that adaptation was important for resolving the institutional incompatibilities that arose from ignorance by workers of societal differences. They document the resolution process and report that individual differences (such as global experience and open-mindedness) and an effective sensemaking process are important determinants in effectively resolving cross-border conflicts. Levina and Vaast (2008) also noted that vendors adapted in offshore collaborations when cultural responses to status differences (e.g., unwillingness to challenge those with higher status) became an obstacle to collaboration. In their studies of cross-border knowledge transfers, Jensen and Szulanski (2004) further hypothesize that adaptation will ease the transfer of cross-border knowledge, but found the opposite, proposing that perhaps "sticky" (highly contextual and difficult to transfer) knowledge requires more adaptation.

Finally, Gibson and Gibbs (2006) report a combined qualitative and quantitative study including 177 interviews with 14 teams followed by a survey of 266 members of 56 globally distributed teams. They demonstrate that national diversity decreased innovation, especially in the absence of a psychologically safe climate. Although not explored in the paper, they also report that national diversity was associated with an increase in dynamic structures, defined as the extent to which team members perceived that team membership and operating structure were not visible and stable. Thus national differences were related to less stable structures.

Taken as a whole, these studies provide strong evidence that national cultural diversity in global work is intertwined with performance, organizational climate, social identity, work processes, and structure. Global work is a complex landscape in which culture plays a central and important role. Despite the contributions of these studies, 11 studies seem paltry given the prevalence and importance of global work and many questions remain unexplored and absent from scholarly dialog in the management field. In particular, we know from these studies more about the conditions that promote smoother intercultural collaboration, but still know little about the process by which workers address cultural differences that create tension or impede work. We also know little about how and when these conditions (e.g., shared identity, psychological safety) come about in cross-border collaborations and how they are sustained (or not), or how the structure of work or the particular combinations of cultures affect these processes, to name a few.

Bringing the Global into Global Work

Given the dearth of research on national culture in global work and its evident importance, in the rest of this article we use an intercultural lens and, as a result

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of doing so, are able to propose new and more nuanced ways of understanding global work. We draw on the readings identified in our review of the management literature, as well as on research from outside of the management field, to provoke new thinking about gaps in our understanding about how practices may or may not be compatible and how they might converge during intercultural collaboration. In our analysis, we sought out articles across a wide range of disciplines, including cross-cultural psychology, sociology, anthropology, human–computer interaction, and computer-supported cooperative work. We also examined chapters, articles, and proceedings across a wide range of books, journals, and conferences to ensure that we were capturing research relevant to the topic.

The central insight evident from our broad reading of the literature is that the conception of culture employed by management and global work scholars is unnecessarily narrow and frustratingly limiting. In 2002, Kitayama called for a rich "system view of culture," arguing that culture is intertwined with the local context in which actors are embedded, including educational institutions, economic systems, regulations and policy, and the organizational practices that people encounter in daily life. He argued that culture was "composed of public meanings and practices" that are outside of conscious awareness, but shape the behavior of individuals, groups, and social systems. From this point of view, culture is best understood by examining the interrelations between local institutions, local practices, cognitive processes, and individual responses (Kitayama, 2002; Kitayama, Markus, & Kurokawa, 2000; Kitayama, Mesquita, & Karasawa, 2006).

In contrast to this perspective, our review suggests that most research on intercultural collaboration and global work has taken a relatively impoverished values-based view of culture (also referred to as an entity, attitudinal, or a taxonomic view) that is based on dimensions, such as individualism and collectivism, meant to characterize the values of a given national culture. Several reviews of the values-based framework exist in the organizations literature, concluding that it yields interesting results yet leaves much of what is important about intercultural collaboration and global work unexplained (Gelfand, Erez, & Aycan, 2007; Kirkman, Lowe, & Gibson, 2006). In particular, we do not yet understand the complex role of global, societal, organizational, and team contexts, how they are intertwined with culture, and how they dynamically influence the *actual behaviors* we see in global work (see Gelfand et al., 2007).

Following Kitayama, we instead take an embedded, system view of culture and, in doing so, illuminate these less investigated and, we argue, more informative aspects of global work. An embedded systems view enables us to look *beyond values* at other factors such as the economic situation, regulatory system, career advancement patterns, technology infrastructure, traffic, and so forth that influence people's behavior at work. This then invites an exploration of what happens when different cultural contexts collide, forcing

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employees to figure out how to get work done despite the landmines of potential misunderstandings and incompatibilities littering the work environment (e.g., Olson & Olson 2000). Simply put, a behavioral and contextual view of culture points our attention not only to value systems but also toward the study of work practices as cultural productions themselves.

From this perspective, then, taking an intercultural lens to collaboration in global work reveals a serious gap in our understanding of the role of local, cultural practices and how they evolve when collaborating workers are embedded in divergent local contexts. To the extent that practices are shaped by the local context and, yet, workers across the globe are expected to coordinate effectively together, many questions arise about whether or not and how these local practices converge when coming together across national boundaries. If practices do not converge, questions arise about how workers coordinate at a distance when local practices vary. If practices converge, we wonder about how new practices emerge, who adapts (most) and the basis on which this determination is made, how individual workers are affected by convergence or the lack thereof, how cultural perspectives on collaboration are intertwined with the convergence process, and how the nature of the work affects convergence.

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The Importance of Cultural Context

Over the last several decades, a handful of studies have examined work practices across nations in an attempt to understand how practices are shaped by the local cultural context. In an early study, Maurice, Sorge, and Warner (1980) conducted a multiple case study with nine organizations (three each in France, Germany, and the UK) that were matched on industry and size. They concluded that cross-national differences exist in the structure of organizations as a result of varying institutional logics that are particular to a given society. The processes of educating, training, recruiting, and promoting workers in France, Germany, and the UK were shown to vary in ways that predicted the work structure and coordination in the organizations they studied. The UK and Germany, for example, historically trained workers through apprenticeships, whereas France used skills-based public education to prepare people for manufacturing jobs. This, in turn, affected the way that the production lines were organized. A decade later, Whitley (1990) made a similar argument, describing a comparative analysis of companies in Japan, South Korea, and China. He concluded that different "recipes" for possible organizational structures are institutionalized and function well within their given national contexts. The degree of work specialization, for example, varied by country because of differences in the authority and trust systems in those cultural contexts. In a later study, Lam (1997) examined a partnership between a British and Japanese firm and noted that the societal models of labor

markets and career systems shaped the distribution and ownership of knowledge and expertise, which were, in turn, intertwined with the organization and coordination of work. All of these studies demonstrate that the national culture in which organizations and workers are embedded shape and are shaped by the organization of work and the practices that emerge. These authors are not arguing that individual agency is extinguished, but that different solutions to similar challenges are selected based on "the societal fabric in which actors operate, and which they continuously modify" (Maurice et al., 1980, p. 61).

