

Chapter 8

Cultural Variations in Mental Models of Collaborative Decision Making

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Introduction

This chapter describes an initial research effort to characterize mental models of collaborative decision making across diverse culture groups. The purpose of this work is to highlight the areas of collaborative decision making where members of multinational teams commonly have disconnects, so that interventions for developing “hybrid” cultures in multinational teams can be appropriately targeted. This research comes at a time when we are experiencing a strong trend toward using multinational teams to tackle highly complex problems, particularly as globalization gives way to international strategic alliances in both commercial and governmental settings (Earley and Gibson, 2002; Maznevski and Peterson, 1997; Peterson et al., 2003; Shapiro, Von Glinow, and Cheng, 2005). Coupled with this trend is an accumulating recognition that cross-cultural differences in norms, values, and cognitive patterns influence the decision-making process (for example, Choi, Choi, and Norenzayan, 2004; Peterson et al., 2003; Yates and Lee, 1996), and that these differences may influence the effectiveness of multinational collaborative decision making (Granrose and Oskamp, 1997; Ilgen, LePine, and Hollenback, 1997; Klein and McHugh, 2005). Given such developments, understanding the dynamics of multinational team decision making and striving to enhance the performance of these teams has taken on increased significance throughout the global community.

Multinational decision-making teams are frequently assembled due to their expected value and competitive edge. Scholars and organizational leaders often purport that members of different nationalities bring a variety of perspectives and skills that can enhance creativity and lead to a broader array of solutions than would be possible in a culturally homogenous team (Cox, 1993; Joshi, Labianca, and Caligiuri, 2002; Maznevski, 1994). Yet, this benefit is frequently not realized (Thomas, 1999), creating a “diversity paradox.” The diverse knowledge and perspectives that can yield creative ideas and solutions can also contribute to a unique set of challenges for collaborative decision making. In many cases, without any intervention or anticipation of these challenges, the decision making and ultimate performance of the team falls far below expectations (Distefano and Maznevski, 2000; Thomas, 1999).

In attempting to manage the “diversity paradox” and facilitate the achievement of high levels of multinational decision-making team performance, practitioners might consider an array of approaches or interventions. One approach is to turn to

prescriptive models of effective teamwork for guidance about the types of teamwork attitudes and behaviors that organizations should foster in their teams. Several models have been developed that incorporate key behaviors or team "competencies" that have been found to contribute to effective team performance. For example, Salas and his colleagues have developed a set of core team competencies known as the "Big Five" (Salas, Sims, and Burke, 2005), which include attitudes and behaviors such as Leadership, Back-up Behavior, Performance Monitoring, and others. Fleischman and Zaccaro (1992) have developed a similar taxonomy of key team competencies that offers an expansive set of behaviors and attitudes central to successful teamwork. Such models could provide a starting point for supporting and training essential team behaviors in multinational decision-making teams.

The primary attraction to this approach is that the prescriptive teamwork models and taxonomies alluded to above are grounded in over two decades of research on team effectiveness. The researchers have based their taxonomies on studies of a variety of teams within diverse contexts. This approach also has drawbacks, however. A key disadvantage is that the approach is not sensitive to cultural differences in behavioral tendencies and conceptions of teamwork (Klein and McHugh, 2002). The behaviors and attitudes prescribed in these models are based primarily on research with Western cultural groups. Given this reality, it is quite possible that the attitudes and behaviors prescribed in these taxonomies may be incompatible with a given team member's cultural norms, values, and cognitive styles.

A second approach that might be considered for enhancing the effectiveness of multinational decision-making teams is one that sensitizes team members to a small set of cultural dimensions to increase their awareness of each others' cultural tendencies across a variety of situations. This approach is grounded in the theoretical premise that one can make reasonable predictions about differences in cognition and behavior in a wide range of specific contexts (for example, teamwork), based on an understanding of a few domain-general cultural values. Programs developed from this theoretical premise rely heavily on the work of Hofstede (1980; 2001), who in a seminal research study, identified a core set of dimensions for describing differences across cultures. These dimensions include Individualism–Collectivism, Power Distance, Uncertainty Avoidance, and Masculinity–Femininity. A benefit to a dimension-based approach is that it provides collaborators with increased sensitivity about some of their key similarities and differences due to cultural background. When specific personal information about an individual or group is not available, it can provide a "best guess" to some potential ways in which the people might differ in the way they think and behave. A risk of this approach, however, lies in moving from general national differences to more specific contexts (Atran, Medin, and Ross, 2005), such as collaborative decision making. There is some evidence that cultural dimensions, such as those of Hofstede (1980; 1981), may not be as useful as one might expect to predict cognitive or social patterns within the context of a specific situation (Sieck, Smith, and McHugh, 2006; Tinsley and Brett, 2001). When considering the cultural dimension of independence–interdependence (Markus and Kitayama, 1991), for example, one might expect that higher levels of interdependence would predict higher levels of "team orientation," as defined by Salas, Sims, and Burke (2005). Instead, Sieck et al. (2006) found that participants

from high-independence cultures placed greater value on team orientation than those from high-interdependent cultures. Sieck et al. also found evidence of movement toward convergence on teamwork values across cultures. Such convergence also suggests a reduction in the value of using domain-general cultural dimensions to predict teamwork and behaviors in any given team situation. Furthermore, the domain-general approach is too far removed from the practical question that most multinationals face of "How are we going to function to accomplish our objectives on this team?"

