Proceedings of GREAT Day

2011

How does leadership influence the level of performance in virtual teams?

Ashley Illuzzi
SUNY Geneseo

Courtney Baymack
SUNY Geneseo

Lucas Machado
SUNY Geneseo

Seonuk Hwang

How does leadership influence the level of performance in virtual teams?

Submitted by: Ashley Illuzzi, Courtney Baymack, Lucas Machado, Seonuk Hwang

Executive Summary

This report highlights the unique setbacks that virtual teams face, and poses recommendations to virtual team leaders to compensate for these disadvantages.

We found that virtual teams face setbacks due to:

- a lack of richness in communication,
- a lack of trust and motivation amongst the team, and
- a lack of shared reality.

To compensate for these setbacks, we recommend that virtual leaders:

- make up for the lack of richness in communication by ensuring use of appropriate communication channels, taking advantage of advanced technologies, and facilitating informal communication, and
- pay close attention to team member selection, and enhance visibility amongst the team to make up for a lack of trust and motivation, and
- use appropriate leadership roles, supportive behavior, and proper organizational behavior to increase performance.

Introduction

Background
In recent years, globalization, competitive pressures, increased joint ventures, and advances in technology have led to more virtual teamwork. Virtual teams are defined as teams whose members operate across space, time, and organizational boundaries and are linked through information technologies to achieve organizational tasks (McShane & Von Glinow, 2009). Although today's communication technologies drastically reduce the need for face-to-face contact, the geographical distance and lack of richness in virtual communication present challenges to virtual teams in achieving greater effectiveness. Therefore, leaders of virtual teams must identify potential challenges of virtual teamwork and find innovative ways to facilitate effective communication and create a sense of trust, shared reality and cohesiveness in their virtual teams.

Research Questions
This paper addresses the following questions:
1. What are factors that prevent virtual teams from achieving a high level of performance   compared to face-to-face teams?
2. How can a virtual team leader compensate for the lack of richness in communication?
3. How can a virtual team leader raise of the level of trust and motivation?
4. How else can a virtual team leader raise the team effectiveness?

Factors that Prevent Virtual Teams from Achieving High Levels of Performance

Lack of Richness in Communication
The media richness theory (Daft & Lengel, 1986) holds that face-to-face communication is the richest medium that has

139

the highest capacity to carry data and symbols, followed by video-conference, telephone, e-mail, et cetera. Since virtual teams lack face-to-face contact, they should rely on electronic communication channels, which can introduce challenges in maximizing the shared reality.

Technological Issues

Additional issues arise when the teams engaged in communication have conflicting cultures. Some concerns include language barriers, worldview differences, cultural biases, and stereotypes. More common obstacles arise from the issue of incompatible systems, where operating systems or file types of one team do not match those of another and the transfer of information is restrained. If a virtual team in the United States is working on a project with another group, perhaps in a developing country, and the latter uses an outdated media system, then this will create a dilemma in trying to complete the project on time. Technology is constantly changing, and even teams who have access to the newest media types can be put off by perpetual innovation (Nemiro, Beyerlein, Bradley, &vBeyerlein, 2008). No matter what form of communication is used, virtual teams will encounter unique dilemmas that will make collaboration difficult.

Low Level of Trust and Motivation

When working in any team, managers often like to allocate assignments based on the skills and capabilities of each team member. However, when working in a virtual team, team members have no gauge on the competency of their teammates. Trust in the capabilities of a virtual teammate may need to be taken "on faith" initially (Kirkman, Lowe, & Young, 1999). As a result of team member separation, by space and time, it is difficult to build trusting relationships. In not developing a sense of team camaraderie, certain team members may perceive this as a lack of commitment from other teammates and the level of motivation decreases. Relationships are critical for a functioning virtual team and having no face-to-face interaction makes it very complicated to build a strong relationship (Kahai, 2008).

