MISCOMMUNICATION IN CROSS-CULTURAL TECHNOLOGY TEAMS

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Abstract

This study explored communication dissonance found within globally distributed software development teams. The literature review investigated the theoretical foundation for the causes of intercultural dissonance that affects globally distributed software development teams. An online survey, and unobtrusive participant observation methods were used to capture as many data points as possible. Qualitative analysis leveraging data triangulation was the basis for the study. Participants in the study exhibited behaviors consistent with anticipated results. Suffering from a lack of understanding of dynamics found when interacting across high/low-context cultures, the study participants exhibited varying levels of intercultural communication dissonance. Teams that had been together longer appear to be more interculturally competent and effective. Additional research areas are identified to further understand the impacts of intercultural communication dissonance as well as to make recommendations for overcoming/minimizing this organizational challenge.


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Chapter 1

Introduction

The answer to the question of why do companies outsource is as varied as the companies and products they create. Speed-to-market, cost savings, and 24-hour workforce are all common buzz words that are presented as positive reasons why an organization may send all or a portion of work offshore. A virtual workforce allows an organization to draw the best talent for any project from across the globe (Aborisade, p. 165, 2013). While current media and government policies make the concept of offshoring seem new, the process is actually over three quarters of a century in the making. Formalized international business development began in the 1940s with the funding of the United Nations under President Truman’s Four Point Program, offering aid to developing countries such as, Israel, Pakistan, and Iran in the form of a “wider and more vigorous application of modern scientific and technical knowledge” (Walton, p. 85, 2013). This program exists as the Agency for International Development in present-day government.

Software development teams have particular difficulty in the offshoring model due to the complex nature of the task and the regular interaction required among disparately located team members (Perceived, p. 3, 2011). Organizations typically review logistical and legal implications when venturing into offshore relationships. It is not atypical for these firms to research the impacts on intellectual property or tax withholding; however, few research the direct impact to employees, culture, and communication (Gupta, p. 1, 2009). Communication, even within the same office location is challenging for many reasons. Communication across one or more time zones, high and low-context cultures, and with implied or perceived common organizational goals is significantly more daunting.
The organization in the scope of this study is not unique in its goal to become more efficient at what it does for the market and stakeholders. It is focused in data aggregation, modeling, and fraud and risk detection in the credit, mortgage, and lending industry. In order to meet the demands of stakeholders, margins must be kept high. Offshoring was one solution to achieve this goal. The organization initially began its offshore efforts in 2005. At that time the organization was considered a very large publicly traded company with a 135-year history in the United States. It was determined that it would be in the best interests of the organization to create an offshore organization located in India. The company pursued this and ultimately created an India counterpart with three locations in Bangalore, Mangalore, and Hyderabad. The intent was that the three locations were in technology centers in India and would attract the best talent. In addition, with these three technology centers being an extension of the US-based organization, it would streamline other issues firms had experienced when undertaking offshore initiatives.

The organization was staffed with a similar human resource model to what was representative of the US based organization. The India teams, while self-managing, had an onshore counterpart they partnered with to meet staffing needs and project demands. This partnership was intended to present opportunities to rollout processes and insure synergies between teams and work expectations. These expectations were typically focused on quality software code deliverables, project management skills, and quality assurance testing capabilities. In 2011, it was determined that running an Indian version of the organization was not in the core competency and subsequently divested the organization.

This organization is now in partnership with an even larger international firm that offers the ability to offshore to almost any country in the world, providing global access to over
100,000 employees. In both scenarios, the organization has had similar struggles to be successful in our offshoring efforts. One of the most significant challenges is centered on miscommunication between the teams resulting in concern over transparency and trust. Making sure that the front-line employees are communicating in such a way that management on both sides understand the true state of any given software project is key to success and an ongoing challenge area for the teams.

**Importance of the Study**

Having spent the last five years personally invested in establishing over sixty globally distributed teams this experience shows that organizations are consistently missing a critical component to achieve success. Better software development lifecycles and technology enhancements are great tools; however, these things do not specifically address the biggest challenge facing these teams – intercultural dissonance.

According to studies of communication theory “communication is the relational process of creating and interpreting messages that elicit a response” (Adler, p. 68, 1997). Communication is a complex series of verbal and nonverbal messages that are shared between a sender and one or more receivers. The message sender has to translate his information, his ideas or feelings into words, facial expressions, or gestures. The message receiver has to decode the behavior back into meaning, creating a dependency between sender and receiver on the perception, interpretation, and evaluation of a person’s message. A person’s background determines the interpretation of these messages (Adler, p. 68, 1997) Signs and context, coupled with verbal and nonverbal cues establish the message (Hall, p. 101, 1977). Layer in the complexity of team members in disparate locations and often with little to no understanding of
the dynamic and diverse cultures, and effective communication becomes more difficult to accomplish, creating a chasm of intercultural dissonance.

**Statement of the Problem**

Gupta’s approach is to identify technologies that can be leveraged and establishing a long-term vision for outsourcing efforts (Gupta, p. 1, 2009). While research on better ways to leverage technology definitely assists the actual process of communicating it does not address the challenge to create shared meaning when dealing with individuals from high and low-context cultures. Creating synergy between the technical solutions and the review of creating shared messages across high and low-context cultures provide an answer to the question: What strategies/methods do successful organizations employ to promote effective communication between onshore and offshore technology teams?

There are two main objectives in this study:

1. Identify the communication challenges within teams that have team members located in separate locations.
2. Identify existing tools and practices that facilitate more effective communication in the onshore/offshore communication paradigm.

**Definition of Terms Used**

This study uses terms unique to software engineering and the study of intercultural dissonance, defined as follows:

Intercultural Communication: The process that occurs when individuals or groups from two or more cultures exchange messages in a manner that is influenced by their different cultural perceptions and symbol systems, both verbal and nonverbal.
High Context Communication: Communication is in the physical context or internalized in the person, while very little is in the coded, explicit part of the message (Hall, 1976). High context communication styles are culturally common, for example, in India.

Low Context Communication: The mass of communication is vested in the explicit code. Communications are straightforward, concise, and efficient in telling what action is expected. Communicators use precise words and intend them to be taken literally (Hall 1976). Low context communication styles are culturally common, for example, in the United States.

Mum effect: An example of intercultural dissonance; hesitance in communicating difficult or problematic information across cultural boundaries, due to differences in cultural communication styles.

Power Distance (PD): PD establishes the expectations and acceptance of members in institutions and organizations that power is distributed unequally. In some cultures, the expected PD is higher (more hierarchical), and in other cultures the expected PD is lower (more egalitarian).

Developer/ment: Software engineering team member(s) that develop the code that fulfills the requirements.

Globally distributed software teams: Technology teams that have team members located in more than one country across the globe.

Offshore: Non-United States based technology team member (for the purposes of the two teams studied, the offshore country is India).

Onshore: United States based technology team member.

Product Owner: Active participant in the SDLC that defines scope and requirements of the software delivery.
Quality Assurance: Software engineering team member focused on testing the software deliverable from the developer(s).

Scrum Master: Active participant in the SDLC that keeps the team focused on delivering on its stated goal.

Software Development Lifecycle (SDLC): A methodology applied to the process of delivering working software.

Organization of Remaining Chapters

This thesis is organized into five chapters. The current chapter describes the importance of this study for addressing the communication dissonance that occurs between cross-cultural technology teams. Chapter two describes the theoretical and philosophical framing of the study, as well as reviews existing literature that addresses communication and intercultural impacts on globally distributed technology teams. Chapter three describes the scope and methodology that was used to answer the research questions. Chapter four discusses intercultural communication dynamics in the cross-cultural technology teams. Chapter five addresses the limitations found in the study and makes recommendation for further study. Appendix B provides the online survey questions used in the study. Appendix C provides the email invitation to participate in the survey.
Chapter 2

Philosophical Assumptions

Communication is a critical component to every-day-life. Communication is the process by which we collectively create the events and objects of our social world (Pearce & Cronen, pp. 35-54, 2004). Within each communication interaction the possibility to reframe or modify future interactions occurs. The construct of a coordinated management of meaning (CMM) bring Pearce and Cronen to assert “persons in-conversation co-construct their own social realities and are simultaneously shaped by the worlds they create” (Pearce, W. B., pp. 35-54, 2004). This concept of reframing based on each interaction lends itself well to the literature review that follows. It is safe to assume that every person operates somewhere between the absolutes identified as typical high and low-context culture communication styles.

Martin Buber’s dialogic ethical model takes CMM one step further involving the relationship of mutuality. In the dialogic ethical model, Buber identifies that dialogue is a synonym for ethical communication, requiring “self-disclosure to, confirmation of, and vulnerability with the other person” (Buber, pp. 60-69, 1958). Buber uses the image of a narrow ridge to picture the tension of dialogic living.

“On one side of the moral path is the gulf of relativism, where there are no standards. On the other side is the plateau of absolutionism, where rules are etched in stone: On the far side of the subjective, on this side of the objective, on the narrow ridge, where Thou and I meet, there is the realm of the Between” (Buber, p. 60, 1958).

This model identifies that there is always a “between” present in the interactions and communication that we share. Taking into consideration the different vantage points of the cultural constructs that are core to our society and at the same time the dynamic relationships co-
created by participating in globally distributed teams, navigating the between can be difficult. The perspective of communication being a joint achievement that is co-constructed is critical to successful team communication. Team members must remain engaged and open to this communication and prepared for the process of creating shared meaning.