A promising alternative to the two approaches described above is to help multinational decision-making teams improve their collaboration through facilitating development of a hybrid team culture (Earley and Mosakowski, 2000). A hybrid culture is a shared and emergent culture that occurs when highly diverse teams develop and enact a new set of patterns, shared meanings, norms for operations, and expectations about team processes (ibid., 2000). The assumption is that members of a newly formed team determine their own set of patterns and processes for accomplishing the work within the specific context in which they are working. The co-created "hybrid" culture serves as a basis for facilitating team-member interaction and communication that should lead to improved collaborative decision-making performance.

The development of a hybrid culture depends, at least in part, on team members resolving disconnects in their mental models of collaboration and converging on a shared mental model. Mental models are explanations about how things work that enable people to form expectations and understanding (Gentner and Stevens, 1983; Rouse and Morris, 1986). Klein et al. (2003) identified mental models as macrocognitive processes that are critical for supporting the full spectrum of macrocognitive functions, including decision making. Although Klein et al.'s focus was presumably on mental models of physical domain knowledge that supports decision making, people also possess mental models about the nature of psychological processes (for example, Gopnik and Wellman, 1994; Van Boven and Thompson, 2003). In particular, people possess mental models about the critical macrocognitive function of decision making. Mental models are naturally domain specific since they pertain to the workings of particular artifacts and natural processes. Furthermore, mental models can vary across cultures in ways that are constrained only by the domain itself and any cognitive universals that ground shared understanding across humanity (Hirschfield and Gelman, 1994).

Given the inherent linkage between convergence of mental models and development of a hybrid team culture, a first step towards accelerating the development of hybrid cultures is to characterize cultural differences in mental models of collaboration. Though there are certainly a variety of mental models related to collaboration, the mental models of interest in the current study are those related to the collaborative decision-making process. The specific aim of the current research was, thus, to uncover the salient disconnects in mental models of collaborative decision making among people from diverse cultures.

The remainder of this chapter will describe a study that explored the common points of disconnect in the way members of a variety of cultures understand collaborative decision making. Through in-depth interviews, we collected fragments of mental models and experiences from individuals from a diverse set of cultures.

We analyzed the qualitative responses in order to uncover aspects of respondents' mental models of collaborative decision making where cultural disconnects arise. We did not initiate this study with specific hypotheses. Instead, we sought to explore concepts of collaborative decision making across cultures and lay the foundation for a set of hypotheses and additional research.

The various themes that surfaced in the data are captured in a comprehensive and cultural-general mental model of collaborative decision making, as shown in Figure 8.1. The model suggests a process with aspects that are shared widely across cultures, including divergence, convergence, deciding, gaining commitment to the decision, executing the decision, and adapting to change. Yet, as will be seen, the ways in which these aspects of the process are expected to unfold vary considerably across cultures. Thus, the elements contained in the general model of collaborative decision making in Figure 8.1 represent the points at which incompatible ideas would need to be addressed within a multinational team in order to build a hybrid team culture.

As Figure 8.1 shows, *divergence-convergence* in the comprehensive mental model of collaborative decision making refers to the process by which collaborators present alternative ideas and viewpoints for consideration by the team and then winnow those ideas down to a smaller number of possibilities. The *decision point* refers to the point at which commitment to an actual course of action (or set of actions) is stated by the key decision maker(s), and *commitment* refers to the process by which the broader team members come to endorse that decision. *Execution* refers to the process by which team members implement the chosen course of action. Finally, the *opportunity for change* refers to the occasion in which the team members face new information or unexpected circumstances that may lead them to re-examine and/or modify their decision.

In addition to the core aspects of the collaborative decision-making model, there is a set of key social-context variables that emerged from these data and from previous work as important to consider in collaborative decision making and that differ across