Relational Disconnectedness

Virtual relationships cannot replace face-to-face relationships for the deep social needs of people. When virtual teams are located in different time zones, they will most likely rely on e-mail for communication. The problem with this, however, is that by communicating through e-mail the team will become too task-oriented. By only focusing on assignments, team members will forego side conversations dealing with personal matters, which are essential in building a working relationship. Small talk and other methods of informal communication give members the ability to form ideas of their teammates (Kahai, 2008). By sharing life experiences, team members convey that they face the same issues that other teammates face and are human like them. This sense of a shared identity is critical to promoting strong relationships (Sasso, 2008). Due to the lack of a shared reality, team members feel uncomfortable with one another and their work becomes less meaningful.

Ways Leaders Can Compensate for the Lack of Richness in Communication

Use of Appropriate Communication Channel

According to the media richness theory (Daft & Lengel, 1986), face-to-face communication is the richest medium with the highest data-carrying capacity. This suggests that the lack of face-to-face interaction in virtual teams would be a considerable handicap in achieving a high level of shared reality, or equal harmony, among team members. However, an alternative view holds that no medium has the highest values on all of the five dimensions of media synchronicity and richness; feedback, symbol variety, parallelism, rehearsability, and reprocessbility (Dennis &Valacich, 1999). For example, in communicating a large amount of data to multiple recipients, one can communicate more effectively using an asynchronous communication channel such as e-mail rather than face-to-face communication. This implies that it is critical to choose the most appropriate communication channel that fits the particular context and nature of the message

(Webster & Trevino, 1995) Therefore, the leader of a virtual team should provide proper guidelines and training for the employees to use the most effective communication mode for the specific message context and content.

Use of Advanced Technologies

In order to minimize the disadvantage of not having face-to-face communication, virtual team leaders should also experiment with, and take advantage of, new communication technologies. The leader must actively monitor the most efficient technologies and distribute relevant information about effective techniques and technical support pertaining to these innovative mediums (Beise, Niederman, & Matord, 2004). Good examples of using advanced technologies to raise the effectiveness of virtual teams include NCR's Wormhole and Crayon's Crayonville Island.

NCR Corporation's WorldMark or Worm Hole, as affectionately called by NCR's employees, is a new type of video conferencing system. One big difference between the Worm Hole and traditional video conferencing is that the Worm Hole stays open at all times. Even when the video conference rooms at different locations are not being used for meetings, the doors are left open and the video conferencing stays active. Therefore, if those in one office need to call a meeting, they can simply yell out through the tube, and their coworkers in other locations will hear them and convene in their respective conference rooms. This provides a very valuable way to keep virtual team members in sync and creates the feeling of one team rather than several teams (Lipnack & Stamps, 1997).

Self-proclaimed the world's first new marketing company, Crayon is another good example of using new technologies to raise the effectiveness of virtual teams. One thing that sets Crayon apart from other marketing firms is the fact that it is headquartered in cyberspace. Crayon's workers rarely meet in the physical world, but their alter egos in the virtual world of Second Life gather once a week. Crayon's CEO Joseph Jaffe maintains that by using the virtual reality technology, one can create the connectedness as if everyone is working in the same place (ABC News, 2007).

Informal communication

Another important consideration in virtual teams is the role of informal communication. Informal communication in virtual teams plays an important role in information sharing, relationship building, organizational identification, organizational commitment, and job satisfaction (Fay, 2007).One way to promote information sharing through informal communication is social networking (Bosch-Sijtsema & Rispens, 2003). Using social networking websites such as Facebook, Myspace, Youtube and Twitter can be a good option for facilitating informal communication. Another interesting way to support informal communication and virtual team building is through online gaming. Online games such as Second Life, World of Warcraft, and Battlefield provide opportunities for players from around the world to work together and achieve in-game goals. By utilizing such online games, leaders of virtual teams can enhance informal communication in simulated face-to-face environments.This will allow virtual employees to develop deeper ties with their teammates and eventually accomplish a higher level of information sharing (Ellis, Luther, Bessiere, & Kellogg, 2008).

Ways Leaders Can Raise Trust and Motivation

Why Trust and Motivation are Important in Teams

It has been proven that teams who trust each other are more productive than teams who do not (Sarker, Valacich &Sarker, 2003). Teams who exhibit internal trust do not waste time checking one another's work; each member feels more motivated to perform to his fullest when he knows that the other members of the team are competent and working hard to complete their respective parts of the project.

