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Communication Constructs That Influence Information Technology Project Failure

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This is to certify that the doctoral dissertation by

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2015

Abstract

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That Influence Information Technology Project Failure

by

Vanessa Mackey

MISM, Walden University, 2010

BS, University of Arkansas at Pine Bluff, 1977

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Ineffective communication behavioral constructs in the workplace that lead to information technology (IT) project failure and in some cases organization failure are increasingly becoming a management concern. Despite this trend, there is little research on the communication behavioral constructs that contribute to IT project failure rates. The purpose of this phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the behavioral constructs associated with effective and ineffective communication. The research questions addressed these behaviors from a conceptual framework based on communication theory, organizational information processing theory, and critical social theory. This framework guided data collection using electronic interviews of a snowball sample of social media participants. Data were coded using open and axial techniques, analyzed for themes and patterns, and member checked to bolster trustworthiness. Findings included 10 communication behavioral constructs that influence communication in IT software development teams. Included in the findings were potential options for improving communication among end users, management, programmers, and other employees. Recommendations to improve communication among stakeholders included involvement of the correct stakeholders, clear project requirements, frequent communication, active listening, and feedback. Other recommendations were stakeholder education and training, and knowledge of goals and processes. Implications for positive social change could be realized by using the findings to improve the way communication is addressed, shared, and implemented to reduce IT project failure for stakeholders.

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Dedication

My research is dedicated to my loving husband, Jake; my son, Johnnie; my stepdaughters, Venisa, Bridgette, and Monica; my stepson, Clinton; my special cousins and their families; my best friend, Lenita; my grandchildren and other family members for their love, endurance, and support throughout the journey. I dedicate this work to my late parents, Wilton and Johnnie Woodard; my grandparents, John and Ruth Gault and Henry and Alberta Woodard; and my in-laws, Morris and Lillie Mackey for their love, encouragement, work ethic, and discipline they instilled in me from a child into adulthood. To everyone, I thank you and love you.

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Table of Contents

List of Tables vi

List of Figures vii

Chapter 1: Introduction to the Study 1

Background of the Study 1

Problem Statement 6

Purpose of the Study 7

Research Questions 8

Conceptual Framework 8

Nature of the Study 10

Definition of Terms 11

Assumptions 11

Scope and Delimitations 12

Limitations 12

Significance 13

Significance to Practice 13

Significance to Theory 15

Significance to Social Change 15

Summary 17

Chapter 2: Literature Review 19

Literature Search Strategy 19

Conceptual Framework 20

Literature Review....21
Human Behavior Influence on Communication 21
Gender Influence on Communication 23
Technology Influence on Communication.... 23
Communication Style Influence on Communication.... 24
Organization Infrastructure Influence on Communication 25
Conflict Management Influence on Communication.... 26
Leadership Influence on Communication 27
Sustainability Influence on Communication.... 29
Virtual Environments Influence on Communication 30
Verbal Communication Behaviors Influence on Communication.... 31
Relationship Management Influence on Communication.... 33
The Net Generation and the Educational Influence on Communication 34
Customer Relationship Management and Influence on Communication 36
Virtual Environments the Project Team and Influence on Communication.... 36
Information Security Risks and Influence on Communication.... 37
Outsourcing Virtual Organizations and Influence on Communication 38
Project Management and the Influence of Communication 38
Requirements Gathering and the Influence of Communication 39
Summary and Conclusions 39
Chapter 3: Research Method....41
Research Design and Rationale 42

Role of the Researcher 45
Methodology 45
Participant Recruitment Process 45
Population 46
Sampling Procedure and Sample Size 46
Data Collection Technique and Protocol 47
Data Analysis Techniques 48
Pilot Study 49
Issues of Trustworthiness 50
Credibility 50
Transferability 50
Dependability 51
Confirmability 51
Ethical Procedures 52
Participant Informed Consent 52
Summary 52
Chapter 4: Results 54
Pilot Study 54
Research Setting 55
Demographics 55
Data Collection 60
Data Analysis 62

Evidence of Trustworthiness....63
Credibility....63
Transferability....63
Dependability....64
Confirmability....64
Research Results....65
Theme 1: Effective Communication Requirements....73
Theme 2: Factors Influencing Ineffective Communication....74
Theme 3: People....75
Theme 4: Business Procedures and Processes....77
Theme 5: Project Management....79
Theme 6: Vendor Management....80
Theme 7: Risk Management....81
Theme 8: Education and Training....82
Theme 9: Cost....83
Summary....83
Chapter 5: Discussion, Conclusions, and Recommendations....85
Interpretation of the Findings....85
Limitations of the Study....96
Recommendations....96
Implications....99
Conclusions....100

References 102

Appendix A: Communication Behaviors or Constructs 116

Appendix B: Interview Questions 117

Appendix C: Conceptual Models 131

Appendix D: Data Coding of Participant Transcripts 133

Appendix E: Participation Survey Request E-Mail - Actual Study 142

Appendix F: Data Collection Protocol 144

Appendix G: Informed Consent Form Actual Study 149

Appendix H: Participant Request Letter - Pilot Study 154

Appendix I: Informed Consent Form – Pilot Study 156

Appendix J: SurveyMonkey Participant Questionnaire 161

Appendix K: Communication Behaviors or Constructs Percentages 164

Appendix L: Participant Request Letter - Actual Study 165

Appendix M: Participation Survey Request E-Mail - Pilot Study 167

Appendix N: Participant Thank You Letter - Actual Study 169

Appendix O: Participant Thank You Letter - Pilot Study 170

List of Tables

Table 1. Participant Job Title and Responsibility .....……58

Table 2. Participant Type of Communication and Frequency .....…….59

Table 3. Developed Codes Using Manual and NVivo 10 Coding....…….…….....67

Table 4. Ten Communication Behaviors or Constructs.....……..…….……69

Table 5. Effective Communication Requirements.....……....73

Table 6. Factors Influencing Ineffective Communication .....…….…….…..……75

Table 7. People.....…….77

Table 8. Business Procedures and Processes .....……78

Table 9. Project Management .....……...80

Table 10. Risk Management .....…….....82

Table 11. Education and Training.....…….....82

List of Figures

Figure 1. Conceptual model of organization processing theory that influences communication.....131

Figure 2. Conceptual model of critical social theory that influences communication.....132

Figure 3. Communication behaviors or constructs percentages 163

Chapter 1: Introduction to the Study

Effective communication is a key requirement for organizations to remain learning, competitive, and sustainable organizations. Ineffective communication threatens organization performance, morale, productivity, leadership, competitive advantage, bottom line profits, and sustainability. The focus of this study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to communication behaviors or constructs associated with ineffective communication. This chapter includes the background of the study, the theoretical or conceptual framework for the study, definition of terms, scope and delimitations, limitations, research questions, and the significance of the study.

