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Transnational Teams in Knowledge-Intensive Organizations

Martine R. Haas
University of Pennsylvania

Mallika Banerjee
Cornell University

With the advance of globalization, organizations in the 21st century increasingly cross national borders in their efforts to develop scale, efficiency, and new markets. Operating across borders creates the critical strategic challenge captured in the popular international management mantra: "think global, act local." To be successful, transnational organizations must combine global integration of their operations with local differentiation that customizes those operations to each unique country environment. Much early research on multinational enterprises focused on the need to design the formal organizational structure to meet these imperatives, but in recent years scholarly and managerial attention has turned to the central role of knowledge-based resources and capabilities. New strategic management approaches argue that the dissemination and utilization of knowledge, as well as its creation and retention, are essential for organizational effectiveness and sustained competitive advantage. This perspective suggests that multinational enterprises must ensure that their transnational teams obtain and use relevant knowledge as effectively as possible in their work if they are to successfully integrate global best practices and lessons learned around the world with customized approaches to the varied local country environments in which they operate.

In this chapter, transnational teams are defined as groups of individuals who work interdependently on tasks or projects that span national borders. Transnational teams typically feature several characteristics of "virtual teams." They are often multicultural and multinational (composed of individuals from different cultures and countries), geographically dispersed (with members situated in different locations), structurally dynamic (subject to frequent changes in members, roles, and relationships), and dependent on electronic technologies for much of their interaction. Although transnational teams usually exhibit at least some of these characteristics, they do not always exhibit all of them, and not all virtual teams are transnational. Scholars also sometimes refer to "global teams" or "international teams," but these are rarely distinguished from each other or from transnational teams. We use the term *transnational teams* here to highlight the role of such teams in helping transnational organizations to meet the challenge of thinking globally while acting locally.

We focus specifically on transnational teams that are engaged in knowledge-intensive work, defined here as tasks or projects for which the primary input is knowledge, rather than capital or labor. Knowledge is broadly conceptualized as task-relevant information, data, intelligence, or advice that can be conveyed through documents or interpersonal

interactions. While not all teams in multinational enterprises carry out knowledge-intensive work, increasingly many do, especially those that exhibit virtual team characteristics.

The chapter is organized in three main sections. We begin by outlining the major strategic challenges for multinational enterprises in the face of rapidly increasing globalization and explaining how they are addressed by the knowledge-based view of the firm. Scholars working in this area are fundamentally concerned with the importance of knowledge utilization for improving the overall performance of firms, but relatively little attention has been given to examining the characteristics, processes, and outcomes of the teams that often actually perform the work of the firm. Consequently, this research does not explain how transnational teams can acquire and apply knowledge in their everyday tasks in ways that improve their effectiveness and the performance of the multinational enterprise.

Nevertheless, there is substantial literature on transnational teams, as we discuss in the next section. Most of this research takes an internal perspective on team effectiveness that focuses on the consequences of national, cultural, and geographic diversity for intragroup dynamics. Overall, studies of these characteristics demonstrate that transnational teams often suffer from problems that impede internal cooperation, cohesion, trust, and innovation. The internal perspective on team effectiveness overlooks the interactions between teams and their environments, however, as well as the effects of organizational contexts on teams. Additionally, the team member characteristics studied often relate only distantly, if at all, to the different levels and types of knowledge and expertise that different members bring to their transnational teams.

As an alternative, we discuss external perspectives on transnational teams. Two approaches are particularly relevant here: studies of boundary-spanning activities and research on the social networks of team members. The external perspective on teams has proven useful in focusing attention on the important role of team-environment interactions, but this research does not examine how knowledge acquired from external sources is applied within the team. Moreover, very few studies from an external perspective have been conducted on transnational teams, so again the connections between transnational team member characteristics, processes, and outcomes remain less than fully elucidated.

The remainder of this section highlights research that has begun to address these issues more directly. While the extent and scope of such studies are limited at this time, they include qualitative explorations of transnational teams that take an internal perspective but depart from prior research by examining knowledge utilization directly, as well as studies that apply an external perspective to the specific context of transnational teams. They also include studies that move toward integrating the internal and external perspectives with explicit attention to knowledge-related processes in transnational teams. We conclude in the final section with a discussion of promising directions for future research.