One of the reasons that solutions to similar problems evolve differently in different national cultures is because the assignment of meaning varies and therefore how the problem is framed and the practices that are appropriate vary. In an examination of the role of national culture on design, Irani, Vertesi, Dourish, Philip, and Grinter (2010), for example, describe how the practice of *participatory design*—a practice in which users engage with designers to co-create technologies—draws authority from the Scandinavian discourse around labor relations and social justice. Participatory design, they argue, "takes advantage of cultural logics and practices particular to the location in which it emerged" (p. 1317). These cultural logics, they conclude, are the lens through which people assign meaning and through which the intersubjective world takes on significance. Walsham and Sahay (1999) also used the introduction of a geographical information system (GIS) into India by Western designers to show how assumptions about the display of space, rational decision processes, and coordinated action were deeply embedded in the local cultural context and affected the interpretation and appropriation of the technology. As Chao and Moon (2005) argued, culture can be best understood by examining the interrelationship between cultural influences and behaviors. Morris, Podolny, and Sullivan (2008), for example, conducted a study of the networks of relationships (friendship, information, resource ties, and alignment with formal ties) within four countries (the United States, China, Germany, and Spain). They concluded that Americans' relationships were more influenced by an exchange-oriented market transaction model, whereas Chinese relationships were influenced by filial piety and Germans' by the Protestant work ethic, all of which reflected the institutional systems in the societies in which the workers were located. They argue that it is vital to examine external social situations and structures that define the possibilities for action in a given cultural setting and then to examine the behaviors that emerge rather than assuming that the values and attitudes adequately predict worker behaviors. These studies reinforce how the cultural context is a system composed of institutional and cultural logics that influence the structures and practices available to workers in a given nation or region (Chao & Moon, 2005).

Continuing this tradition, in a comparative ethnographic study of software engineering organizations in India, China, and Hungary, Perlow, Gittell, and

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Katz (2004) found support for the relationship between cultural context and work practices. They used structuration theory as a theoretical lens through which to understand the nested structure of these relationships, concluding that helping behavior, the reward system within each organization, and the larger institutional context of the company and country were mutually reinforcing and that their behaviors were often different than what would have been predicted from values and beliefs at the national level. From their analysis, a nested model of structuration emerged with individual action, patterns of group interaction, organizational context, and institutional context occupying concentric circles, reflecting a nested structure of interactions that shape and are shaped by one another. In sum, structuration theory and institutional theory, as well as substantial evidence from detailed field studies, reinforce the observation that the national context in which workers are embedded is intertwined with, shape, and are shaped by day-to-day work practices and routines. Although cultural values and beliefs play a role, they are not adequate to explain the behaviors of workers in a given cultural context.

All of the comparative research that we have reviewed in this section has focused on the practices of workers. From this focus on behavior, it is clear that the cultural context, extending beyond cultural values and beliefs, provides insight into a more complex and dynamic perspective on the influence of national culture in evolving work practices. Yet when workers are globally distributed and collaborating across multiple cultural contexts and their different practices actually come into contact, the situation becomes much more complex.

Practices, Adaptation, and Global Work

Significant gaps remain in our understanding of how these collaborating groups, embedded in vastly different cultural contexts, evolve practices that enable global work. In their recent review of the management literature on coordination, Okhuysen and Bechky (2009) correctly point out that the fundamental conditions (such as common understanding) that enable coordination of work can be brought about via a wide variety of practices, each relevant to their own time and context. Such a perspective raises questions such as when work across multiple cultural contexts brings out conflicting practices, how then are fundamental coordinating conditions brought about? When practices are incompatible, how are these incompatibilities resolved? If adaptation occurs, who does the adapting and how does this come about? Is the ultimate goal one of standardization of work practices across locations or routines that respect the contingencies of the local cultures? What are the implications of this for the sustainability and effectiveness of global work? Throughout the next section, we explore adaptation, convergence, and divergence in globally distributed work. We use the term adaptation to refer to changes that workers make to their work practices. Convergence refers to the extent that the practices become

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more similar to each other over time, whereas divergence refers to the extent to which practices become less similar to each other over time. Adaptation can lead to convergence or divergence or, in rare cases, neither.

Convergence versus divergence. One of the recent discussions in the literature on global work revolves around the question of whether or not the practices of far-flung workers *should* converge and to what extent. Scholars argue that, on one hand, practices must converge for collaboration to be effective but, on the other hand, convergence may not be practical and may, in fact, impede effective coordination and innovation across cultures. Zellmer-Bruhn and Gibson (2006), for example, contrast a global integration strategy with one of local responsiveness in which distant sites are afforded the freedom to evolve practices appropriate to the local environment. Their empirical work indicates that organizations that allow local improvisation are more effective at learning and improving processes. In their review of advances in international business, Leung et al. (2005) conclude that globalization has led to convergence in some domains, but "significant divergence in culture persists" (p. 361). They further argue that although convergence provides stability, thus reducing ambiguity and increasing effectiveness, convergence may not be practical because local environments are dynamic. In the case, for example, of a policy or regulatory shift, local practices may shift, thus rendering previously shared practices obsolete. In a rare empirical study of the convergence of practices among global workers in a Dutch multinational, Sidhu and Volberda (2011) found that maintaining multiple practices rather than converging on a common repertoire enabled innovation and flexibility, especially in dynamic industries in which practices must constantly evolve (see also Suchman, 2002). Specific to cognitive convergence, Baba et al. (2004) call for a balance between convergence and divergence, arguing a need for some shared understanding for coordination to be effective. Unfortunately, to date, studies are too few to establish definitively the extent to which global work is best served by the convergence of practices or the honoring of local needs and contexts. Studies also are too few to provide insight into the effects, more generally, of convergence and divergence of work practices on global work and on the workers as they collaborate across national boundaries. We believe that this is a multifaceted question, and its answer depends on a whole host of largely unexamined characteristics of the workers, the cultures involved, the work itself, the structure of the organization and the way that the distribution is configured, and the technology used to support global work.

The case for a hybrid culture. An alternative to convergence has also been proposed, suggesting that workers have the capacity to maintain multiple meaning systems that can be called upon as needed based on the situation (Benet-Martinez, Leu, Lee, & Morris, 2002). This is consistent with the

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notion of a "third culture" or a "hybrid team culture." The concepts of third culture and hybrid team culture both suggest that a shared culture can be created and called upon for joint global work while workers maintain their own local cultural meaning system side-by-side with the hybrid or third culture. While a third culture is a primarily cognitive construct (e.g., a schema that is "in the mind" and guides behaviors), the idea of a "hybrid team culture" is rooted more in practices, describing a culture that emerges as teams identify practices that are already shared in common or develop entirely new practices or approaches based on the needs of the situation (Earley & Mosakowski, 2000). A global team with a hybrid culture is said to have a common, group-specific identity that emerges overtime. As compelling as this idea is, there is limited evidence that it is sustainable in an organizational context. In fact, some evidence indicates such "cross-cultural code switching" exacts a psychological toll, particularly when norms are complex (Molinsky, 2007). Further, although convergence can result from adaptation, convergence may not always be the outcome because workers from different cultures may understand the desired practices in different ways and thus adapt in non-converging ways. In a U.S.–Chinese collaboration, for example, U.S. participants may come to understand the importance of relationships and *guanxi*, but not fully understand the implications of how this is manifested in Chinese relationships, thus adapting, but in ways that are perceived as disingenuous. In the presence of profound cultural divides, hybrid team cultures may therefore be slow to emerge. More research is required to understand the opportunities and limits of hybrid cultures for global work.