**Theoretical Framework**

The purpose of this study is to examine the challenges organizations currently face when offshoring and to determine methods for addressing these opportunity areas in advance of the negative impacts that these can have on your teams. This focuses efforts around identifying methods that improve creating shared meaning and minimizing impacts of cross-cultural communication and conflict resolution. Walton identifies the need to address perceived risks in communication that ultimately impact a teams’ ability to communicate transparently (p. 8, 2013). Methods to address the needs of a team can be found in more deeply understanding the cultural differences and constructs that a team member uses to create shared meaning. Hall’s work identifies significant differences in communication, group dynamics, “I” or “we” association, and conflict resolution between high and low-context cultures.

The growth in globally distributed teams, especially in software development organizations, is going to continue to strain the already constrained resources within an organization. Through a better understanding of the definitions of culture put forth by Hall, one can determine the right methods and theories to apply to a given challenge. Hall describes details around culture, communication, conflict resolution, and characteristics that provide insight into ways to address and solve the challenges these teams face. In the absence of obtaining a basic understanding of the differences between high and low-context cultures, miscommunication between team members occurs.
Evaluating each variable independently allows someone to better understand the details behind low and high-context culture, as an example. However, coupling together these independent variables, allows for truly dynamic solutions to very complex problems. Bettering the understanding of the characteristics of Power Distance, Individualism, and Long-Term Orientation as they apply to conflict resolution, establishing relationships, building trust, and dealing with conflicts is critical to a global organizations future success. These independent characteristics provide insights into the cultural norms and established patterns for any society.

Croucher et al., identify ways to address conflict resolution through better understanding of the high and low-context cultures (2012). The characteristics identified above when combined extend the importance of the relationship between conflict resolution, communication, and culture (p. 65, 2012). It is through a deeper understanding of intercultural communication dynamics that teams can create the necessary shared meaning to establish solid patterns for communicating. Sharing this information among globally distributed team members is akin to providing the key to solve a puzzle. It empowers individuals to acknowledge their differences and establishes patterns of communicating that further an organization toward its successful goal.
Review of Literature

High and low-context communication, power-distance, and the mum-effect

Setting the backdrop for this discussion is the premise that members of high and low-context cultures create patterns of intercultural communication in the manner that they address communication, conflict resolution, and creation of shared meanings. Edward Hall was the first to label characteristics observed in high and low-context cultures. His observations define people based on how they interpret messages:

“A high-context communication or message is one in which most of the information is either in physical context or internalized in the person, while very little is in the coded, explicit part of the message. A low-context communication is just the opposite, i.e., the mass of information is vested in the explicit code” (Hall, p. 79, 1976).

Hall suggests that individuals in high-context cultures are relational and collectivist. People in these cultures emphasize interpersonal relationships; they prefer group harmony and consensus to individual achievement. Gathering background information sets the stage for relationship building with a member in a high-context culture. Developing trust is an important first step in any business transaction. In the context of interactions, words are not as important as context, which might include the speaker's tone of voice, facial expression, gestures, and posture. High context communication tends to be more indirect and more formal. Flowery language, humility, and elaborate apologies are typical (Hall, 1976). High-context cultures typically utilize an indirect strategy for resolving conflict. Individuals in high-context cultures see the conflict or issue as intertwined with the person involved in the conflict and struggle with separating the two. This ties back to high-context cultures being concerned with “saving face” and group synergy (Chua & Gudykunst, p. 32, 1987).
Per Hall, compared to high-context cultures, low-context culture communication styles are more linear, individualistic, and action-oriented. Members of low-context cultures value facts and directness. Low-context cultures typically pursue a much more direct conflict resolution style. Individuals in low-context cultures are more adept at separating the conflict issue from the person involved (Chua & Gudykunst, p. 32, 1987). Solving a problem means lining up the facts and evaluating one after another. Discussions end with specific actions and expectations. Communications are expected to be straightforward, concise, and efficient in telling what action is expected. To be absolutely clear, communicators strive to use precise words and intend them to be taken literally. Explicit contracts conclude negotiations (Hall, 1976).

Adding to the complexity of the communication and conflict resolution is a unique characteristic that identifies a low or high-context culture with the individualistic or collectivistic culture. Individualistic culture is representative of people that look out for themselves and their immediate families, the “I” identification, representing a member of a low-context culture. Collectivistic culture identifies with a larger group that is responsible for providing care in exchange for group loyalty, the “we” identification, representing a member of a high-context culture.

With the basis of perception of self, goals, and duty differing between these two communication models and cultural constructs, it is no wonder that communication is so difficult between onshore and offshore teams. More than two-thirds of the people in the world are born into collectivistic cultures, while less than one-third of the population lives in individualistic cultures (Hall, 1976).

Gudykunst summarizes Nakane’s work in identifying that communication within high-context cultures is not about the amount of verbal communication that is important but the type
of verbal communication that is key to success. People in high-context cultures seek out background information when dealing with people. This background information allows them to predict behavior of the individual that they are working with. In contrast, individuals in low-context culture typically tend to communicate in specific fact-based messages around the project or tasks in front of the team (Gudykunst, pp. 49-50, 1983). This type of communication disconnect can manifest itself in frustration from the low-context team member, it can be seen as “beating around the bush” or “non-committal.” The member of the high-context culture is attempting to build the foundation of a relationship. The two paths to success have a congruent goal but the lack of awareness of the two cultures presents actions that do not appear to be mutually beneficial.

When companies discuss leveraging offshore resources it typically involves a combination of resources from high-context and low-context cultures. The concept of offshoring did not during its origination, or even now, seventy years later, take into consideration the cultural dynamic and the impacts that this has on communication. This study focuses on the low-context culture found in “onshore” teams in the United States and the high-context culture teams in “offshore” India. The disparity between the two contexts creates an even stronger argument for a systematic approach for coevolution of global communication strategies creating a synergy between cultures and resources (Senteni, p. 301, 2006).

Reviewing Hofstede’s work, Sajeev & Ramingwong identify further those three characteristics: power distance (PD), individualism (IDV), and long-term orientation (LTO) contribute to the mum effect. The mum effect reflects the hesitation in communicating difficult or problematic information across cultural boundaries, due to differences in cultural communication styles.
PD establishes the expectations and acceptance of members in institutions and organizations that power is distributed unequally. Often times the power distribution is based on status, education, or wealth in a society or organization (Hofstede et al, p. 521, 2010). Hofstede et al, also conclude that PD identifies the relationship between the reality one perceives and the reality one desires (p. 55, 2010). An example of PD in a high-context culture, a subordinate is very unlikely to express open disagreement to their supervisor. IDV is the opposite of collectivism. Together the two form dimensions of national cultures.

Individualism is more common in a society in which the ties between individuals are loose (Hofstede et al, p. 519, 2010). High-context cultures tend to show collectivism and pursuit of group interest. Collectivism represented as the lack of open disagreement (PD) and pursuing group interests as the opposite of IDV. In contrast, low-context cultures tend to favor individualistic behavior and are typically lower on the PD and higher on the IDV characteristics.

Finally, LTO addresses long-term orientation. People from cultures of high LTO tend to foster pragmatic virtues oriented toward future rewards, “in particular perseverance, thrift, and adapting to changing circumstances” (Hofstede et al, p. 519, 2010). High LTO is commonly associated with high-context cultures whereas people from low LTO cultures expect rapid results and short-term gains (Sajeev & Ramingwong, p. 121, 2010). In all cases the effects of PD, IDV, and LTO further emphasize the disparity between the manner in which employees from low-context cultures and high-context cultures view their position within an organization and the method each uses to communicate.

Intercultural discrepancy across those three characteristics: power distance (PD), individualism (IDV), and long-term orientation (LTO) contribute to the mum effect. The mum
effect reflects the hesitance in communicating difficult or problematic information across cultural boundaries, due to differences in cultural communication styles.

**Miscommunication in the Global Organization: The Mum Effect**

As identified above, the combination of high and low-context culture, communication, and conflict resolution styles add complexity to all organizational models. Add to this the geographic location and associated time difference, it is no wonder that one of the most common complaints about offshoring deals with communication difficulties. Complaints of lack of understanding or “missing the big picture” are common with organizations struggling with the offshoring model. Continuous introduction of advanced collaboration techniques; such as, Skype, WebEx, teleconferencing, IM, cloud computing, make the technical model easier to achieve (Vlaar et al., p. 228, 2008). The technical ability to perform the act of communicating is the easiest piece of the puzzle to solve. Companies often stop at this point, assuming the communication occurs across continents as it would across the conference room table. It is not sufficient to solve the technical hurdle. Research has identified characteristics related to intercultural [mis]communication across high-context/low-context culture that challenge organizations to achieve success in an onshore/offshore model.

A consistent complaint found across the literature is that the goals identified are difficult to be realized when leveraging an offshoring model. The mum effect is one of the contributing factors in organizations not achieving their goals in offshoring. Two studies identify different catalysts with similar end results for the mum effect within organizations. The first study from Sajeev & Ramingwong identify the mum effect as an impact on perceptions of success when offshoring (p. 120, 2010). The mum effect is the risk arising from people’s reluctance to communicate negative information (p. 121, 2010).
Offshoring within information technology finds this risk occurs when project team members fail to present critical information that could avoid delays. Three main contributors to the mum effect were identified: communication dissonance, fear of consequences, and team solidarity (Sajeev & Ramingwong, p. 121, 2010). Leveraging the examples provided by Hall’s high and low-context cultures, the book describes how high-context culture team members may be more inclined than low-context culture team members to not share information that could potentially harm the team’s reputation or damage the relationships within the group (Sajeev & Ramingwong, p. 121, 2010). In high-context cultures, “losing face” is the sense of being humiliated or bringing shame to your group (Hoftsede et al, p. 110, 2010). The low-context cultures may see this as an act of “sabotage,” furthering the disconnected nature.