KNOWLEDGE-BASED VIEW AS A STRATEGIC MANAGEMENT THEORY OF THE MULTINATIONAL FIRM

The purpose of strategic management theory is to explain why some firms perform better than others. For multinational firms in particular, the major strategic challenge in achieving superior performance is widely agreed to be the need to "think global, act local." In an early articulation of this view, Prahalad and Doz (1987) questioned the prevailing wisdom of matching the structure of a multinational enterprise to its industry (e.g., centralized, globally integrated firms in the electronics industry versus decentralized, locally responsive firms in telecommunications). Instead, they proposed that multinational enterprises should incorporate differentiated approaches to businesses, countries, and functions. Strategic management scholars since have devoted considerable effort to articulating and understanding this insight's organizational design implications, which fundamentally require combining local differentiation among contexts with global integration across the multinational enterprise.

In their seminal book, *Managing Across Borders: The Transnational Solution*, Bartlett and Ghoshal (1989) highlighted three key strategic requirements facing multinational firms today: the need for efficiency as a means to global competitiveness, responsiveness as a means to flexibility, and learning as a means to innovation. They argued that in less complex environments, firms created strategies that emphasized one of these needs to the virtual exclusion of the others, but today's global business environment demands that firms respond to all three strategic imperatives simultaneously. To balance a complex worldwide strategy, the authors championed a new "transnational" model of the firm. In a transnational firm, some resources and capabilities are centralized at headquarters to realize scale economies and protect core competencies (e.g., basic research), while some are centralized elsewhere (e.g., labor-intensive production in low-wage countries), and others are decentralized to create flexibility (e.g., marketing). Management must balance the diverse perspectives and responsibilities of the organizational units so that no single group dominates, and encourage a shared vision and commitment to integrate the diverse members of the organization.

Subsequently, Nohria and Ghoshal (1997) expanded on this framework to envision the transnational firm as a differentiated network of subunits. This network is composed of resources that are distributed across units but connected through different types of relations: local linkages within each national subsidiary, linkages among headquarters and the subsidiaries, and linkages among subsidiaries themselves. The differentiated network is characterized by

flexible role-playing rather than rigid hierarchy, whereby each element contributes to the firm commensurate with its skills and needs, and neither the corporate headquarters nor the national subsidiaries dominate the firm. In this framework, knowledge is created jointly and disseminated through networks between headquarters and subsidiaries as well as among subsidiaries.

Recently, a different perspective has emerged in the strategic management literature: the knowledge-based view of the multinational enterprise. Among the foremost proponents of this view are Kogut and Zander (1993), whose approach is informed by three perspectives: behavioral, transaction-cost-based, and resource-based views of the firm. The behavioral approach, as developed by March and Simon (1958), views the firm as a coalition of individuals and groups, and focuses on how goals of the firm are set and decisions are made within organizations. The general argument is that the cognitive limits of individual decision makers and the variety of challenges posed by tasks and environments require that firms reduce the information-processing demands on their members. Organizations therefore develop repositories of action, programs, and routines which simplify decision making by serving as the alternatives of choice in recurrent situations. Thus, firms accumulate knowledge beyond that embodied in individual members.

Williamson (1975) further developed and integrated these insights into the transaction cost theory of the firm, which views individuals as fundamentally opportunistic. Because they also exhibit bounded rationality (i.e., although rational, they have limited information-processing capabilities), it is impossible to construct the complex contracts that would be required to cover all possible risks of opportunism in the absence of some form of organizational structure. Williamson contended that firms are more effective than markets in economic exchanges characterized by high asset specificity, frequent interactions, and uncertainty, because they control opportunism and lower the costs associated with negotiating contracts. Thus, he built on the idea that firms exist because they can mediate economic transactions at lower costs than markets and extended it further by specifying the conditions under which it is more efficient to replace market transactions with internal organization.

