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Virtual Teaming Has Come to Stay— Guidelines and Strategies for Success

Deborah Britt Roebuck and Aubrey Clarence Britt

The team movement has swept the corporate and business world. By 2005, more organizations will integrate multilocation work with new ways of conducting collaborative work in both electronic and physical spaces (Frankel, 1998). The network, not the pyramid, will become the conceptual model of how people work to achieve goals (Lipnack & Stamps, 1999).

According to Robbins (1994), most individuals define a team as a “group of individuals interacting and interdependent, who come together to achieve particular objectives” (p. 88). Because of recent advances in communication technologies, a new kind of team, the virtual

team, has emerged. Unlike conventional teams, a virtual team works across space, time, and organizational boundaries with links strengthened by webs of communication technologies (Lipnack & Stamps, 1997). As can be noted, the primary difference between a team and a virtual team involves the dimension of physical space or distance between team members. This distance significantly affects the way team members interact. The global expansion of electronic connections, particularly the new digital media, provides the link for virtual team members to interact. In all other ways, virtual teams emulate traditional teams.

In the past, people have thought that teams needed to meet face-to-face to discuss issues and resolve problems, but in a number of functions, virtual teams have outperformed face-to-face teams. For example, research has shown that virtual teams using groupware generate more ideas in brainstorming sessions than the same participants working face-to-face. In

fact, research studies have indicated that geographically dispersed teams can often work as effectively as co-located ones (Savage, 1996). Virtual interaction, especially using e-mail or electronic chat to interact, seems to be effective at reducing various kinds of discrimination within team members. With visual stimuli removed, the focus is more on content and less on the person generating the content (Willmore, 2000). Therefore, in today’s world of multimedia access, the assumption that teams must meet face-to-face to be successful seems incorrect.

Virtual teams rarely meet face-to-face and are supported by technology to collaborate (Lurey, 1998). Often, these teams are set up as temporary structures existing to accomplish a particular task, or they may be more permanent teams that address ongoing organizational issues. For example, at Georgia Power, 150 people, or 13 percent of the workers at its headquarters, are teleworkers who work virtually. Two of every three Fortune 500 companies’

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employees also work virtually. Forty million employees telework on a global basis and, by 2003, more than 137 million workers worldwide are expected to telework at least on a part-time basis. Survey results indicate that employees want more opportunities for telework and that their top priority is to gain the flexibility to control their own time (Cascio, 2000). Nortel has 80,000 employees, located in 150 countries, who work as members of virtual teams (Solomon, 2001). Often, membership in virtual teams is fluid and evolves according to changing task requirements (Townsend, Demarie, & Hendrickson, 1998).

Changing Organizational Structure

The impact of global competition, rising customer expectations, technological advances, and the need to do more with less has caused a new organizational paradigm to emerge. The traditional model of a hierarchy is giving way to a process-based organization made up of flatter, partnership-based, customer-focused, team- and project-oriented structures (Harrison, 1998). This flattening of structure pushes the decision-making authority down to lower levels within the organization and reduces the need for layers of management. With less centralized, hierarchical management, many organizations have restructured and distributed their work force globally. For example, Aalborg Industries has reinvented manufacturing processes to meet the challenges of global competition. To reduce costs and shorten delivery time,

the boilers and steam generators formerly manufactured at the Erie, Pennsylvania, facility are now fabricated around the world through a chain of sub-suppliers, subcontractors, and extended-enterprise partners. Design activities are similarly dispersed to different locations with about half of Aalborg's engineering work now done off-site. Its paper-based document procedures are being replaced with a "virtual office" in which information in a central database can be accessed via a web-based system anywhere at anytime by employees, supply chain sub-suppliers, subcontractors, strategic partners, and customers (Gunter, 2001).

Advantages of Virtual Teams

Virtual teams respond to the challenges associated with downsized and lean organizations and the resulting geographical dispersion of essential employees. According to Julie Wilson, practice executive and principal for IBM Global Services and a director of the Project Management Institute in Newtown Square, Pennsylvania, "The advantage of being a virtual team member is that you don't have to move. You have to travel, but you don't have to move" (Kiser, 1999, p. 29). Organizations can hire new employees without paying relocation expenses. These new employees can quickly become part of the organization.