141

Recommendations to Leaders for Increasing Trust and Motivation

Trust is generally divided into two categories; socio-emotional and task processes (Zigurs& Mitchell, 2009). Socio-emotional process trust is generally characterized by the belief that a team member is of good character and would act in the best interest of the group. A high level of socio-emotional trust is gained through relationship building exercises and informal communication. Task process trust is differentiated by the belief that the team member is competent and willing to complete the task at a high degree of quality. Maximizing task process trust is accomplished through formal communication, team member coordination, and a high task-technology-structure fit (Zigurs & Mitchell, 2009). Based on our research, we recommend that virtual leaders place a strong emphasis on candidate selection and team-building exercises to improve socio-emotional trust. They should also work with technological advances to enhance visibility, in attempts to improve task process trust amongst the team.

a. Place Emphasis on Candidate Selection and Team Building Exercises

In selecting applicants to be part of a virtual team, it is important to choose people who are open to working in a virtual team, and who trust that virtual teams can be just as successful as face-to-face teams. According to a field study, virtual teams performed much better when their members embrace the technology they have access to, and believe that they do not have disadvantage to face-to-face teams (Gallie &Guichard, 2005).

It is also important to conduct extensive interviews with applicants to identify those who are extraverted and exhibit strong verbal and written communication skills. A study done on students from Appalachian State University and the University of Nebraska at Omaha, who worked together on semester long projects using virtual teams, showed that good communication is the single most important factor in building trust in virtual teams (Zigurs & Mitchell, 2009). Research has also shown that people who are extraverted perform much better in teams, lead their fellow teammates to perform better, and

are more satisfied with their jobs than those who are introverted (Furumo, de Philis, & Green, 2009).

Once members are selected for the virtual team, we suggest that team leaders organize a team building virtual retreat. Here members can get to know each other and familiarize themselves with the technology they will be using to communicate. By developing teamworkthroughteam building exercises, before delving into actual work, the leader will increase the team's socio-emotional trust levels.

b. Enhance Visibility

We recommend that virtual team leaders make use of technology available to their teams, in order to enhance visibility, thus increasing trust and motivation amongst the team. Leaders can yield a higher level of task process trust among team members by asking them to periodically report to one another with their progress, and share their findings. This would demonstrate to the team that members are competent in completing their segment of the workload and are motivated to perform well.

Leaders can also use technology to enhance visibility and increase socio-emotional trust by encouraging employers to communicate informally with one another through instant messaging or video messaging (Zigurs & Mitchell, 2009).

Other Ways Leaders Can Raise the Level of Performance in Virtual Teams

Leadership Roles

a. Planning Related

Because of the physical distance between the members of a virtual team, the roles of the leader are often more intensive than in a face-to-face team. The leader of the virtual team needs to take even more responsibility in contributing to team cohesion, particularly in the early stages of planning. Although the team should be involved in the process, the leader must make an extra effort to schedule the team's work in order to fit schedules that often include differing time zones. The leader should consult with each team member so that he or she feels that individual needs are taken into account when creating an electronic agenda that can be

142

viewed and changed by all team members (Malhotra, Majchrzak, & Rosen, 2007). In addition, the leader needs to create a specific electronic messaging system that communicates both the long-term and short-term goals of the team that correlate with the needs of all team members (PR Newswire, 2008). A leader should make an extra effort to communicate goals to each team member in order to increase motivation and performance.

b. People-Related

Another role a leader must take on in a virtual team is adding or removing members of a team if necessary. Because a virtual team is very rarely together physically, it is the responsibility of the leader to judge whether a team needs another team member to take on additional work. If there is a problem within the team the leader must also take the initiative in either resolving conflict or removing a team member that is causing the conflict since it can often escalate quickly in virtual teams (Malhotra et al., 2007). A leader must also assess the level of skills of each team member and provide appropriate training when necessary. Although this may become apparent throughout the process, it is the responsibility of a leader in a virtual team to provide any necessary training in the beginning so that it is not a problem in the future (Naish, 2009). Because virtual teams cannot speak face to face an issue of an unqualified teammate could potentially cause conflict that could diminish the performance of a virtual team. Therefore, it is the duty of a leader to take care of any potential issue before it becomes a problem.

