VIRTUAL TEAM INTERACTIONS: DO THEY HELP OR HINDER INTERPERSONAL COMMUNICATION?

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VIRTUAL TEAM INTERACTIONS: DO THEY HELP OR HINDER
INTERPERSONAL COMMUNICATION?

A thesis submitted

by

Lorna Puiia

to

University of Southern Maine

in partial fulfillment of
the requirement for the
degree of

MASTER OF ARTS
in
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accepted for the faculty of
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VIRTUAL TEAM INTERACTIONS

Abstract

A lack of trust, communication breakdowns, or badly integrated team members are a few of the reasons why a team can fail. To address whether leader and team member perceptions of communication within the team are similar, this study explores interpersonal communications among leadership and team members and considers whether today’s technology helps or hinders successful knowledge sharing and relationship building within virtual teams. Quantitative data collected from survey questionnaires shows that positive perceptions were found between relationship building, knowledge sharing and communication with leader and team members supporting the position that effective communication processes drive members to share, trust and commit to enhance their performance.
Acknowledgements

Thank you to my virtual colleagues in leadership and team member roles who participated in this research project by completing surveys on communication within their respective teams. This thesis would not have been possible without their valuable time and invaluable input. I would like to thank my thesis advisor, Dr. Elizabeth Turesky for her guidance, advice, and support while writing this thesis for the past six months. Dr. Turesky’s positive and can do attitude helped me to the finish line.

I would like to thank my thesis-writing partner Monique Roy. Monique provided much needed humor, support, encouragement and technical know how but most importantly, helped me stay on track throughout the thesis writing process. I would be amiss if I didn’t give a shout out to my kitty Otto who liked to sit on my lap while I did research and type, which really helped to keep me, seated for longer periods of time. Lastly, I want to thank my fellow classmates both face-to-face and virtual as we completed our Masters Program journey and most importantly, our last hurdle to completion.
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Virtual Team Interactions: Do they help or hinder interpersonal team communication?

Communication is an integral component of success for any team and virtual teams are no exception. The Telework Research Network (2008) states that there are currently 2.9 million full time virtual workers in the U.S. This is a 61 percent increase since 2005. The survey also indicates that 44 percent of the U.S. companies plan to increase their virtual workforce in the coming years. A study conducted by the Society for Human Resources Management (2014) reports that 37 percent of organizations have experienced an increase in the number of requests for flexible work arrangements in the past three years.

Within virtual teams, strong interpersonal communication has been associated with such valuable outcomes as increased trust, commitment to the team and ultimately, improved performance for the individual and team (Maznevski & Chudoba 2000). Communication effectiveness is dependent upon the relationships among individuals and leadership within teams. Leaders need to establish a communication process within their team that facilitates dialog between the leader and team members (Brass, Galaskiewics, Greve & Tsai, 2004). The importance of enabling communication processes is even more pronounced when considering the functioning of virtual teams, which are comprised of members who rarely, if ever, interact face-to-face.

Rapid technological advancements as well as changing global demands over the past decade have changed the nature of work within organizations (Bell & Kozlowski, 2002). Advances in communication technology have allowed organizations to become more flexible, as employees can conduct work from home and even communicate across
remote geographical distances (Bergiel, & Balsmeier, 2008). As technology facilitates such changes, “virtual” teams are becoming increasingly the norm in organizational structures. As such, virtual teams allow organizations to bring together people with the best expertise, regardless of where they live (Bell & Kozlowski, 2002).

The purpose of the study is to determine if the communication process within virtual teams is effective in creating a relationships with others, sharing of information through team and leader communication practices. This study addresses the gap among leaders and team members on their perception of the communication process within the virtual team. A secondary purpose of this study is to find out how communication from the leader and team members affects the way members engage, collaborate, trust, commit, produce, and share in one another’s collective success within a virtual team.

There are several questions that need addressing to understand the effects technology has on virtual teams in the areas of leadership communication, team communication, knowledge sharing and relationship building. If technology is used as the primary communication tool within virtual teams, then leaders of virtual teams must establish an environment that promotes open dialog, collaboration, commitment and trust. This study is significant because the use of virtual teams is a concept that organizations have been implementing for the past decade and as technology continues to advance, so will virtual teams.

**Literature Review**

Research indicates that communication issues may arise when people work and live in different locations and are unable to meet face-to-face (Wong & Webster, 2008). Team members face communication issues that include technical issues, different
geographic locations, absence of relationships among team members, information sharing, and managerial effectiveness (Gilliam & Oppenheim, 2006). Powell, Piccoli and Ives investigated 43 articles about virtual teams and concluded that the current research has found four main focus areas of it: (1) Inputs, (2) Socio-Emotional Processes, (3) Task Processes and (4) Outputs. Through their research of virtual teams, Powell, Piccoli and Ives show that an environment that pays attention to the socio-emotional and task processes achieves maximum performance and satisfaction from their virtual team members (Powell, Piccoli and Ives, 2004). Borrowing from their model, this literature review looks at knowledge sharing, relationship building, and leader and team communication, but with a focus on comparisons between leader and team member perceptions about these factors.

Organizational functioning is dependent upon the communicative relationships among individuals within the organization because these relationships facilitate the dissemination of critical information and expertise that enables high performance (Brass, D.J., Galaskiewics, Greve & Tsai, 2004). The ability to communicate appropriately is firmly grounded in communication abilities which include listening, providing feedback, coaching, and information sharing (Guido, Geiser, & Knodrat, 2005).

While cost effective, there is some debate regarding whether virtual teams can be effective in achieving collaboration through communication and technology. In response, organizations are commissioning research groups to collect data to show the effectiveness of virtual teams. Brandt, England & Ward (2011), explored best practices in virtual team work and virtual team communication processes. According to data collected, findings indicate that the use of virtual teams can assist each other in knowledge sharing and idea
generate. This is a particularly important point when working in a virtual team, where an individual’s work is often seemingly isolated from team members (Stock, Rocchi, Tomasini, & Koren, 2009).

Although technology has propelled teams to work virtually, one cannot discount the adverse affect of technology and how it can contribute to poor communication within virtual teams (Wong & Boh, 2010). Studies on virtual team communication processes inform current and future organizations on the implications and possible challenges that may arise within teams (Altschuller & Benbunan-Fich, 2010; Lurey, & Raisinghani, 2001). Based on a comprehensive set of interviews with individuals of 65 different virtual teams, the top five challenges that organizations can expect to encounter when establishing and maintaining virtual teams are: (1) building trust, (2) commitment, (3) information distribution, (4) balancing interpersonal skills among virtual team members and (5) recognition of team performance (Kirkman, Rosen, Gibson, Tesluk, & McPherson, 2002). These research findings are significant because leaders and team members of virtual teams need to be aware of these types of challenges that can derail a team. These studies take into consideration the impact that a leader has in establishing proper communication channels and collaboration within the virtual team that addresses issues of trust, information sharing, relationship management and communication procedures (Powell, Piccoli, & Ives, 2004).