Despite the insights that transaction cost theory offers about the existence of firms, scholars have critiqued it for failing to explain differences in firm capabilities and performance (Liebeskind, 1996). The resource-based view of the firm, in contrast, underscores the role of unique resources and capabilities as the fundamental determinants of heterogeneity in firm performance (Wernerfelt, 1984; Barney, 1991). Central to the resource-based view is the distinction between resources, which are tradable assets and often tied to individual members, and capabilities, which are tacit, socially embedded in organizations, and historically dependent, and hence not tradable. The theory contends that the development and leveraging of rare, inimitable, or nonsubstitutable resources allows firms to take advantage of opportunities or overcome threats in their environments.

Building on the above approaches, Kogut and Zander's (1993) evolutionary view of the multinational enterprise considers knowledge to be the most significant resource of the firm and critical for achieving sustained competitive advantage. A distinction is drawn between explicit knowledge which can be codified in the form of facts, analysis, documents, and best practices, and tacit knowledge such as insights, intuition, and assumptions which are harder to articulate and transfer. The argument is that because knowledge-based resources are difficult to imitate and socially embedded, especially if they are tacit, heterogeneous knowledge bases and capabilities among firms are the major determinants of superior firm performance. Thus, Grant (1996) identified the primary role of the firm as integrating the specialist knowledge of individuals into goods and services and the primary task of management as arranging the coordination necessary for this knowledge integration.

Kogut and Zander (1993) further propose that firms are social communities that serve as efficient mechanisms for the creation, internal transfer, and recombination of knowledge, often by lowering the cost of communication and coordination through multiple mechanisms including organizational culture and identity, policies, routines, documents, and systems. The multinational corporation thus arises not because of the failure of markets at buying and selling knowledge, but because of its superior efficiency as an organizational vehicle by which to transfer and recombine this knowledge across borders. From this viewpoint, the firm is a repository of social knowledge which exists in relationships among individuals or groups; cooperation within the firm generates a set of capabilities that are easier to transfer internally than across firms and thus constitute the advantage of the firm over the market. These insights have been empirically explored in a study of knowledge transfers by Gupta and Govindarajan (2000), who examined how inflows and outflows of knowledge across the subsidiaries of multinational corporations are influenced by the motivation of the source and target, as well as the value of the source's knowledge, the absorptive capacity of the target, and the nature of the transmission channels.

A central contribution of the knowledge-based view is that it conceptualizes knowledge as a multilevel concept by treating it as a characteristic of firms and groups, not just individuals. Theoretical and empirical attention has focused primarily on the firm level of analysis in exploring how knowledge is embedded in organizationwide systems, networks, routines, and practices, however, while much less attention has been devoted to the role of groups within the firm. Yet attention to the group level of analysis is critical because knowledge—especially valuable tacit knowledge—may be better coordinated in team-based rather than individualist settings (Grant, 1996). We know even less about the distinctive challenges faced by transnational teams in particular, which have unique characteristics that may enhance or impede their ability to acquire and apply relevant knowledge for their tasks. The potential importance of teamwork in multinational enterprises highlights

the need to better understand how the acquisition and application of specialized knowledge is carried out by transnational teams going about their daily work, and when that leads to superior performance at the group level as well as the firm level. We therefore turn to the literature on teams to develop a better understanding of how transnational teams carry out knowledge-intensive work.

INTERNAL AND EXTERNAL PERSPECTIVES ON TEAMS

Research on transnational teams has proliferated in recent years. The vast majority of this research, like the broader literature on traditional teams, takes an internal perspective on teams that emphasizes team member characteristics and intrateam processes. Most commonly, the focus of the transnational team research is on the influence of national, cultural, or geographic diversity in team membership. Research on knowledge utilization focuses on the use of internal knowledge (possessed by the team members themselves), while external knowledge (available from sources outside the team) is not considered. In contrast, a minority of studies takes an external perspective on teams that gives special attention to the relations between team members and their environments and explicitly addresses the utilization of knowledge from outside the team. Some of these studies take traditional team effectiveness research as their starting point while others build on the social networks literature, but very few have been conducted internationally. In this section, we discuss the internal and external perspectives on teams in turn, before addressing the potential for integrating these perspectives and situating them in the distinctive context of transnational teams.