c. Process-Related

Moreover, a virtual team leader needs to take on more intensive roles relating to the process, which includes assigning an equal amount of work to each team member and finding a "common identity" to increase team cohesion (Malhotra et al., 2007). It is essential for a leader to keep careful track of the amount of work assigned to each team member in order to keep the workload equal. If a virtual team member feels that he or she has more or less work than another teammate it can cause dissatisfaction and ultimately lower the output or quality of work overall. This can also reduce

team cohesion; with the disgruntled member causing tension within the group that can hurt the possibility of an effective team dynamic. Therefore, a leader should make an extra effort to keep track of each member's workload in order to maintain their equality. A leader must also create a "common identity" for the group members, which means he or she must create a sense of unity based on the specific project assigned to the team (Malhotra et al., 2007). This can be done through the use of common goals and by highlighting potential cultural differences, which can reduce any future harmful barriers.

d. Control-Related

The leader of a virtual team also needs to put extra effort into controlling the output of the team members, particularly in regard to making deadlines. Because the group members are often in different time zones, it is the responsibility of the leader to coordinate the team's schedule in order for work to be done on time. The progress of the team's output needs to be recorded efficiently and communicated effectively to all team members, such as with an electronic performance evaluation system (Malhotra et al., 2007). This kind of system would allow for all members to keep track of his or her output and also enable each team member to see what tasks have been accomplished and what else needs to be done before a certain date. It is the duty of the leader to keep the system up to date in order for work to be completed on time and for goals to be accomplished in a suitable fashion.

Supportive Behavior

In a virtual team, it is particularly important for a leader to demonstrate supportive behavior for the team members. Because the lack of physical presence can often make team members feel isolated, it is the responsibility of the leader to compensate by demonstrating supportive conduct. This is especially essential during times of change, such as when a group member is added or removed, because the entire group needs to feel like the leader has the situation under control (PR Newswire, 2008). In addition, if there is a problem among team members of different cultures, the leader needs

143

to show support by providing some kind of sensitivity training for the team members in order to alleviate the problem (Malhotra et al., 2007). This will demonstrate to the team the leader's willingness to accommodate for differences, which will increase team cohesion and performance as a whole.

Moreover, a leader should show support for the team in regard to time zone differences, which can potentially cause tension and resentment among team members. It is the responsibility of the leader to make sure every team member has equal "suffering time", or an equal amount of inconvenience caused by time zone differences (Malhotra et al., 2007). For example, if one team member has a very early meeting in his or her time zone, the rest of the team should have an equal amount of early meetings in their time zones. This will result in a sense of equality among the team since no one person has to have the majority of inconvenient meeting times. The team will also have more faith in the leader because through this system he or she shows that there is an equal amount of support for every team member, which will increase productivity and the effectiveness of the team as a whole.

Creating a Proper Organizational Structure

Furthermore, a leader of a virtual team needs to make an effort to create a proper organizational structure in order for the team to reach their highest level of performance. This involves creating efficient communication channels, with every team member understanding who to report to in any situation (Malhotra et al., 2007). The leader also needs to make sure to have standardization of work, with formal rules in addition to formal training. These will create a more efficient team because every member will have an equal amount of skills to contribute to the group and will also create a sense of equality and regulation (Naish, 2009). A leader should also create some kind of reward system in order to increase motivation and performance. Because team members know that their achievements will be formally recognized through a virtual reward ceremony, their own personal productivity will increase along with their motivation (Malhotra et al., 2007). All of these actions will create an

efficient organizational structure that will increase the performance of the team.

Path-Goal Theory

Another recommendation to leaders of virtual teams is to utilize the Path-Goal Theory as their managerial style. In recent studies, the Path-Goal Theory, particularly the participative approach, has been correlated with an increase in performance for virtual teams because of its focus on individual responsibility and meaning. Because group members can often feel isolated from the team, the leader should make sure to include team members in decisions so that they feel like a more cohesive unit (PR Newswire, 2008). The leader also needs to choose members with adequate skills and experience, or if that is not possible, to provide the training necessary for each teammate. The leader should also emphasize the meaning of the project or the individual work so that team members feel that their actions will have a positive impact on the company. If used appropriately, the virtual team should feel an increase in motivation and job satisfaction, which will improve their overall performance.