Virtual teams allow employees to be located anywhere in the world. For example, a team member in a Frankfurt office might initiate the first stage of a report and pass it on to

headquarters in London for additional data. From London, it could go to the New York City office for the integration of customer data, and from New York City, the report could go to the Sydney office for completion. By organizing the work in the correct sequence, members would only work an eight-hour day, but the organization may gain the benefit of a 24-hour shift that never sleeps (Willmore, 2000). Additionally, the report generated by these organizational members would be more complete and comprehensive because input is received from all teams. Roger Rodriguez, who works for BakBone Software, is a member of a virtual team that "follows the sun." Rodriguez may begin a day by dealing with customer support problems that were passed on to him by colleagues in Lanham, Maryland, or in the City of Poole in the United Kingdom. A typical day for Rodriguez will end when he hands off support problems to teammates in Tokyo. Rodriguez has never met most of his co-workers face-to-face and probably never will. Nevertheless, these individuals are his daily working companions on a virtual team that works from three continents to provide customer support for storage management (Alexander, 2000).

With virtual teams, organizations can build teams with optimum membership while retaining the advantages of the flat organizational structure. In addition, organizations benefit from virtual teams through access to previously unavailable expertise enhanced through cross-functional interaction and the use of systems that improve the quality of the virtual team's work

(Lipnack, 2001). British Petroleum Amoco (BPA) was one of the earliest corporations to fully embrace virtual teamwork on a company-wide basis. BPA used satellite videoconferencing technology to manage dozens of remote sites around the world. The videoconference enabled BPA to share critical data and accident prevention strategies among platform workers, construction contractors, structural engineers, and geologists (Success Stories, 2001).

Many companies have instituted virtual workplaces and have reaped many benefits. By using virtual teams, organizations can assign the right person to the job, but that person does not have to be physically located at the company's headquarters. In addition, the best minds can be assigned to projects regardless of where they live. Finally, in the wake of September 11, people who work virtually will not have to run to catch airplanes, sleep in hotels, or be away from their families (Nucifora, 2001). IBM has saved 40 to 60 percent per site annually by eliminating physical offices. Northern Telecom has estimated the savings gained from not having to house an employee in a typical 64-square foot space, considering only rent and annual operating costs, at \$20,000 per person per year. Internal IBM studies show increased productivity of 15 to 40 percent for virtual team members. US West has reported its virtual team members increased productivity 40 percent, and Hewlett-Packard doubled revenues per salesperson after moving its salespeople to a

virtual workplace arrangement. Another important benefit is access to global markets. John Brown Engineers & Constructors, Ltd., a member of the engineering division of Trafalgar House, the world's third largest engineering and construction organization with 21,000 employees around the globe, was able to access local pharmaceutical engineering talent at a project site in India. Using virtual work arrangements, the firm was able to traverse national boundaries, enabling the organization to work with and present a local face to its global clients, thus, enhancing global competitiveness (Cascio, 2000).

In addition, shy individuals can blossom in the virtual team, as they seem more at ease sharing ideas by technology (Kimball, 1999). The process taps and exploits greater individual potential and, thus, removes potential barriers to group participation. Typically, dysfunctional team behaviors such as dominating, interrupting, arriving late, and carrying on side conversations simply do not exist. Similarly, individuals from foreign countries often find written communication easier to master than oral; therefore, international members are apt to be more comfortable and productive in a virtual team. This environment also allows physically challenged people, retired individuals, and those with child or eldercare obligations to contribute to companies looking for the most knowledgeable team members possible (Hagen, 1998). Finally, virtual teaming allows team members to work from home

rather than to be on the road traveling (Katzenbach & Smith, 2001).