Figure 2, India and United States representation of PD, IDV, and LTO

The second study related to the mum effect from Wareham et al, identified that differences in PD and expression of social hierarchy informs differences in communications styles between onshore and offshore cultures. Their research shows that communication in Scandinavian culture is not tightly bound to the expression of hierarchy; meanwhile India is a
highly ascriptive culture that embraces communication about differences in social status (Wareham et al., p. 95, 2007). For example:

“It is often considered inappropriate for an Indian subordinate to say no to a superior, even though he/she knows that the deadline cannot be met or the information is incorrect. Yes may not necessarily signify an affirmative response as normally understood by westerners, but rather, Yes – I acknowledge that you are making a point, although I do not necessarily agree” (Wareham et al., p. 96, 2007).

In this example, if an onshore counterpart did not understand the cultural differences, they may assume the “yes” as commitment to meet the goal/deadline/etc. and hold the resource accountable to something the offshore resource did not agree to and had no intention of delivering. In addition, the power structure within an organization can impact the ability for clear communication even within the same culture preventing managers and developers with the appropriate technical expertise from communicating directly, increasing the probability of communication failure.

The findings of the three studies show that while all three characteristics (PD, IDV, and LTO) are important; PD is the more relevant characteristic in influencing the mum effect factors. In general, the offshore resources tend to show a higher level of PD and LTO than their onshore counterparts. This identifies that further review into the power structure of the offshore organization is critical to establishing a successful communication model and mitigating one cause of the mum effect (Sajeev & Ramingwong, p. 124, 2010). A positive outcome of a culture having high PD outcomes is that once the team unites, the team members have stronger solidarity than their onshore counterparts. In this context, it may take longer for team solidarity to occur; however, once a team high in PD has unified the ability to have one team voice mitigates the
initial mum effect impacts, i.e., the team’s solidarity creates a stronger voice to management (Sajeev & Ramingwong, p. 125, 2010).

Creating Shared Meanings

It is not unexpected that creating shared meaning is more difficult in globally distributed teams. Addressing the issues resulting around building trust in a globally distributed team along with the use of communication metaphors can assist in creating shared meanings.

Building trust in a distributed work environment is a critical success factor. The lack of face-to-face communication exacerbates this problem (Walton, 2013). Starke-Meyerring et al. write:

In collaborating with the increasingly diverse colleagues, technical communicators must be able to build shared virtual team spaces, exploring and weaving together a diverse range of local, cultural, linguistic, organizational, and professional contexts in ways that allow for developing trusting relationships.

Building credibility, through establishing trust, with potential partners and developing advocates within relevant social and work related networks allows credibility to grow and improve scalability. Establishing an understanding between the team members for creating shared meaning based on trust allows for advocacy of the onshore team by offshore team members and vice versa. As was noted earlier, high-context cultures value the establishment of relationships. Leveraging project team members from your team to act as advocates within the offshore group can work to the advantage of stakeholders. This credibility also leads into sustainability for the project teams for long-term implementations. Walton identifies that some of the offshore teams identify an “aggregator” role that acts as an advocate on behalf of the team to establish, nurture existing, and encourage new relationship building (pp. 95 – 98, 2013). While this “aggregator”
does not directly solve for communication issues, the role advocates on behalf of the team establishing trustworthiness and long-term relationships.

Similarly, research leads us to the conclusion that a lack of trust impacts our ability to address the way we perceive communication problems.

In the research conducted by Wareham, Mahnke, Peters, and Bjorn-Andersen (2007) few attempts have been made to apply communication metaphors to understand the dynamics of offshore partnerships. In this research the authors dig deeper to review the challenges complicated by culture and conversational metaphors that emerge. It is well documented that divergent cultural patterns lead to inefficient communication (p. 95, 2007). Through analysis of the different communication modes leveraged in a technology-centric relationship, two predominate communication metaphors are identified: the conduit metaphor and the metaphor of games and dialogues.

Both metaphors are important to the successful creation of shared meaning. The conduit metaphor is a common metaphor employed in managerial discourse, viewing communication as message sending and receiving through a limited channel (Wareham et al., p. 96, 2007). In order for the conduit metaphor to work, both parties (in this case the onshore and offshore teams) must have a shared understanding of mutual requirements, expectations, and domain specific vocabulary. Commitment to creating a shared understanding is critical to the successful use and implementation of this metaphor.

Herbsleb and Mockus (2003) found evidence that software development work distributed across globally dispersed teams took longer to perform than similar work at collocated sites. In a distributed environment, traditionally informal communication must occur more deliberately. This would support the conduit metaphors assertion that both parties have to have a shared
understanding of the work. Software development teams typically struggle most frequently with the first phase of any project, requirements analysis, where creating the shared understanding of the task or project is critical to all future work (Perceived risk... 2011).

The remaining metaphor of games and dialogues uses “conversations for action” and “conversation for possibilities” (Wareham et al., p. 95, 2007). Conversations for action, allows for efficient task completion in an organization based on the premise that shared meaning exists. Via dialogue, this approach makes sense out of disparate understandings of situations.

Applying these two metaphors to the case study, an appropriate metaphor was determined to be useful in each of the four stages of offshore communication (Wareham et. al., p. 93, 2007). The conduit metaphor and games and dialogues metaphor are most impactful when dealing with specific knowledge that is location-specific or “sticky” to the geographic, organizational, or institutional context in which it was created. This is particularly relevant for offshoring relationships spanning international boundaries (Wareham, et al., p. 95, 2007). The four phases (Appendix A) employed a model that moves from the basic and direct conduit model in phase one to a dialogue and games model in phase four. The assumptions being that as each phase was navigated a greater sense of shared meaning exists within the organization and the communication and cultural boundaries are broken down (Wareham et al., p. 102, 2007).

**Rationale**

The global marketplace is going to continue to grow and evolve both through technology and communication in the coming years. There are many opportunities to leverage resources that allow for better global distribution and increasing the size of your workforce without the same cost. However, the research shows that a strong model needs to be in place to support the workers of both on and offshore teams. Until we become a more global workforce, the
hierarchical power structure in organizations must be structured in such a way that individuals as well as teams feel comfortable about being transparent and sharing critical information.

Prior studies have identified issues with communication between high and low-context cultures. The mum effect, cultural communication variables, and inadequate or problematic communication metaphors all contribute to miscommunication among globally distributed teams. This miscommunication manifests itself in the type and content of communication, style of conflict resolution, acknowledgment of cultural characteristics, and the ability to build trust.

Cocreating a shared meaning between onshore and offshore resources provides for stronger team solidarity and enhanced quality of deliverables (Vlaar et al., pp. 227-236, 2008). Providing team members with additional training and support around understanding the new communication contexts of the team members that they will be working with is key to the team’s success. Teaching individuals how to ask questions differently, explain things differently, listen more effectively; all are steps that can be taken to bridge the gap of miscommunication. By taking communication into consideration as a critical element to the success of the offshore paradigm, it can be addressed and planned as efficiently as any of the technological and legal hurdles currently addressed more consistently today. The end result of this effort manifests itself in stronger teams and improved global awareness and communication delivering product that meets the expectations of a multi-national organization.

It is through a combination of understanding the cultures, communication across high and low-context styles, and negotiating the characteristics of PD, IDV, and LTO that we can begin to create shared meaning in the team. Applying the theories allows us to sufficiently address the research questions below:
RQ1: What patterns of intercultural miscommunication occur between onshore and offshore teams within the target organization?

RQ2: How effective or successful are existing organizational practices, which are designed to overcome or minimize existing patterns of miscommunication, to create shared meanings, between onshore and offshore teams?
Chapter 3

The Scope of the Study

This study closely examines the quality of intercultural communication and issues of intercultural dissonance across two global IT teams in one multinational organization. More broadly, through survey work, the study assesses the quality and experience of intercultural communication across a variety or range of off-shore/on-shore IT teams within the organization. In the broadest and most limited sense, the study examines and speaks to the communication challenges affecting workflow and performance that any organization might face, when it organizes and seeks to manage global IT teams.

For the purposes of this study the survey used the largest population while the group and one-on-one observations were done with a smaller targeted population. The survey allows for participants to “self-report attitudes and behavior via survey questionnaires and observations” (Rubin et al., 2010, p. 218). Whenever possible, individuals from those subgroups were available for more formal interviews to elaborate on findings and observations. The survey was conducted over a two-week period via SurveyMonkey.com in April, 2013. The observations and one-on-one follow-up sessions occurred during and following the survey period.

The two IT teams leveraged for observation and one-on-one feedback were located in the United States and India. The teams comprised of all roles necessary to meet the needs of the organization for software delivery. The Product Owner and Scrum Master roles were US based resources. Development and QA roles were in split between India and the US. The development and QA resources reported into their respective management teams within their country of origin.
While the survey had a broad base for participation it was not an exhaustive study and can benefit from further research within the globally distributed organization. This study intends to provide further understanding and identification of impacts of intercultural dissonance, intercultural communication, and intercultural competence of the teams involved.