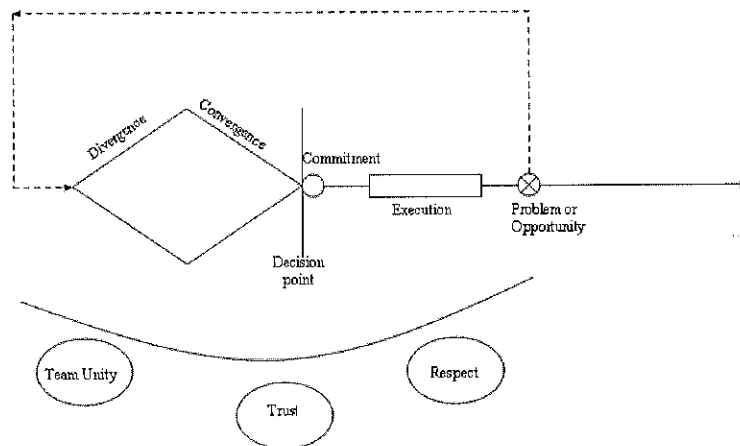


Figure 8.1 Comprehensive mental model of collaborative decision making

cultures. These variables are team unity, trust, and respect. Team unity refers to the degree to which the team members feel a sense of oneness with their teammates and see themselves as a collective unit, rather than as a group of individuals. Trust refers to the sense of confidence that team members have in one another due to close personal bonds. And respect refers to the extent to which team members endeavor to uphold one another's sense of honor and dignity. The data we have gathered, along with related prior literature, will be described together in the results section.

Method

Our research team conducted interviews with 61 people from a variety of nations. The nations represented in the study included the US, China, Korea, India, Japan, Taiwan, Chile, Brazil, and Italy. Given the small sample of interviewees from the Latin countries (Chile, Brazil, and Italy), the data presented will primarily represent descriptions of US, East Asian (China, Japan, Korea, and Taiwan), and Asian Indian teams.

The interviewees represented a mix of vocational backgrounds. Some worked for large corporations, others for small, privately owned companies. Some were graduate students in business or healthcare. Others were members of their country's military services. The interviews ranged from one-and-a-half to two hours in length, and the questions posed consisted of topics ranging from how decisions are made in a team, to how conflict is addressed, to the role that the leader plays, to how the teams deal with change. From each of the main categories of questions, we sought to extract mental models of collaborative decision making by eliciting specific real-lived examples of team experiences within the interviewees' home culture, and their beliefs about how practices actually occur within teams in their home culture. In some of the interviews, the interviewees also offered their perspective on differences in teamwork in other cultures based on their experiences in multinational settings. In some cases, these data are presented to illustrate the contrast between perceived differences and actual differences in mental models of collaborative decision making.

Results

As described above, a general model of the collaborative decision-making process emerged from the data. Highlighted in the model are core elements of the decision-making process that were shared across all the cultures interviewed, but that vary in the means by which they are accomplished. These areas of variation are further supported by the extant literature on collaborative decision making and cultural differences. Although variations within cultures certainly exist, it is clear that certain patterns are more common in some cultures than in others. The areas highlighted in the model represent points of likely disconnect and/or misunderstanding in multinational teams. Thus, they should be targeted as areas of negotiation among multinational team members in the beginning phases of the team's formation as part of developing a hybrid team culture. Variations along the core points in the

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over aspects of respondents' cultural disconnects arise. Instead, we sought to explore these and lay the foundation for

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collaborative decision-making process are described below. There are certainly overlaps among the data presented. This is to be expected given the qualitative nature of the data, and given the interrelatedness among the various elements of the collaborative decision-making process. With that in mind, each section presents interviewee quotes that we believe most effectively illustrate cultural variations in each core stage within the collaborative decision-making process.

Divergence/Convergence

Both conflict management and cross-cultural scholars have consistently indicated a pattern of conflict avoidance and maintenance of harmony in East Asian cultures, due to a concern for preserving relationships with others (Obuchi and Takahasi, 1994; Obuchi, Fukushima, and Tedeschi, 1999; Ting-Toomey, 1994; Tjosvold, Hui and Sun, 2004). Upon considering this pattern within the context of collaborative decision making, one might infer that some cultural groups altogether avoid a divergence-convergence phase of collaborative decision-making, and thereby refrain from arguing and expressing uncommon or unpopular points of view. As indicated in our initial set of findings, however, respondents from all the cultures represented in our data set do conceptualize divergence and convergence processes as part of their mental models of collaborative decision making. It is the way in which the phase of divergence-convergence is realized that can be quite distinct, depending on the values and cultural norms that are in play.

Our initial data indicate that a key difference in the way teams in different cultures experience divergence and convergence is the extent to which the process is transparent. It is not uncommon for team members in Western cultures, such as the US, to express divergent opinions and hash out conflicting ideas during public forums such as face-to-face team meetings, teleconferences, or via collaborative technologies. Expressing disagreement, even if sometimes heated, is often viewed as a productive means of reaching an optimal decision and attempting to achieve consensus (Jehn, 1995; Jehn, Northcraft, and Neale, 1999). A US interviewee supported this stance as he explained: "We keep debating and hashing things out until it comes more clear which direction we should take...everyone should feel heard. The group process should be open and transparent to everyone—no backroom power deals. Team members should be aware of where their loyalties lay within the team."