Adaptation processes. Regardless of the amount of convergence that takes place in global work, it is evident that some adaptation occurs to facilitate collaboration across cultures and contexts, so understanding the process by which that occurs and its limitations are also critical undertakings. A few recent studies examine the process by which adaptation occurs and the form that it takes. Orr and Scott (2008), for example, in their examination of global projects in the construction industry, found that when a cultural misunderstanding occurred, a sensemaking process involving the search for local knowledge preceded adaptation. In their study of globally distributed software development teams, Cramton and Hinds (2007) also document a process in which workers at one location experimented with new behaviors that, from the workers' perspective, relieved the tension resulting from incompatible practices. In the process of doing so, however, there was often surprise that the "improved" practice wasn't received well and had unintended consequences at the distant location. In their study, convergence was elusive, as new experiments continued to surface unexpected incompatibilities. Cramton and Hinds (2007) use structuration theory to understand the ways that the practices and institutional context were continually shaped and reshaped by one another.

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Sidhu and Volberda (2011) also closely examined the adaptation process. In their detailed field study of a Dutch company with offices in Brazil, China, and India, they propose a co-evolution perspective in which solutions emanate from the workers themselves and are distilled from the process of experimentation. As with evolution, the idea is that the practices that survive will be suited to the local context(s) in which they must function. In both of these studies, the processes proved to require experimentation over time to evolve new practices. Orlikowski (2002) also documented the process by which practices evolved through an ongoing process as workers gained more experience working together. Her work shows how practices were constructed and reconstructed across time and space, emerging dynamically based on global, local, and temporal contingencies. Although nascent work on the adaptation process is promising, much more research is needed to understand how practices among global workers evolve over time, particularly with regard to the conditions under which they do or do not converge, the effects of divergence and convergence, the type of work and workers involved, and management's role in the process.

Unpacking the adaptation process. Regardless of the extent to which work cultures converge, there are characteristics of the workers, the cultures, and the work itself that may affect the process by which adaptation comes about and its effectiveness. The compatibility of the cultures, for example, has been highlighted in several studies (Benet-Martinez et al., 2002). Not surprisingly, to the extent that cultures are perceived as compatible, workers are able to shift more easily between meaning systems and find it easier to integrate practices across cultures (Benet-Martinez et al., 2002). There are also some cultures that have been described as less adaptable. In their review, for example, Leung et al. (2005) concluded that change may not be readily accepted by cultures that value power distance, uncertainty avoidance, and collectivism. In direct opposition to this, in a study of negotiators in intracultural (Japanese or U.S.) and intercultural (Japanese and U.S.) pairs, Adair, Okumura, and Brett (2001) found that the U.S. managers adapted significantly less than did the Japanese in a collocated intercultural negotiation. They were able to show that the Americans gathered less information about the negotiation practices of their counterparts than did the Japanese. Thus, although evidence suggests that culture may matter for adaptation, the characteristics that determine when and with whom adaptation will occur remain a mystery.

The power dynamics between locations also seems to be an important ingredient in understanding whether or not and how convergence will occur (Brannen, 2004). Metiu's (2006) research on a global outsourced collaboration, for example, showed that people in the high status group (U.S.) were less willing to adapt or give ground to their low status (Indian) counterparts. Threat rigidity is also likely to matter (Staw, Sandelands, & Dutton, 1981).

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When workers at a location fear for their jobs or are experiencing heightened levels of threat, their ability and motivation to change their own practices is likely to be limited (see Cramton & Hinds, 2005).

Finally, individual differences and how groups are composed will undoubtedly affect the nature and process by which adaptation occurs (or doesn't). New research on bi-culturals—people who have internalized multiple cultural identities—for example, suggests that bi-culturals can, under the right conditions, mediate conflict and enable distributed workers insight into the distant culture, thus increasing adaptation (Brannen & Thomas, 2010; Hong, 2010). Orr and Scott (2008) also report that workers with more international experience are more open to gathering local knowledge, which, in turn, facilitates the adaptation process. Similarly, liaisons with one foot in each location can act as translators between distant sites and enable more seamless adaptation (Mahnke, Wareham, & Bjorn-Andersen, 2008). This set of studies suggests that convergence and how it comes about is affected by the characteristics of the workers, the cultures involved, the work itself, and the way that work is structured, but we believe that this is only the tip of the iceberg in beginning to map this terrain and far more research is warranted.

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Two Illustrations: Social Networks and Technology Use

In the foregoing section, we discussed convergence and divergence of practices generally, but to understand the complexity and nuances of these processes requires a closer examination of the particulars. In the following sections, we look in detail at two classes of practices for which there is evidence of cultural differences—social networking and use of collaboration technology—and consider the implications of these differences in practices on the question of convergence and divergence in global work. In each section, we rely on extant research about the domain (e.g., social networking and technology use) to talk about how national culture may lead to different behaviors and thus the potential for incompatible practices. We then leverage relevant research to explore the questions that arise in considering the effect of these incompatibilities on global work and workers as they collaborate across national boundaries. Our goal is to illustrate our arguments about how an in-depth examination of specific practices can reveal more nuanced insight into what may happen as global workers collaborate across distance and to reveal the depth and breadth of research opportunities that arise from such an investigation.

Social Networks in Global Work

In our first example, we examine how the development and maintenance of social networks, their meanings, and their effects vary across cultures. We also consider the implications of differences in the meanings of social networks when globally distributed workers collaborate and feel pressure to share and

leverage networks in common. As in collocated and domestically distributed collaborations, global workers maintain informal connections (ties) that constitute their social network. Although previous work has examined social relationships among members between two or more locations (e.g., Jarvenpaa & Leidner, 1999; Metiu, 2006; Moon & Sproull, 2002; Zolin, Hinds, Fruchter, & Levitt, 2004), there has been little research on the structural properties of social networks and their consequences for performance in a global work context. The only two existing studies report contradictory results. In their study of 182 work groups in a global organization, Cummings and Cross (2003), for example, found that when employees were part of communication networks that funneled the flow of information through one or a handful of individuals, as compared to belonging to networks that were multi-directional or "flat," their performance was negatively rated by their supervisor, particularly on measures such as quality and teamwork. Hinds and McGrath's (2006) study of 33 R&D teams distributed between the United States and Europe, however, found that belonging to networks that funnel information through a small subset of people were associated with more smooth coordination. The authors argued that these networks increased the efficiency of communication over time and space, even among knowledge workers. Neither of these studies, however, examined the cultural context in which workers were embedded or considered the intercultural aspects of these social networks. Another study by Manev and Stevenson (2001) examined ties between members of an NGO located in different countries and discovered that cultural distance was associated with fewer affective ties but, contrary to expectations, more instrumental ties.