**Methodology of the Study**

An online survey coupled with participant and unobtrusive observation methods are used in this study. This approach should yield the highest response rate. The first method utilized is an online survey (see Appendix B). This approach was chosen for four reasons: cost effective approach, reach a large varied audience, gather demographic data, and insure anonymity for respondents. The survey was designed to capture basic demographic information about the respondents in addition to brief qualitative information about their experiences with communication in globally distributed teams. The survey participants were selected through the use of nonprobability sampling. Nonprobability sampling allows us to look at characteristics specific to the group dynamics that are being researched; however, it does not allow us to make generalizations to other groups or situations (Rubin et al., 2010, p. 202). Every attempt has been made to write survey questions that elicit responses that tell a story about the communication experience that occurs within disparately located teams. Survey questions capture specific data points through closed-ended questions as well as leverage open-ended questions for the respondent to provide sufficient additional data (Neuman, 2006, pp. 284-300).

Rubin identifies that purposive sampling is a sample selection that contains a variety of people who have a common characteristic (2010, p. 202). For the team selection the common trait of globally distributed software development teams was used.
The second method used in this study was observational research. The observational research was conducted using both the unobtrusive and participant methods. Unobtrusive observation (non-participatory observation) was predominantly employed to observe team interactions during planned events (e.g., regularly scheduled meetings, planning sessions, daily stand-up calls, and so on). By participating in a conference call the natural communication style of the team was undisturbed. This method was chosen to allow observation of the team in its natural state. It is not uncommon for teams to speak or act in one manner when they are “alone” and to act in another manner when an outsider or management team member is present. The unobtrusive observation technique minimized this impact. It also provided the backdrop for any further analysis to occur in the interviews during participant observation.

Follow-up interviews to the participant observations occurred for more specific fact-finding and introspection (Rubin et al., 2010, p.223). The interviews, depending on a person’s location, were conducted face-to-face or via telephone. Through these outside discussions further details around team communications dynamics were uncovered. By conducting an interview one-on-one with a team member, the team member had the opportunity to share experiences without fear of reprisal or team impact. This was especially critical for the high-context culture team members that associate more with the feeling of the “group.” These interviews often occurred during normal one-on-one conversation with team members that were common coaching opportunities. This approach minimized potential anxiety around giving or receiving feedback.

Validity and Reliability of the Methods

In order to be considered part of the survey sample for this study a team member needed to be part of a globally distributed software development technology team at the time of the
survey/observation. In order to meet the criteria, at least one-third of the team needed to be in an offshore location. For example, if the team was comprised of six team members; at least, two of the team members needed to be located offshore.

The survey was created and distributed earlier in the year to a global audience of peers available via LinkedIn. The intent of the beta distribution was to validate issues with the survey tool itself as well as identify ambiguously worded questions. After an initial round of feedback from this audience, the survey was modified. The responses received prior to the distribution of the survey within the target organization have been removed from the result set. The survey was distributed to a total of forty-nine employees within the target organization starting April 1, 2013. This audience included technologists consisting of software engineers, quality assurance testers, project managers/scrum masters, product owners, and technology leads. The audience also included third party vendors (of the same role types) that are currently participating in technology projects for the target organization. The distribution of the survey mirrored the organizational onshore offshore ratio of 40:60 with 40 percent of the surveys being distributed to onshore team members and 60 percent of the surveys being distributed to offshore team members. The offshore team members were located in Australia and India; the onshore team members were located in the United States.

A subset of this group was selected for the observation portion of data capture. Two independent teams were selected. The teams were chosen, using purposive sampling, based on the type of projects that they were working and the length of time that the team has been together. Both teams have a cross-section of onshore and offshore resources, the team member breakdown meets the criteria identified above of a globally distributed team. In addition, both teams have similar delineation of role distribution. In the review of literature in Chapter 2 it was
identified that the communication dynamics can adapt and adjust over time. Because of this, one team, Team A, is newly formed and working on developing new software; while Team B is considered a legacy team having been together for a longer period of time. Following is a breakdown of the roles and location of team members on Team A and Team B. The team roles in blue text are representative of onshore team members; those in black are offshore resources. Both Teams A and B are leveraged for the observation and interview portions of data capture in addition to the study.

<table>
<thead>
<tr>
<th>Team A</th>
<th>Team B</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Product Owner</td>
<td>• Product Owner</td>
</tr>
<tr>
<td>• Scrum Master/Project Manager</td>
<td>• Scrum Master/Project Manager</td>
</tr>
<tr>
<td>• Analyst</td>
<td>• Technology Lead</td>
</tr>
<tr>
<td>• Technology Lead</td>
<td>• Developer</td>
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<tr>
<td>• Developer</td>
<td>• Developer</td>
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<tr>
<td>• Developer</td>
<td>• Developer</td>
</tr>
<tr>
<td>• Quality Assurance</td>
<td>• Quality Assurance</td>
</tr>
<tr>
<td>• Quality Assurance</td>
<td></td>
</tr>
</tbody>
</table>
Ethical Considerations

This study captured data across the information technology teams within the target organization. The first method used was an anonymous self-administered survey using the online survey tool Survey Monkey (surveymonkey.com). The link to the survey was sent using email via the Internet to the target audience. The research conformed to Gonzaga University’s Institutional Research Board Policy (IRB), which allowed the study to be conducted meeting the requirements for minimal risk for participants. The survey was not administered to anyone younger than 18 years of age. The purpose of the survey and scope of the study were identified clearly in the email invitation. (This email is available in Appendix C). Participation in the survey was entirely voluntary.

All observational notes are tied to a team. It was important for the individuals to not feel “singled out” by the process. Full disclosure of the process was given to participants and they were allowed to opt-out of any specific individual contact.
Chapter 4

The Study

This study considers intercultural communication challenges found among globally distributed software development teams. The study seeks to understand how the dynamic of culturally diverse team members impacts communication. Through the use of an online survey, basic demographics of the participants were captured along with a self-reported perspective of communication techniques and challenges that team members face. Following the administration of the survey, two teams (previously identified in Figure 3.1) were observed from two different aspects that leveraged participant. Finally, a subset of participants participated in one-on-one interviews. These interviews were conducted to obtain information about specific items observed within team interactions.

Data Analysis

The review of literature in Chapter 2 identifies that there are multiple factors that impact and influence our ability to communicate. Furthering the complexity of these interactions is the dynamic of globally distributed teams. Validation of this claim is best-measured using data triangulation. Using data triangulation also provides sufficient data points to take into consideration the assumption that the act of studying communication impacts the behavior and answers of the participants and communication that is to be studied by the research itself. Neuman explains that observing something from multiple data points allow surveyors to get a fix on its true location. Applying this to social research means it is better to look at communication from multiple angles than to look at it in only one way (Neuman, 2006, p. 149). Data triangulation for this study employs a survey, unobtrusive observation, participant observation, and interviews. The audience is comprised of globally distributed software development teams
within the target organization. The survey used the largest audience of globally distributed software development team members while the unobtrusive and participant observations and interviews were done with a smaller targeted population. The survey allows participants to “self-report attitudes and behavior via survey questionnaires and observations” (Rubin et al., 2010, p. 218). Whenever possible, individuals from the subgroups were available for more formal interviews to elaborate on findings and observations. Combining multiple forms of data capture provides a holistic view of the challenges facing globally distributed teams and methods leveraged by those teams to achieve success is the result of this study.

**Results**

**Survey Results**

The survey was distributed to 49 team members; 40 responded to the survey. The responses to each question are identified independently in the figures below. The demographic data captured through the online survey evaluates:

- team composition
- team location
- respondents’ length of time working with globally distributed teams
- respondents’ length of time in current role
- quantity of globally distributed teams worked with
The survey results capture all of the known roles among the globally distributed software teams. The expected survey results did not anticipate receiving results from a significant number of management team members. Figure 4.1 shows a representation of 31 percent of respondents classify themselves as a manager. Further research is needed to determine if the survey was forwarded to a larger/different audience or if there is disconnect between role definitions across teams.

Survey Question 2 set out to discover the length of time in the current job role for each of the respondents. The results varied less than one year to one respondent with over 20 years within the same role. The average length of time in role is 4.7 years.
The survey was given to multiple globally distributed software teams. The general composition of the team represented a 60/40 split of resources with 60 percent located offshore. However, the respondents’ country identification is almost 80 percent within the United States. This would further lend itself to the assumption of survey forwarding made earlier in the results of survey question 1.
The responses for question 4 have been reviewed within the target organization and are considered valid and common levels of distribution.

Survey Question 5 asked respondents, “Thinking historically, how many project teams have you worked with that employ the onshore/offshore model?” The intent of this question was to elicit a specific numerical response. Of the 40 respondents, 39 answered this question. Yet individuals who answered previous questions about working within a globally distributed team identified here that they had not historically worked with any teams within the onshore and offshore model. Due to the inability to derive solid statistical data from this question when coupled with other questions, this question is removed from further evaluation.
As anticipated, the survey respondents show that 90 percent of their team interactions are with team members not located within their office. While the preponderance of survey respondents are located in the United States (Figure 4.2) the majority of those respondents are all working with offshore team members. This confirms the expected location of globally distributed team members forecasted by the target organization (Figure 4.5).
The majority of the globally distributed team members confirm that the United States and India are the predominant locations for globally distributed teams. This is consistent with the anticipated results.