This pattern of public divergence, however, does not appear to be shared among cultures who place a high premium on "saving face" and upholding the honor of oneself and others. Members of East Asian and Asian Indian cultures, for example, tend to avoid the public conflict, disagreement, or criticism that may be considered hallmarks of the divergence phase of collaborative decision making in the US. It is believed that such open conflict can undermine oneself, one's superiors, or fellow team members and cause these individuals to feel devalued in front of their colleagues. It is an uncomfortable and uncommon process to debate and challenge one another's ideas in public. As a Chinese interviewee expressed: "In our teams in China, we're more likely to talk about different ideas in private. We don't like conflict in public. Even though it's important to get out the counter ideas in a team, many people in

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China don't feel comfortable with that." Similarly, an Indian interviewee stated: "If I disagree with someone on my team, I express my disagreement. But I don't do it at the actual meeting. I disagree privately."

As an alternative to public disagreement and heated discussion, our initial data indicate that divergence in East Asian and Asian Indian cultures proceeds in a private and non-transparent manner. Private conversations take the place of public discussion, ensuring that alternative viewpoints and perspectives of individual team members are taken into consideration, while remaining anonymous to fellow team members. This enables individuals who might have viewpoints that are unaligned with their fellow team members or with their manager's ultimate decision to maintain face. As stated by a Chinese interviewee: "As team leader, I like everyone to speak up. But I know most will not. So I interview them privately to learn more about their opinions...people think that if they speak up in front of the group there may be some conflict." Similarly, an Indian interviewee explained: "We [the team members] present our ideas to the leader before the meeting, and the leader then presents the ideas during the meeting as 'These are two team ideas, what do you all think?' The leader doesn't attach names to the ideas..."

These different patterns in divergence-convergence have the potential to create friction and misunderstanding in culturally heterogeneous teams. Collaborators who are accustomed to a more private process might find open divergence disconcerting and possibly insensitive. On the other hand, those accustomed to a more private process may perceive some cultural groups as restricting an open exchange of ideas and opinions. Such a perception is exemplified in the statement made by an American officer who worked with Koreans and Thais: "When we were working together, neither the Koreans nor the Thais had the free-flowing exchange of opinions that the Americans had." Yet, as interviews with several non-US interviewees suggest, this may not have been the complete story. The actual difference may not lie in whether or not divergent ideas and opinions are exchanged, but the manner in which these divergent perspectives are exchanged.

The process of divergence-convergence is particularly unique within Japanese collaborative decision making. It is well-documented that when decisions need to be made or new plans developed, Japanese teams and organizations follow a semi-structured consensus-building process known as *Nemawashi* (Fetters, 1995; Nishiyama, 1999). In this process, input is sought from all parties who will be affected by the decision. The intent is to elicit different perspectives and conflicting ideas, and to iron out those differences and ultimately reach consensus prior to announcing the decision in a formal and public meeting. Due to the goal of obtaining input from all affected parties and ultimately achieving consensus, *nemawashi* can be quite time-consuming (Fetters, 1995). Where Western teams may find themselves taking time to iron out differences during decision execution, Japanese teams take time to sort out these differences and achieve a level of detail and precision ahead of time. That way, once a decision is reached, the course of action can be executed rapidly and smoothly (Lazer, Murata, and Kosaka, 1985). Clearly, such markedly different approaches to divergence and convergence can lead to points of disconnect in multinational settings. One example of such differences is described by a Japanese military officer:

If we skip *nemawashi*, we can't proceed with the project. We have to take time to decide. This was a problem when the US helicopter recently crashed into Okinawa University. Luckily nobody was killed. But it was decided that the airport needed to be moved so things like that wouldn't happen again. But we felt like we weren't being given enough time by the US to make the decision about where the new air base would go. These decisions take time.

Decision Point

The cultural groups involved in this research hold a shared conception that the process of divergence and convergence ultimately steers teams towards a decision point so that they can move forward in implementing the chosen course of action. Though a certain level of cross-cultural variability exists, our interview data indicate some important commonalities in this phase as well. In nearly every case, the team manager is ultimately the decision maker for his/her team, regardless of the level of input sought from team members up to the decision point. As a Chinese interviewee explained: "The leader of our team is expected to listen to every team member's opinion; but it is his responsibility to make the final decision." Similarly, an interviewee from India purported: "In India, everyone has to give input on the decision. But ultimately the leader has the final say."

This perspective is not much different from how Westerners think about the decision point, as exemplified by a US interviewee: "The leader listens to all the team members' ideas, but ultimately he brings all these ideas to a conclusion." Acknowledgement of this similarity is sometimes neglected when both researchers and practitioners describe differences in decision making across cultures. It is not uncommon to hear Westerners refer to their own team decision-making process as "democratic" while referring to other cultures as highly "autocratic." For example, an American who observed a team of Jordanians—who exhibit some similarities in team process to Asians—stated: "When a decision was made, it was never made by the team, never by consensus. It was always autocratic. The leader would say how it's supposed to be done. He/she never engaged the team members to make decisions."