References

Anonymous. (2008). Managing from a distance: what makes a virtual team leader effective?.*PR Newswire*, 1-2.

Betsy Stark (Correspondent), (2007, August 27), The Future of Work [Television Broadcast]. New York: ABC News.

Catherine M Beise, Fred Niederman, & Herb Mattord (2004).IT Project Managers' Perceptions and Use of Virtual Team Technologies.*Information Resources Management Journal.*Hershey: Oct-Dec 2004. Vol. 17, Iss.4; pg. 73.

Daft, R.L. &Lengel, R.H. (1986). Organizational information requirements, media richness, and structural design.*Management Science Vol. 32 No.5*, pp.554-71.

144

Dennis &Valacich (1999). Rethinking media richness: towards a theory of media synchronity. In *Proceedings of the 32nd Hawaii International Conference on System Sciences.*

Fay Martha J. (2007). Informal communication practices between peers in the remote work context, *The Ohio State University*. Retrieved November 23, 2009, from ABI/Inform database.

Furumo, K., de Pilis, E., Green, D. (2009). Personality influences trust differently in virtual and face-to-face teams. *International Journal of Human Resources Development and Management* (1), 36.

Gallie, E.-P., &Guichard, R. (2005). Do collaboratories mean the end of face-to-face interactions? An evidence from the ISEE project. *Economics of Innovation and New Technology, 14*(6), 517-532.

Jason B. Ellis, Kurt Luther, Katherine Bessiere, & Wendy A. Kellogg (2008).Games for virtual team building.*Proceedings of the 7th ACM conference on Designing interactive systems*, p.295-304.

Jessica Lipnack& Jeffrey Stamps (1997).Through the Worm Hole. In *Virtual Teams: Reaching Across Space, Time, and Organizations with Technology*, New Jersey: John Wiley & Sons.

Jestice Rebecca (2009, February 12). Supportive and Critical Communication in Virtual Teams. *Leading Virtually*. Retrieved from http://www.leadingvirtually.com/?p=173

Kirkman, B. L., Lowe, K. B., & Young, D. P. (1999). High Performance Work Organizations. *Greensboro: Center for Creative Leadership*.

Malhotra, A, Majchrzak, A, & Rosen, B. (2007). Leading virtual teams. *Academy of Management Perspectives*, 21(1), 60-70.

Mitchell, A., Zigurs, I. (2009). Trust in Virtual Teams: Solved or Still a Mystery?.*Database for Advances in Information Systems*, 40(3), 61-84.

Naish, R. (2009). Take the virtual lead. *E. Learning Age*

Nemiro, J., Beyerlein, M. M., Bradley, L., &Beyerlein, S. (2008). *The Handbook of High Performance Virtual Teams*. San Francisco: Jossey-Bass, p. 35.

Petra M. Bosch-Sijtsema& Sonja Rispens (2003). Facilitating Knowledge Transfer in Virtual Teams Through a Social Network Approach. *Research Report 03B31*, Research Institute SOM.

Sarker, S., Valacich, J. S., &Sarker, S. (2003). Virtual team trust: Instrument development and validation in an IS educational environment. *Information Resources Management Journal 16*(2), 35-55.

Sasso Angelo (2008, June 23). *The Advantages of Face to Face Meetings for Virtual Teams. Leading Virtually*. Retrieved from http://www.leadingvirtually.com/?p=59

Surinder Kahai (2008, June 6). Leading in Face-to-Face Versus Virtual Teams. *Leading Virtually*. Retrieved from http://www.leadingvirtually.com/?p=53

Surinder Kahai (2008, September 24). *Building Social Relationships in Virtual Teams. Leading Virtually*. Retrieved from http://www.leadingvirtually.com//?p=93

Webster & Trevino (1995). Rational and social theories as complementary explanations of communication media choices: Two policy-capturing studies. *Academy of Management Journal. Briarcliff Manor: Dec 1995. Vol. 38, Iss.6*; pg. 1544.

145