The second section of the survey explores the actual technologies used by the teams to communicate. The survey briefly explores the differences (if any) with communication choices between non-globally distributed team members and globally distributed team members.
Figure 4.6 Survey Question 8

With the exception of video chat (Skype type technology), it appears that all respondents use multiple tools to communicate to their globally distributed team members. The results also show a willingness to tackle communication from a variety of fronts, which is especially important due to the lack of consistency across time zones.
Figure 4.8 Survey Question 11

Removing the “greater than 2 year” and “brand new…” team members from the mix there is an even distribution of team members grouped within +/- 3 percent ranging between 3-6 months and 1-2 years of tenure on a given team. This provides a solid demographic sample size to extrapolate results across teams and associated dynamics.
It is to be expected that team members with varied tenure within the team would rate communication differently. It is interesting to identify a large percentage of team members rated the communication level as “good” when so many of the teams have been together for less than one to two years.

Survey Question 13 asked an open-ended question to elicit responses to identify factors that impact team member communication. Of the 30 respondents, 11 (36 percent) identified logistical reasons for impacting communication. An additional 13.3 percent identified language as a factor that impacts communication and finally 10 percent sited culture as the dynamic that impacts communication. The remaining 40 percent of the respondents were scattered over various other responses that were inconsistent. While logistical issues are the easiest issues to identify with on the surface, the language, communication, and team cohesion are much more complicated to overcome and find common synergies.
Where zero is “poor” and five is “good” the same respondents that identified multiple communication challenges within their team, identified in Survey Question 16, that written communication and team commitment fall into the “good” category with both categories scoring above 4.25. The remaining characteristics all scored well above 3 averaging closer to 3.8. So while the team has pointed out specific challenges, when evaluated overall there are areas for improvement but none of the team members cite poor quality as an issue.

Figure 4.10 Survey Question 16

Following is a summarized review of the results obtained through the survey. In each topic area, the results are briefly described along with a comparison to expected outcomes as well as comments. The comments and recommended actions are reviewed in greater detail in Chapter 5.
<table>
<thead>
<tr>
<th>Topic Area</th>
<th>Results</th>
<th>Expected Outcome</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic make-up of respondents</td>
<td>Over 1/3 of the respondents categorized themselves in a manager role.</td>
<td>Based on intended survey distribution the outcome should have reflected less than 10 percent of respondents in a manager role.</td>
<td>Further research is needed to determine if the survey was forwarded to a larger audience. In addition, exploration of the potential disconnect between titles and roles played within the globally-distributed software teams or both. It would not be unexpected for the large portion of management roles to skew the perspective of the communication and intercultural dissonance. Managers are not in the day-to-day interactions with team members and would therefore have a slightly different view of the actual struggles within a team.</td>
</tr>
<tr>
<td>Geographic location</td>
<td>70 percent of the respondents show team members in the United States and greater than 80 percent show team members in India.</td>
<td>Leveraging the target organization offshore strategy this would have been expected to be 40 percent of the team members located in the United States and 60 percent of the team members located in India. The percentages when added should have reflected a number close to 100% across all countries identified.</td>
<td>Further research is required to identify the catalyst driving the high number of team members in the United States as well as those in India.</td>
</tr>
<tr>
<td>Topic Area</td>
<td>Results</td>
<td>Expected Outcome</td>
<td>Comments</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Technology use</td>
<td>Teams consistently leverage multiple forms of technology to communicate with each other.</td>
<td>Confirmed.</td>
<td></td>
</tr>
<tr>
<td>Team tenure</td>
<td>Over 80 percent of the team members have been on globally distributed teams for less than two years.</td>
<td>No prior assumptions were made on the length of time assigned to a team.</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>Over 1/3 of the respondents rate overall communication as bad or average. However, when queried for more specific information on the communication challenges team members gave relatively high marks on the specific aspects of communication.</td>
<td>Anticipated that the communication specifics would support the rating of the general perception of communication effectiveness.</td>
<td>Further research is required to identify if the specificity of the individual communication characteristics provided greater clarity around the quality of communication, if there is an aspect of poor communication that wasn’t asked, or if there are extenuating circumstances that would further reveal communication dissonance.</td>
</tr>
<tr>
<td>Intercultural dissonance</td>
<td>Asked across many questions, the results did not provide direction/support of any one-communication issue having a greater bearing than another on team performance or cohesion.</td>
<td>Expected results would have shown a clear pattern of communication dissonance among the team members.</td>
<td>Further research and observation of behavior is required to identify root cause of intercultural dissonance among teams. Further investigation is necessary to understand how much the impact of the preponderance of management roles taking the survey impacted the results.</td>
</tr>
</tbody>
</table>

**Observation**

In addition to the online survey, participant and unobtrusive observation was conducted with two globally distributed teams. Observation occurred by shadowing team interaction on
conference calls and via WebEx or Skype meetings. The intent of the unobtrusive observation is to observe the team in its most natural state. The most commonly observed meeting was the daily status call. This is a high-level interaction between team members and is intended to be a very quick meeting where three questions are answered:

1. What did I do yesterday?
2. What do I plan to do today?
3. What is standing in my way?

Observations within this call represent an individual’s willingness and ability to identify how they are progressing. Over the course of two weeks, there were a total of 10-daily standup calls observed across the two teams.

Both Team A and Team B are globally distributed teams. There are no direct reporting relationships between the United States and India based team members and all team members are peers in an organizational structure (no hierarchy exists among the roles all are equal). The team members have direct reporting relationship to management within their respective countries. The India team members are contracted employees with the same third-party organizational partner.

Team A is a new team, having been together less than six months at the time of the study. Team A is also working on a new software product in the market. Team A, has five development and quality assurance resources located in India. The remaining four team members (Product Owner, Scrum Master, Analyst, and Technology Lead) are located in the United States. The team members located in the United States support multiple teams and products, allocating less than 50 percent of their time specifically to Team A.
Team B has been together for more than two years. Team B is working on a product that has been in the market for over five years. Team B has four development and quality assurance resources located in India. The remaining three team members are located in the United States. While this team has been together for two years, one team member has been on the team for less than two years as a replacement due to team member attrition. Similarly to Team A, the United States team members support multiple teams and allocate less than 50 percent of their time specifically to Team B.

**Power Distance**

One trait that leads to miscommunication is cultural differences in the expression or communication of Power Distance (PD). As discussed in Chapter 2, PD establishes the expectations and acceptance of members in institutions and organizations that power is distributed unequally. Often times the power distribution is based on status, education, or wealth in a society or organization (Hofstede et al, p. 521, 2010). Hofstede et al, also conclude that PD identifies the relationship between the reality one perceives and the reality one desires (p. 55, 2010). It is difficult for high-context and low-context cultures, unaware of the difference in PD, to communicate transparently and effectively.

In the United States (low PD culture) managers rely on their employees and team for expertise and expect to be consulted frequently. Communication tends to be informal and participative. This communication style also lends itself to transparency due to all team members having similar access to management. In contrast, India (high PD culture) is very comfortable with a “top down” hierarchical order in society and organizations. The boss is the power holder, provides direction, and expects loyalty in return from the employees.
Communication is top down and feedback, which is negative, is never offered up the ladder (Geert-Hofstede, n.d.).

Inherent in the two descriptions above, it is easy to see how the culture of each country impacts that ability to foster open and transparent communication. Transparency is a critical component to building trust. Trust of management support and visibility is required for the team to adapt and work effectively. The absence of trust impedes the development of the team; an absence of trust erodes relationships between teams and their managers.

As discussed in Chapter 2, Team B is a team with relatively long tenure and is working on a relatively mature product, yet still experiences some difficulties with delivery timelines and functionality. During one observation the team was struggling to meet a commitment. The reports to management reflected the actual state of progress; this showed the team was clearly behind schedule. When the manager presented the status to upper management, the state of the deliverable was questioned. The manager assured upper management that the deliverable would be met.

After this observation I had the opportunity to speak with the manager. Here is the that conversation:

**Interviewer:** “That’s great that the team is going to be able to pull in the deliverable. Based on the meeting this morning it looked like they had a significant roadblock.”

**Manager:** “What? The team still has the roadblock.”

**Interviewer:** “Oh, ok. Help me understand. Based on the team meeting this morning, they were discussing options to extend timelines or change functionality. Yet the report to upper management is that the release will be delivered on time with all committed features.”
MISCOMMUNICATION IN CROSS-CULTURAL TECHNOLOGY TEAMS

Manager: “We have made a commitment to customers. I can’t tell upper management we won’t meet the date.”

Interviewer: “The team cannot meet the date or the functionality. By committing to upper management, we aren’t being transparent and we aren’t supporting the team.”

Manager: “The team will just have to work harder.”

This exchange is an example of lack of transparency that leads to lack of confidence in teams. In this case the team was very comfortable communicating that the deadline and functionality were not achievable. The managers desire to “save face” represented by the high PD culture found commonly within Indian organizations has jeopardized the entire relationship of the team. This approach may ultimately backfire on the manager. Upper management will be disappointed with the manager’s ability to forecast team deliverables.

Approximately three days later there was another follow-up meeting scheduled with the team. The manager berated the team for “making him look bad” in front of upper management for missing the deadline and making the “company look bad.” I followed up the meeting with an additional conversation with the manager.

Interviewer: “It is just a thought; perhaps if we would have been more open about the true state of the delivery to upper management, we could have proactively reset expectations with our customers. By not sharing the actual state, we removed the upper management team’s capability to support the team and our customers.”

Manager: “That isn’t how it works. If I had told them the truth, they would have just expected me to make the team work harder.”