Such contradictory and inexplicable results suggest a need for more empirical work, but they also urge us to reflect on some of the fundamental assumptions that have been made in the study of social networks. These studies assumed, for example, that people in different locations establish social ties with the same logic. People in different locations were also assumed (implicitly) to share the meaning of "who talks to whom" (i.e., communication ties) and what constitutes a strong affective or instrumental tie, and to view the network structure in similar ways. It is not yet clear, however, the extent to which these assumptions hold in a global work context, how culture influences the way that people establish and maintain social networks, whether the functioning of network constructs like structural equivalence (of roles) and structural holes work the same ways, and, if the meaning and function of networks diverge, what the implications are for cross-border social network structures and the coordination of work.

Culture and social networks. Sociological and anthropological research has established that people's social relationships are influenced by culture and other broader social structures (e.g., Fiske, 1991; Parsons, 1951). At a

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societal level, cross-national research has found differences in certain features of people's social networks, and has attributed such network differences to cultural differences. Fischer and Shavit (1995), for example, explained the significant difference in network density between Israel (high) and the United States (low) by cultural characteristics—the Israeli "groupism" and "familism" versus the American individualism and emphasis on autonomy. Höllinger and Haller (1990) also compared the composition of social networks in terms of the relative weight of kin ties over non-kin ties in seven countries. They found that Italians and Hungarians maintained much closer kin relations than Northwest Europeans (British, Germans, and Austrians); and that in countries descending from the Northwest European cultural area (e.g., Australia and the United States) people more loosely knit kin ties. These differences were explained not just by cultural values but also by important sociocultural characteristics of these societies, such as traditions about kin relations dating back to preindustrial times and higher geographic mobility in the United States and Australia.

In more micro-level studies of work, cross-cultural comparisons suggest that people from different cultures bring different expectations and norms about interactions and relationships in the workplace, leading to different patterns of interpersonal relationships. Morris et al. (2008), for example, proposed "relational templates" in four different cultures that leave an imprint on different aspects of coworker interactions: market transaction for Americans, filial responsibility for Chinese, legal procedure for Germans, and sociability bound by codes of honor for Spanish. The authors then developed empirically testable hypotheses by operationalizing these relational templates using social network concepts about the type of ties (instrumental vs. expressive), attributes of ties (e.g., longevity, frequency, affective closeness), and structural characteristics of networks (e.g., density, multiplexity). Using egocentric network survey data from the American, Chinese, German, and Spanish divisions of a global retail bank, the authors found systematic differences in various features of social networks in the four divisions, in correspondence with differences in the four templates. The *legal/political procedure* template governing the German workplace relationships, for example, led to comparatively higher frequency of instrumental communications and comparatively fewer and weaker expressive ties. In contrast, the *imprint of friendship* template of Spanish norms influenced workplace relationships so that comparatively higher frequency expressive communications and longer lived expressive ties were found.

In another study, Chua, Morris, and Ingram (2009) analyzed egocentric network data collected from executives attending executive MBA courses in China and the United States. Their results revealed that whereas American managers tended to limit affective closeness with those on whom they depended for instrumental resources, Chinese managers usually blended instrumental and affective relationships. The authors argued that although

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mixing affective closeness with business also occurs in American culture, there is considerable tension in blending these two kinds of relationship, as Western norms of friendship involve a notion of true friendship as excluding instrumental benefits (Silver, 1990). Conversely, the familial collectivism orientation in Chinese culture dictates that individuals are mutually dependent on each other not only for instrumental resources but also for socio-emotional support. In the business context, such familial collectivism is evidenced by the observation that few Chinese business relationships develop without concomitant socio-emotional exchanges such as sharing meals, gifts, and socializing with each other's family.

These findings lend clear support to the idea that networks in different cultures hold different meanings and are constructed and maintained differently as a result. It takes only a small step to conclude that understanding and bringing together social networks across global workers is likely to yield some misunderstandings and incompatibilities. Take Morris et al.'s (2008) study for example. If collaboration happens between the bank's German and Spanish divisions, it seems very likely that members of the two divisions will experience discomfort and misunderstandings in building social relationships with each other. The German employees may be not quite used to the Spanish way of frequent, affect-laden exchanges; the Spanish employees, on the other hand, may misinterpret their German colleagues' emphasis on instrumental communications as being unfriendly. Unfortunately, none of the above studies has examined the possible discordance that might exist in intercultural encounters and the possible ways in which these incompatibilities get resolved (or not) through people's adjustment of their social networking behaviors.

Convergence and divergence of social networks. The findings with regard to "relational templates" and the content of social ties in different cultures remind us that, when global work spans several national cultures, differences in norms about how to build and maintain social ties across cultures may lead to structural differences in social networks and network dynamics at different locations. Due to the *cross-cultural comparison* nature of these studies, however, we still know little about what would happen during *intercultural* collaborations—whether or not, how, and to what extent the structurally heterogeneous local networks would converge into one homogeneous network, or diverge, resulting in arm's-length ties across distant sites or in conflict between sites. Anecdotal evidence seems to suggest that significant convergence is not likely to happen. In Morris et al.'s (2008) study, for example, differences in the structure of regional social networks persisted despite the many forces pushing the four regional branches toward uniformity despite the multinational bank's move to standardize formal structures, policies, produces, and even physical layouts of the regional branches to foster divisional coordination and continuity of customer experience.

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Although to date there are no studies that we are aware of on the dynamic processes of structural change in social networks in intercultural contexts, we might be able to get some ideas from related social network research. A body of sociological research, for example, examines the adaptation (or non-adaptation) of immigrants to the host country by looking at how these immigrants' social networks change over time (e.g., Hagan, 1998; Ho, 1993; Lubbers et al., 2010). Conceiving network ties primarily as personal relationships based on kinship, friendship, occupational group, and other communities, this body of research studies how the composition of personal networks changes during the migration process, and how such change might relate to changes in outcome variables such as level of assimilation. One insight from this literature is that migrants' ties to different types of people differ significantly in terms of type, strength, density, and longevity. In one recent combined qualitative and quantitative study of 25 Argentinean immigrants in Spain, for example, Lubbers et al. (2010) found that respondents felt closest with people in their country of origin, had most and most frequent contact with the Spanish, and placed fellow migrants in the most central positions in their networks. Although the study did not examine the meaning of ties or the "relational templates" used to establish ties, it seems that these migrants establish and maintain social ties with different groups of people in systematically different ways. This might well be the case in the global work context, where people may acquire new "relational templates" through intercultural collaboration and maintain multiple templates in building and maintaining social ties, much the way that bi-culturals maintain two parallel cultural identities (e.g., Brannen & Thomas, 2010). American members with years of experience working with Japanese colleagues in a joint project, for example, may find themselves blending affective and instrumental bonds with members of the project team, but at the same time maintaining the separation between affective and instrumental bonds with other fellow Americans.