Antecedents of Good Virtual Teaming

A virtual team should be visible to the entire organization. When team members are not physically present, it is easy for others to forget about these virtual organizational members. To overcome this potential problem, organizational leaders should take a team picture and give everyone a copy or make a collage out of individual pictures. A sign, team in-box, or some other icon of the team should be displayed when only a single team member is physically present so that the entire team is known to all organizational members. A map can be posted showing where each team member is located. Leaders should find ways to "spotlight" individuals or parts of the team when something interesting is happening and celebrate accomplishments as a whole team even when not all members are together (Cook, Gent, & Simons, 2002).

To facilitate informal virtual team interaction, teams may want to create a "virtual water cooler." A virtual water cooler is a space in the electronic communication system for story swapping and the sharing of feelings about events as well as task-oriented messages. Team members may want to hold periodic team telephone conferences described as "after dinner" talks in which the discussion of administrative matters is not allowed. Other organizational members should be asked to interact with the team at

the virtual water cooler (Kimball, 1999).

Further, senior management must support virtual teams in order for them to be successful. As the vice chair of American Express noted,

It's important to have a multifunction team of senior managers promoting and supporting a virtual-office initiative from the start. We had three departments involved in our effort: HR, technology, and real estate. The individuals must be enthusiastic and non-fettered by traditional approaches. And, they must be made knowledgeable about all the key issues (Apgar, 1998, p. 125).

Stages of Virtual Team Development

Virtual teams typically follow the traditional stages of team development including forming, storming, norming, performing, and adjourning (Greenberg & Baron, 1997).

In Stage 1, **forming**, individuals get to know one another and establish ground rules. Individuals try to discover which behaviors will be acceptable to the group regarding both task-related as well as interpersonal interactions. Often in this stage, members get confused and, thus, become uncertain about how to behave within the team. They may question why and how belonging to this team will benefit them.

Stage 2, **storming**, can be a period of high emotionality and tension (Schermerhorn, Hunt, & Osborn, 2000). Members may start to question certain actions by other team members or the team's leader. Members may show some hostility during this stage and conflict may arise. Team members may resist the control of the team's leader while other team members may withdraw. However, as conflicts are resolved and members begin to accept the team leader, the team moves through this stage to the third stage, norming.

During Stage 3, **norming**, members start to work together and develop standard operating guidelines. Individuals begin to feel a sense of belonging, start to identify themselves as members of the team, and then develop close relationships with team members. Individuals begin to share feelings as well as a desire to find agreeable solutions.

In Stage 4, **performing**, the team really starts to work together. By this stage, any questions about team relationships and leadership have been resolved, and the team is ready to move forward and complete tasks. Because members have devoted energy to developing good relationships and have accepted the leader, the team can focus on meeting objectives and accomplishing tasks.

In Stage 5, **adjourning**, the team ceases to exist. The team may disband after completing a project or meeting its goals. Other teams may adjourn gradually as the team disintegrates, either because members leave or because the

norms that have developed are no longer effective for the team.

"The adjourning stage of group development is especially important for the many temporary groups that are increasingly common in the new workplace" (Schermerhorn et al., 2000, p. 180).

Launching the Virtual Team

Current virtual teaming studies suggest that virtual teams can achieve at least the forming stage by using videoconferencing to conduct virtual team meetings. Glacel (1998) stated: "I believe that a firm foundation of nonvirtual, face-to-face relationship building is an essential prerequisite for virtual teaming" (p. 15). Therefore, the videoconference becomes vital for the startup of the virtual team. A real benefit of videoconferencing is not in the individual meeting outcome but in the work process or social and relationship-building qualities of the medium. When team members meet through a videoconference, the team learns idiosyncrasies, builds friendships, starts to trust each other, and creates systems by learning common methodologies and a shared language to use in its work. "It is especially important where the team members are interdependent (Kossler, 2000, p. 4). Videoconferencing can help facilitate the team's growth by allowing individuals to put faces to names and e-mail addresses.

At the first videoconference, team members will need to discuss the means of communication and the amount of personal communication that is expected. Unlike face-to-face settings in which members can use non-verbal cues

and physical proximity as a guide to clarify meaning, on-line interaction and even videoconferencing can make it easier to misread particular kinds of comments. The members will need to articulate concerns in thoughtful and persistent ways and listen to each other. As team members view the world from different frames of reference or perceptions, they must work hard to understand the realities of all team members.