The example from Team B provides an opportunity to evaluate PD in action. In this situation, the team was struggling to meet their planned deadline for a future, customer facing
software release. The team had communicated to the manager the true state of the software, provided two options to the manager (either change the date, or adjust the scope of delivery) to present to upper management for guidance. The manager presented to upper management that the team was on target for delivery and no issues had been identified.

This was a perfect opportunity to capture additional information through an interview. The interview involved the manager that reported status. The manager is from India and is considered middle management.

<table>
<thead>
<tr>
<th>Country</th>
<th>Cultural Context</th>
<th>Cultural Traits</th>
<th>Traits Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>High</td>
<td>High PD, High LTO, Low IDV</td>
<td>High PD</td>
</tr>
</tbody>
</table>

The manager did not see an issue with the manner or content of the communication presented to upper management. In his mind, he was expected to give the answers that were provided. Using Hofstede’s analysis as a framework, upper management counts on the obedience of their team members. India’s, high PD culture, is comfortable with a “top down” hierarchical order in the organization. The boss is the power holder, provides direction, and expects loyalty in return. Communication is top down and feedback, which is negative, is never offered up the ladder. Based on the traditional hierarchical structure found in Indian organizations, upper management expects the manager to assure them that the team was performing as expected. In contrast to the high PD organizational expectations in India, the United States based upper management would have expected the manager to be forthright with the team’s actual status. US based managers rely on their employees and team for expertise and expect to be consulted frequently. Communication tends to be informal and participative. The conversation between management and the team would have typically transitioned from status to a brainstorming conversation that
allowed the upper management team, manager, and perhaps one or more of the team leads to collaborate on a solution to the potential delay of delivery.

By not presenting the true state of the team, the manager took away the ability for the upper management team to help make a business decision based on fact. This also impacted the relationship that the manager has with the team, as the team now knows that the manager does not show support for their needs to upper management. It is a difficult situation for the Indian manager. Performing as would be expected in an Indian organization versus an organization in the United States has caused upper management and the team to lose trust. This creates future communication dissonance in two ways:

1. Upper management will become more directive and potentially more probing when the manager provides status
2. The team will react by not sharing the “real” status because it doesn’t matter

In both cases, the communication challenges will grow within this team until the communication dynamic changes.

An additional example observed during the one-on-one interview further illustrates a cultural PD difference leading to communication dissonance. In this example the individual being interviewed is a software developer located in India. The firm he works with is a vendor partner to the target organization. His team has just recently switched to a new software development methodology as well as began supporting a new product.

<table>
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</table>

In this example, the team member communicated the following:
“Prior to my assignment to the team, the managers told us “how” to deliver functionality. In this new construct, we determine the “how” together. We feel it reflects poorly on us to ask questions of each other.”

Highlighted in Hofstede’s work is the directive approach taken in India to manage employees. These team members expect to be directed clearly as to their functions and what is expected of them. In this new software methodology that the team has been asked to use, the “team” comes up with the solutions. The manager plays a supporting role as opposed to a directing role. In the case of this interview that is obviously a difficulty for the team during this transition period. Team members from cultures high in PD also are familiar with a level of security that comes from a directive manager. The team felt vulnerable to show their struggles with the process in front of their manager, concerned it would represent a sign of weakness.

Not asking questions, in this situation, lead the stakeholders and team lead to further inspect the team’s capabilities. This process brought in further scrutiny to how the team was interacting and performing. While the intent of the United States based stakeholders was to help the team, it forced even-less transparent communication. The team has been asked to perform and deliver in a way that they are not yet comfortable with. The communication and transparency that the management team is requesting would have been viewed as insubordination within a typical Indian organizational structure. All of this can further communication dissonance by:

1. Causing the team to stop communicating to management.

2. Delaying the adoption of the new software methodology, creating further organizational scrutiny on the team’s performance.
3. Inhibiting the team’s ability to achieve cohesion, which is ultimately what is necessary for the team to get a strong voice.

Until the team understands the product and overcomes communication dissonance as a team unit, the communication challenges identified will continue to plague the team morale as well as the timeliness and quality of the software deliveries.

**High/Low Context**

Hall (1976) has identified that high-context cultures tend to be relational, collectivist, intuitive, and contemplative. This means that people in these cultures emphasize interpersonal relationships. Gathering background information sets the stage for relationship building with a member in a high-context culture. Developing trust is an important first step in any business transaction. In the context of interactions, words are not as important as context, which might include the speaker's tone of voice, facial expression, gestures, and posture. High context communication tends to be more indirect and more formal. High-context cultures typically utilize an indirect strategy for resolving conflict.

In contrast, low-context cultures are logical, linear, individualistic, and action-oriented. People from low-context cultures value logic, facts, and directness. Solving a problem means lining up the facts and evaluating one after another. Decisions are based on fact rather than intuition. Discussions end with actions. Communicators are expected to be straightforward, concise, and efficient in telling what action is expected (Hall, 1976).

Observations of Team A provided many examples of the difficulties a new team encounters with communication between two cultures. In the daily status meeting it was consistently observed that the onshore (low-context) team members would ask very direct
questions of the offshore (high-context) team members. During the observations of the daily standup, the following characteristics/behaviors were identified:

- Team lead has to call on team members by name to illicit responses
- Team lead has to seek out additional feedback from the team members to gather a true status of the work effort
- Onshore team members asked direct questions of the offshore team members
- Offshore team members spoke to the team but did not ask specific individuals questions directly
- When management team members are present on the call the team members say nothing
  - Team members literally acknowledge presence and make no other comments, even when called upon
- Team members respond to inquiries from other non-management team members but do not offer information in advance
- Team members do not clarify expectations of each other when discussing cross-team dependencies

The onshore team members were looking for detailed information at a very specific task level. The offshore team members were reporting status in a way that lacked specificity. This disconnect made the onshore team members feel as if their team members were “beating around the bush” or withholding information. The offshore team members were feeling challenged, perhaps even attacked or confronted, due to the direct nature of the questions. Making the situation more complicated, during the first ten days of observing these meetings, one or more managers were often present.
Individuals from high-context cultures as well as individuals that are new to the team did not share as much information. The team lead typically played a role to encourage team members to be heard and provided coaching. The impacts of communication dissonance was significant to Team A. The lack of clarity and transparency this team experienced during these status calls ultimately caused the team to miss deliveries of its first software release. This also impacted the quality and correctness of functionality that did not meet expectations on multiple items. The team’s inability to overcome dissonance and to communicate effectively did not allow for other non-impacted team members to respond to and address the issues that would have resulted in course correction.

Mum Effect

The mum effect or the “shoot the messenger” syndrome and the resulting filtering of information is one of many causes for an organization to not achieve its’ offshoring goals. Sajeev & Ramingwong identify the mum effect as an impact on perceptions of success (p. 120, 2010). As seen in the earlier discussions of PD, mum effect is an end result of the risk arising from people’s reluctance to communicate negative information interculturally. Three contributors to the mum effect are consistently found in globally distributed teams: communication dissonance, fear of consequences, and team solidarity (Sajeev & Ramingwong, p. 121, 2010). The survey and subsequent observation provided numerous examples of the mum effect. As was seen in the earlier example with PD, the mum effect can be driven by the expectations set by a very rigid hierarchical organizational structure, found in India. Following are two examples that compare and contrast intercultural effectiveness across Team A and Team B.

Team A exemplifies the mum effect in the following ways:
• Offshore team members are not forthcoming with detailed information
• Onshore team members call upon offshore team members to provide specific updates
• When management (either onshore or offshore) is on the phone the offshore team members do not speak up, other than to be identified through a roll call

Team A exhibits greater communication dissonance among its team members. There are observable disconnects between the way onshore and offshore team members address each other. The onshore team members continue to be very direct, creating an unintended adversarial relationship. The offshore team members are retreating from this type of visible engagement.

When any management team member is on the phone, the offshore team members are absolutely silent. As identified in Chapter 2, a common cause of the mum effect is an end result of the high-context cultures low quotient for individualism (IDV). It is more important for team cohesion than it is for an individual to be heard. Speaking up to identify a problem in high-context culture has the ability to damage relationships that have been built among the teammates and bring disgrace to the team. This dynamic is often generically referred to as “saving face.”

This silence creates a lack of confidence and trust from the onshore management team requiring them to get more involved and more direct, causing the team to retreat further. Increased cultural competency across teams would help reduce impacts of the mum effect in the future.

As a result of these observations, further information was gathered through two interviews with team members. There were two areas of focus:

• When management team members are present on the call the team members say nothing
• Team members do not clarify expectations of each other when discussing cross-team dependencies
In order to capture additional information on the behavior when management team members were present one team member was interviewed that had been noticeably quiet, yet was working on a critical piece of the requirements. The team member is a software developer from India.

<table>
<thead>
<tr>
<th>Country</th>
<th>Cultural Context</th>
<th>Cultural Traits</th>
<th>Traits Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>High</td>
<td>High PD, High LTO, Low IDV</td>
<td>High PD, High LTO, Low IDV</td>
</tr>
</tbody>
</table>

The manager involved in the calls is from the United States.

<table>
<thead>
<tr>
<th>Country</th>
<th>Cultural Context</th>
<th>Cultural Traits</th>
<th>Traits Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Low</td>
<td>Low PD, Low LTO, High IDV</td>
<td>Low PD, Low LTO, High IDV</td>
</tr>
</tbody>
</table>

During the interview, the Indian team member confided that there is a lack of trust between the Indian team and the U.S. managers.