Internal Perspectives

Much research on transnational teams considers the consequences of team member differences in the form of national or cultural diversity for processes such as communication, trust, or conflict within the team. In one of the earliest studies on this topic, Adler (1986) proposed a model of multicultural team effectiveness in which she argued that culturally homogeneous groups are likely to be more effective than culturally heterogeneous groups, and that multicultural teams will be either highly effective or highly ineffective. Adler explained this variation in effectiveness by proposing that multicultural teams offer high potential for performance on complex tasks because their members bring diverse perspectives and strengths, but they often fail to fulfill that potential because of difficulties in harnessing this diversity.

Building on Adler's thesis, Hambrick, Davison, Snell, and Snow (1998) offered a conceptual understanding of the implications of multinational composition for group functioning. Their framework proposes that nationality affects team members' values, cognitive schema, demeanor, and language. Following Hofstede (1991), values are defined as broad predispositions to prefer certain states of affairs over others, including preferences for individualism versus collectivism, power distance, and relationship to time. Cognitive schema refer to perceptual filters that influence how individuals interpret information and often reflect knowledge about conditions, trends, and constituencies in their home country. Demeanor refers to outward physical behavior such as eye contact, punctuality, or conversational style. Language refers to the languages a person is likely to know or easily learn. According to this framework, the degree of diversity in a multinational group is determined by how close together or far apart the team members lie on these four dimensions. A group consisting of Norwegians and Swedes may be less diverse, for example, than a group consisting of Norwegians and Saudis. Diversity thus depends not only on the number of nationalities represented in the group but also on the distances between those nationalities. They further suggested that the effects of multinational diversity depend on whether the group's task is primarily creative, computational, or coordinative, and found that diversity posed the greatest difficulties for coordinative tasks.

Further extending these insights, Earley and Mosakowski (2000) found that homogeneous teams were most effective in the early stages of their formation because their shared identity facilitated effective communication. Using in-depth observations and interviews with five multinational teams as well as two laboratory studies, they also established that after developing ways to interact and communicate, highly heterogeneous teams were able to create a common identity, which in turn improved performance. In contrast, moderately heterogeneous teams had more difficulty communicating and low levels of team identity because members could join different factions, blocking the emergence of a hybrid team culture. Drawing on status hierarchy theories, they concluded that nationality is a primary status-determining characteristic within transnational teams.

Researchers have also addressed the influence of national differences that arise when multinational enterprises try to introduce team-based work arrangements in multiple countries. For example, Kirkman and Shapiro (1997) examined the effect of cultural values on employee resistance to globalized self-managing work teams. Drawing on Hofstede (1991), they suggested that individuals from some national cultures will be more intransigent than others because of perceptions of unfairness, among other reasons; however, the success of self-managed teams will depend on the extent to which organizations can effectively manage culture-based resistance to team-based work arrangements through the implementation of different forms of performance-appraisal processes, decision-making structures, and compensation systems.

While some studies have focused on national and cultural diversity, others have examined the influence of geographic diversity within transnational teams, often in conjunction with an emphasis on the impact of electronic rather than face-to-face communication. The premise of this research is

that the factors that influence the effectiveness of colocated teams (where members work in physically shared environments) may not be valid for distributed teams (where members are geographically dispersed). For example, Kiesler and Cummings (2002) showed how intragroup communication and knowledge-sharing efforts can be impeded in geographically dispersed teams where members can only communicate via electronic technologies. They suggested that voluntary collaboration is more likely when people are located in close proximity and drastically reduced when physical separation is introduced.

Like intragroup communication, trust and cohesion also may develop differently in distributed teams. Jarvenpaa and Leidner (1999) suggested that global virtual teams may experience a form of swift trust, but such trust appears to be very fragile and needs maintenance. In an effort to develop and support communication and cohesion among their geographically distributed team members, Maznevski and Chudoba (2000) found that effective global virtual teams generate a deep rhythm of face-to-face interactions that punctuate their periods of remote communication.