In many cases, migrants do the adapting to the host country's way of social networking, due to inherent inequalities in power and status. In more balanced collaborations, questions still remain regarding who will maintain multiple "relational templates" and, if both sides maintain them, whose template will dominate. One factor that seems to be at work here is the adaptability of particular cultures with regard to their social networking behavior. In a study of Caribbean immigrants in Los Angeles, for example, Ho (1993) found that kinship dominated Caribbean social relationships, both at their home countries and abroad. When Caribbeans migrate to the United States, they extend their networks to include non-kin relationships, but do so with the kinship template. As a result, the Caribbean kinship is "fluid and flexible with no clear-cut boundary between kin and nonkin relationship" (p. 36). Citing Sutton (1987), Ho suggested that the destiny of Caribbean migrants is not toward "Americanization," which characterizes many European

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immigrants, who have been proven to be more "meltable." Ho further contended that Caribbeans' systematic rejection of acculturation and their "internationalization of kinship" might even lead to some "Caribbeanization" of the United States (p. 39). From these findings, we conclude that, in a global work context, although status difference plays an important role in determining who adapts to whose "relational template," such influence may be moderated by the adaptability of the collaborating cultures around a particular practice, such as social networking.

In sum, we have yet to understand the meaning of cross-cultural differences in the way people build and maintain social ties to intercultural collaborations, particularly to the structure of intercultural social networks, and to what extent and how convergence might occur. Relevant work in other fields seems to suggest adaptation may be enabled by acquisition of "relational templates" and that who adapts (and how they adapt) is intertwined with status in the relationship, as well as adaptability of cultures around particular practices. These all constitute promising directions for deeper exploration of the dynamics of global work. Our investigation of social networking as a practice that varies across cultures and may yield incompatibilities for global workers illustrates the complexity that can reveal itself in the examination of a particular set of practices in the domain of global work. Many questions flow from our analysis and suggest future directions for empirical research. In an instance of global collaboration, when systematic differences exist among global workers regarding "how social ties should be built" and "what it means to have social ties with others," how might such differences influence people's social networking? How might these differences and adaptation dynamics be embodied in structural characteristics of social networks such as density and centralization?

Collaboration Technologies in Global Work

In the previous sections, we focused on social networks in global work. Our second example involves questions of convergence and divergence in the use of collaboration technology for global work. Once again, our goal is to rely on technology use as an illustration of how an in-depth examination of a set of practices can yield insights and directions for research by subjecting it to an intercultural lens. One of the key characteristics of global work is that workers are reliant on technology to collaborate at a distance. While computer-mediated communication (CMC) in general has been fairly well explored, the study of design and use of technology in global, intercultural collaboration must begin with a healthy dose of concern regarding two unexamined assumptions: (1) the design of collaboration technologies is free from cultural bias; and (2) globally diverse members of a team will interpret and use a shared technology in the same ways. These assumptions present a challenge for current research in global work because the global work literature has neither reported

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extensively on empirical cases of distributed, *intercultural* use of collaboration technologies, nor developed a strong conceptual apparatus by which the design and use of technology can be meaningfully understood as ranging between obdurate and malleable structures. Scholarly work on the social construction of technology suggests that the challenge of such skepticism about the neutrality and objectivity of technology cannot and should not be wished away (for a balanced review, see Leonardi & Barley, 2010). Understanding how technology figures in global work and team processes will require empirical accounts and theorizing of when and how a technology carries within it cultural assumptions, to what extent these assumptions are congruent with the culture of the user, and whether these assumptions can be flexibly interpreted upon instances of use in the various locations inhabited by a global team—in other words, what opportunities exist for convergence and divergence.

In order to guide and perhaps inspire the development of new research programs, we discuss below a number of insights pertaining to technology and global, intercultural collaboration that have emerged from a reading of the social construction of technology (SCOT), computer-supported cooperative work (CSCW), human–computer interaction (HCI), social psychology, and management literatures. We begin by considering several topics related to the general proposition that cultural requirements for collaboration support may not be congruent with the culture embedded in technology. Unlike social networks, technology is not the practice. Rather, the practices are embedded in the technology and, we argue, can as a result perpetuate cultural biases. We go on to discuss the potential in developing a cultural account of technology appropriation that can be applied to global collaboration, especially to understand what happens when global workers at distant locations employ the same technology.

Culture and collaboration technologies. A handful of research so far suggests that critical cultural requirements for collaboration technologies are often not met by the technologies meant to support those collaborations. In a series of papers based on their work studying the failed implementation of a U.S.-designed global information system (GIS) in India, for example, Walsham and his colleagues (Walsham, 2002; Walsham & Sahay 1999) found that U.S.-centric values about reasoning in physical space were deeply embedded in the very functionality of the technology and that these value-laden designs were not compatible with the culture of the Indian users. Walsham and Sahay (1999) argued that the "map-based culture of Western societies" was taken for granted, and the assumption that users would be comfortable with maps was "inscribed into the technology." Yet, "typical Indians will rarely, if ever, use maps in their daily life" (pp. 49–50).

Hutchins (1983, 1995, ch. 2) similarly argued that cultural assumptions about the nature of the world and how to solve problems in it are much

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more deeply built into technologies than we realize. In his 1983 article, Hutchins quoted, for example, one account in which a Western navigator presented to a Micronesian master navigator a map of the ocean area containing the intersecting bearings of their canoe. The Micronesian navigator, reported the Western one, "could not grasp this idea at all." Hutchins argued that the Western technique of using map technology to navigate assumes "a point of view on that space which we might call the 'bird's eye' view" in which the navigator imagines him or herself to be an imaginary point that moves relative to a static, abstract representation (Hutchins, 1983, p. 206). As it turned out, the assumption of point-movement through a static two-dimensional space that underlies the design and effective use of Western maps is broken in Micronesian navigation culture. Master Micronesian navigators assume an egocentric perspective—a point of view held by a static self—past which the world moves on either side.

These examples strongly suggest that scholars of contemporary global work ought to scrutinize whether the cultural assumptions inherent in collaboration technologies are congruent with the collaboration requirements of the cultural contexts in which they are used. To this end, we describe three ways in which cultures are known to differ in their collaboration behavior and consider the implications for the design of collaboration technology, including information processing, communication practices, and models for collaboration.

Culture and information processing. At the most granular level, a good place for further research to begin would be to understand better how fundamental assumptions about the processing of information differ from one culture to another—a nontrivial matter when global, culturally heterogeneous groups are using the same technology to collaborate. Menou (1983), for example, argues that information is culture specific and "consequently, is largely uncommunicable unless it has been 'acculturated'" (p. 121). He noted that, in some cultures, it is inappropriate to separate information from people and relationships, quoting the Bedouin saying, How can you trust what somebody you don't know has written in a book? The message "is cosubstantial with the communicator" (p. 125). More recently, studies have begun to unpack carefully some of the ways in which culture fosters different types of information processing. Kitayama, Duffy, Kawamura, and Larsen (2003), for example, found that in a specially designed perception task individuals engaging in Asian cultures are more capable of incorporating contextual information and those engaging in North American cultures are more capable of ignoring contextual information. Similarly, Maddux and Yuki (2006) found in experiments with Japanese and American subjects that cultural background affects whether subjects more or less ignore information about distal versus proximate causes and consequences of events.