**Virtual team definition**

A virtual team is defined as a group of people working together across time and space, using electronic communication technology (Brandt, England & Ward, 2011). Companies have since invested trillions of dollars in wiring the world and this, together
with fiber optic connections and other technological and software breakthroughs, enabled the world to operate as one huge global community (Johnson, Bettenhausen, & Gibson, 2009). Team members may be working with each other in very different cultures, time zones or work environments. The number of people engaged in virtual work continues to rise each year (Brandt, England & Ward, 2011).

More and more people are telecommuting and becoming part of virtual teams. According to the network, regular telecommuting grew by 61 percent between 2005 and 2009, and based on current trends, the organization estimates that the number of telecommuting workers will grow to nearly five million by 2016, a 69 percent increase (Lister & Harnish, 2011). With the growth of telework, also known as virtual work, is the inevitable growth of virtual teams, groups of people who are geographically dispersed but who work together virtually through the use of technology such as teleconferencing and videoconferencing, e-mails, text messages and telephone (UNC Kenan-Flagler, 2010).

Communication technology encompasses collaboration tools in the categories of project management, document and file sharing, meetings, video conferencing, instant messaging, document co-creation, social network and scheduling tools (Skovholt, A., Gronning, A., & Kankaanranta, A., 2014). In reality, despite their limitations, virtual teams are increasingly adopted as an organizational solution to address flexibility needs, reduce internal costs, improve the diversity of skills, increase the efficiencies of networks and enhance competitive advantage (Skovholt, Gronning & Kankaanranta, 2014).

Leader Communication

A strong virtual team starts with strong leadership, involving “trust,
communication and striking a careful balance between autonomy and accountability” and, even though lack of communication and miscommunication are on-going problems in traditional workplaces, when distance is added to the equation the communication challenges are intensified (Lindsell-Roberts, 2011, p.186). Studies show that managers spend on average 80 percent of their workday communicating (Foil & O’Connor, 2005; Cross & Parker, 2004).

In a study conducted by Webster and Wong (2008), employees noted that leadership is a critical factor in virtual team success, partly due to the effects it has on knowledge sharing, relationship building and communication among team members. People commit to a team because they gain something important from their involvement (Maznevski & Chudoba 2000). When leaders ask members to become involved, they are offering them an opportunity to: work on an issue important to them; be part of a team; meet and work with like minded people; rise to a challenge and accomplish something significant (Maznevski & Chudoba 2000).

There are many definitions for leader and leadership. The most common description is, “Leadership is a process of social influence, which maximizes the efforts of others, towards the achievement of a goal” (Van Dieren Donck, 2011). In a study by Webster and Wong, employees noted that leadership is a critical factor in virtual team success, partly due to the effects it has on knowledge sharing and communication among team members (Wong & Webster, 2008). Through interactions with leader and team, individuals develop vital relationships that enable networks to develop and lead to clear communication among the team (Cohen & Bailey, 1997).
Hypothesis 1: Interpersonal perceptions are the ways that team members view themselves and their teammates throughout a virtual interaction. A leader’s communication skill is associated with developing trust, relationship building and improved team performance. A leader of virtual teams communication skills will be positively correlated in building rapport, relationships and an environment of trust with and among team members.

Team Communication

Weak communication makes the virtual team prone to “low individual commitment, role ambiguity, absenteeism, and social loafing” (Janvernpaa & Leider, 1999). With the surge in utilization of virtual teams, it has become imperative to understand how communication networks develop and the factors that facilitate effective functioning (Ebrahim, Shamsuddin & Taha 2009). It is common that communication breakdowns will come up in virtual teams (Monge, & Contractor, 2001). Speed and timing of communication is inevitably not as uniformed in digital communication as it is in face-to-face interaction (Wong & Webster, 2008). This is due to the fact that virtual team members would have more restricted access to communication than others and the timing of when information is delivered to team members (Klobucher, 2011).

Research indicates that virtual team members are at a disadvantage in building relationships and sharing information with other team members. The report, *The Challenges of Working in Virtual Teams*, was based on a survey of nearly 30,000 employees from multinational companies. This survey found that the major challenge for virtual team members interviewed was the inability to communicate and share information (94%). Most virtual team members (90%) said they do not have enough time
during virtual meetings to build relationships; it is difficult to establish rapport and trust in virtual teams (81%); (Hastings, 2010).

Communication networks and processes are essentially the patterns of interpersonal contact through which information is shared within an organization or work team. Through interaction with team members, individuals develop valuable relationships that enable communication networks and processes to develop (Busch, Nash & Bell 2011). Virtual teams, however, lack the richness of interaction opportunities that are afforded to face-to-face teams. This can put virtual leadership teams at a disadvantage in how information and expertise are shared among team members (Monge, & Contractor, 2001). If not properly managed, the loss of information, due to lack of non-verbal communication can lead to frustration, misunderstandings and eventually the possibility of generating conflict among team members (Kaiser et al., 2000).

Hypothesis 2: Members of virtual teams are subject to certain perceptions of themselves and teammates due to the communication behaviors and processes set in place and demonstrated by their leader. Given this background, it is appropriate to expect that group performance will be better in teams with increased communication among team members, collaboration, knowledge sharing and trust.

Knowledge Sharing

Virtual teams are unique in that they are forced to "span the boundaries of space and time to accomplish important organizational tasks" (Kirkman & Mathieu, 2004, p. 1). As these unique teams continue to become more commonplace within organizations, factors, which impact their performance, are increasingly examined. One such factor is knowledge sharing. Defined as "the exchange of knowledge between people,"
knowledge sharing is a key determinant of team effectiveness (McNeish & Mann, 2010, p. 19). Within virtual teams, knowledge sharing is even more important as it has been shown to directly influence the performance of these teams (Staples & Webster, 2008). Unfortunately, the physical distance, time differences, and lack of face-to-face contact that characterizes virtual teams can impede knowledge sharing (Staples et al.). Overcoming these obstacles presents a particular challenge for the leaders of virtual teams.

In the absence of regular, personal interaction, the presence of trust within virtual teams has been determined to be a key factor for facilitating knowledge sharing (Newell, David, & Chand, 2007). Characterized as "an individual's willingness to be vulnerable to the actions of another person," trust provides the members of virtual teams with the confidence to expose the limitations of their knowledge (Robert, & Hung, 2009, p. 242). It also increases their assurance that the knowledge provided to them is both accurate and helpful (Staples et al.). Like knowledge sharing however, trust is also difficult to build within a virtual team and it requires a leader to use certain techniques.