Sirkka Jarvenpaa, a professor at the University of Texas, has stated that if team members cannot meet in person, they need to at least exchange get-acquainted messages (Wardell, 1998). Different personalities, cultures, and languages can make communication much more difficult. When individuals begin working virtually, time should be spent getting to know each other and discussing such things as expectations in the area of time frames, definitions of deadlines, best ways to communicate, and individual work-style preferences. Taking time in the beginning to discuss these types of expectations can help the team members develop respect, build trust for each other, and prevent misunderstandings and conflict.

Using a Team Operating Agreement to Work Through Stage 1

Working through a team operating agreement can move a team through the forming stage of development and establish a foundation of trust (Bednarz & Wood, 1991). Cornelius Grove and Associates, LLC, is a management firm that has helped dozens of companies implement

and improve the performance of their virtual teams. Grove's (2002) research shows that "about 50% of all virtual teams fail to obtain their goals" (p. 7). One of the reasons for this high failure rate is the lack of trust and relationships between the team members. Therefore, the clearer and more specific the team operating agreement, the better the team will function. According to Platt (1999), team members should be definite and specific in their expectations. She states that members should use concrete words to define measures and milestones. For this reason, a team must prepare thoroughly and make assumptions, expectations, roles, procedures, standards, norms, and processes explicit. If team members make assumptions based on experience without a clear definition among teammates, they will waste time and effort. Once the team has developed a clear agreement, members will have a common language that minimizes misunderstandings.

A working agreement represents consensus on how to complete assigned tasks, attack problems, establish deadlines, and reward team members. "The team has to agree how to work together and how it will be managed" (Nucifora, 2001, p. 2). The more thought and time members invest initially in a team operating agreement, the fewer difficulties the team will encounter later. As Eastman Chemical Company CEO Earnest Deavenport states, "I believe that you clearly expedite [team processes] by spending more time on the front end and getting consensus" (Lipnack &

Stamps, 1997, p. 145). Some common features of a team working agreement include a purpose statement, goals, and team norms.

The team should compose a clear written team purpose statement to clarify expectations and responsibilities. This statement should be concise and focus on how the team will work. According to Henry and Hartzler (1999), a team should collaboratively write its purpose statement in three sections.

1. Our purpose is to . . . (shows the work itself—mission)
2. In a way that . . . (shows how individuals, team members, or the team itself will work—values)
3. So that . . . (shows the underlying results/payoff—strategic intent).

The **goals** should be measurable and obtainable while specifying the actions and activities needed to obtain the results. When writing this section, members should not use general terms such as "To communicate effectively." Instead, the members should be specific regarding how the team will communicate. For example, a specific goal might be: "Team members will communicate by e-mail at least twice weekly." This statement provides a specific, realistic, and measurable goal or action.

Norms contribute to and reinforce team unity. These norms can be anything that team members feel is important for commitment to the team. For instance, one item might be that

all team members check the database once a day to monitor the progress of the project. Other norms might deal with the way the team will handle information. Other agreed-upon practices might cover ways to deal with conflict. Teams may enforce a rule that if two members have a conflict, these members must telephone or meet in person to work through the issue.

Establishing team norms will help clarify expectations about acceptable and unacceptable behaviors for team members. Team norms guide participation, communication, conflict management, meeting management, problem solving, and decision-making. Norms assist in preventing misunderstandings and disagreements (Gould, 1999).