Background of the Study

Information technology (IT) organization leaders understand communication is at the center of decision-making and problem solving. This understanding does not lead to effective communication in all IT projects. A communication failure within IT can be a major concern. When two or more people are engaged in discussing a topic and there is shared meaning, understanding, feedback, and learning, this exchange is considered as communication (Smart, Witt, & Scott, 2012). Although organization leadership and project team members understand the importance of effective communication, this understanding does not mean communication is always effective between the people involved in communicating. Effective communication behavior or constructs help employees to address complex, confusing dialogues and conflicting situations at multiple levels throughout the organization leadership team, project team, end users, business

partners, and among employees and to solve problems (De Vries, Bakker-Pieper, & Oostenveld, 2010). Understanding the reasons behind miscommunications can help organization leadership to implement improved communication plans, educate employees on effective communication strategies, and assist in the development of methods to improve employee communication skills.

Verbal and nonverbal communication can be challenging. One-directional, two-directional, and participatory communication models depict the communication process but there is a lack of understanding the reason for the communication failure when models are used. There is evidence in the literature that project teams work on multiple projects at the same time and communicate in virtual and face-to-face environments (Weimann, Hinz, Scott, & Pollock, 2010), but there are not ample studies that address the problems with communication behavior or constructs associated with virtual and face-to-face work environments (Maynard, Mathieu, Rapp, & Gilson, 2012) that impede effective communication. Effective communication skills and models (Robson & Robinson, 2013) are required for project teams to learn, share information, and negotiate regardless of the work environment being virtual or face-to-face. Organization leadership understand that project teams can be faced with obstacles in virtual and face-to-face work environments causing ineffective communication, ranging from cultural differences to emotional intelligence and lack of skills, but developing strategies to combat those obstacles is not an easy task. More understanding from the perspective of the employee for inclusion in revisions to communication skills training, plans, and models could be advantageous in improving communication.

There is a need for effective communication in IT project development and implementation, but projects continue to fall short of success and IT management, business analysts, programmers, programmer analysts and end users have a need to understand why and how poor communication contributes to this shortfall. The literature supports the facts that IT projects continue to fail due to poor communication and ineffective communication strategies and practices (Charette, 2005; Dyer, 2006; Petersen, Bjoernes, & Bertelsen, 2010). A prime reason for IT project failure is poor communication between project developers, end users, and management (Charette, 2005; Neimat, 2005) and due to people lacking appropriate communication skills (Al-Ahmad, Al-Fagih, Khanfar, Alsamara, Abuleil, & Abu-Salem, 2009). IT project failure cost in the United States is estimated to be about $60 billion to $70 billion (Charette, 2005). The cost of software maintenance to fix software errors is estimated to be 100 times higher than implementing software that works, solves the problem, and meets the needs of the user the first time implemented (Charette, 2005). Software project failures can cause organization failures as seen in 1996 with FoxMeyer Drug Company, a $5 billion wholesale drug distribution company that was forced into bankruptcy (Charette, 2005). The IT Cortex agency (2012) found through surveying IT project managers that project failures were attributed to missed deadlines (75%), over budget (55%), ineffective communication (40%), and inadequate project requirements (37%). Communication and collaboration from the start to the end of projects needs to be effective for success (Dilmaghani & Dibble, 2012). One possible explanation for project failure is that the directives for software development are decided prior to discussions with the business

analysts, programmers, and programmer analysts and their perspectives are not part of the initial decision for development. This explanation could account for the ineffective communication statistics documented in the literature. Communication and collaboration are important in initial decisions and all the stakeholders should be involved.

The importance of stakeholder involvement in communication and collaboration means all stakeholders, not just management and core users. Business analysts, programmers, and programmer analysts are stakeholders. Communication and information sharing are an important component within an organization to sustain competitive advantage and develop new innovated projects (Jabar, Yeong, & Sidi, 2012). Improvements in communication techniques and skills are needed to develop solutions that work for educational problems, to forge better doctor and patient relationships in medicine, to understand and solve climate change problems, to manage big data issues, to address poverty issues faster, to create innovated solutions to problems, and to effect social change. A critical component in communication strategy and practice is to understand the communication style of other team players and the individual communication style (Edmondson, 2009). Communication occurs in multiple forms; it can be expressive, systematic, and direct and influence how information is given and perceived (Edmondson, 2009). Understanding the mental and emotional state of the communicator and understanding why certain behaviors impede communication is important for management decisions on appropriate communication plans. Yukl (2012) discussed "hierarchical behavior taxonomy that includes the four behavioral groupings task-oriented, relations oriented, change oriented, and external" (p. 68). Communication

content, the attitude of the communicator, and the behavior exhibited are important during the exchange of information (Žemgulienė, 2012). Effective communication is important to design, develop, and implement successful IT projects (Petersen, Bjoernes, & Bertelsen, 2010). The IT developers receive requirements from organization management, project leads, end users, and other team members to develop software applications, but somehow these instructions are not understood, resulting in IT project failure. However, stating that poor communication leads to IT project failure is not enough explanation. Exploring the reasons behind poor communication leading to IT project failures from the perspective of people actually developing, coding, testing, implementing, and supporting the software applications provides a means to develop a new approach to communication.

Looking at the reasons behind poor communication within a group of key players in software development and implementation can facilitate more understanding of communication practices used and how to improve communication skills. There is support for addressing the communication problem within IT and information systems (IS) through a behavioral mode of thinking (Hadar & Leron, 2008; Yukl, 2012). The literature is extensive on discussions concerning communication behaviors or constructs and shows that communication is a factor in IT project failures; the gap in the literature is the lack of understanding the communication behavior or constructs exhibited by the people involved when communicating on IT projects and the association to ineffective communication leading to IT project failure (Hadar & Leron, 2008). This study covers the examination of 10 communication behaviors or constructs associated with ineffective

communication (see Appendix A). These 10 communication behaviors or constructs include supportive, authoritative, disruptive, collaborative, cooperative, insubordinate, advocate teamwork, good listener, champion feedback, and passive. This list of behaviors or constructs is not exhaustive; there may be other behaviors or constructs for future exploration. I selected these 10 communication behaviors or constructs as having an association with IT project communication issues based on the literature reviewed.