Conflict in distributed teams has been addressed by Mannix, Griffith, and Neale (2002), who suggested that distributed teams face greater risks of developing conflict than traditional teams due to their diversity and frequent lack of a shared social identity. They focused attention on the role of trust, a strong team culture, team efficacy, and team leadership in such situations. The emergence of conflict in distributed teams has also been highlighted by Polzer, Crisp, Jarvenpaa, and Kim (2006), who found that team members' geographic locations activated "faultlines" (hypothetical dividing lines that split a group into subgroups) that heightened conflict and reduced trust. These faultlines were stronger when a team was divided into two equally sized subgroups of colocated members and when these subgroups were homogeneous in nationality.

Finally, a recent study by Gibson and Gibbs (2006) offers an integration of the wide-ranging and sometimes inconsistent findings of research on virtual teams by addressing multiple characteristics of such teams simultaneously. Examining the effects of national diversity and geographic dispersion as well as electronic dependence and dynamic structure on team innovation, they found that these characteristics negatively influenced innovation, but the negative effects were mitigated by a psychologically safe communication climate within the team.

To summarize, scholars examining national, cultural, and geographic diversity in transnational teams have developed theoretically and practically significant insights into how the resulting intragroup processes can impede communication, trust, cohesion, and innovation. Research on transnational teams is limited by the typical focus on national, cultural, or geographic attributes, however, rather than characteristics that may be more closely related to the performance of knowledge-intensive work such as the level or type of expertise on the team.

This emphasis on diversity in characteristics removed from task requirements parallels a similar emphasis in the vast research on diversity in traditional teams, where scholars have focused mostly on the consequences of demographic diversity (e.g., sex, race, age, tenure) for intrateam processes (for a review, see Williams & O'Reilly, 1998). The research on demographic diversity in traditional teams is beginning, though, to examine knowledge acquisition and application more directly. This literature is marked by two competing views: one argues that demographic diversity introduces social divisions that impede coordination and hinder effective teamwork, while the other contends that diverse membership improves team performance through the learning benefits arising from their different contacts, skills, information, and experiences. In a reconciliation of these competing arguments, Reagans and Zuckerman (2001) suggested that a primary basis for such disagreement lies in assuming that demographic diversity proxies for knowledge exchanges by team members. While some studies expect homogenous teams to achieve higher performance due to a higher level of local interactions (network density), others expect diverse teams to perform better by bringing together members whose social networks offer access to diverse knowledge (network heterogeneity). The authors found that both network density and heterogeneity help account for team productivity, but demographic diversity has opposing effects on the two network variables, placing limits on managers' abilities to influence team outcomes by manipulating their demographic composition.

The importance of directly examining the knowledge that team members bring to their teams, rather than simply relying on their demographic characteristics, has also been addressed by recent research that focuses on expertise diversity in work teams, though again not transnational ones. Bunderson (2003) found that expertise recognition among team members was informed by specific as well as diffuse status cues (i.e., task-related characteristics as well as social categories such as race or gender), with task-related characteristics exhibiting much stronger effects. While specific status cues more strongly predicted perceptions of expertise in decentralized teams that were together for a long time, however, diffuse status cues were stronger predictors in centralized teams that were together for shorter durations. In a subsequent study, Van Der Vegt, Bunderson and Oosterhof (2006) found that in groups where members differed in their perceived expertise, members were more committed to and more likely to help those seen as more expert, a dynamic which frustrated intragroup learning and compromised performance.

As these recent directions indicate, scholars who study diversity in traditional teams are starting to recognize the value of directly examining the knowledge and expertise that individuals bring to their teams, rather than assuming that demographic differences necessarily determine knowledge contributions. However, the literature that addresses the unique challenges of transnational teams still focuses

mostly on team member characteristics that may not always accurately reflect differences in their knowledge contributions. For example, cultural, national, or geographic diversity may be outweighed by differences between team members originating from or situated in the same country who vary in their levels of expertise, cross-cultural communication skills, or degrees of international exposure (due to residence or education outside that country, parents or spouses of different nationalities, or job assignments, for example). In taking an exclusively internal perspective on team effectiveness, these literatures also have not addressed interactions between the members of transnational teams and their external environments that may influence their effectiveness, such as their knowledge-gathering activities. In contrast, research that takes an external perspective on teams has highlighted the importance of such team-environment interactions.