**Relationship Building**

As telecommunications technology makes it possible to assemble teams made up of individuals dispersed around the globe, it becomes essential to understand how virtual teams communicate with one another that build trust and commitment (Hambley, O'Neil, & Kline, 2005). A recent report by RW3, LLC, a cultural training service, found that 46 percent of employees who work on virtual teams said they had never met their virtual team associates and 30 percent said they only met them once a year (Lindsell & Roberts, 2011).
Trust and commitment are two behaviors that leaders need to have to be able promote communication and relationship building within virtual teams (Covey 2008). Communication challenges are inherent in the virtual team concept. It is difficult to build trust and maintain commitment within the team when team members lack the ability to interact face to face. Communication is often more challenging, particularly among virtual team members, as it is more difficult to build rapport with one another or commit to team and organizational goals (Ebrahim, Shamsuddin & Taha 2009).

Trust is unquestionably of great importance in establishing leader credibility within a team (Van Dierendonck, 2011). Research shows that only 49% of employees trust their senior management and only 28% believe that CEO’s are a credible source of information (Leonard 2011). Difficulties building trust in the traditional environment can be significantly magnified in the virtual situation (Thompsen 2014). “Trust is an absolute prerequisite” in virtual teams, and Bloch and Whiteley (2009) identify building trust as one of their ten strategies for managing in a flat world. But “building trust can be far more difficult virtually than face-to-face” (Ubell, 2010, p.54) and this poses further challenges for the virtual leader: the lack of face-to-face interaction and communication, “where the transference of emotion takes place and a genuine liking and respect develops” is removed (Covey, 2008).

Research has suggested that remote working can cause feelings of isolation in workers; however, this is heavily influenced by their leaders (Busch, Nash & Bell 2011). In relation to technology and relationship building, e-mail, telephone conferencing and instant messaging tools lack the ability to convey the nonverbal cues that are vital to building trust and commitment within teams (Albardiaz, 2011). As a result, selecting the
wrong technology or communication process may result in misunderstandings and harm interpersonal communications among team members (Lockwood, 2010).

Methodology

Method

To explore if technology is being used as a tool for promoting communication between team members that allows for knowledge sharing and relationship building within virtual teams, a survey was created for the leader to share her view on their communication effectiveness. Additionally, in a separate survey, those same questions were asked from the team members’ viewpoint. The study was intended to develop a survey instrument that assesses a leader’s communication skills and their use of technology when leading virtual teams. The survey instrument used was created by the researcher and is based on a 360-feedback questionnaire that was developed by Fleenor, Leslie and Van Vesslor (1997) for The Center of Creative Leadership. The survey questionnaire focuses on the leader’s communication skills in the areas of relationship building, and knowledge sharing.

Quantitative research methods involve acquiring information from one or more groups of people by asking them questions and tabulating their answers. The goal is to learn about a large population by surveying a sample of that population to determine characteristics of a fairly large population. According to Leedy and Ormond (2013), “The researcher can use the results obtained from a sample to make generalizations about the entire population” (pg. 206). The two populations that participated in this research study represented a sample of virtual leaders and team members.
Participants

Two populations of participants were used for the purposes of this study. The individuals were selected randomly from the list of names provided from human resource personnel from each of the six identified organizations. The identified organizations ranged from retail, insurance, biotechnology and a global corporate payment company. Each of these organizations had corporate offices in Maine and supported the use of virtual teams. One population group consisted of sixteen leaders who manage global virtual teams. The second population consisted of twenty-four individual members of virtual teams. Both the leader and team member populations were identified from a cross-section of several different organizations located in southern Maine.

Both populations of participants were asked to complete a leader or team member survey assigned to them per their role as a member in the virtual team. The leader population received a survey consisting of 27 questions while the team member population received a survey consisting of 26 survey questions. Both respondent groups were given two weeks to complete the survey and were assured confidentiality of their responses. We received a total of 40 completed surveys out of 60 that were sent, which is an 80% completion rate.

Procedure

Before the survey was completed, an invitation and introduction letter was sent to both the leader and team member populations that explained why they were receiving the electronic survey, the purpose of the study, instructions on how to fill out the survey and how their contributions are important in assessing effective communication within virtual teams. The leader participant population received the leader survey introduction
invitation (see Appendix A) and the team member participant population received the team member survey invitation (see Appendix B). Both population groups received a consent form (see Appendix C). If both populations agreed to the terms of the consent form, they were provided with an electronic survey to complete.

Data was analyzed and distributed through an electronic survey program called Snap that is supported by the University of Southern Maine. The survey was distributed electronically to each of the participants work email addresses. Participants received either the virtual leader survey (see Appendix D) or the virtual team member survey (see Appendix E) to complete, depending on their role within the team.

**Data Analysis**

The questions in the survey focused on virtual teams in: 1. Leader communication, 2. Team communication, 3. Knowledge sharing, and 4. Relationship building. The leader participant group was asked to rate the frequency in which they meet and communicate with their team members virtually. Virtual team member participants were asked to rate the frequency in which their leader communicates with the team. The surveys were designed to report frequency using a Likert scale. The rating system for questions were as follows: 1 = never; 2 = sometimes (not consistent); 3 = almost always; 4 = always; and N/A.

The Likert scale for the assessment strategy was designed to capture the overall weight that leaders placed on their communication skills and also how team members rated their leaders communication capabilities. The questionnaire for leaders consisted of a total of 27 questions with two questions being optional. They were asked to select the answer that best applies to them personally. Questions 1 - 5 provide demographic
information about the person answering the questionnaire. The demographic questions provide information on gender, years of leadership experience and number of current direct reports. When answering questions 6 – 25, leaders were asked to self assess the frequency, using the Likert scale, in which they demonstrate communication skills. Questions 26-27 were optional and contained open text boxes for comments.

The questionnaire for team members to complete consisted of 26 questions with two questions being optional. They were asked to select the answer that best applies to them personally. Questions 1 - 4 provide demographic information about the person answering the questionnaire. The demographic questions provide information on gender, education and number of years being a virtual team member. Questions 5-24 focused on their leaders communication behaviors and the frequency, using the Likert scale, in which the leader communicates with the team as a whole and individually. Questions 25-26 were optional and contained open text boxes for comments.

The data from the completed surveys was analyzed using the ground theory approach that included organizing the data, interpreting the data and making sense of the data (Creswell, 2013). Descriptive statistics were used to analyze and summarize the collected data indicating frequency of communication as well as overall percentages of assessment strategy use. Rating questions assigned weighted values to the answer and produced a rating average. Rating averages are shown using percentages and graphs from both participant groups. Only completed survey data was used in the research results.