Understanding ineffective communication is important to develop new strategies and guidelines for communicators to improve performance, productivity, organizational morale, and to promote social change in a world where communication breakdowns can cause unpredictable consequences. Improved communication facilitates solving problems within organizations, and possibly within communities and families, leading to positive social change.

Problem Statement

The problem was a lack of information specific to business analysts', programmers', and programmer analysts' behavioral and communication constructs that contribute to IT project failure rates when working on an IT software development project with the assigned responsibility of performing analysis, requirements gathering, coding, testing, project management, implementation, quality control, or production support. There was a problem with communication behaviors or constructs according to the statistics on project failures documented in the literature. Statistics on the reasons for IT project failures indicate that 57% of IT project failures are due to 40% ineffective communication (IT Cortex, 2012). These statistics warrant exploring the reasons behind

the communication problems. Abbas and Sanavullah (2008) stressed that one out of six IT software projects is successful. Ninety percent of managers (Grenny, Maxfield, & Shimberg, 2008) believed communication problems influence and cause organization behavioral issues. These managers called the problem of ineffective communication within these organizations a cancer (Grenny et al. 2008) and organizations that have effective communication are 2.5 times more likely to garner success over competitors (Merrell, 2012). The problem of ineffective communication warrants a closer exploration of the true meaning of poor communication and the dynamics that influence communication effectiveness from a behavioral perspective.

Purpose of the Study

The purpose of this qualitative phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. Exploring and understanding the lived experiences of business analysts, programmers, and programmer analysts will assist to provide additional understanding to use in improving communication. Interviewing at the individual business analyst, programmer, and programmer analyst level provides a means to understand communication behavioral aspects from their point of view. The SurveyMonkey questions addressed the perspective of the participants concerning information sharing from management, information sharing among team members, and strategic direction of the organization in reference to the communication plan for IT projects.

Research Questions

The research questions pertained to communication behaviors or constructs that cause verbal and nonverbal communication to be effective or ineffective. Neufeld, Zeying, and Yulin (2010) defined communication effectiveness as a shared understanding. Ineffective communication can be the reverse of the (Neufeld et al. 2010) definition in that ineffective communication occurs when there is not a shared understanding. Chen (2011) defined a behavior as a correlation of attitude, action, interaction, and reaction. The business analyst, programmer, and programmer analyst communicator was the individual unit of analysis or primary participant in the study. A questionnaire containing open-ended questions pertaining to communication behaviors or constructs related to poor communication was used to gather data. Questions 1-6 were descriptive characteristics, 7-16 were derived from the first research question, and 17 were derived from the second research question (see Appendix B).

RQ1: What do business analysts, programmers, and programmer analysts believe are the root causes of poor communication in the IT workplace that could lead to IT project failure?

RQ2: What do business analysts, programmers, and programmer analysts believe organization leadership should do to improve poor communication in the IT workplace?

Conceptual Framework

There are multiple components that feed into whether communication is effective or ineffective, thus requiring the use of three theories. The theoretical or conceptual

framework is based on communication theory or CT, organizational information processing theory or OIPT, and critical social theory or CST (Farazmand, 2003; Goodhue, Wybo, & Kirsch, 1992; Lee, Y., Lee, Z., & Gosain, 2004). The conceptual framework depicts the areas that communication takes place within the IT work environment between business analyst, programmer, or programmer analyst and serves as reinforcement to the argument of the role of theories that reinforce the processes and learning within the organization structure (see Appendix C). CT and OIPT theories are the foundational frameworks in studies that govern system development across cultural boundaries. These theories are the premise for the study of communication, leadership, culture, and disorder within organizations at all levels of management and disorder within software and hardware implementations. CT is the study of the disorder within some phenomena, which includes communication. CT is used in a wide range of domains and across disciplines to understand (Guo, Vogel, Zhou, Zhang, & Chen, 2009) the behavior of individuals when faced with chaotic problems that include how systems, people, and processes operate or fail to operate in the world and in IT and IS. These theories provide a means to base the exploration of communication behaviors or constructs that influence IT project failure.

The CT, OIPT, and CST theories provide a means to base the discussion on the importance of effective communication within the IT work environment in the development and implementation of software and hardware projects. Established in the literature is the fact effective communication is required for understanding strategic goals, decision-making, project management, requirements gathering, quality control, and

organization leadership (Meadows, 2008; Senge, 1990). Ineffective communication contributes to chaotic and complex situations that cause failures (Dryer, 2006). Figure 1 represents an extension to the literature by association of the communication behavior or constructs that can contribute to effective and ineffective communication. The importance of effective communication goes beyond the individual organization reaching out to external business partners and the community both domestic and foreign.

Communication is part of IT, IS, other industries, businesses, academia, other cultures, and families all over the world. Communication is important to understand the connection between information processing and human behavior and to gain knowledge to facilitate increased understanding (Gregor, 2006). Understanding the behavioral aspect associated with communication can lead to the development of solutions with a faster turnaround time that work for personal and professional situations.

Nature of the Study

In this qualitative phenomenological study, I used a questionnaire containing open-ended questions to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to ineffective communication within the IT organization leading to project failures. The communicator can interact with organization leadership, end users of the software applications, project team members, other stakeholders, external stakeholders, programmers, project managers, database administrators (DBA), chief information officer (CIO), quality control analyst, and technical writers. Exploring, seeking information, and understanding the communication behavior or constructs of the IT and IS business analysts, programmers, and programmer

analysts when communicating is imperative to change the communication in organizations. A qualitative phenomenological study provides a means to explore the lived experiences pertaining to communication behavior or constructs that force individuals to communicate in different ways that lead to effective and ineffective communication. Understanding the lived experiences can facilitate changes in the method used by IT and IS business analysts, programmers, and programmer analysts when communicating and collaborating in the workplace.

Definition of Terms

Behavior: A correlation of attitude, action, interaction, and reaction (Chen, 2011).

Communication: Communication is the information exchange, knowledge management, and the act of negotiation (Schoop, Köhne, & Ostertag, 2010).

Communication effectiveness: Communication effectiveness is a shared understanding (Neufeld et al., 2010).

Communication quality: Communication quality is the analysis of the negotiation process leading to effective negotiation and communication (Schoop et al., 2010).