Yet our data from this study indicate that this American view of non-Western teamwork may be an oversimplification. It is not surprising that Westerners would interpret the decisions in some cultures as autocratic, given that the input and exchange of ideas prior to the decision point usually takes place in private settings rather than in open forums. Westerners working on a multinational team might witness a leader make a decision, without any visible involvement from other members of the team. Yet, the individuals we interviewed from cultures that are often described as autocratic (Korea, Japan, China, and India) described a more collaborative approach. The team manager may ultimately make the decision in the team, but his decision is informed by private discussions in which he seeks input from the various team members.

A subtle difference, however, is that due to the transparent process leading up to the decision point in Western cultures, team members are generally aware of which other team members most strongly influenced the leader's decision, and generally have a good sense of who the leader's decision aligned with or contradicted. This is

far less likely in East Asian cultures, where the leader makes the decision privately after soliciting input from the team members. He then uses a public forum such as a team meeting as an opportunity to announce the decision.

Variation among cultures also exists in the tempo of the decision making. In the US, being "decisive" and moving to action as rapidly as possible is generally valued and encouraged (Lewis, 1999). The decision in a US team might be reached sooner, relative to an East Asian team. As a US interviewee explained: "We don't want to spend too much time making a decision, because it's probably going to change." In other cultures, however, great importance is placed on investing time to build consensus among team members prior to making the decision—such as in the Japanese process of *nemawashi*. This may result in a slower decision-making tempo, or a longer period of time to reach the decision point.

Commitment

A shared belief across all the cultural groups we interviewed is that commitment among team members is needed in order to move forward with implementation once a decision is made. In some cases, there may be an explicit process used to gain commitment to a decision. For example, a Taiwanese interviewee explained: "I as the team leader make the decision. I then have a meeting with the team for them to endorse what I do, to get agreement and consensus on my decisions, to avoid conflict later."

But our data suggest that in many Asian teams, commitment of all parties to a decision is assumed. This may be partly due to the deliberative process that occurs during the divergence and convergence phases, giving all key stakeholders the opportunity to express their perspectives and ideas. Given that there is a great investment in building consensus up-front, there is a smaller likelihood that team members will be surprised or have major criticisms or aversions to the plan or decision. Furthermore, given the hierarchical nature of certain cultures that rate high on Power Distance (Hofstede, 1980; 2001), such as the Asian cultures in our sample, team members are simply expected to be committed to the leader's final decision, and to work vigorously toward its implementation: "In India, even if the boss is incorrect, you don't say anything. You just go with it. It's a more authoritative relationship. The leader ultimately has the final say. Even if people don't agree, they sometimes hold back and don't make that known." Another Indian interviewee claimed: "[Once a decision is announced]...It's expected that you obey the project driver." Similarly, a Chinese interviewee explained: "As a team member, you must accept and support the leader's decision, even if you do not agree with it and even if it leads to a bad outcome. Once the leader makes his final decision, all members must follow his idea, even if it seems wrong."

In some cultures such as the US, however, commitment to a decision may not be assumed. In fact, the team may move into implementation knowing full well that particular members of the team may not be on board or committed to the plan. This lack of commitment to a decision can result in more time spent during implementation as team members try to iron out some disagreements and explicitly work to get buy-in to the decided course of action.

Execution

Another culturally common aspect of mental models of collaborative decision making is the execution of a decision. As mentioned previously, certain cultural groups such as the Japanese tend to invest quite a bit of time and effort in the divergence and convergence stages, addressing the various ideas and viewpoints of the team members, managing details, and attempting to gain buy-in from all key stakeholders. Thus, once the decision is made, they are prepared to move swiftly to action (Lazer et al., 1985). In contrast, Western teams have the tendency to move to a decision point more quickly—often before every one on the team has “buy in” (Lewis, 1999). It is not uncommon in Western cultures to be encouraged to decide *something*, move to execution, and then use what is learned from the execution process to define or redefine the goals and plans along the way (Klein, 2005). This theory rests on an assumption that goals tend not only to be ill-defined, but undefinable in principle prior to execution. The different emphasis on reaching a decision point and moving to execution quickly can lead to a certain degree of resistance during execution as issues are raised and ironed out by those who have not yet fully bought in to the decision. As described by a US interviewee: “In that team, I didn’t have everyone on board with my plan up-front. That caused a lot of headaches when it came time to actually getting the work done. We went through a bunch of fits and starts before we were able to make any real progress.”

It appears that there is also substantial variation across cultures in mental models of how decision execution proceeds. One variable that surfaced in our data is the level of involvement and situational awareness of the leader. Though much of this is certainly dependent upon the personality of the leader, our data indicate that there may be a general tendency for leaders of US-based teams to delegate and take a more “hands-off” approach during the execution phase. Check-ins at various points throughout implementation can be enough to satisfy the leader’s requirements for situation awareness. As an interviewee from the US explained: “I would delegate the work, and just check in from time-to-time with my subordinates. If I really wanted to be more involved, I’d just do the task myself.”