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These studies prompt interesting questions about how collaboration technologies should be designed to support intercultural collaboration where members of a single, globally distributed team perceive contextual information and the causes and consequences of events differently. Will Western users need systems that allow them to be relatively focused on the present task and immediate needs? Will East Asian users need systems that allow them to reason about the interconnected and long-term effects of their actions? How should information storage, retrieval, and communication functions be constructed for a group of users who will differ in their assumptions about which bodies of knowledge can and should be represented explicitly and which should constitute an implicit context that is only subtly indexed during live interactions?

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Culture and communication. Across cultures, individuals differ in how they process information; they also significantly differ in what and how they communicate with each other and in how they interpret those communications. Although this claim is relatively uncontentious, few researchers have asked whether inappropriate cultural assumptions about the method and content of communications are embedded in the communication technologies themselves. In a rich and interesting study, Verran and Christie (2007) followed a project undertaken with a Yolngu Aboriginal Australian elder using video and DVDs to capture cultural knowledge in ways compatible with Yolngu rituals. One critical limitation of the technology was that the inflexibility of the DVD authoring software did not allow viewers of ritual content to understand the material as live and embodied "performances" in specific locations rather than media representations of those places. Verran and Christie's work thus suggests that certain communication technologies may not be appropriate for, or may disadvantage, some members of an intercultural collaboration specifically because the technology does not support a particular communication method and/or cannot convey particular kinds of content. As yet, however, little is known about how and when the properties of a communication technology will be culturally biased and the effects that may result from such a bias.

One stream of research focusing on CMC has taken a step forward by testing the effect of different media types (such as audio, video and audio, instant messaging, and face-to-face interactions) on communication within and across different cultures (e.g., Diamant, Fussell, & Lo, 2008). Although results are as yet inconclusive, these studies are important because, while numerous studies of CMC have been conducted, few studies have examined the interaction effects between cultural dimensions and communication media properties. Studies of CMC that consider culture tend to focus on the effects of the technology medium *on* collaboration behaviors in different cultures. Such an approach portrays technology as a culturally neutral stimulus,

glossing over the basic concern that different collaboration technologies may be inherently structured so as to facilitate one culture's communication repertoire and impede or disadvantage another's. Wang, Fussell, and Setlock (2009), for example, noted that in mixed-culture subject groups (Americans and Chinese), Chinese subjects increased their level of behavioral responsiveness nearly to that of Americans, suggesting more adaptation by Chinese subjects to "reconcile inconsistent communication styles" (p. 676). Technologies may thus present a compounded disadvantage for certain members of an intercultural collaboration when (1) the technology embeds cultural paradigms incongruent with the culture of those members, and (2) the disadvantaged culture also tends to value adaptation more highly than the other represented cultures. Theoretical paradigms concerned with explaining the dynamics of globally distributed teams that use technology to coordinate work must account for heterogeneous distributions of degree of congruence between collaborating members' cultures and culture embedded in the technology.

Culture and collaboration models. Another exceptionally rich avenue in need of exploration concerns how culture-specific models of collaboration may be built into technologies and the resulting implications. There has been a good deal of research devoted to differences in cultural models of collaboration, yet we know little about the technological ramifications of such differences. We elaborate on some choice examples below that capture ways in which attitudes toward collaboration might differ between cultures, focusing in particular on attitudes and behaviors that point to different features of collaboration support technologies.

That basic collaboration mechanisms differ across cultures has been borne out empirically. Gibson and Zellmer-Bruhn (2001), for example, found that models of teamwork—including expectations about team roles and role relations, team objectives, labor distribution, and control processes, to name a few—differ around the globe "as indicated by the metaphors they use when they talk about their teams" (p. 296). Similarly, in their series of papers on a geographic information system (GIS) introduced into India, Walsham and Sahay (1999) found that one of the central reasons that the U.S.-designed GIS adoption failed was that the information "overlay" nature of the GIS system "places a high value on coordinated activity" and information sharing between different role specializations. In India, however, these specializations "have typically been handled in relative isolation by the different agencies involved" (Walsham, 2002, p. 371). C. Chen, Chen, and Meindl (1998) proposed in a theory paper that basic cooperation mechanisms (such as superordinate goals, reward systems, and communication norms) successfully function quite differently in different cultures.

These findings, taken together, suggest that with the very design of collaboration support systems are likely to reflect taken-for-granted cultural models

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of collaboration and teamwork. With most collaboration technology being developed in the West and propagated to the rest of the world, we posit that Western models of collaboration dominate collaboration technologies, particularly in multinational and transnational firms. In essence, this is a means of implicitly (perhaps even unintentionally) spreading Western collaboration practices. In global work, this means that the collaboration technologies and the practices they reproduce may create pressure toward convergence.

Convergence and divergence in collaboration technologies. To understand the implications of this state of affairs for global work, we must also examine adoption practices and how they might vary and be discrepant in different regions of the world. Indeed, our cultural practices, our organizing behaviors, and our tools are deeply entwined (see, e.g., Orlikowski & Scott, 2008). Thus technology may be adopted differently across cultures, and the compatibility of such adoption behaviors may have a variety of effects on collaboration. Theory in the global work literature has said little about cultural differences in technology adoption; it is this gap to which we turn next. When organizational members adopt and use technologies, apparent physical constraints and managerial fiat more often than not have trouble predicting entirely how the technology will actually be used, to what ends the technology will actually be employed, and what impact the technology will have on ongoing role relations within work collaborations (Orlikowski, 1992). In the context of global work, it would seem natural to consider whether and how members of a global collaboration differ in their interpretation and use of a collaboration technology.

Despite the intuitive importance of a cultural account of technology appropriation, such processes have largely been ignored. In one rare example, Martinsons, Davison, and Martinsons (2009) studied the implementation of IT-enabled business process engineering across firms in six countries (the United States, France, Sweden, China, Japan, and Brazil). Based on qualitative data from interviews, observations, and document reviews, they found that the IT appropriation differed according to cultural context as differentiated according to Hofstede's dimensions. American and Swedish firms (low Power Distance cultures), for example, more readily adopted IT in such a manner so as to enhance information access. In China and France (high Power Distance cultures), similar IT was instead used mostly to monitor operations, not to support collaboration. Martinsons et al.'s work suggests it is important that both researchers and practitioners alike further understand, in a global context, how "any specific communication technology is likely to support multiple organizing processes" (Orlikowski & Yates, 1994, p. 572). These results also suggest that, despite identical technologies, adoption and appropriation practices are likely to lead to technology use that is particular to the cultural context. When working globally, then, we would logically expect technology to be

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appropriated differently in different cultural contexts, thus providing an occasion for divergence in the use of a given collaboration technology. It is, however, unclear how that might affect collaboration, what pressures workers might feel toward convergence, and how those pressures are intertwined with the technologies themselves (e.g., in the activities they do and do not afford).

The role of interpretive flexibility. Interestingly, while the malleability of the technology may create opportunities for local adaptation and divergence, such "opportunities" may not be construed similarly across different cultural contexts involved in global collaborative work. It is notable that, on the whole, when applied to stories of information technology implementation and adoption, the social construction of technology literature has approached the malleability or interpretive flexibility of technology as an assumed good. Yet, uneven perceptions about the meaning and value of interpretive flexibility directly affect the dynamics of convergence and divergence.