Knowledge sharing: Knowledge sharing is the process of transferring information to others for reuse (Jabar et al., 2012).

Assumptions

There are three assumptions in this study. First, the ability to discern the communication behaviors or constructs that prevents or promotes effective communication depends on the honesty of the participants. Second, the sample of the population was adequate to provide the data required for analysis. Third, the participants'

information on communication provided by responding to the questionnaire is valid and trustworthy. There was a chance the responses from the participants would not be truthful and trustworthy, making it crucial to ask clear questions and ensure the participants understand their role and responsibility without fear of repercussions from employer. The reason for this concern is due to fear and anxiety the responses could be provided to the organization. To mitigate the possibly of fear and anxiety a positive and reassuring relationship with the participant is established. The participants' names were not revealed to the employer and were not used in the research reporting. Each participant was assigned a number for identification purposes.

Scope and Delimitations

The scope of the study is business analysts, programmers, and programmer analysts who have worked on an IT software development project with the assigned responsibility of performing analysis, requirements gathering, coding, testing, project management, implementation, quality control, or production support within an IT organization within the Midwest region of the United States. The study is focused on IT verbal communication using e-mail, telephone, and face-to-face teleconferencing using SKYPE pertaining to IT project development and implementations. Addressed in the study are questions about the communication behaviors or constructs that influence ineffective communication.

Limitations

I am the primary instrument in the phenomenological study collecting data for analysis and interpretations. I used social networking using snowballing technique,

SurveyMonkey, and e-mail. Meeting with the participants face-to-face, by telephone, or teleconferencing was not necessary at any point in the study. I pilot tested questions I developed to study organization communications. The phenomenological approach was limited from a participant standpoint. Participant inclusion was from one source. The source was from 21 business analysts, programmers, and programmer analysts working in Midwest region IT environments and their perspectives. Communication behavior or constructs can be explored in other departments within the organization to analyze emerging patterns and themes on employee behaviors that affect effective and ineffective communication. The small sample size can be considered a limitation. A larger sample size would not allow a manageable project from an analysis, data interpretation, and reporting standpoint. A small sample size is manageable. A small sample size allows thorough analysis of the data.

Significance

Significance to Practice

Communication techniques continue to evolve in a world of continuous technological advancements. Web technology forces organizations to reexamine leadership styles of management, as older leadership styles of managing, inclusive of micromanagement style and authoritarian management style, no longer work in current work environments (Denning, 2010). Social media and the Internet changed the way people communicate and work. Technology provides a new way to communicate that can improve and stifle communication. IT has advanced in the use of tools for communication by using e-mail, Twitter, Facebook, SharePoint, voice over Internet

protocol (VOIP), and teleconferencing software like SKYPE but communication continues to be less than adequate. Social media, the Intranet, Internet, Extranet, e-mail, and teleconferencing present a challenge to organizations to communicate in a different setting and projects continue to fail in IT. The settings that are no longer on a verbal face-to-face basis still require effective communication, collaboration, and feedback.

People need effective communication in verbal and nonverbal collaborations daily, multiple times per day. Communication is not a facet of business analysts', programmers', end-users', managers', and programmer analysts' lives that is used only occasionally. Exploring the communication behaviors or constructs and reasons behind poor communication that leads to IT failures (Dilmaghani & Dibble, 2012; Dryer, 2006; Robertson & Williams, 2006) from the viewpoint of the business analysts, programmers, and programmer analysts can assist to change the way people communicate. By looking at the communication behaviors or constructs that lead to ineffective and effective communication new and innovated solutions can be developed to improve communication. Critical to business success is the development of a transformative view which defines the input and output flow of information requiring communication and feedback in the analysis of business processes to successfully implement business process management (BPM) initiatives (Goldkuhl & Lind, 2008). The literature supports a horizontal view of business processes, where there is communication and agreement between parties as an essential component to project management regardless of the initiative involved (Goldkuhl & Lind, 2008). Effective communication can lead to understanding, discourse, agreement, and opportunities for solutions to problems.

Significance to Theory

Theories help people to understand the world and to look at specific phenomena from various perspectives. The organization information processing and social theory provide the means to explore through a behavioral lens the communication behaviors or constructs that influence communication. Understanding the communication behaviors or constructs that lead to effective and ineffective communication can assist in curtailing the rate of project failures. From a different perspective, new and innovated solutions can be developed faster to aid in solving problems within society. Consider the role of theory in research as the foundation or basis for a research study. Moore (2011) believed when data are analyzed and interpreted, the premise or theory is defined. Understanding the reasons behind ineffective communication from various perspectives can assist to forge new methods to develop communication skills, communicate effectively, collaborate, provide constructive feedback, improve competitive advantage, and measure improved IT project success rates.

Significance to Social Change

The potential for the findings to identify factors that impede communicating effectively can transcend academic disciplines, families, government, politics, medicine, and businesses, not for profit and for profit. Effective communication assists in building stronger family units that work together, generate mutual understanding and learning, and increase ability to solve problems. Effective communication allows parents to teach their children how to be productive citizens (Orçan, Çiçekler, & Aral, 2012). The outcome

solutions documented can engage the leadership of organizations for profit and not for profit to develop solutions to world problems faster that leads to positive social change.

When organizations embark on solutions, regardless of the type of project, communication is at the front and dispersed throughout the project to develop a solution. The process of change management and the fundamental strategies associated with effective leadership within healthcare information technology (HIT) by an approach that includes culture, communication, collaboration, strategic direction, empowerment, motivation, and accountability as the basis for establishing consistent and visual leadership within an organization requires effective communication (Fichenscher & Bakerman, 2011). Organizations in a global IT outsourcing environment have a corporate social responsibility (CSR) to address global strategies for positive social change. Organizations commit to social change initiatives through philanthropy, compliance with global regulations, and collaborative efforts with internal and external business partners requiring effective communication and collaboration (Babin, Briggs, & Nicholson, 2011). Communication is included as a key component of erecting effective leadership. Leadership is 80% effecting change and ensuring that the change continues to work efficiently, while the remaining 20% is concerned with the management of budgets, planning, problem solving, and communication with employees as important for successful outcomes (Fickenscher & Bakerman, 2011). IT is an enabler to facilitate communication, learning, increasing profits, and training, assisting the disabled with software and hardware allowing them to work, and bridging the digital gap within communities. CSR means IT personnel are committed to use IT in making a positive

contribution to society (Salb, Friedman, & Friedman, 2011). CSR initiatives assist organizations to remain viable and stable entities. CSR initiatives require communication and marketing strategies. CSR projects not only assist the organization to remain competitive and profitable but allow the organization to show stakeholders, customers, and society their commitment to social responsibility. Integrated marketing communication (IMC) strategies influence an organizations' brand using CSR activities (Mihart, 2012). CSR connects the organization, stakeholders, and external business partners to do good for society and the organization.