Findings

As previously stated, there were a total of forty participants in this study. The
gender breakdown for survey completion was eleven (27%) male and twenty-nine (73%) female. In looking at the participant groups separately, the gender breakdown for leadership was 75% female and 25% male. The leader participants’ highest level of education was mostly a bachelor’s degree (63%) with only 13% earning a higher level of education of a master’s degree. In relation to length of time that leaders have been managing virtual teams, 19% have been leading less than two years, with the majority of this group at 56% having been leading virtual teams between three - five years and 25% leading virtual teams for over six years. The majority of direct reports (63%) are located in the United States of which, 25% are located in Maine, and the remaining 75% located elsewhere.

In comparison, team member participants’ gender breakdown is 71% female and 29% male. The highest level of education at 33% for team members was a bachelor’s degree with 17% continuing their education to earn a master’s degree. In regards to length of time being part of a virtual team, 42% of team members have been on a virtual team for less than two years, 21% between three - five years and 38% over six years.

Overall results show that the leader participants surveyed, have between one and five direct reports (56%), six to twelve (31%) direct reports or over thirteen (13%) direct reports. The leader participant group reported that the primary technology tool used when conducting a team meeting is: conference calls (38%), web conferencing (31%), Face Time (6%), other (6%) and N/A (19%). Leader participants were asked what type of technology they used to communicate important information to their team, they responded: email (56%), voice message (6%), web conferencing (19%) and N/A (13%).
To test the hypotheses, we conducted surveys with two separate populations. By using a leader (Appendix 4) and a team member (Appendix 5) participant survey that focused on questions relating to the effectiveness of communication within virtual teams, data results showed characteristics of virtual teams surveyed. The results obtained represent a random sample of the virtual team population comparing leader and team member responses as shown in Table 1.

**Table 1 Leader and Team Member Response Comparison**

<table>
<thead>
<tr>
<th>Category Comparison</th>
<th>Team Member Frequency</th>
<th>Leader Frequency</th>
<th>Comparison Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leader Communication</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of team meetings</td>
<td>Weekly = 48% Monthly = 29%</td>
<td>Weekly = 44% Monthly = 13%</td>
<td>Difference of 4% with leaders reporting that they conduct team meetings with direct reports 44% weekly.</td>
</tr>
<tr>
<td>Frequency of one on ones</td>
<td>Weekly = 33% Monthly = 38%</td>
<td>Weekly = 50% Monthly = 25%</td>
<td>Difference of 17% with leaders reporting that they meet with their direct reports 50% weekly.</td>
</tr>
<tr>
<td>Frequency leader gives prompt feedback to direct reports</td>
<td>Almost Always = 55% Sometimes = 30%</td>
<td>Almost Always = 44% Sometimes = 31%</td>
<td>Difference of 11% with leaders reporting that they give prompt feedback 44% almost always</td>
</tr>
<tr>
<td>Frequency leader asks team members for feedback on their leadership performance</td>
<td>Almost Always = 48% Sometimes = 24%</td>
<td>Almost Always = 38% Sometimes = 38%</td>
<td>Difference of 10% with leaders reporting that they give ask for feedback 48% almost always</td>
</tr>
<tr>
<td>Frequency that leader communicates positively (respectful, offers support, praise &amp; encouragement)</td>
<td>Always = 43% Almost Always = 38%</td>
<td>Always = 50% Almost Always = 31%</td>
<td>Difference of 7% with leaders reporting respective communication 50% always team</td>
</tr>
<tr>
<td>Frequency leader builds and sustains trust from direct reports in relation to communication within team</td>
<td>Almost Always = 33% Always = 38%</td>
<td>Almost Always = 63% Always = 25%</td>
<td>Difference of 30% with leaders reporting that they have obtained trust 63% almost always with direct reports in regards to communication within team</td>
</tr>
<tr>
<td>Is the current communication process</td>
<td>Sometimes = 24% Almost Always = 52%</td>
<td>Sometimes = 6% Almost Always = 63%</td>
<td>Difference of 11% with leaders reporting that</td>
</tr>
<tr>
<td><strong>Effective in obtaining commitment in relation to set goals</strong></td>
<td><strong>Overall, is the communication process effective in gaining commitment to goals</strong></td>
<td><strong>Overall, does poor communication impact working cohesively together?</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| **Yes** = 81%  
**No** = 19%  
**N/A** = 0 | **Yes** = 87%  
**No** = 0  
**N/A** = 13% | **Yes** = 38%  
**No** = 25%  
**N/A** = 37% |

**Difference of 6% with leaders reporting that their communication process is effective 87% from direct reports in obtaining goal commitment**

<table>
<thead>
<tr>
<th><strong>Overall, is the communication process effective within the team?</strong></th>
<th><strong>Team Communication</strong></th>
<th><strong>Relationship Building</strong></th>
</tr>
</thead>
</table>
| **Yes** = 76%  
**No** = 19%  
**N/A** = 5% | **Primary technology used for virtual meetings**  
Web Conferencing = 40%  
Conference Calls = 30% | **Frequency of face to face (f-t-f) meetings with direct reports**  
Quarterly = 29%  
Never = 29% |

**Difference of 11% with leaders reporting 31% using web conferencing technology for meetings with direct reports**

| **Primary technology used for communicating important information** | **Frequency that leader creates open communication environment** | **Frequency of team working cohesively together**  
Almost Always = 55%  
Always = 30%  
**N/A** = 5% | **Frequency of team accomplishing goals on time**  
Almost Always = 67%  
Always = 33% |

**Difference of 17% with leaders reporting that they create open environment 38% almost always**

| **Overall, is their a level of trust within the team?** | **Frequency of team accomplishing goals on time**  
Almost Always = 60%  
Always = 20% | **Frequency of team working cohesively together**  
Almost Always = 60%  
Always = 20% |

**Difference of 4% with leaders reporting that team work cohesively together 56% almost always**

| **Frequency of team accomplishing goals on time** | **Frequency of team working cohesively together**  
Almost Always = 67%  
Always = 33% | **Frequency of team working cohesively together**  
Almost Always = 60%  
Always = 20% |

**Difference of 8% with leaders reporting that team accomplishes goal 75% almost always**

| **Overall, is their a level of trust within the team?** | **Frequency of team working cohesively together**  
Almost Always = 60%  
Always = 20% | **Frequency of team working cohesively together**  
Almost Always = 60%  
Always = 20% |

**Difference of 5% with leaders reporting that they have 81% trust**

**Difference of 12% with leaders reporting that current communication process is 88% effective**
The results in Table 1 show that both team members and leaders agree within an average means of a 14% margin difference in their responses when asked questions related to leader and team communication, and relationship building. Results of the leader and team member response comparison indicate that perceptions relating to the current communication processes are effective in building commitment to goals, working cohesively together to complete goals within specified timeframes and the development of trust within the team. Conversely, results show that leaders and team member perceptions show 28.5% margin difference when asked about the frequency of collaboration and the solicitation of ideas amongst the team.