Team Member: “Prior to my assignment to the team, the managers told us “how” to deliver functionality. In this new construct, we determine the “how” together. We feel it reflects poorly on us to ask questions of each other.”

We discussed the resulting dynamic from not seeking out clarification. A failed software delivery or unacceptable functionality. The end result of this is usually deeper scrutiny. It appeared that the lack of transparency was a self-fulfilling prophecy to failed delivery.

Team Member: “We do ask questions. When we are on calls with management, we IM each other with our questions as opposed to speaking up. We think we understand what we committed to but we need to be better at tracking our clarifications.”
This behavior shows an improvement in overcoming communication dissonance; however, it continues to lack transparency needed to gain the support and trust of management. The same questions were posed to the development team lead.

<table>
<thead>
<tr>
<th>Country</th>
<th>Cultural Context</th>
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<th>Traits Observed</th>
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<td>High PD, High LTO, Low IDV</td>
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</tr>
</tbody>
</table>

The responses supported the assertions made by the team member above. The team lead did have some additional ideas for helping the team become successful at achieving goals. These suggestions are beyond the scope of this study as they pertain to adjusting the process around software development and not addressing specific communication items. However, the end result of the recommended changes should drive additional communication interactions and checkpoints for Team A.

Team B’s communication on the daily status calls is much more engaged and does not manifest the mum effect. The team members do not need to be called upon for status, they actively share information. Regardless of onshore or offshore location the team members all share with a similar level of specificity. The members collaborate within the team to try to solve issues amongst themselves. If an amicable solution isn’t identified, the team quickly engages management. This behavior shows a team with greater intercultural competency. In addition, it shows that the team has been successful at avoiding the mum effect and building relationships that help high-context team members feel safe to speak up in spite of their low IDV tendencies associated with high-context cultures.
By engaging the management team early, Team B has built trust with the management team. This allows Team B to operate with a level of autonomy because management trusts that they will be engaged as soon as the team identifies a potential issue.

**Discussion**

The online survey, observations, and interviews allowed for data triangulation from many points. Even though each culture is characterized as high-context and low-context, each team exhibits behaviors that fall somewhere along the spectrum of the two contexts. Less interculturally competent teams have exhibited behaviors, closer to the “norms” as described by Hall and Hofstede. The limited evidence gathered in this study suggest that the more interculturally competent teams may have succeeded in establishing relationships that allow them to minimize cultural differences.

*RQ1: What patterns of intercultural miscommunication occur between onshore and offshore teams within the target organization?*

The survey exposed patterns of miscommunication among the globally distributed software development. Further observations of the teams provided deeper examples of intercultural dissonance within both Team A and B.

Observations of team members getting frustrated during status calls was common among Team A participants. As identified in both the high/low-context and mum effect sections above, the onshore team members were very direct with the offshore counterparts. This is an uncomfortable dynamic that caused the offshore team members to become even quieter and less engaged in communication. This approach ultimately creates a cyclical effect that doesn’t support the needs of the team and further impacts transparency.
As discussed in the mum effect analysis, the onshore team members direct questioning makes the offshore team members retreat. Lack of resolution to shrink this communication/cultural disconnect will cause future communication difficulty within this team if left unaddressed. Team B does not exhibit as much of a communication disconnect, or mum effect between the onshore and offshore team members.

Team A also exhibited strong dissonance around PD dynamics. In the observed status calls where team members would not speak up if management was on the phone and when the team members would not ask or respond to direct inquiries. In our analysis on PD earlier, Hofstede identified, India’s, high PD culture, is comfortable with a “top down” hierarchical order in the organization. The boss is the power holder, provides direction, and expects loyalty in return. Communication is top down and feedback, which is negative, is never offered up the ladder. If a team member is hesitant to show that they don’t know how to solve a problem, chances are they aren’t going to make anyone aware the problem exists. This can result in the team member struggling through a problem on their own and in turn miss timelines or deliverables as an end result. In contrast, Team B exhibited less hesitancy; however, the Indian manager involved still exhibits cultural values linked to high PD, by limiting disclosure to upper management. This relationship dynamic must be addressed to not further impact the relationship between the team members and upper management. This is especially problematic because US (low PD) based management team members expect communication to disclose the team’s actual status. US based managers rely on their employees and team for expertise and expect to be consulted frequently.
RQ2: How effective or successful are existing organizational practices, which are designed to overcome or minimize existing patterns of miscommunication, to create shared meanings, between onshore and offshore teams?

At this time, there are no existing organizational practices that mandate or identify ways to overcome communication challenges. As with most globally distributed software teams, the only documented communication strategies deal with the actual logistics of communication (conference call lines, chat, video conferencing, etc.). There are many documented practices to follow around software development, project management, and releasing software. No documented best practices exist to achieve success in a “soft” skill, like communication. It is unfortunate; this skill is critical to the success of all of the other processes within the organization. There is one training class offered that deals specifically with communication. This training course is an on-line self-paced course to be taken by management team members or candidates. It is not a course that is offered to technology team members nor is it rigorous enough to address identified intercultural communication dynamics between onshore and offshore team members.

Within the limited scope of this study, Team A and Team B were evaluated on characteristics and intercultural competence. Both teams have areas of intercultural competence that can be improved, Team B is more interculturally competent and all team members have had prior globally distributed team experience and have identified methods of communication that work best for them. Based on this limited observation, those team members have moved on to other teams, and have taken with them previously learned best practices and applied those to their new team, furthering intercultural competence across the organization. Evaluation of
current, or prior, teams often show commonality among the team members involved in successful projects.
Limitations of the Study

Every research study has limitations that are inherent in design and execution. This study is not an exception. As with any form of survey distribution, internet surveys have limitations. An online survey can only reach a target audience that uses an e-mail account, as well as those participants that have access to the website SurveyMonkey.com. Anonymity for the respondents was a key area of concern within the target organization. Individuals, while invited, had the opportunity to choose whether or not to participate.

There were 49 globally distributed software technology team members invited to participate in the survey, the number of respondents totaled 40. This is a very high response rate allowing for statistical inference applied to a larger organizational subsection of globally distributed software technology teams. However, the demographic data of the survey respondents indicated that almost one third categorized themselves in a manager role. The survey was originally distributed to four management team members (less than 10 percent). As such; further investigation is required to understand if there is a role association issue or, if the survey was distributed to individuals beyond the scope of the original invitation.

With one third of the respondents self-identifying as managers, this most likely affects and skews the responses collected in the survey regarding the communication practices between team members. Managers typically do not participate in day-to-day interactions with the teams and would have a slightly different perspective on communication. Unfortunately, a lack of clear understanding of why the manager role came in at such a high-percentage may minimize the
ability to thoroughly extrapolate the results across what should have been a more diverse population.

The target organization embraces an onshore/offshore model that has an approximate ratio of 60 percent offshore and 40 percent onshore. Given the high number of respondents (70 percent) identified their country as the United States, this may also be attributed to the survey being forwarded to a wider than intended audience. The expected quantity of United States respondents should have been closer to 40 percent.

For practical and logistical reasons, the study did not include specific research around the use of metaphors and creating shared meaning. As discussed earlier there are two common metaphors that are often used to study intercultural dissonance within technology teams: conduit metaphor and games and dialogues metaphor. In order for metaphors to be established and effectiveness toward intercultural competence to be measured additional time and research is required. Establishing a metaphor is part of the relationship building process that occurs among the team members. Previous studies showed that teams that create shared meaning through the use of these metaphors become more interculturally competent and effective over time. These metaphors can further the team’s intercultural competency and trust as well as establish a vocabulary and a process for working together as a cohesive unit.

Furthermore, this study was designed to evaluate the intercultural communication dissonance between cross-cultural technology team members; it did not address communication dissonance within teams regardless of location. The study did not address, or highlight, communication dissonance among high-context and low-context culture team members currently residing in the same country. It also did not assess the reasons behind one team being more interculturally competent and effective than the other.
The study was also limited in that only two teams across a very large organization were studied. While the data captured suggests that there are varying levels of intercultural competence, more teams would need to be evaluated to determine patterns that exist within the organization. Evaluation of that data would identify the most effective patterns that lead to improved cross-cultural communication within globally distributed software teams.

**Recommendations for Further Studies**

One area for further research is around communication competency. Over one-third of the respondents rate overall communication as bad or average, yet when asked specific questions, the individual responses received fairly high scores. In order to achieve a high level of effectiveness teams must establish communication metaphors. As was identified by Walton, addressing the issues resulting around building trust in a globally distributed team along with the use of communication metaphors can assist in creating shared meanings. The lack of face-to-face communication exacerbates this problem (Walton, 2013). Further research to identify the individual communication characteristics that respondents used to determine if a communication behavior is “good” or “poor” is required. Specificity around the types of communication, and the message content, as well as the characteristics of what makes aspects of communication “good” or “poor” would reveal further characteristics of intercultural communication dissonance. As identified earlier, the large number of manager respondents may be skewing results, as they tend to be less focused on the details and more focused on the bigger picture.

An additional study specific to the use of metaphors and associated impact to intercultural dissonance and the overcoming of dissonance is worthy of research. This research would seek to understand what metaphors exist within a team; it would seek to identify if and how teams might or have employed metaphors to improve a team’s intercultural competency.
This knowledge can help inform the development of techniques for fostering intercultural competence based around the development of shared metaphors.