Consider, for example, how interpretive flexibility could present a stressful or demotivating burden of choice, within a particular cultural context. Some social psychologists have argued that intrinsic task motivation in different cultures varies according to the extent to which people are exhorted to make choices. Iyengar and Lepper (1999), for example, demonstrated in comparisons of Anglo- and Asian-American schoolchildren that "contexts of individual choice may not always produce the highest levels of intrinsic motivation" and that "in particular contexts, individuals from some cultures may actually prefer to have choices made for them by significant others" (pp. 362–363; see also Hernandez & Iyengar, 2001). This line of research suggests that the increased flexibility of a collaboration technology (which implies choice) may decrease the motivation of some users to use the technology or impair their ability to perform tasks well with the technology. Iyengar and Lepper (1999) also pointed out that Asian-American subjects were highly motivated when task decisions were made for them—but that such motivation disappeared when the subjects perceived the chooser not to be a member of a valued in-group. Similarly, in their account of the appropriation of a digital news-net system in a Japanese company, Yates, Orlikowski, and Okamura (1999) noted that an oversight committee ("NAGA") played a highly influential role in determining technology practice norms. Data from their interviews suggested that "NAGA's monitoring and guidance of use was accepted by users as constructive (a less likely outcome in many Western contexts [sic.])" because it had both acquired formal support from management and co-opted representatives from amongst the users on different project teams. The authors speculate, however, that "actions of a group of mediators in a different cultural context . . . might be experienced as coercive and encounter much more resistance, resulting in far different outcomes" (p. 100). In the context of technology appropriation in global, intercultural work, researchers thus cannot afford to

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assume that the increased degree of choice brought about by technological flexibility will increase the motivation and sense of control perceived by all users; such appropriation stories will depend at least on the culture of those involved and the nature of the bodies perceived to be determining the flexibility of the technology. In global work, as a result of different reactions to technological flexibility and choice, we speculate that different sites may appropriate the technology differently, thus undermining the common foundation which drives collaboration support.

Our analysis of collaboration technologies, the potential cultural biases embedded in them, and the possibilities for appropriating collaboration technologies in incongruent ways illustrates how culture can interact in complicated and nuanced ways with the practice of workers as they strive to collaborate across national boundaries. We show that culture is embedded at many levels, including in the collaboration models and values of the designers (e.g., interpretive flexibility) reflected in the technology itself, as well as in the adoption process. Many questions flow from our analysis and suggest future directions for empirical research. In an instance of global collaboration, for example, what might count as differences in cultural frames regarding the introduction of a new information sharing and project coordination technology? Do globally distributed members of a team assume different views of the nature of the technology, how their work ought to change with its implementation, and what an appropriately faithful (or subversive) response to the intended spirit of the technology might be? How might cross-cultural differences in technology appropriation lead to different genres of technology use, and when will differences matter? More generally, might differential appropriation patterns lead to incompatible uses of a shared collaboration technology? How would such incompatibility arise and what role might it play in our theories of collaboration dynamics?

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Discussion

Global work, as an empirical domain unto itself, is overdue a more extensive examination that employs an intercultural lens. Our analysis of the literature on global work reveals different variations on a critical theme—the dynamics attendant upon organizational arrangements that are defined by the meeting of multiple, and potentially conflicting, cultural contexts separated by geographic distance—are yet to be seriously examined. Whether culture is expressed through the construction, maintenance, and meaning of emergent social structures, through design and appropriation of collaboration technologies, or through a host of other organizational practices, we have been centrally concerned with promoting a better understanding of the subtle dynamics of convergence and divergence of the practices of distant workers collaborating across cultural contexts. We argue that insights from cross-cultural comparisons

that are primarily concerned with understanding cultural differences between two or more cultures can provide a useful foundation for the study of global work in pointing toward the source of incompatibilities, but they should not be confused with studies of global work in which workers are required to collaborate across those cultural contexts. In this article, we consider more deeply social networks and communication technology in global work as illustrations, but leave many potentially exciting topics unexplored, including the nature of supervision in global work, the role of expatriates, optimum structures for global work (e.g., number of locations, location(s) of leader(s), team size, etc.), and language (lingua franca) in global work, all of which are worthy of attention and would benefit from an intercultural lens.

We also believe that a prerequisite to research further on global work is a conception of culture that is markedly more contextual, behavioral, and dynamic than the conception largely relied upon in the literature. Yet it is precisely this shift that will enable global work to become critically relevant to central discourses in organizational scholarship and contribute meaningfully to theoretical advances. Previous research in organizational behavior has largely assumed a view of culture that is static and cognitive (see Leung et al., 2005, for a review). While this conceptualization makes research more tractable, it encourages oversimplification of global work and obscures the micro-dynamics at play with the coming together of cultures across national boundaries. With a values-based view, for example, it would be difficult, if not impossible, to detect cultural convergence (or divergence) because values-based constructs are often assumed to hold for entire nations and to be fairly immutable. Our analysis clearly demonstrates that the intercultural organizational arrangements characteristic of global work involve adjustments and counter adjustments (whether towards convergence or away from it) of a multitude of behaviors that are not explained by generalized belief and value constructs. Instead, the cultural content involved in convergence or divergence is essentially behavioral: it may be a basic work practice, such as how to train a new organizational member or report to a senior; it may be method of social discourse for the maintenance of a particular kind of work relationship; it may be a normative use of a particular communication technology for the sharing of a particular kind of information.

Moreover, aside from beliefs and values alone, the location, or context, of work constrains some of these behaviors and enables or encourages others. The combination of a behavioral and contextual view of culture is important because it directly contradicts core assumptions about global collaboration in the literature. Some authors, for example, have argued that the key to bridging cultural contexts, avoiding conflict, and otherwise sustaining collaborations in global work is the establishment of shared, or superordinate, goals, values, and beliefs. A view of culture that includes both behaviors and the effects of local context suggests, to the contrary, that despite shared goals, values, and beliefs

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the nested and multifarious cultural institutions that define the local contexts of global work will differentially define what constitutes an appropriate behavior in any given instance. In short, cultural differences are complex not just because goals, values, and beliefs differ, but because *actual* behaviors in intercultural work settings are additionally shaped (at least) by the local context in which workers are embedded. Thus distance is crucial to our arguments. It is the combination of being intercultural and remaining embedded in different cultural contexts that influences one's behavior and drives these dynamics.