**Leader and team communication**

In the area of leader communication, the perception from both leader and team member comparisons are similar in their collected responses. When asked about the frequency in which leaders asked for feedback on their leadership performance from team members, leaders answered: “sometimes” (38%), “almost always” (38%), “always” (13%), and “N/A” (13%). Team members answered this question: “sometimes” (48%),
“almost always” (24%), “always” (14%), and “never” (14%). Looking at the comparison means, leaders’ and team members’ perceptions are in agreement that leaders are asking for feedback 87% of the time and both populations agree that it does not happen 13% of the time.

When giving timely feedback to direct reports, leaders responded: “sometimes” (31%), “almost always” (44%), “always” (13%), and “N/A” (13%). Team members answered: “sometimes” (30%), “almost always” (55%), “always” (10%), and “never” (5%). Looking at the comparison means, leaders and team members’ perceptions were in agreement that leaders give timely feedback 91% of the time and both populations agreed that it does not happen 9% of the time.

When asked if leaders communicated in a positive manner to team members, leader response indicates: “sometimes” (6%), “almost always” (31%), “always” (50%), and “N/A” (13%). While team members respond: “sometimes” (14%), “almost always” (38%), “always” (43%), and “N/A” (5%). Looking at the comparison means, leader and team members’ perceptions are in agreement that leaders communicate with their direct reports in a positive and respectful manner 91% of the time and both populations agree that it does not happen 9% of the time.

Lastly, when asked if the current communication process from the leader was effective and that is the reason the team is collaborative, committed and successful in completing goals and tasks on time, seventeen out of twenty four team members answered “yes” (81%) while thirteen out of fifteen leaders answered “yes” (87%) that the current communication channel between them and leader was sufficient. Four team members answered “no” (19%) and two leaders answered “no” (13%). This shows that
within a 6% margin, both leader and team members are similar in their responses on perceptions of effective communication within the team.

**Relationship building**

Leaders and team members were asked if they felt there was a level of trust within the team, thirteen out of fifteen leaders answered “yes” (81%) with two answering “no” (19%) and twenty-seven out of thirty-one team members answered “yes” (76%) with five responding “no” (24%). This shows that within a 6% margin, both leader and team members were similar in their responses on the level of trust within the team.

Both leader and team member participants were asked about the level of commitment to fellow team members and goals. Team member response was a resounding “yes” (95%) with only one participant answering this question “n/a” (5%) response. Leader response was “yes” (88%) with two participants answering “n/a” (13%). This shows that within a 7% margin, both leader and team member are similar in their responses on perception of commitment.

**Knowledge sharing**

The data does show a discrepancy from the leaders’ and team members’ perspective on how much collaboration happens among team members and how often the leader seeks input from their direct reports. Both leader and team member participants were asked if collaboration happens during brain storming sessions. Leaders answered that collaboration happened: “sometimes” (13%), “almost always” (63%) and “always” (13%) and “n/a” (13%). While team members answered this question: “sometimes” (29%), “almost always” (33%), “always” (33%) and “never” (5%). The data shows a discrepancy in responses between leader and team member perceptions in relation to
collaboration within the team: “never” (5%), “n/a” (13%), “sometimes” (16%), “almost always” (30%) and “always” (20%).

Team member participants were asked if their leader solicited ideas from them or the team. Team member response data indicates: “never” (5%), “sometimes” (29%), “almost always” (33%) and “always” (33%). Leaders were asked if they solicited ideas from their direct reports and response data indicates: “never” (6%), “sometimes” (6%), “almost always” (50%), “always” (25%) and “n/a” (13%). The data shows a discrepancy difference in responses between leader and team member perceptions regarding the leader soliciting input from members: “never” (1%), “sometimes” (23%), “almost always” (17%) and “always” (8%).

Overall data responses are shown in Table 2 for the four interpersonal communication factors: (1) Leader Communication, (2) Team Communication, (3) Relationship Building and (4) Knowledge Sharing. Results of the factor analysis indicate that both team members and leaders feel that their current communication process is appropriate for the team to effectively communicate with each other and in relationship building, trust and a commitment to goals.

Table 2 Factors Affecting Interpersonal Communication Perceptions

<table>
<thead>
<tr>
<th>Participant Group</th>
<th>Leader Communication</th>
<th>Team Communication</th>
<th>Relationship Building</th>
<th>Knowledge Sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders</td>
<td>87%</td>
<td>88%</td>
<td>84%</td>
<td>75%</td>
</tr>
<tr>
<td>Team Members</td>
<td>81%</td>
<td>76%</td>
<td>85%</td>
<td>66%</td>
</tr>
<tr>
<td>Difference</td>
<td>6%</td>
<td>12%</td>
<td>1%</td>
<td>9%</td>
</tr>
<tr>
<td>Combined Overall Percentage</td>
<td>84%</td>
<td>82%</td>
<td>84.5%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Perception results regarding the current process used for leader communicating with team members are effective, with a leader response of 87% and a team member
response of 81%, with a combined result of 84%. Team communication results show that communication within the virtual teams is effective and allows the team to successfully complete goals. Team member participants surveyed perceive the overall team goal completion is 76% while leaders perceive it to be 88% with a combined result of 82%. According to the results, relationship building is prevalent within virtual teams with 86% of team members surveyed perceiving that trust and commitment has been established and 85% of leaders agree, with a combined result of 84.5%. However, results indicate that knowledge sharing seems to be perceived differently within the virtual teams. Team member response was 66% and leader response was 75%, with a combined result of 70%.

Discussion

The primary aim of this study was to examine the perception of communication effectiveness in virtual teams and the leaders ability to foster open communication channels, knowledge sharing and relationship building between leader and team members. In examining these survey analysis results, the collective data of Table 1 and Table 2 taken together suggest that leaders of virtual teams drive effective communication, relationship building and knowledge sharing within the team. Additionally, group performance will be more successful when leaders and team members create and sustain an environment of increased communication among the team through collaboration and knowledge sharing.

The findings from this study, amplify the importance of leaders establishing and modeling effective communication practices within virtual teams. First, current communication processes established and modeled by the leader is effective according to the perceptions of both leader and team members. The combined overall percentage is
84%. Second, relationship building seems to be prevalent within the virtual teams, in the form of trust and commitment. The combined overall percentage is 84.5%. Third, team communication within the virtual teams is effective in that it allows members to communicate with one another in an effort to successfully complete goals. The combined overall percentage is 82%. Fourth, knowledge sharing seems to be perceived differently within the virtual teams. The combined overall percentage of 70% indicates that leaders need to reexamine current knowledge sharing practices and redefine their process that supports leaders and team members exchanging information and sharing of ideas.