**Conclusions**

This research (RQ1) sought to identify patterns of intercultural communication dissonance within globally distributed software teams. All three methods of data capture identified varying levels of intercultural competence as it pertains to communication. The participant observation more specifically addressed intercultural communication issues one-on-one giving the interviewer and the team member an opportunity to dive into the specifics around a given scenario.

When two diverse cultures are brought together, there is opportunity for miscommunication and misinterpretation. There are different levels of impact to the team dynamic because each individual within a culture exhibits the characteristics of that culture in varying degrees. In the case of the United States and India there is a significant difference in at least three components of culture that cause difficulties. The low-context communication style of the United States causes difficulty when communicating with a high-context Indian culture in many ways. Communication from a team in the United States tends to be very specific and directive, causing India team members to often feel as if they are being told what to do and that their input isn’t valued or necessary. In contrast, team members in India would typically go about the task of building team cohesion and rapport before actually starting to work. This approach, as a result of the high context Indian culture that sees value in time invested to form the “group” is frustrating to their United States counterparts that tend to value getting to the task over team cohesion.
India is also very high on the PD scale (above 70 on a scale of 100) while the United States is low on the PD scale (below 40). If the manner in which the team will operate is not overtly discussed among the team members, high PD Indian cultural norms will dictate a relatively muted, and seemingly less than forthright communication style by Indian managers and team-members, at least as it’s perceived by US-based upper-management. In a steep Indian organizational structure, it is expected that employees will do what is asked of them. In order to not bring disgrace to their team, team members often find it difficult to speak up to identify issues in achieving their goal. This is a side effect of high PD organizational structures. In the United States, a team member that is aware of an issue that does not bring this to the attention of management is criticized for lacking candor and transparency.

These types of intercultural issues impact a team’s ability to overcome intercultural communication challenges.

Observed during the survey as well as the subsequent observations and interviews, the mum effect also reflects and exacerbates intercultural dissonance. Each of the observed teams exhibited varying levels of the mum effect. It is a cycle that will continue to impede team effectiveness and none of the team members, regardless of role or location, recognized that this was a problem that needed to be addressed.

The teams all use various technologies to perform the act of communicating; however, those communications do not solve for existing intercultural miscommunication issues between the team members. In both teams observed there were intercultural communication challenges as well as team dynamic issues. Team B exhibited greater intercultural competence than Team A. This would imply that there are factors yet to-be-determined that extend beyond those identified in impacting the quality and cohesion of cross-cultural teams.
This study does not address the ability for an organization to build and deploy a model that serves as a communication training tool for globally distributed teams. However, in order to fully realize the success of the globally distributed software model, the target organization needs to establish a training curriculum that teaches new teams how to develop better intercultural competency; enabling them to identify and work through intercultural communication issues.
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MISCOMMUNICATION IN CROSS-CULTURAL TECHNOLOGY TEAMS


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10.1108/01409171211190788
MISCOMMUNICATION IN CROSS-CULTURAL TECHNOLOGY TEAMS


# Appendix A

## Four Phases of Offshore Communication

### Communication Metaphors-in-use

<table>
<thead>
<tr>
<th>1 Pilot</th>
<th>2 Start up</th>
<th>3 Umbrella-Isolated Systems</th>
<th>4 Partnership–Full Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduit</td>
<td>Conduit &amp; Dialogue</td>
<td>Conduit &amp; Dialogue</td>
<td>Dialogue &amp; Games</td>
</tr>
</tbody>
</table>

### Technical Communication & Maturity Differences

- **CMII level 4**
- **Specification requirements**
- **Independent applications developed offshore in black box mode**
- **Reverse engineering of previous system**
- **Increased formalization at PBS**
- **Business requirements (40%)**
- **Documentation increased; library systems, progress reports, services orders, specification changes**

### Cultural Conflicts

- **Indians time and budget kept firm, give slack on specifications**
- **Danes: keep specifications firm, give slack on time and budget**
- **Indians use Tri-Rupia reasoning**
- **Danes use deductive reasoning**
- **Indians brought on-site change behavior when returning to own culture**

### Moderating Variables

<table>
<thead>
<tr>
<th>Organizational Coordination</th>
<th>PBS</th>
<th>Division of Labor</th>
<th>Contractual Form</th>
<th>Contract and Incentive Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly status meetings</td>
<td>PBS</td>
<td>Initial requirements Vendor</td>
<td>Test</td>
<td>Fixed price</td>
</tr>
<tr>
<td>On-site visits in both Denmark and India</td>
<td>PBS</td>
<td>Detailed requirements Vendor</td>
<td>Standard</td>
<td>Hourly</td>
</tr>
<tr>
<td>On-site visits in both Denmark and India</td>
<td>PBS</td>
<td>Systems integration Vendor</td>
<td>Frame</td>
<td></td>
</tr>
<tr>
<td>Daily video conferencing</td>
<td>PBS</td>
<td>Systems integration Vendor</td>
<td>Partnership</td>
<td></td>
</tr>
<tr>
<td>L&amp;T Liaisons (10% of all hours) on-site at PBS with over 1 year experience dealing with Danes</td>
<td>Vendor</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Appendix B

### Online Survey

### Offshore and Onshore Team Communication Opportunities

1. **What is the job title for your current position?**
   - [ ] Agile Coach
   - [ ] Agile Trainer
   - [ ] Business Analyst
   - [ ] Developer
   - [ ] Manager
   - [ ] Project Manager
   - [ ] Quality Assurance
   - [ ] Scrum Master
   - [ ] Systems Analyst
   - [ ] Other (please specify)

2. **About how long have you been in your current position?**
   - Years
   - Months

3. **What country are you located in (considered as permanent work location)?**
   - [ ] Australia
   - [ ] Canada
   - [ ] India
   - [ ] United Kingdom
   - [ ] United States
   - [ ] Other (please specify)
**Offshore and Onshore Team Communication Opportunities**

4. How many project teams, on average, do you work with?
   - ○ 1
   - ○ 2 - 3
   - ○ 4 - 6
   - Other (please specify)

5. Thinking historically, how many project teams have you worked with that employ the onshore offshore model?

6. Are your team members co-located?
   Meaning, are all of your team members that you work with located in the same office?
   - ○ Yes
   - ○ No
   - Other (please specify)

7. If you answered "No" to the previous question, in what country are your team members located?
   Select all that apply.
   - □ Australia
   - □ Canada
   - □ India
   - □ United States
   - □ Other (please specify)
8. **What technology do you leverage to work with your team members?**
   - [ ] Email
   - [ ] Video Chat
   - [ ] Teleconference
   - [ ] IM
   - Other (please specify) [ ]

9. **Is your technology preference for communicating among team members different when working with onshore vs. offshore team members?**
   - [ ] Yes
   - [ ] No

10. **If you answered yes to the previous question, please identify your communication/collaboration preferences below.**

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**Offshore and Onshore Team Communication Opportunities**

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**Offshore and Onshore Team Communication Opportunities**

Please select one of your onshore offshore teams to answer the remaining questions. Keeping the team dynamic in mind as you navigate the remainder of the survey. Thank you.

11. How long have you been a member of this team?
   - [ ] Brand new team member (less than 3 months)
   - [ ] 3 - 6 months
   - [ ] 6 - 12 months
   - [ ] 1 - 2 years
   - [ ] > 2 years
   - Other (please specify)

   

12. How would you rate the level of communication?
   - [ ] Very Good
   - [ ] Good
   - [ ] Average
   - [ ] Poor
   - [ ] Very Poor

13. What factors do you think impact communication across team members?

   

14. What communication challenges have you experienced between onshore and offshore teams?

   

15. Has the type and manner of communication changed between team members? How does the manner of communication today compare to when you started on the team?
16. Please rate the quality of each aspect of communication.

<table>
<thead>
<tr>
<th>Written Communication</th>
<th>Good</th>
<th>Fair</th>
<th>Average</th>
<th>Needs Improvement</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Cohesion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal team commitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rework created by communication challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbal Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. How does the team seek out information in order to groom backlog items for storypointing?


18. When the team encounters an item in a sprint that cannot be completed because it is larger than originally estimated, how does the team resolve this issue?

- [ ] Extend the sprint
- [ ] Split the work between sprints
- [ ] Work with the Product Owner to confirm priority
- [ ] Identify ways to spread the work across multiple people
- [ ] Work extended hours to complete
- [ ] Other (please specify)

19. The team is one-week into a two-week sprint. It is identified that there isn't enough time to complete both the development and QA efforts on one or more items. What do you do?

- [ ] Tell the Product Owner
- [ ] Discuss as a Team
- [ ] Tell the ScrumMaster
- [ ] Identify items not yet started and move to the next sprint
- [ ] Work late and/or through the weekend to complete
- [ ] Other (please specify)
Some of you may be aware that I am pursuing a degree from Gonzaga University (www.gonzaga.edu). Over recent years I have partnered with you and your teams in various forms. Either rolling out Agile, dealing with knowledge transfer and acquisition, creating new products and sunsetting old, and working through opportunities presented by globally distributed teams.

My thesis studies communication opportunities encountered between globally distributed teams from both the offshore and onshore team member perspective. In order to gather data for a portion of my thesis I am conducting an anonymous survey. The survey is very brief and should not take more than 10 minutes of your time. If you feel comfortable, I'd appreciate your assistance and time to complete the anonymous survey via Survey Monkey, by clicking the following link: https://www.surveymonkey.com/s/GlobalCommSurvey.

Thank you in advance for your time and support in capturing this data.