Finally, the dynamics of convergence and divergence we have highlighted in the domain of global work will require, in addition to a more behavioral and contextual view of culture, a view of culture as dynamic. It is an empirical question whether national belief and value systems—dimensionalized, say, as power distance, individualism–collectivism, or uncertainty avoidance—are more or less intransient during short time frames such as a few years or even months. A focus on culture as dynamic, however, shifts our view away from a static view of overarching and monolithic value schemas toward the micro and heterogeneous dynamics of cultural convergence and divergence. In order to keep the flow of work going, and to maintain minimal satisfaction with their work (and with each other), global collaborators adjust and defend their cultural practices over time as they engage together on projects. Moreover, the rate at which those changes occur depends on any number of factors including beliefs and values, economic conditions, the legal and regulatory environment, and a whole host of other local exigencies. Yet, our review suggests only a handful of observational studies and even fewer longitudinal studies examine these processes in global work over time. Simply put, the adoption of a conception of culture that sensitizes us to behaviors, contexts, and micro-dynamics (in addition to long-standing belief and value schemas) should drive a focus toward understanding the evolution of practice.

We have argued, based on our analysis of the current state of empirical research on global work, that the time is overdue for a more serious investigation of culture and for more a behavioral, contextual, and dynamic view of culture in studies of globally distributed work. This may not be as easy as it seems. We believe that there are cultural and institutional barriers in the management field to moving headlong in this direction. First, doing research on global work is expensive and time consuming, even more so if the work is longitudinal. Second, doing research on culture is messy, particularly when using a behavioral and contextual view. It is no accident that most of the studies of culture caught in the net of our review relied on measures derived from Hofstede—it is easier to do and easier to publish because reviewers expect to see static measures, particularly those developed by Hofstede. So, we are caught in a Catch-22, making it difficult to break out of an entrenched paradigm. Despite these challenges, we believe that the benefits to scholarship and to our understanding of this new form of work warrant the effort.

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So, what does this mean, for practical purposes? We advocate, first, for more empirical studies of global work that actually examine culture. Second, we argue for studies that make a serious attempt to examine behaviors and practices. Third, and finally, we encourage more longitudinal studies. This may mean more observational studies of work, but could just as well mean quantitative studies that make a concerted effort to understand the practices in which people engage and that measure changes in behaviors and attitudes over time. Morris et al.'s (2008) cross-cultural comparison of patterns of interpersonal relationships provides a nice example of how a focus on a specific set of behaviors (e.g., social networking behaviors) can illuminate cultural practices. Similar measures could be used to examine network dynamics over time in global work. We caution, however, that deductive studies may be prone to glossing over critical empirical differences in the meanings of concepts. We therefore need more flexible, perhaps more emic, ways to investigate concepts that may not be understood in the same ways across the globe.

Our analysis also poses challenges and opportunities for current theory. Our review of the literature suggests that several theories have been invoked to understand aspects of the dynamics we are discussing, but none of them is as yet up to the task of explaining these dynamics. We need theories that grapple with the interaction, especially the micro-dynamics, between these multiple nested contexts. Theories that have been leveraged thus far and appear promising for further development along these lines include neo-institutional theory, structuration theory, evolutionary theory, and, for artifacts and material objects, SCOT.

Orr and Scott (2008), for example, employed institutional theory to understand how competing logics in global projects yield incompatibilities and then drew on sensemaking to explicate the adaptation process. Recent work in the neoinstitutional literature has called for a theoretical and empirical focus on precisely this kind of phenomenon—a kind we have argued is ubiquitous throughout nearly every aspect of global work. Seo and Creed (2002), for example, in a review of the institutional literature, examined the key neoinstitutional question of how "to explain social change in the midst of social embeddedness" (p. 229).

Recent formulations of structuration theory have also paid close attention to the complex ways in which culture is nested, taking into account the recursive dialectic between cultural institutions at the national, organizational, micro-interactional, and individual levels (Perlow et al., 2004). The intercultural lens we argue for here suggests that a critical next step is to ask how *multiple* nested structures interact with each other (for an early formulation, see Cramton & Hinds, 2007). Each local context within a global collaboration may be theorized as a relatively bounded system of nested institutional structures. Globally distributed work then spans these systems. Structuration theory

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can be expanded to account for not only the structuration dynamics within these systems but between them, too.

We also see early and promising evidence of the use of evolutionary theory to understand how practices adapt and survive (Sidhu & Volberda, 2011). The focus on the dynamics of adaptation to a particular context seems to bode well for further insight into the dynamics of global work, although further work is needed to understand better how these adaptations are negotiated across contexts. Finally, SCOT has been used to understand how technologies (broadly construed) and social processes are mutually constituted. Insights into how technologies and other material artifacts are mutually constituted in a social process have the potential to lend insights into the processes of convergence and divergence in global work, particularly in the evolution of material artifacts (e.g., planning documents, communication technologies, team newsletters, etc.).

Taking an intercultural lens to the study of global work also promises to generate theory that is relevant to other empirical domains similar to global work in their organizational dynamics, but whose dynamics are less extreme and therefore less detectable. This is especially true, for example, when we consider the lack of research into inter-organizational and interdisciplinary collaborations (with a few noticeable exceptions, such as Levina & Orlikowski, 2009; Powell, Koput, & Smith-Doerr, 1996). As in global work, inter-organizational arrangements involve collaboration across systems of nested cultures: within each nested system are institutionalized approaches to work practice, role enactment, the construction and nature of formal and informal networks, and a variance in the use, meaning, and appropriation of technologies. That an intercultural lens may inform our understanding of the difficulties faced by the organizations involved in such collaborative arrangements is perhaps no better exemplified than by the recent performance of multiple U.S. federal, state, and local emergency response agencies in response to Hurricane Katrina: without a solid understanding of the dynamics of inter-organizational collaboration, it will be hard to discern whether failures are due strictly to ineptitude and malfeasance or to structural and processual issues resulting from the meeting of different organizational cultures. Studies of global work may provide more *edge cases* through which new theory can be developed. This is resonant with Chen and her colleagues (2009) argument that more research in other cultures will challenge our existing theories by bringing to the fore diverse perspectives.

Our analysis also has implications for how we think about best practices and standardization from a theoretical as well as a practical standpoint. The whole concept of *best practices* comes into question when confronted with the idea that *best* may not translate to *best* across cultural contexts. If brainstorming is a best practice for idea generation in one culture, but seen as chaotic and threatening in another, then exporting and enforcing that practice may yield

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suboptimal results. Even worse, best practices, when employed in global teams, can disadvantage certain locations whose practices are the least compatible. Take, for example, reliance on text-based communication systems (e.g., email, text chat, etc.) that deemphasize context. In a global collaboration, those in a cultural context that relies more heavily on subtle verbal and non-verbal cues to decode messages may be differentially disadvantaged. Where status and power interact with these discontinuities, such disadvantages can be exacerbated. If scholars assume that when the transmission of best practices meets resistance, it reflects unwillingness to change rather than contextual incompatibilities, it also limits our understanding of the realities of global work.

We have argued that management research on global work has not kept pace with the pervasiveness and importance of this new form of work and that, as a result, organizations scholars are missing an opportunity to build new knowledge and extend theory. Work that claims to study global work sometimes doesn't in actuality, and much work that studies global work ignores national culture. To put the global into global work, we as researchers, reviewers, funders (and those that evaluate funding applications), and those with editorial responsibilities need the audacity to embrace a messier view of culture, the patience and fortitude to conduct longitudinal studies of practice, and the courage to support and encourage less entrenched perspectives of culture and global work.

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