This serves as a contrast to some non-Western cultures, however, whose leaders may maintain a much greater level of involvement and a higher degree of situation awareness of the team’s progress during implementation. A Taiwanese interviewee indicated: “The Taiwanese chairman I worked for was very careful about details. He wanted to know everything about every project. I don’t see many people like him here in the US who want a hand in everything.” Similarly, a Chinese interviewee explained his experience working on a multinational team in the US, led by a Chinese manager. He describes the conflict that can occur if a member of another culture is not accustomed to the close level of monitoring by a team leader: “The Chinese manager would call the US all the time to request details about his work. The US guy interpreted this as distrusting and so he quit. Chinese leaders like lots of information about the details of the team members’ work.”

Though observational in nature, an American noted a Korean leader’s performance monitoring in a multinational military setting: “If there was work to be done, the Korean NCO would stand there to make sure it was done. The American NCO would

of collaborative decision making. Previously, certain cultural groups require more time and effort in the divergence of ideas and viewpoints of the team and buy-in from all key stakeholders. Teams tend to move swiftly to action (Lazerus et al., 2005) and a tendency to move to a decision point. The team has "buy in" (Lewis, 1999). Teams are encouraged to decide *something*, move forward in the execution process to define or refine the goal (Lazerus et al., 2005). This theory rests on an assumption that is not yet fully bought in to the team, I didn't have everyone on board and headaches when it came time to launch of fits and starts before we

across cultures in mental models. What surfaced in our data is the role of the leader. Though much of this is common, our data indicate that there are different teams to delegate and take a decision. Check-ins at various points in time by the leader's requirements for team performance. I explained: "I would delegate the task to my subordinates. If I really wanted

across cultures, however, whose leaders tend to have a higher degree of situation awareness. A Taiwanese interviewee was very careful about details. He doesn't see many people like him. Similarly, a Chinese interviewee in the US, led by a Chinese team member of another culture is a team leader: "The Chinese are very detailed about his work. The US guy doesn't like lots of information

of a Korean leader's performance. There was work to be done, the team was not ready. The American NCO would

expect it to be done, and would provide periodic checkups. The Koreans were more hierarchical. They did lots more checking and double-checking."

Wherein some cultures, the leadership tends to conduct a high degree of performance monitoring of the team, in other cultures it is the team members themselves who are suggested to play a more active role in monitoring the performance and progress of the team toward its goal. Team researchers such as Salas et al. (2005), for example, argue that this behavior is critical to effective team performance. The monitoring serves the purpose of checking in on fellow collaborators' progress and identifying gaps and weaknesses so that resources can be shifted appropriately. Our data indicate that performance monitoring in some cultures might serve the additional function of gauging one's performance relative to other team members. Several interviewees from East Asian and Indian cultures acknowledged monitoring others as a function of competition that exists among team members. The competition is generally covert and unacknowledged within the team interactions, but is certainly perceptible to team members. Several of the Chinese and Indian interviewees described this. An excerpt from a Chinese interviewee follows:

Team members in China compete with each other. But this competition is under the table. People don't talk about it. But it's in everyone's head. If you talk about it out loud, it would offend the honor of the other person. You also have to make it look natural. If you stand out too much, you get targeted. Everyone wants to do better than the other people on the team. So we may check in to see if we're doing better.

Indian interviewees expressed a similar tendency: "In India, team members are very competitive. But it's very covert. People find out from each other things like how far they moved along on their goals. If I ask someone that, they don't give me the true picture of where they are though. And they know I don't give the true picture of where I am either."

The mental models concerning how resources are shifted, in the event of any identified gaps and weaknesses, may also vary across cultures. Our data indicate that in some parts of the world, such as East Asia, the pervasive belief is that the leader typically is the one who identifies the need and establishes who on the team might assist another team member or take over a given task. In other cultures, such as in the US, there tends to be an explicit expectation that team members will assist another teammate or take over a task if needed. Compensating for team members does not have the same meaning in all cultures, however. In cultures such as the Middle East, where a high level of value is placed on maintaining face and preserving one's honor (for example, Feghali, 1997), stepping in for someone and filling their role might be viewed as harming one's honor (Klein and McHugh, 2005).