These findings on perceptions support hypothesis 1 that a leader of a virtual team needs to use effective communication skills to motivate team members to trust one another, collaborate and work collectively together. As predicted, effective communication is a two-way information sharing process, which involves the leader facilitating information sharing between team members that can substantially contribute to relationship building, knowledge sharing and an environment of trust with all team members. In addition, the collected data supports hypothesis 2 in that group performance will be better in virtual teams when there is increased communication, commitment to goals and an environment that collaborates, shares knowledge and trusts one another.

Through correlations with other virtual team communication research, the researcher was able to determine that constant communication between leader and team member is consistent in developing positive relationships within the team. Wong & Boh (2008) concluded that virtual technology does not need to be a barrier when leaders and team members communicate virtually, reinforcing the need for trust when generating and
sharing information with one another. The prominent factor in virtual teams is the need for constant communication.

However, for as many studies done on virtual teams that have positive results around communication within the team, there are other studies that indicate that team members feel that there was a disadvantage in building relationships and sharing of information within virtual teams as seen in the results used in Hastings (2010) study. In comparing my research findings with those of Hastings (2010), there is a discrepancy in my findings as it relates to communication within the team, knowledge sharing and relationship building.

**Table 3 Interpersonal Communications**

<table>
<thead>
<tr>
<th>Interpersonal Communication Factors</th>
<th>Previous Results</th>
<th>New Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leader Communication</td>
<td>81% indicate lack of communication</td>
<td>84% indicate communication is effective</td>
</tr>
<tr>
<td>Team Communication</td>
<td>80% indicate lack of communication</td>
<td>82% indicate communication is effective</td>
</tr>
<tr>
<td>Relationship Building</td>
<td>90% indicate lack of time to build relationships</td>
<td>84% indicate there is relationships amongst members</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>94% indicate inability to share information</td>
<td>70% indicate that knowledge sharing happens</td>
</tr>
</tbody>
</table>

Comparing these studies on communication effectiveness within virtual teams reinforces how much of an impact communication can have on a team both positively and negatively. The information from these two studies indicate that virtual leaders are responsible for making sure communication is ongoing, team members feel connected to one another and are committed to working towards common goals. As seen in Table 3, based on recent results, positive perceptions were found between relationship building, knowledge sharing, and communication with leader and team members supporting the
position that effective communication processes drive members to share, trust and commit to enhance their performance.

In the open text portion of the survey, participants had the option to share ideas or provide examples relating to communication. For example, team member participants were asked how their leader builds trust and commitment within the team. Only eleven team members provided feedback and examples. The majority of team member responses indicate that leading by example was important but so was timely and honest communication from their leader. One team member, when asked how their leader builds and sustains trust within the team wrote, “By having a high level of honesty and commitment to the team, expressing sincerity, being friendly, having a sense of humor and by admitting when they make a mistake”. Another member wrote, “There is constant communication and my leader is always available to respond to a question. My leader provides an ongoing communication feed so I receive updated information that I can use when I need it”. Responses indicate that constant dialog and honesty between leader and team member were important to them in building and sustaining trust within the team.

When asked the same question on how they built and sustained trust within the team, eight leaders provided examples. Leaders indicated that even though their team was virtual, it was important for them to spend time with their team members. One leader in the study wrote, “I think of my team as great people with skills, rather than people with great skills”. Responses indicate that they spent time virtually with their direct reports by listening, asking for opinions, providing positive feedback and being genuinely interested in the team members as individuals.
Conclusion

Virtual teams have a promising future in organizations seeking to leverage the strengths of their globally dispersed workforce. Leaders of successful virtual teams can build effective communication processes that lead to knowledge sharing and build sustainable relationships within the team. Virtual team leaders and members, however, may face challenges in the area of collaboration and soliciting ideas from members due to not asking for input from the team or support and demonstrate collaboration within the team.

This study has practical implications. Communication from the leader and team members affects the way members engage, collaborate, trust, commit, produce, and share in one another’s collective success within a virtual team. Therefore, leaders need to use technology to drive communication within their virtual teams that leads to relationship building and knowledge sharing. Leaders can achieve this by developing trust and credibility. Trust fosters collaboration, which contributes to openly sharing information, which then creates a team who supports each other.

With the recent surge in utilization of virtual teams in organizations, it has become imperative that leaders develop and model communication skills that facilitate effective communication within their respective teams (Hambley, O’Neil, & Kline, 2007). If a leader wants their team to succeed, he or she will have to develop a communication process between leader and team member(s) that demonstrates (1) timely and honest communication, (2) listening by letting team members share ideas and concerns (3) reliability by holding yourself (leader) accountable and doing what you say you will, (4)
formalize roles and responsibilities and communicate them to the team, including their own.

Communication is an integral component of success for any team. Strong interpersonal communication has been associated with such valuable outcomes such as increased trust, commitment to the team and organization, and ultimately improved performance (Nystrom & Asproth, 2013). Trust, commitment, and collaboration takes on a new meaning in virtual teams because team members do not physically see their teammates everyday. Relationship building and knowledge sharing can be difficult to build within a virtual team. Leaders of virtual teams need to use technology in ways that promote a sense of community within the team which will help drive knowledge sharing and build relationships between the leader and team members.

**Further Research**

In exploring communication effectiveness in virtual teams, there are several studies that both promote that virtual communication can be as effective as face-to-face teams as well as studies that indicate that face-to-face team has better communication practices than virtual teams (Foil & O’Connor, 2005; Gibson & Cohen, 2003; Parker & Cross, 2004). There are several questions remaining and investigations to be carried out whether leaders can cultivate the same environment in virtual teams than face-to-face. Further research could focus on the following areas within virtual teams:

Virtual teams versus face-to-face meetings:

- What are the main differences between virtual and face-to-face meetings?
- How is the efficiency in virtual meetings compared to face-to-face?
- How is trust established in virtual teams compared to face-to-face?
Virtual leader and team characteristics:

- What characterizes collaboration on an equal basis?
- There is a need to increase and share knowledge within teams. What are current processes being used or what can be done to increase?
- How are virtual teams managed?
- How does leader establish trust within the virtual team?
- What is the decision making process?

Virtual team design and supporting technology:

- Practical tests with different kinds of technology such as Skype, Message Manager, Google, tools for sharing of documents and other communication tools to determine usability and frequency of use.
- How should the virtual team be designed?
VIRTUAL TEAM INTERACTIONS

References


December 4, 2014

Dear Participant,

As telecommunications technology makes it possible to assemble teams made up of individuals dispersed around the globe, it becomes essential to understand how teams communicate with one another when they do not meet face to face. That is why it is important that we do research on communication within virtual teams.

I am currently enrolled in the Masters Leadership Study program at University of Southern Maine. I am doing a study on communication within virtual teams for my final thesis project. Your participation will tell me how virtual teams communicate in a way that builds commitment, trust and the accomplishment of team goals.

Your role in the study?