Because virtual teams have little face-to-face interaction, they may require more unique and detailed process norms. Virtual team norms may include telephone, audio conference, and videoconferencing etiquette and meeting management. These norms may specifically address ways to ensure participation from all team members and protocols for virtual team meetings such as: stating names before speaking, using the mute button when not talking, giving people who are using a second language time to collect thoughts, using a meeting agenda, taking and distributing minutes, and rotating time zones (Melymuka, 2000). Other team norms might include guidelines for

- acceptable time frames for returning telephone calls and

the uses of voice mail and pagers;

- e-mail usage: when it should be used, when it should not be used, and how e-mail messages should be constructed—including when to flag messages as “urgent” and as “important”;
- face-to-face meetings, teleconferences, and videoconferences;
- how the team will review and approve each other’s work. This includes which team members will review work and which ones can approve deliverables;
- procedures for scheduling meetings using group-scheduling systems; and
- the types of technological applications the team will use and the policies regarding upgrades (Henry & Hartzler, 1999).

Continuing the Virtual Team’s Growth

A team may have to learn to go through the storming stage without face-to-face meetings. Because team members may not have worked with each other before, they may not know each other’s work standards and cannot scrutinize differences in work ethic as consistently as traditional teams. In the beginning, virtual teams often do not realize that this drawback exists, but when team members begin to dismiss e-mail messages, forego team cyber chats, and do not meet deadlines, the importance of understanding

work habits becomes clear (Gundry, 2000). To help facilitate a team’s growth through this stage, members may need basic teamwork training and development. However, if a team can have occasional face-to-face meetings, the processes will improve and more open, trusting relationships will be built. At Deloitte and Touche, practice leaders and client service partners meet in person several times a year at conferences to assure understanding, establish new goals, and further develop relationships (Solomon, 2001).

Team members must choose to communicate completely with each other so that the virtual team will succeed. Because each individual makes an important contribution to the team, members should seek input from all members. Some individuals share easily, while others experience more difficulty. A team needs the ideas and thoughts of all members.

Often, communication issues are the most voiced complaints among virtual team members. One such example follows. “[It’s frustrating] not being able to get a response from people as soon as you like. Weeks can slip by, and we are all doing other jobs. You send out a question and in some cases, an answer never comes back. You do not know how to interpret it. They don’t want to answer or what” (Gould, 1999, p.3). Virtual team members often find messages difficult to interpret, especially if someone is being sarcastic or facetious. Light or constructive criticisms sometimes are judged more harshly than intended.

Conflict seems to escalate when no opportunities occur to stop someone in the hallway and clear up a misunderstanding shortly after it occurs. In a virtual team, miscommunication can simmer and erupt at an unforeseen time, causing consternation and surprise. Team members cannot take for granted the exchange of information in cyberspace.

A team must communicate to share critical information, to leave nothing to chance, and to have personal contact. Team members should make special efforts to create fun, to celebrate progress and successes, and to show personality. Good virtual communication is difficult and requires even more accountability, trust, and adaptability than face-to-face communication (Creating Successful . . . , 2000).

The last two stages of team development, norming and performing, can occur in different times and places if properly supported by technology. Technology enables a virtual team to meet and accomplish tasks that would have been impossible in the past.

Technology Aids the Virtual Team

The accounting firm of Ernst & Young truly understands how technology aids virtual team collaboration. Virtual team members of this organization can be separated by an ocean but still work as if sitting in the same conference room. They exchange messages, share documents, and jointly mark up whiteboards on their monitors (Lamont, 2000).

When selecting the type of technology for a meeting, team members should consider the amount of interaction required. If members simply need to share information, voice mail and e-mail can be used. If the team needs to brainstorm and make decisions, its members may want to set up a chat room, hold a videoconference, or use an electronic bulletin board. Another alternative is group support systems, which provide team members with a variety of support tools to poll participants and assemble statistical information relevant to decisions. These systems even allow team members to "turn off" their individual identities during a brainstorming session and interact with relative anonymity.

If the team needs to work together on tasks, then members may need to use a real-time data conference with audio and video capabilities. Other possibilities for on-line collaboration include white boards with audio and video links, electronic meeting systems with audio and video support, and collaborative writing tools with audio and video links (Duarte & Snyder, 1999). Collaborative software provides support for project management, product design, document creation, and information analysis. Collaborative software applications facilitate multiple authorship of documents and presentations as well as sharing databases, spreadsheets, and other information resources. These packages allow synchronous as well as asynchronous teamwork. In a synchronous setting, team

members collaborate and interact at the same time while in an asynchronous setting, the interaction and work occurs according to the team members' schedules instead of a specific time. Team members can share data and communicate at different times or independently. The software combines scheduling, electronic messaging, and data sharing into one common product. By combining a number of collaborative applications and communications systems into an integrated framework, these products facilitate both the production and communication necessary for effective teamwork (Lotus Accelerates . . . , 2002).