Opportunity for Change

Inevitably, every team faces situations in which new information is acquired, circumstances change, and the original plan or decision needs to be reexamined. The way in which team members consider how to address such circumstances, may be culturally dependent. Given that certain cultures tend to spend a high level of effort

up-front in the divergence and convergence phases, they may have a higher threshold for change given that they have much invested in the ultimate decision made or plan developed. Thus, in the face of new information or changing circumstances, any change in the decision or plan will require moving thoughtfully and cautiously, and will require the investment of additional time and consideration. If such time and resources are not available, maintenance of the existing plan may be the best way forward. For example, recall the description of the Japanese process of *nemawashi* above. Such a deliberate and time-consuming process can mean that changing a plan is not a simple matter. This aspect of a collaborative decision-making mental model is described by a Japanese interviewee:

We (the Japanese) are not very flexible...we need to keep our course of action once we've decided on it. During our exercise with the US military, the US tended to be very flexible. They would discuss a new COA. We would say "no, we have to take the COA that we already discussed and decided on." The US would say "no, we need to take a new COA." We often couldn't find a compromise. In Japan, if a decision changes too quickly, the lower-level staff can't respond quickly enough. If we do change, we need a lot of time. We don't have the flexibility like the US troops.

Our initial data indicate that some cultures tend to have a higher level of comfort with change and a quicker pace in adapting. This is also supported by previous research (for example, Klein, Klein, and Mumaw, 2001; Klein and McHugh, 2005). This variability may be associated with a smaller investment of time that some cultures make in the initial divergence-convergence phases of the team decision making process. Cultures such as the US tend to spend less time up front and expect that changes will need to be made once the decision is executed. Thus, there is some evidence that they feel more comfortable in adapting plans as new information is acquired or circumstances change. For example, as a Taiwanese interviewee expressed: "Americans will feel more comfortable to change a plan. In my team in the US, if I point out that something is wrong, everyone will say OK and they'll change the plan. In Taiwan if I point out something wrong, it would be difficult to get people to change."

In addition to the relationship between adapting and investing time and resources, there appears to be another variable that affects certain cultural groups' comfort with change. A common theme that was represented in most of our interviews with East Asian cultures was the importance of honor and preserving "face." Such values have been described above as they relate to other aspects of teamwork. This theme was also interwoven in interviewees' discussions about adapting. Some of the interviewees expressed a resistance to change due to concern that it could cause members of the team (particularly the team leader) to lose face, particularly if the change somehow suggested that the original decision or plan was flawed. For example, a Chinese interviewee stated: "A leader would lose face if he reverses a decision. The leader should try to get the best outcome, but he may lose face in the process."

They may have a higher threshold for the ultimate decision made or plan for changing circumstances, any change is thoughtfully and cautiously, and with careful consideration. If such time and effort are invested, the existing plan may be the best way forward. The Japanese process of *nemawashi* (pre-decision) can mean that changing a plan is a difficult decision-making mental model.

To keep our course of action once we've decided, the US tended to be very flexible. In other cultures, we have to take the COA that we are given. If we say "no, we need to take a new COA," it means a decision changes too quickly, the process is not stable, we do change, we need a lot of time.

They have a higher level of comfort with change. This is also supported by previous research (Earley and Mosakowski, 2000; Klein and McHugh, 2005). The investment of time that some cultures make in the early phases of the team decision-making process and less time up front and expect that the decision is executed. Thus, there is less need for adapting plans as new information comes in. For example, as a Taiwanese interviewee explained, "In my team, everyone will say OK and they'll stick to it. If something is wrong, it would be difficult to change."

And investing time and resources, in other cultures, is a sign of respect. In many cultural groups' comfort with change is a sign of respect. In most of our interviews with East Asian interviewees, they were serving "face." Such values have a strong influence on teamwork. This theme was also present in the interviews. Some of the interviewees mentioned that it could cause members of the team to lose face, particularly if the change somehow reflected poorly on them. For example, a Chinese interviewee explained, "If a decision is reversed, the leader loses face in the process."

Social Context of Decision Making: Team Unity, Trust, and Respect

The mental models of collaborative decision-making process that have been described throughout this paper are influenced by a variety of contextual factors that can impinge on how the process unfolds. From our interviews, a set of key factors emerged as particularly important to the collaborative decision-making process in certain cultures. These factors constitute unity, trust, and respect.

A sense of trust and unity have been described as important aspects of high-performing teams (for example, Earley and Mosakowski, 2000; Salas et al., 2005). Yet what constitutes a sense of unity and trust in one's co-workers—and the degree of importance placed on these aspects of collaboration—appears to vary across cultures. Knowing collaborators on a personal level is considered as the cornerstone of team unity and trust and viewed as essential to effective collaboration in some cultures. In East Asian, Latin, and Middle Eastern cultures, team members tend to attach a prominent level of importance to developing strong personal bonds with teammates, with the expectation that it will improve the cohesiveness in the team and lead to higher levels of productivity (Gibson and Zellmer-Bruhn, 2001). Such a perspective was clear from the Asians in our sample. As an interviewee from the Korean military explained: "It is critical that each soldier get to know the other soldiers in order to make it through the work. We want our soldiers to become friends so that they can rely on them in times of trouble." Similarly, an interviewee from India described the importance of personal bonds among collaborators, and the barriers that can exist in circumstances where such relationship-building, trust, and unity is not fostered:

Currently there's a lot of discontent with computer firms that put teams together that don't really know each other. Two of my friends work for IT firms in the US, and have been very upset because they're expected to work on teams with certain people, and they don't really know them. There's much less of a personal relationship than they're used to. It makes it harder to work together.