External Perspectives

An external perspective on teamwork in knowledge-intensive settings draws attention to how obtaining and using knowledge from sources outside the group can play a fundamental role in the effectiveness of teams and their organizations (Argote, McEvily, & Reagans, 2003). The early studies from this perspective investigated the role of boundary spanners—individual gatekeepers who connected their work units to other parts of the organization, serving as communication conduits for the flow of valuable technical information (e.g., Tushman, 1977). This approach was brought firmly into the domain of team effectiveness research by Ancona and Caldwell (1992), who conducted one of the first definitive multimethod field studies of cross-functional work group performance from an external perspective. Drawing on semistructured interviews and questionnaire surveys of new product development teams in high technology companies, they contended that organizational teams develop distinct communication strategies toward their environment. According to their findings, team performance is determined not only by the frequency of external communication but also by the pattern and type of communication activities in which teams engage, which include horizontal coordination and scanning as well as vertical communication efforts aimed at molding the views of senior managers.

More recently, Ancona, Bresman, and Kaeufer (2002) extended this research by coining the term "X-teams" to highlight the importance of designing externally oriented, adaptive teams in the face of rapidly changing work, technology, and customer demands. According to the authors, X-teams are distinguished from traditional teams by five hallmarks: external activities where members reach into the political, informational, and task-specific structures outside the team boundaries; extensive ties with insiders and outsiders of work groups forged in past professional experience; expandable membership structures that include a core tier responsible for key decision making, an operational tier involved in ongoing work, and an outer tier engaged in specialized tasks separate from ongoing work; flexible membership that allows members to move in and out of the team during its life or across tiers within the team; and internal mechanisms for execution including integrative meetings, transparent decision making, and scheduling tools such as shared time lines. They suggest that X-teams are particularly valuable in multinational enterprises where there is high dependence on complex, dispersed, and rapidly changing information, as well as high interdependence among teams across the firm and a flat organizational structure.

Alongside the development of the external perspective in team effectiveness studies, a complementary approach has been taken in social network studies of task units within a firm. This approach is premised on the idea that knowledge from sources outside the team can be valuable because the unique social networks of diverse group members enable them to access nonredundant information and ideas. For example, Hansen (1999) reconciled contradictory views proposed by innovation researchers who argued that strong network ties are most effective for product innovation and social network researchers who contended that weak network ties are most beneficial, by suggesting that the strong tie research focused on knowledge-search activities whereas the weak tie research focused on knowledge-transfer activities. Examining both simultaneously, he found that neither weak nor strong ties between operating units always led to efficient sharing of knowledge among them. Instead, the impact of interunit ties on project completion time was contingent on the complexity of the knowledge to be transferred across subunits, with strong interunit ties most beneficial for highly complex knowledge and weak interunit ties most effective for less complex knowledge.

Scholars have also extended the above research on external team behaviors to include the use of knowledge from outside as well as inside organizational boundaries. For example, Collins and Clark (2003) demonstrated how the social networks of top management teams with their firms' employees (internal networks) as well as with actors outside their organization (external networks), may provide informational benefits and serve as a foundation for a firm's competitive advantage.

While research on external perspectives has been valuable in illuminating the link between team-environment interactions and team effectiveness, the majority of research in this tradition has focused on external knowledge without paying attention to the internal knowledge available within teams or the team member characteristics analyzed in studies that take an internal perspective (Joshi, 2006). The internal and external perspectives on teams thus are largely disconnected. Even more critically, very little of the research from an external perspective has focused on transnational teams specifically, leaving their distinctive opportunities and challenges largely unexplored. Consequently, our understanding of transnational teams in

knowledge-intensive organizations is still quite limited. To address these concerns, we consider the few studies that have focused specifically on knowledge acquisition and application by transnational teams in particular, with a view to highlighting the potential for integrating and extending some of the insights of prior studies and suggesting directions for future research.