Providing findings that will assist in the revision to organization communication plans that leads to positive social change and effective communication, collaboration, and feedback was the specific aim of this study. Communication includes written, verbal, listening, and visual mannerisms. Understanding the communication behaviors or constructs associated with communication reinforces, promotes new knowledge creation, and provides a means to work toward new and innovative strategies and practices that lead to positive social change within communities on a global scale.

Summary

The first chapter included an introduction to the problem that ineffective communication can cause IT project failures. This chapter included an alternative method to study communication through a behavioral lens. People are unique and instrumental resources within an organization. Understanding the communication behaviors or constructs that influence communication by management and the practices used by leaders and employees could lead to solving problems faster, financial gains, and

competitive advantages for an organization. Chapter 2 included the supporting literature; Chapter 3 included the research study methodology. Chapter 4 included the results of the study. Chapter 5 included the discussion of the findings, conclusions and recommendations for future research.

Chapter 2: Literature Review

Chapter 2 includes an extensive review of the literature pertaining to communication behavior or constructs that influence effective and ineffective communication in the workplace. The literature is reviewed starting with the need for effective communication within IT organizations for relationship management, business decision making, requirements gathering, design, development, implementation, and a lesson learned process. The review then presents specific literature pertaining to the problem of communication behaviors or constructs that influence IT communication. The sections that follow include the literature search strategy, the literature reviewed, summary, and conclusions.

Literature Search Strategy

Peer-reviewed literature and reputable professional websites comprise the sources used. The Walden University library databases used include ProQuest Central, Academic Source Complete, EBSCOhost, InfoSci, PsycINFO, ScienceDirect, and Computers & Applied Sciences Complete. Journal articles were retrieved using specific keywords related to the research topics, including *communication behavior, communication styles, communication models, leadership, information systems,* and *information technology.* Checking the peer-reviewed checkbox and using a date range between the current date and 5 years prior helped me ensure retrieval of appropriate literature. The objective was to understand other influences on communication discussed in the literature that lead to problem of communication scenarios and support the idea of communication behavior or construct influences on effective and ineffective communication encounters.

Conceptual Framework

CT, CST, and OIPT theories are the foundational framework in studies that govern system development across cultural boundaries. These theories are the premise for the study of communication, leadership, culture, behavior, and disorder within organizations at all levels of management and disorder within software and hardware development and implementations. CT is the study of disorder within some phenomena, which includes communication. CT is used in a wide range of domains and across disciplines to understand (Guo, Vogel, Zhou, Zhang, & Chen, 2009) the behavior of individuals when faced with chaotic problems that includes how systems, people, and processes operate or fail to operate in the world and in information technology and information systems. CT, OIPT, and CST (Farazmand, 2003; Goodhue, Wybo, & Kirsch, 1992; Lee, Y., Lee, Z., & Gosain, 2004) provide the framework used to study communication behavior or constructs. The determination of the reasons for ineffective communication from a behavioral mode of thinking can assist management and employees in the identification of new creative ways to improve communication skills from the top down and from the bottom up.

Organization leadership recognizes that 10% of the problems encountered with communication are due to a lack of training within the area of communication skills (Arzymanow & Cooke-Davies, 2003; Dyer, 2006; Farazmand, 2003; Hadar & Leron, 2008; Kettinger & Yuan, 2006; Orlikowski, 1991; Robertson & Williams, 2006; Samoilenko, 2009; Scott, 2012). The exploration of communication from a behavioral mode of thinking could be advantageous in producing new innovative processes from an

organization communication plan perspective. Framing the phenomenological study using OIPT, CT, and CST helped to frame the exploration of lived experiences of individuals through a behavioral lens. The exploration of communication behaviors or constructs could add to the previous literature generated by various authors such as (Farazmand, 2003; Goodhue, Wybo, & Kirsch, 1992; Lee, Y., Lee, Z., & Gosain, 2004). Exploring the lived experiences of individuals in IT and understanding the concepts behind communication behavior or constructs increases knowledge within the discipline of management, benefits the research community, and society.

Literature Review

Human Behavior Influence on Communication

Human behavior influences communication due to the differences in background. Horner (2011) noted that culture influences the behaviors that people express in various settings and how they communicate. Communication, culture, and behavior are intermixed. Factors within a person's culture can impede the development of behavior conducive to effective communication leading to problems with how people communicate and how people convey meaning to their communication. IT and IS business analyst, programmer, and programmer analyst professionals require a range of communication skills similar to behavior analysts.

People embark on personal and professional endeavors daily that could have an influence on communication. Blell, Alai-Rosales, and Rosales-Ruiz (2010) expressed that a behavior analyst requires skills in conflict mediation and resolution, supportive communication, the ability to confront, manage, and master a range of emotional

behaviors exhibited by clients that are not associated with the behavioral analyst job responsibilities. More so than men, women tend to provide comforting or supportive communication. Another point emphasized by Blell et al. (2010) is that age plays a role in the communication strategies employed by individuals. Training in communication skills is viewed as a positive. Communication skills training involves the use of technology based programs, role-play, feedback, and workshops to increase the skills of individuals working in roles that require effective supportive communication.

People may be afraid to communicate with others. This fear can be attributed to a feeling of being unprepared, being laughed at by peers, or having a limited amount of emotional intelligence. Russ (2012) expressed communication apprehension (CA) causes communication to be strained and less than adequate. The author described CA as a fear or anxiety about sharing information with others leading to ineffective communication. CA leads to problems for an employee within the workplace when the fear of talking to others overshadow a persons' ability to share knowledge. Russ (2012) believed when people exhibit the behavior that is *traitlike* CA it means the person has a problem with human contact. Russ stated *context* CA means the person has a fear of sharing knowledge within a group, personal conversations with others, in meetings, and presentations. Jorfi, Jorfi, Yaccob, and Shah (2011) believed that organization leadership and employees need emotional intelligence when communicating for the result to be effective, meaning the receiver and sender of information understands the message. Employees may require assistance to overcome fear and anxiety when communicating. Communication skills training could be a solution in some cases to become an effective communicator.