Time differences can sometimes create challenges relative to maintaining synchronous discussions. Some organizations allow virtual team members to work at home to meet these challenges. On days that team members need to have a "night" meeting, these individuals stay home and may even take a nap during the day because they will put in their time during the night. Most of the time, team members will be able to use e-mail to eliminate the time differences. However, team members should be aware that the lags in response time will make decisionmaking take longer (Kiser, 1999).

Regardless of the technological applications, team members should agree on which groupware products to use. In addition, team members should make sure all software and systems are compatible so that members can share information easily.

A virtual meeting, whether a videoconference, a teleconference, or web collaboration, may require different roles. Duarte and Synder (1999) present three important roles for any virtual meeting: owner, facilitator, and participant.

Virtual Team Meeting Roles

The **owner** defines the objectives and outcomes of the meeting. This individual determines who participates and the background information needed. The owner works with the facilitator to develop the agenda, select the technology, and conduct the meeting. During the virtual meeting, the owner interacts with the facilitator to ensure that the objectives are met and that necessary decisions are made. The owner also decides the best way to follow up on the next steps and action items.

A **participant** must take responsibility for preparing for the meeting, including reading the background material and becoming familiar with the technology. During the meeting, participants should speak out, listen, and discuss all ideas. Individuals should actively take responsibility for making suggestions and decisions as well as following up on meeting actions.

A **facilitator** conducts the process of the meeting. In a virtual meeting, this role involves more technology than in a face-to-face meeting. A facilitator must match the technology to the goals of the meeting and to the items on the agenda as well as testing the technology before and checking the technology through-

out the meeting. The facilitator manages the process of the meeting by helping to keep the group members focused, moving them through the agenda, keeping the communication open, making sure the participants stay focused, and summarizing the decisions and actions to be taken.

Understanding Intercultural Differences Facilitates the Team's Continued Growth

If team members come from other countries, an understanding of intercultural differences helps the team to norm and perform (Smith, 2000). For example, when a team is composed of a variety of national or cultural groups, members need to learn about each other's respective cultures, how these cultures may differ, how to overcome these differences, and how to use them to the team's advantage. A virtual team should embrace the diversity among its members. When a virtual team is composed of individuals residing in different countries, members must realize that the quality of ideas is important, not the quality of the grammar used to express them. If members do not completely understand a message, they should restate ideas to make sure the interpretation of the message was correct. According to Miller from BakBone Software, "Communication needs to be carefully managed to take into account the cultural differences among team members" (Alexander, 2000, p. 56). Virtual team members need to be careful in how they ask questions and make requests. "These communication skills are the key to making the virtual

team work across cultural boundaries," says Craig Gardiner, BakBone's U. K. support manager in Poole (Alexander, 2000, p. 56). Gardiner works with Rodriguez on Miller's geographically dispersed team. "The rule of thumb is to be precise in what you want and how you ask for it. Due to the time zone differences, if you do not ask for the right information at the right time, you could be a day behind in getting something done," Gardiner says (Alexander, 2000, p. 56). Ori Eizenberg, executive vice president and chief operating officer of ItemField, a New York-based business-to-business software developer, has a 15-person IT shop in Israel. His virtual teams face a seven-hour time difference and cultural issues. The company tries to overcome obstacles via e-mail, a shared Web server, conference calls, and videoconferencing (Alexander, 2000). Any individual whose entire team is located in another country may want to obtain a translator if language differences hamper communication between members (Practical Advice . . . , 2000).