I am inviting leaders and team members of virtual teams to take part in this study. The study consists of a survey and the questions are related to communication within your current team. Participation in this study is completely voluntary. All responses to survey questions will be anonymous and confidential.

What to do if you would like to take part?

First, read over the enclosed consent form. If you choose to take part, please follow these steps:

1. To participate in the survey, click on the below link:

https://snapsurvey.usm.maine.edu/snapwebhost/s.asp?k=141762699074

2. After you have reviewed the consent language, click the “YES” button, and you will receive the survey electronically.
3. The survey will take approximately 10 – 20 minutes to complete.
4. Complete the survey within a two-week timeframe.

What if we don’t want to be in the study?

If you do not want to participate in the survey, simply click the button “NO”. If you have any questions about the study, please call or email me.

Thank you for your consideration in being a part of this study.

Sincerely,

Lorna Puiia
Appendix B

Team Member Study Invite

December 4, 2014

Dear Participant,

As telecommunications technology makes it possible to assemble teams made up of individuals dispersed around the globe, it become essential to understand how teams communicate with one another when they do not meet face to face. That is why it is important that we do research on communication within virtual teams.

I am currently enrolled in the Masters Leadership Study program at University of Southern Maine. I am doing a study on communication within virtual teams for my final thesis project. Your participation will tell me how virtual teams communicate in a way that builds commitment, trust and the accomplishment of team goals.

Your role in the study?

I am inviting team members of virtual teams to take part in this study. The study consists of a survey and the questions are related to communication within your current team. Participation in this study is completely voluntary. All responses to survey questions will be anonymous and confidential.

What to do if you would like to take part?

First, read over the enclosed consent form. If you choose to take part, please follow these steps:

1. To participate in the survey, click on the below link:
   
   https://snapsurvey.usm.maine.edu/snapwebhost/s.asp?k=141762670186

2. After you have reviewed the consent language, click the “YES” button, and you will receive the survey electronically.
3. The survey will take approximately 5 - 10 minutes to complete.
4. Complete the survey within a two-week timeframe.

What if we don’t want to be in the study?

If you do not want to participate in the survey, simple click the button “NO”. If you have any questions about the study, please call or email me.

Thank you for your consideration in being a part of this study.

Sincerely,

Lorna Puiia
Appendix C

Consent for Participation in Research Study

**Project Title:**
Virtual Team Communication: Does technology help or hinder the development of trust and commitment within virtual teams?

**Principle Investigator:**
Lorna Puiia  
Lorna.puiia@maine.edu  
207-899-1306

**USM Faculty Advisor:**
Elizabeth Fisher Turesky  
etursky@usm.maine.edu  
207-831-0506

**Introduction:**
- Please read this form. Your participation is voluntary and you may choose to discontinue participation, or ask questions, at any time.
- You are being asked to take part in a research study to explore team member perceptions and communication behaviors within a virtual team.
- In this study you will be asked to complete a confidential survey about your thoughts, and perceptions in your role as a virtual team member.
- You were selected as a possible participant because you have led or are a member of a virtual team and rely on technology to interact and communicate with other team members.
- All responses to survey questions will be anonymous and kept confidential.
- We ask that you read this form and ask any questions that you may have before agreeing to complete the survey.

**Purpose of Study:**
- The purpose of this study is to learn more about any communication challenges that may prohibit team members from trusting their leader and/or other members within the team and being a fully committed and participatory team member.

**Who will be in the study?**
- People who take part in this study will include individual team members and leaders of virtual teams.
- Approximately ten virtual leaders and forty team members will participate in this study and complete the survey.

**What will I be asked to do?**
- As a participant, you will be asked to complete a survey. There is a survey for leaders and a separate survey for team members. Depending on your role within the virtual team, you will receive either the leader or team member survey.
- The survey questions focus on your perception of communication within your team.
- If a question makes you uncomfortable, you may choose not to answer that question(s).

**Description of Study Procedures:**
- If you agree to be in this study, we will ask you to do the following:
  1. Answer questions about your thoughts and perceptions related to being either in a leadership role or a team member where technology is used as the primary tool for communication.
  2. Surveys will be sent to you electronically using your work email address. It is expected that the survey will take about 20 - 30 minutes to complete.
  3. There are 25 questions and you will be asked to circle the answer that best describes your response. In addition, there are two questions asking you to provide brief examples.
  4. Allow us to use your information provided from the survey in the publication of this research. We will not publish any personal information such as names, or company information.
  5. Your participation is completely voluntary.
6. There are no costs incurred to you as a participant if you choose to participate in the completion of the survey.

**Risks of Being in the Study:**
- One or more questions may trigger an emotional response. You may choose not to answer any questions that make you uncomfortable.
- As a team member expressing dissatisfaction with your team’s communication process or expressing a negative opinion on your leaders communication style, may make you uncomfortable. You may choose not to answer any questions that make you uncomfortable.

**Benefits of Being in Study:**
- There are no expected benefits to you as a participant. However, depending on the information you choose to share, you may experience personal insights or satisfaction based on your reflections upon the questions asked, and having the opportunity to share those publicly.
- Organizations and leaders of virtual teams may benefit from the new knowledge gained regarding team members perspectives in how communication contributed to their trust and commitment to the team.

**Keeping things private:**
- This survey is designed to be anonymous, please do not include any information anywhere on the survey that may individually identify you or anyone else.
- No names of survey participants will be shared or published.
- Survey responses will not be attributed to individuals, nor will the names be shared in any data results, written materials or published. Survey results will be grouped and reported collectively.
- No individual responses to questions will be used. Instead, all responses collected will be grouped together to share a collective view on communication perceptions within virtual teams.
- The Snap Survey tool will be used for sending, collecting and summarizing responses. This software tool is licensed and hosted locally on USM servers.
- Access to the survey responses will be maintained and securely kept by the researcher at all times. Those who might have access to these records include: the researcher and faculty advisor, the University of Southern Maine Institutional Review Board and the Office of Human Research Protections (OHRP).
- After completion of my thesis (May 2015) the survey and responses collected on the Snap software will be deleted from the USM sever.
- In any sort of publication that will be presented, only identifying information that you give us permission to use will be used. Possible presentations include committees for student researcher’s capstone thesis, conference presentations, or professional articles.

**Voluntary Participation/Withdrawal:**
- Taking part in the study is voluntary. If you choose not to participate, it will not affect your current or future relations with the University of Southern Maine.
- You are free to leave the study at any time, for whatever reason.
- You may skip any questions that you do not wish to answer.