Gender Influence on Communication

It is possible that gender influences how people communicate. According to Kapidzic and Herring (2011), there are differences between gender in the use of technology and written online communications. Women display a more polite and supportive behavior than men in computer-mediated communications. Kapidzic and Herring examined the influence of Web 2.0 technologies on the communication behaviors of teenagers, men, and women. The authors found that the new technologies provide a more collaborative asynchronous environment where women were more communicative and explicit in their communications, suggesting a shift where women were more outspoken in this environment than men. Kapidzic and Herring noted the word selection and frequency was more evident than the distinction between men and women communicators in the study. Kapidzic and Herring (2011) reported that women's style of communication is interactive and interpersonal, where men's communication style focused on things in the world more than about people. Each person is unique and there are differences in the approach to communication styles between men and women doing verbal and nonverbal interactions.

Technology Influence on Communication

Prior studies have addressed communication technologies using the Internet. Today's business environments use computers, cell phones, text messaging, and instant messaging (IM) to engage in communication with business counterparts internal and external to the organization. In academia, students use the computer, cell phones, text messaging, and IM to communicate with university personnel and to receive campus

alerts. Junco, Merson, and Salter (2010) discussed that texting uses no more than 160 characters to communicate messages to others. The content of those messages in the case of business needs to be understandable to the receiver of the text. Junco et al. (2010) noted that a new language has emerged from cell phone use and texting, which influences peoples' daily lives. The new language, for example, LOL and OMG, makes it more important to develop effective communication skills. Educators are embracing the new technologies as new methods to engage students. Educators believe the use of new technologies prepares students for the real digital world. Junco et al. (2010) reported that cell phone communication devices are used more by women than men. The authors recognized that university students have a need to develop communication skills to be successful in the world on a global scale. The stance by Junco et al. (2010) supports this research study to understand the behaviors that influence communication. Technology continues to improve and advance at an alarming speed. Communication skills and techniques must coincide and advance with the advancements in technology.

Communication Style Influence on Communication

The communication styles and techniques from one person to another are different simply because each person is different and unique. Edmonson (2009) believed understanding personal communication styles and the communication styles of colleagues helps to increase understanding, productivity, and allows working as a constructive team member. According to Edmonson (2009), there are four behaviors, expressive, systematics, sympathetic, and direct. Edmonson (2009) suggested, expressive communication styles require others to communicate using a calm, slow speech, and

controlled tone. Systematics tends to be characterized as cautious and requires communicators to be patient, and nurturing. Sympathetic behavior requires others to be supportive and sharing. Directs have little time, require the facts, no detail, and appear to be unemotional. Edmonson (2009) reported the communicator should strive to be detail oriented, nice, and not be afraid to interact in direct conversation. The unique communication style of each person requires a specific technique that addresses the particular communication style. The importance of communication skills training cannot be ignored because it equips communicators with the tools to be able to converse with different communicator styles.

Organization Infrastructure Influence on Communication

The organization leadership has a responsibility to empower employees to be open, honest, encourage collaboration, feedback, and support becoming professional effective communicators. Choi and Ruona (2011) argued that organization infrastructure depends on culture, leadership, communication, structures, and IT and IS. In order for organizations to be poised and ready for change, communication needs to be effective. Understanding and identifying changes required and implementing change within the infrastructure requires understanding the behaviors and communication required for change deployment. The activities involved in change implementation must be identified and appropriate action implemented. The understanding and interpretation of change is seen through individual perspectives and the facilitation of the individual's needs. The idea of enforcing change by ensuring individuals understand the benefit to the organization structure and ensuring they are involved, and recognize the benefit to the

structure requires communication. People need knowledge to buy into change. The knowledge is learned through communication and collaboration. People want to be involved in the change process and decision-making when communication has been adequate in informing others concerning the change.

Conflict Management Influence on Communication

Conflict management strategies within organizations and between individuals include a range of activities. Conflict management requires communication, and problem solving skills. Various behaviors emerge during project development, and within personal interactions. Behaviors displayed when communicating can be influenced by the communicators voice in the conversation. Heyman, Hunt-Martorano, Malik, and Smith Slep (2009) noted when the topic for discussion belongs to the communicator; the behavior may be different from the person who has no interest in the topic of the conversation. The authors focused on gender differences within couples and the interactions when in conversation. The couple's communication style has an influence on the outcome of the sharing episode. The authors suggested that depending on the initiator of the conversation, there could be an effect on the success of the communication encounter. The outcome of the study indicated that communication conflict resolution could depend on the person that wants the change, and there can be a difference based on gender to the type of behavior displayed (Heyman et al. 2009). People display different emotions and some may have a separate agenda that is outside of the topic for discussion. Effective leadership can assist to keep people on track. Effective leadership can assist to

maintain a work environment where the focus is shared by all communicators. Effective leadership leads to open dialogue.

Leadership Influence on Communication

Leaders require effective communication skills. Leadership involves the leader having a firm grasp on communication style and the behavior that facilitates positive outcomes with people. When leaders fail to lead effectively, the outcome is misunderstandings, misperceptions, and possible failure. Leaders' interpersonal traits surround how they interact with other managers, coworkers, and people managed. Culture, gender, and leadership are intertwined. There are differences in the ability of leaders to be effective. According to Ayman and Korabik (2010), culture plays a greater role in leadership behaviors than gender when developing structure for the organization. The authors' stance on what they call *intrapsychic* perspective as it pertains to leaders addressed the fact communication style, behavior, and the result of the communication does not depend on the fact of being women or men. Both men and women need to understand their communication style and the behaviors expressed when communicating in various situations.

Communication within an organization requires employees to communicate from remote locations as well as in face-to-face encounters. Neufeld et al. (2010) stated information communication technologies (ICT) allow organizations to share knowledge from remote locations. The location of the employee engaged in communication is not a factor with the advancements in ICT. These authors reported that global organizations use ICT for communicating and collaborating. They pointed out that 20% of employees'

work from remote locations around the world and 9% of the remote working population uses a virtual work environment in some fashion. Neufeld et al. (2010) reported that communication within virtual work environments at times is not effective due to leadership. Leadership is a result of effective communication. Effective leadership is influenced by leadership style, communication, and the location of the people involved in communicating. Neufeld et al. (2010) believed there is a link between communication effectiveness and leadership effectiveness. The authors noted there might be a higher degree of ineffective communication from leaders that work in virtual environments. The authors stated, leaders communicate in ways that require extended effort and time to be effective, using e-mail, video conferencing, voice mail, and software designed for collaboration. The authors reported there is not a factor that influences the location of the employee in relationship to communication effectiveness, but there is a link between the leader ability to communicate effectively from a transformational leadership standpoint. The authors pointed out the experience level of the leader and the cultural environment allows the leader to focus and make the necessary adjustments to leadership style to be an effective communicator and leader regardless of location and ICT used.