The manner in which team members from some cultures develop unity and establish trust among one another is often through spending time together outside of the work environment. Teams and their leaders use group dinners, conversations over drinks, and other opportunities for social interaction to enable co-workers to learn about one another on a personal level. A Korean interviewee described the types of social interactions that are typical in his teams: "It is important to them that [team members] get to know the members of their team. They hold lots of informal meetings to get to learn about people, their families, their hobbies...It is not uncommon for them to stay in the office late into the evening talking. They like to drink wine together..." Similarly, a Chinese interviewee explained:

We always throw a party at the beginning of a team project. We like to eat dinner and drink lots of wine together and get to know one another. Good relationships are important to have in case you have a problem and then your teammates can help. We develop relationships by eating out together, playing games, going out together on weekends. Our families stay together. We make the whole team like a family.

An Indian interviewee also expressed a similar pattern of interaction: "When you work in teams, there are lots of family interactions. You have dinners and drinks together with families. My dad knew everyone I worked with in my HR dept in India."

Whereas Westerners tend to promote a certain degree of separation between personal and professional life, no clear lines exist between professional and personal relationships in other cultures. As stated by a Chinese interviewee:

There's not so much difference between professional and private life. If you are teammates or colleagues, chances are you're really good friends outside of work. US people tend to show very obvious differences between professional life and private life. There's more focus on relationships in China than there is in the US. In China we expect to know personal things about our teammates...

Team members in Asian cultures expect to be aware of many aspects of one another's life that other cultures, such as the US, might typically view as too personal or private, such as family issues or financial status. For example, a Japanese interviewee explained: "In Japan, the leader needs to know everything about his team. He needs to know about their family, their girlfriends, their hobbies, money issues... If a staff member is having trouble with money, the leader will keep track of his bank card." A Chinese interviewee similarly explained:

You need to know a lot about the family background of your co-workers. For example, you should know the parents of the members and the members' birthdays. In China, birthday celebrations are very important within the family. On that occasion, it's good if you toast the parents and congratulate them, especially the father. This builds the individual relationships that are important.

A final factor that emerged as particularly salient in the mental models of collaborative decision making in Asian cultures is respect. The importance of respect and enabling oneself and one's co-workers to maintain honor and preserve "face" is a factor that has been woven throughout nearly all aspects of the collaborative decision-making process described earlier. It is an aspect of collaboration that is clearly important to understand when working in multinational teams. It has implications for how ideas and perspective are shared, how disagreements are voiced, whether and how criticism is provided, and how conflict is managed.

Conclusion

The effort described here was designed to tap into participants' mental models of collaborative decision making. Identifying common points of disconnect in culturally diverse team members' mental models provides insight into the areas in which members of multinational teams are likely to suffer from misunderstandings and process losses. It also highlights areas where interventions to facilitate hybrid culture development might be appropriately targeted. The data collected in this effort provide an initial indication of differences in mental models of collaborative decision making between the US and Asian cultures. The research is not without limitations,

however. In particular, the data collection and analysis were likely affected by the Western bias of the team of US researchers. Yet while more research is certainly necessary to support and deepen on these findings, the evidence thus far suggests some important trends.

Our findings indicate that despite some important differences in mental models of collaborative decision making across cultural groups, the basic set of core elements comprising these mental models seems to be shared. It is the means by which these various elements are carried out that varies. Failure to understand these differences may lead military leaders, business managers, and members of multinational teams to experience varying degrees of friction and misunderstandings as multinational teams seek to accomplish critical decision making tasks. From an East Asian perspective, for example, one might see US collaborators as rash in their decision making, disrespectful, and generally too quick to cede a developed plan. From a US perspective, one might assume that East Asian collaborative decision making is autocratic, with little opportunity for the exchange of different ideas and viewpoints, or generally resistant to change. Such stories, however, are overly simplistic. The differences in collaborative decision making between Asians and the US are far more complex and nuanced than they may appear on the surface, with values of respect, consensus, and preservation of face playing crucial roles in how the process unfolds, including its degree of transparency.

When multinational teams are temporary and short-lived, as so many of them are in organizational settings today, they must find ways to work together productively early in their existence. Creation of a shared set of mental models of collaborative norms and processes—or a “hybrid” culture—is a recommended means for doing so (for example, Earley and Mosokowski, 2000). To facilitate the development of a hybrid culture, members of multinational teams must be aware of common points of disconnect in the way they think about the process of collaborative decision making so that they can focus on reconciling discrepant conceptions and building a set of processes and norms to employ in that particular team. Interventions that foster the convergence of mental models and development of a “hybrid” culture will enable culturally heterogeneous teams to position themselves for smoother interactions and higher levels of productivity earlier in their life cycle.

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