Many global virtual teams make it a point to avoid on-line humor because it is rarely universal and is prone to confusion. Metaphors offer similar challenges. Because metaphors and symbols are often unique to a particular culture, they are more likely to confuse than communicate. For instance, an e-mail reference to a "sticky wicket" on a project would be clear to U. K. professionals but not to U. S. staff. During a chat session within one global team, the representative from the Mexico City office remarked that the

upcoming client meeting should be a “superclassico.” The home office representatives from Toronto took the statement to mean it should be a pleasant client meeting. What the Mexican reference actually meant was symbolic of a long-standing and bitter sports rivalry—a grudge match, quite the opposite of a nice, productive session. Examples such as these are why Chevron is encouraging its international virtual teams to avoid references to humor or metaphors as a means of improving communication (Willmore, 2000).

Team members should keep in mind that such cultural differences can cause the team to experience another period of storming. The following example illustrates how easily cultural misunderstandings can occur leading to periods of storming. Two universities, one in Finland and the other in the United States, formed a partnership to provide students with an opportunity to experience international virtual teaming. The international virtual teaming project began with a teleconference that allowed the students to begin the forming stage of team development. Following the teleconference, the teams were asked to create team-operating agreements. As the teams started to finalize their agreements, many of the Finnish students became uncomfortable and even offended. It seems the American teammates were asking their Finnish teammates to sign their team operating agreements to show that they agreed to abide by the rules of the team. The Finnish students felt that their American teammates did not

trust them and that their word should be enough without creating what they perceived as a legal document. The American students just thought they were getting commitment from team members by asking them to sign the document. This miscommunication was a source of conflict for these teams until they were able to meet face-to-face to work through this cultural difference to move their team forward. This story illustrates that individuals cannot make assumptions and must work hard to understand cultural differences to operate effectively in a virtual environment.

Simons (1998) points out six specific areas of virtual teaming that should be carefully managed. Those areas include

1. mismatch of cultural context in virtual communication—the ways of expressing meanings differ from country to country. In individualistic cultures, in which the tendency is to emphasize individual self-interests, the messages are usually shorter and more straightforward in nature than in collective countries. In collective countries, the tendency is to emphasize group relationships, so the messages are formulated differently.
2. difference in action orientation affecting communication styles—in many Western cultures the facts, data, and deadlines are important. In some other cultures the contacts, relationships, and roles serve the more important role.

3. time in cyber work—different understandings of time may also create new challenges. In individualistic cultures, time is money while in collective cultures, relationships are considered more important than money. In virtual working, such differences are not so visible and could even help the collaboration.
4. cultural preferences for certain technologies—people from different cultures may prefer or resist the use of certain media or technology. One obvious reason is individual language skills can reinforce the imbalance between the native language speakers and others.
5. conflict management—problem-solving techniques are very much dependent on cultural background. Losing face has very different meanings in different cultures.
6. differing understandings of authority and who is in charge—difficulties may also occur due to different values and uses of authority.

Many of the previously discussed challenges can be minimized through training and education. Organizational leaders must be committed to providing both necessary training and proper technological tools to enhance a virtual team's effectiveness.

Conclusion

A virtual team member should be prepared to adapt to a changing

variety of assignments and tasks during the life of any particular team. Team members may have little time to learn to work together. Because team membership may be somewhat fluid, members will need to quickly assimilate into their team. Team members will probably be asked repeatedly to change membership without losing productivity. Membership in virtual teams will be substantially more dynamic and include team members from non-traditional locations. Thus, effective virtual team members will have to be adept at fitting into a variety of team situations.

For a virtual team to be successful, members must be firmly committed to the team's purpose and to each team member. They must want their collaborative work to be successful and be willing to go the "extra mile" to make sure it is successful. Team members must be persistent in overcoming technical challenges because they will occur. They must be patient with other team members who may not be as comfortable communicating with new media.

Capitalizing on the resources that virtual team members bring requires more than just investing in technology. An investment must be made in training the team. Human aspects such as diversity and communication, so necessary for the success of a virtual team, must be addressed. Once these virtual team characteristics are mastered, then members will be ready to face technology challenges.

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