Leadership requires the person is supportive, assuring, precise in decision-making, and able to share knowledge on multiple levels within the workplace. De Vries, Bakker-Pieper, and Oostenveld (2010) argued that effective communication is required to be an effective leader. The authors stated that the communication style influences leadership. Some of the communication behaviors discussed by De Vries et al. (2010) includes friendliness, dominance, supportive, and caring. De Vries et al. (2010) reported

that human oriented leadership is associated with supportive behavior, and charismatic leadership is associated with behaviors that are supportive, assuring, argumentative, precise, and non-aggressive from a verbal stance. The authors stated task oriented leadership behaviors were not tied to communication as tightly as human oriented and charismatic leadership. De Vries et al. (2010) reported the behavior leaders portrayed was task-oriented leadership behaviors tied to assuredness and precision. A leader's effectiveness when communicating IT project information to others is essential in creating a positive, open, and productive dialogue between leaders and subordinates that leads to maintaining sustainable and competitive IT business ventures.

Sustainability Influence on Communication

Sustainability issues have become a topic for discussion within organization boardrooms, and within our communities. Organizations have an obligation to reduce the carbon footprint imposed by IT systems around the globe (Chowdhury, 2012; Luke & Alavosius, 2012; Turley, Porter, Garrido, Gerwig, Young, Radler, & Shaber, 2011). The information about sustainability must be communicated to the workforce. According to Luke and Alavosius (2012), sustainability can be argued from a variety of viewpoints. Informing organization leadership, employees, and communities about various ideas pertaining to sustainability requires communication. These authors focused on enforcing individual behavioral changes to demand outcomes that facilitate the need of becoming a sustainable society. The authors discussed changing the behavior of some people, changing the infrastructure where people live, social networking, and the use of technology as a green behavior to obtain sustainability (Luke et al. 2012). These ideas

require communication to inform, influence, and change behaviors of organizations and people within the community.

Virtual Environments Influence on Communication

Virtual environments are prevalent within organization processing across multiple industries including academic research. This means there is a need for effective communication within the virtual environment. Lehdonvirta, Lehdonvirta, and Baba (2011) argued that researchers use virtual environments of user-to-user communications for the examination of the transcripts of communications to understand behavior and intentions of the people that use the environments. Reviewing the transcripts can provide critical data for analysis of how people use the systems, and what is conveyed when using the virtual environment. Some behaviors cannot be determined from analysis and review of the virtual data transcripts. Lehdonvirta et al. (2011) pointed out that this is because the servers analyzed may not represent the entire population or entire world. Most research in the social sciences pertaining to virtual data does not explore the data transcripts of communications. Many studies use surveys, interviews, and ethnographies and do not attempt to unravel the data transcripts to understand behavior, or the interpretations of the data in the transcripts of user-to-user communications. The authors conveyed that communication data are not used in research to understand and explore behavior and intent of the people that use the virtual environment for communication. This is unfortunate due to the rich content of the data that could be used to study individual behavior. Lehdonvirta et al. (2011) stressed three approaches to using virtual data for research analysis that included data donors or chat logs, back-end data from

server listening or lurking, and listening post or logging using the chat environment of the user or donor data. The approaches discussed can generate rich data, and a massive amount of data for analysis. The authors stressed the consideration for ethical and legal concerns prior to starting this type of research. There are multiple sources of data for analysis on a wide range of topics in virtual environments. The analysis of this data requires effective communication techniques for verbal communication with others in an understandable format.

Verbal Communication Behaviors Influence on Communication

Verbal communication involves interactions and reactions to the message sent to others and received from others. Keyton, Caputo, Ford, Fu, Leibowitz, Liu, and Wu (2013) reported, communication behaviors involve multiple interactions and actions singularly, and within group settings that work toward progression of meeting goals and objectives or toward regression as an outcome of the communication. These authors pointed out that more communication does not mean that communication is improved. Neufeld et al. (2010) reported, communication effectiveness is a shared understanding between the people involved in a specific interaction. Keyton et al. (2013) reported communication competence is communication effectiveness. These authors believed personality informs communication abilities to display empathy, attentiveness, and the ability to communicate through a verbal means. The interaction with others affords the ability to understand each other and to provide meaning to the messages shared. One might ask if the communication conveyed is always effective and the answer would be no. Communication is used as the means to interpret and analyze messages to make sense

and provide meaning to the message, but that does not mean the message is always positive or negative. Keyton et al. (2013) expressed that communication behavior can be repeated, and people can discern to select effective communication skills versus ineffective skills. Among the effective communication skills are listening, negotiation, problem solving, leadership, and information processing skills. These authors pointed out that communication behavior involves interpersonal skills, ability, and knowledge from a performance driven perspective. The authors reported that some communication behaviors are actually a communication activity. The example used by Keyton et al. (2013) was conforming to a particular thought process does not require interactions with other people, a person can conform singularly, or independent of others, resulting in a communication activity. Keyton et al. (2013) reported the communication behaviors are inclusive of listening, asking and answering questions, discussing, information sharing, agreement, feedback, explaining, cooperating, small talk, providing help, providing information, decision-making, knowledge gathering, respect, keeping others informed, and planning. The authors reported that 84.13% of the participants in their study identified listening as the top verbal communication behavior in the workplace. The second, 81.75% believed asking questions was important. Keyton et al. (2013) reported discussing, and sharing information was 76%, agreeing and suggesting 74.60%. An interesting revelation by Keyton et al. (2013) is the ranking of getting and receiving feedback ranked at number seven with 73% of female and male participants conveying this perspective. Keyton et al. (2013) linked communication behavior to the process of information sharing, relationship management, the expression of negative emotional

context, and organization. The authors argued that communication behavior in the workplace encompasses the expression of frustration, and displeasure using means that are considered effective communication behaviors. Keyton et al. believed that effective communicators possess the ability to organize work tasks through asking questions, development of unique ideas, and information sharing instead of the normal communication behaviors for organizing work task inclusive of planning and management. The authors believed there is more research to be performed in understanding verbal workplace communication across industries, professions, and organizations. The authors' stance further supports this study to understand the communication behaviors that influence communication in IT environments. The verbal communication behaviors employed could be influenced based on the culture, and norms within the specific type of organization, profession, and industry.