**Contacts and Questions:**
- The researcher conducting this study is Lorna Puiia, at USM-Lewiston-Auburn College. For questions or more information about this research you may contact Lorna Puiia at (207) 899-1306 and/or email Lorna.puiia@maine.edu
- If you have any questions about your rights as a research subject, you may call the USM Human Protections Administrator at (207) 228-8434 and/or email usmirb@usm.maine.edu
- The USM faculty advisor for this study is Elizabeth Fisher Turesky at (207) 831-0506 and/or email etursky@usm.maine.edu

**Statement of Consent:**
- I understand the above description of the research and the risks and benefits associated with may participation as a research subject. I understand that by proceeding with this survey I agree to take part in this research and do so voluntarily. You may print/keep a copy of this consent form.
Appendix D

Virtual Leader Survey

Instructions: Please read each statement and circle the answer that best describes your response. If a question makes you uncomfortable, you may choose not to answer. All responses are anonymous and will be kept confidential.

Demographic Information
Are you male or female?
- Male
- Female

What is your highest level of education?
- High School
- Associate Degree
- Bachelor Degree
- Masters
- Other

How long have you been a leader of your current virtual team?
- 0-2 years
- 3 – 5 years
- over 6 years

How many direct reports do you have?
- 1 – 5 employees
- 6 – 12 employees
- over 13 employees

Where are direct reports located?
- Maine (only)
- U.S. (only)
- North America (only)
- Worldwide

Leader Communication:
How often do you conduct team meetings?
- Weekly
- Monthly
- Quarterly
- Never
- Other

How often do you conduct one on one with your direct reports?
- Weekly
- Monthly
- Quarterly
- Never
- Other

Are you prompt when giving feedback positive or corrective?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Do you ask for frequent feedback from your direct reports on you?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Do you communicate in a positive manner (offering praise, recognition, support, feedback and encouragement)?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Do you think your current communication style is effective in building and sustaining trust within the team?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Do you think your current style of communication is effective in obtaining commitment from team members so that they accomplish their goals?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Overall, do you feel that the current communication process that you use as a leader is effective and that is the reason your team is committed to accomplishing individual and/or team goals and tasks on time?
- Yes
- No
- N/A

Overall, if the team is not working as cohesively together as you would like them to be, could poor communication be one of the reasons that there is a lack of commitment and/or follow through in completing goals in a timely manner?
- Yes
- No
- N/A

Team Member Communication:
What is your primary tool (technology) that you use when conducting virtual team meetings?
- Skype
- Face Time
- Web Conferencing
- Conference Call
- Other

What is your primary means of communicating important information to the team?
- E-mail
- Voice Message
- Web Conferencing
- Conference Call
- Skype
- Other

Do you create an atmosphere of open communication that encourages your direct reports to be open and candid?
- Never
- Sometimes
- Almost Always
- Always
- N/A
Overall, do you feel the communication process within your team is effective and that is the reason the team is successful in completing goals and tasks on time?  
Yes  No  N/A

**Relationship Building:**
As a leader of a virtual team, how often do you conduct face-to-face meetings with your direct reports?  
Never  Monthly  Quarterly  Yearly  Other
Do you feel that the team works cohesively together?  
Never  Sometimes  Almost Always  Always  N/A
Does your team accomplish its goals on time?  
Never  Sometimes  Almost Always  Always  N/A
Overall, do you feel that there is a level of trust within the team and amongst its members?  
Yes  No  N/A
Overall, do you think the team is committed to the end result and completing goals within assigned timeframes?  
Yes  No  N/A

**Knowledge Sharing:**
Does your team collaborate during brainstorming sessions?  
Never  Sometimes  Almost Always  Always  N/A
Do you actively seek out ideas from your team?  
Never  Sometimes  Almost Always  Always  N/A

**Optional Questions:**
As a leader, how do you promote and sustain trust within your team?  
As a leader, how do you promote commitment within the team?
Appendix E
Virtual Team Member Survey

**Instructions:** Please read each statement and circle the answer that best describes your response. If a question makes you uncomfortable, you may choose not to answer. All responses are anonymous and will be kept confidential.

**Demographic Information:**
Are you male or female?
- Male  
- Female

What is your highest level of education?
- High School  
- Associate Degree  
- Bachelor Degree  
- Masters  
- Other

How long have you been a member of your current virtual team?
- 0-2 years  
- 3 – 5 years  
- over 6 years

Where are you located?
- Maine  
- U.S.  
- North America  
- Worldwide

**Leader Communication:**
How often does your leader conduct team meetings?
- Weekly  
- Monthly  
- Quarterly  
- Never  
- Other

How often do you have a one on one with your leader?
- Weekly  
- Monthly  
- Quarterly  
- Never  
- Other

Is your leader prompt when giving positive or corrective feedback to you?
- Never  
- Sometimes  
- Almost Always  
- Always  
- N/A

Does your leader ask for frequent feedback from you on them?
- Never  
- Sometimes  
- Almost Always  
- Always  
- N/A

Does your leader communicate in a positive manner (respectful, offers praise, recognition, support and/or encouragement)?
- Never  
- Sometimes  
- Almost Always  
- Always  
- N/A

Do you think your leader is effective in his/hers communication style in building and sustaining trust within the team?
- Never  
- Sometimes  
- Almost Always  
- Always  
- N/A

Do you think your leader is effective in his/hers communication style in obtaining commitment from team members in accomplishing goals?
- Never  
- Sometimes  
- Almost Always  
- Always  
- N/A

Overall, do you feel that the current communication process from your leader is effective and that is the reason you and/or your team is able to commit to completing goals and tasks on time?
- Yes  
- No  
- N/A

Overall, if the team is not working cohesively together, could poor communication from the leader be one of the reasons that there is a lack of commitment and/or follow through in completing goals in a timely manner?
- Yes  
- No  
- N/A
**Team Communication:**
What is the primary tool (technology) that is used when attending virtual team meetings?
- Skype
- Face Time
- Web Conferencing
- Conference Call
- Other

Primarily, how does your leader inform you of important company information?
- E-mail
- Voice Message
- Web Conferencing
- Conference Call
- Skype
- Other

Does your leader create an atmosphere of open communication and encourage you and others to be open and candid?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Overall, do you feel that the communication process is effective within the team and that is one of the reasons that you and your team is successful in completing goals and tasks on time?
- Yes
- No
- N/A

**Relationship Building:**
How often does your leader bring his/her entire team together for a meeting?
- Never
- Monthly
- Quarterly
- Yearly
- Other

Do you feel the team works cohesively together?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Does your team accomplish its goals on time?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Overall, do you feel that there is a level of trust within the team and amongst team members?
- Yes
- No
- N/A

Overall, do you think the team is committed to the end result and completing goals within assigned timeframes?
- Yes
- No
- N/A

**Knowledge Sharing:**
Does your team collaborate during brainstorming sessions?
- Never
- Sometimes
- Almost Always
- Always
- N/A

Does your leader actively seek out ideas from you and the team?
- Never
- Sometimes
- Almost Always
- Always
- N/A

**Optional Questions:**
How does your leader promote and sustain trust within the team?
How does your leader promote and sustain commitment within the team?