Knowledge Acquisition and Application in Transnational Teams

Although still relatively rare, some studies that examine transnational teams from an internal perspective have moved beyond the surface level of national, cultural, or geographic diversity to examine knowledge utilization directly, often using qualitative methods. In a study of 13 project teams dispersed among 9 universities across 3 continents, Cramton (2001) investigated the impediments to collaboration that arise from failures of "mutual knowledge," knowledge that the team members share in common and know they share. These impediments include failure to communicate and retain contextual information, difficulties understanding the salience of information, and differences in the speed of access to information. The implication is that a lack of mutual knowledge in transnational teams makes communication not only less likely to occur but also less likely to be understood when it does occur. Exploring similar themes, Sole and Edmondson (2002) conducted an in-depth qualitative field study of learning and collaboration in 7 geographically dispersed cross-functional project teams in a multinational company that designed and produced polymer products. They found that these teams benefited from their access to locale-specific knowledge resources, but struggled to recognize and apply such "situated knowledge" in the absence of team members with appropriate local experience.

From an external perspective, the distinctive challenges faced by teams in multinational settings have been addressed in a study of 121 new product development projects in a multinational high-technology company. Examining the transfer of technological competencies to these project teams from potential target subsidiaries, Hansen and Lovas (2004) found that transfers of information and know-how related to hardware and software development generally were more likely if the target subsidiary had related competencies, was geographically close, had a prior relationship with the transferring team, and belonged to the same formal subgroup. The interactions between these factors were complex, however; transfers of related competencies were deterred by geographic distance, for example, while the barrier of distance could be overcome by the existence of informal ties.

Despite the growing interest in examining the acquisition and application of knowledge by transnational teams among both internally focused and externally focused researchers, studies that integrate internal and external perspectives remain rare. In one study that moves in this direction, Cummings (2004) examined the benefits of both internal and external knowledge in a sample of 182 project teams in a Fortune 500 telecommunications company. Drawing on the social network argument that nonredundant knowledge can be more valuable than redundant knowledge, he argued that teams will benefit more from obtaining external knowledge if they have greater "structural diversity," defined as the different affiliations, roles, or positions members hold within the organization. The results revealed that more diverse geographic locations, functional assignments, reporting managers, and business unit affiliations increased the benefits of external knowledge for the team, but did not increase the benefits of internal knowledge. Demographic diversity did not influence the benefits of either external or internal knowledge. The implication is that sources of team member diversity that contribute to their ability to provide unique and helpful knowledge to the team can prove more valuable than sources of diversity that have only limited relevance, if any, for their ability to acquire and apply valuable knowledge.

A similar theme was developed in a study by Haas (2006) that addressed both internal and external knowledge use by taking a different approach to understanding the diverse roles that members can play in their teams. This study introduced a classification scheme that categorized team members according to their global and local experiences, rather than their national, cultural, or geographic attributes, by distinguishing between "cosmopolitans" (team members with who have lived and worked in several countries and speak multiple languages) and "locals" (team members who have lived and worked in the project country and speak the local language). The argument is that cosmopolitans and locals can play different roles in acquiring and applying global technical knowledge and local country knowledge in transnational teams. Analyzing 96 project teams at an international development agency, the study revealed that cosmopolitans brought more technical knowledge to their teams when they joined whereas locals brought more country knowledge; cosmopolitans also gathered more external knowledge during the project. Beyond knowledge acquisition, cosmopolitans and locals also played different roles in knowledge application, sometimes helping but sometimes hurting their teams' efforts to transform internal and external knowledge into high-quality projects. The findings thus showed that the roles played by cosmopolitans and locals in acquiring and applying technical and country knowledge for their teams were important but complex, as cosmopolitans offered greater benefits than locals while both cosmopolitans and locals could sometimes hurt rather than help team performance. Overall, a combination of cosmopolitan and local members may best equip a team to meet the strategic mandate to "think global, act local" in its everyday project work.

In summary, the recent research on transnational teams in knowledge-intensive organizations suggests that there

are useful new insights to be gained by focusing directly on the task-relevant processes to be undertaken by team members, such as knowledge acquisition and application, and examining the characteristics and conditions that enable them to undertake these processes more effectively, such as their levels of expertise, structural diversity, or cosmopolitan and local composition. Further exploration of these promising directions in future research is particularly important in light of the macrolevel strategic and structural imperatives facing multinational enterprises that must think globally while acting locally, since transnational teams carry out many of the critical tasks of these organizations.

CONCLUSIONS AND FUTURE DIRECTIONS

The research literature provides solid foundations for understanding the consequences of national, cultural, and geographic diversity for transnational teams, as well as the implications of demographic diversity for work teams generally. Studies of internal team processes as well as external team activities also increasingly highlight the importance of accessing and applying knowledge. Relatively little attention has been given to date, however, to integrating the themes of transnational team characteristics, knowledge-related processes, and task outcomes. Yet at this intersection lies the core of the challenge facing multinational enterprises that are striving to deliver superior projects, products, and services: to draw on best practices and lessons learned from around the world while customizing them to the local country environment. A wealth of opportunities thus exists for future research to develop a more comprehensive understanding of the effects of transnational team characteristics and processes for effective performance of knowledge-intensive work.

First, there are opportunities to integrate the dominant research perspectives with less commonly used ones in order to produce richer, more deeply contextualized insights into knowledge-intensive work in transnational teams. Most of the studies described above implicitly assume that managerial interventions can be harnessed to successfully design work groups in ways that will improve team performance. Others explicitly examine how human resource practices, for example, can more effectively support transnational teams (e.g., Snell, Snow, Davison, & Hambrick, 1998). While useful, these assumptions of managerial rationality and discretion usually overlook the insights of critical sociological perspectives that highlight the conflicts, coercion, status contests, and self-regulation which often emerge within and between work groups (e.g., Barker, 1993; Haas, 2005; Sewell, 1998). It may be productive to incorporate such alternative viewpoints to better explain the functioning of transnational teams in their complex organizational settings while retaining the insights of rational-managerial perspectives. For instance, our understanding of transnational teams across organizational and industry contexts may be supplemented by political perspectives that draw attention to the influence attempts that often accompany knowledge flows, as well as by institutional perspectives that highlight the tendency to imitate others for reasons of legitimacy.

Second, cross-level interactions among the individual, group, and firm levels of analysis can be explored in order to better understand how each influences the others. A central contention of this chapter is that it is valuable to explore the firm-level strategic and structural challenges posed by the need to "think global, act local" by looking to group-level characteristics, processes, and outcomes. The core of this argument is that understanding the sources of performance variation among transnational teams offers important insights into the determinants of critical task outcomes that influence the performance of multinational enterprises. Examining group-level variation enables researchers to control for many possible influences on performance that arise from the shared organizational environment, and isolate the factors that distinguish more effective teams from less effective ones. Despite its advantages, though, this approach raises its own set of questions concerning the aggregation of group-level outcomes to the firm level. It cannot be assumed that better team performance will always contribute to an improvement in firm performance because teams are embedded in complex contexts that can enhance or limit their contributions. Given that better performance at one level may not necessarily translate into improved performance at another level, future research could benefit from efforts to span, integrate, and explore the tradeoffs between different levels of effectiveness, including performance outcomes at the individual, group, and firm levels.

The multilevel dynamics are likely to be particularly complex because a team's effectiveness is not independent of other teams in an organizational setting, suggesting that overall organizational effectiveness will be influenced by intergroup relationships. Future research on transnational teams can investigate the twin sides of relational dynamics in organizations: cooperation and competition. For example, teams often build positive relationships with influential external parties while at the same time suffering from negative relationships that threaten to sabotage their efforts. They also experience tensions when building cooperative relationships with colleagues and other teams while simultaneously competing with them for resources and rewards. By addressing the cooperative and competitive relationships among transnational teams, more realistic and dynamic insights into the nature and challenges of their work can be developed.

In conclusion, it will be productive for future research on transnational teams in knowledge-intensive organizations to combine otherwise unconnected approaches from different perspectives to produce integrative explanations. This mandate is necessitated by the complexity of the phenomenon; transnational teams are not temporary groups established for laboratory experiments, routine work teams that carry out straightforward tasks, or even stable self-

managed teams engaged in nonroutine work. Instead, they are often nationally and culturally diverse, geographically dispersed, structurally dynamic, dependent on electronic forms of communication, and composed of members with different experiences, expertise, and orientations. Interdisciplinary, cross-paradigm, and multilevel approaches thus are essential for increasing our understanding of the relationships between the characteristics, processes, and outcomes of transnational teams in knowledge-intensive organizations.

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