Relationship Management Influence on Communication

The area of public relations, business, information technology, and other disciplines rely on employees to build relationships with internal and external business partners. According to Kim and Rhee (2011), communication behaviors of employees are critical to building organization relationships that increase information sharing positively. These authors reported that employee's communication behavior is critical to building a network of individuals posed to bring information into the organization, and to provide positive information about the organization to the parties externally. Kim and Rhee (2011) reported that megaphoning could be positive or negative. Kim et al. (2011) described scouting as employee volunteered information sharing behavior where the

information sharing occurs internally and externally to the organization. These authors described a new communication behavior concept as micro boundary spanning. Micro boundary spanning is the combination of megaphoning and scouting. This concept allows organizations to transfer knowledge from within the organization to internal and external sources. This type of communication behavior supports the idea that people are valuable resources that can transport information through effective and ineffective communication behaviors that influence others to react and interact. Kim et al. (2011) believed relationships are inclusive of trust, open dialogue, interactions, involvement, investment, and commitment. The authors supported the idea that a good relationship promotes information sharing, and a form of positive megaphoning, or effective communication behavior. Kim et al. (2011) referenced communication behavior as explicit at the time of crisis management, when the effective communication behavior increases in importance.

The Net Generation and the Educational Influence on Communication

The process of obtaining and sharing information has changed dramatically over the past 50 years. According to Towndrow (2013), the old methods of teaching and learning are no longer working. There has been a paradigm shift in how people teach, learn, and share information. The Internet, Extranet, Intranet, is accessible and allows people to learn at their own pace whenever they choose from any location domestically and internationally. The generation of students today communicate in ways that facilitate learning at faster speeds, and creation of innovative solutions emerge quicker. Communication is through multimedia means and practice, more than lecture from teachers. The students seek information through research and knowledge sharing using

technological advancements. Students, for example, learn by presentation of a problem to be solved, research, and analysis, instead of the traditional lecture. The teacher performs in a mentor role, guiding, and answering questions, ensuring rigor and quality in the work performed. The communication between student and teacher is facilitated by information technology, instead of in a traditional classroom setting. Students share information using online text communications. Today's use of online text communications makes it more critical to understand behavior aspects that influence communication.

A series of interactions, actions, and reactions combined with a person's personal perception on what is deemed as effective communication influences a person's communication behavior. Kirzinger, Weber, and Johnson (2012) believed understanding the communication behaviors assist to discover the reasons that lead to specific actions and reactions to communication strategies and practices. According to Kirzinger et al. (2012) methods used in gaining information and communication traits contribute to political and social behaviors. The authors believed genetic factors influence communication behaviors and see heredity as a factor that influences media behavior and communication. Television, Internet, e-mail, and videos have an influence on the way people communicate. The authors summarized that genes and environment play a role in how people communicate. Understanding communication behaviors allows understanding the motivation behind the way people communicate. Information technology has altered the way people communicate and reinforces the need to become better communicators.

Customer Relationship Management and Influence on Communication

Management of relationships within the organization, and with the customer base requires effective communication strategies and practices. Hong and Yang (2011) believed customer's view of an organization and the relationship with the organization would lead to positive communication within one's environment. The relationship with the organization will enforce what is communicated to others about the business verbally. Positive relationships lead to positive verbal communications. Communication is the link between the organization and the public. Effective communication practices can lead to customer loyalty, continued growth, and competitive advantages for the organization.

Virtual Environments the Project Team and Influence on Communication

Some organizations reexamine how business is conducted from a global perspective, and as a result, select to offshore information technology task to organizations internationally. Project teams are no longer down the hall, but half way around the world working in virtual environments. The virtual environments require effective communication strategies and practices to remain productive and competitive. Richards and Bilgin (2012) suggested that educational training be inclusive of information communication technology (ICT) for students to learn how to communicate and work in cross-cultural environment prior to starting to work in a global industry. Virtual teams must learn to communicate using e-mail, telephone, and video meetings. Communications must be clear, precise, and culturally respectful. When communications are unclear, misunderstandings can occur, and in some cases, the communication can be presumed disrespectful to the culture (Richards et al., 2012). A virtual team must build

relationships within the project team. It is crucial to develop a cohesive and productive team environment that works well together to accomplish tasks. Effective communication strategies and practices are important to foster virtual team and organization success (Richards et al., 2012). Effective communication does not become less important due to virtual team environments; it may increase in importance because the project team can be located around the world not in the next cubicle.

Information Security Risks and Influence on Communication

There are risk associated with the use of IT and IS. Organizations perform risk assessments to identify the threats to an organization. The identification of threats and the methods of mitigation of the risks need to be communicated to employees internally, and to outside business partners. Strecker, Heise, and Frank (2011) introduced a multi-perspective modeling method for IT risk assessment that includes provisions for communication of the security management strategy and practices for implementation within an organization. The involvement of upper management and other stakeholders within the organization in the security management plan requires effective communication. Security management is considered a core activity, which requires the leadership, and employees to communicate and collaborate to understand threats to the organization, and how to control the potential for harm to the organization. Security teams are needed to focus on the threats, methods of control, and to communicate the findings and control methods to others. Effective communication allows others within the organization to be informed and active participants in the security management practices. Strecker et al. (2011) proposed six requirements for risk assessment and security

management. The requirements include communication, collaboration, sharing information, transparency, and reducing the complex environment surrounding security issues. Communication is an important requirement to manage security effectively (Strecker et al., 2011). The art of communication management increases in importance as new security threats continue to be identified and more organizations outsource IT projects.

Outsourcing Virtual Organizations and Influence on Communication

Outsourcing allows virtual organizations to focus on core processes within the organization and to contract with outside partners to process other information that is not as critical to daily business needs. The literature on outsourcing is vast and informative. Manzin and Kodrič (2009) believed the landscape of outsourcing has changed dramatically due to global economics and virtual workplaces. New technologies and telecommunications make communication in a virtual environment possible. People can be located globally, perform, and communicate productively. The new landscape of workplaces requires clear communication, adequate finances, executive management buy-in and continued support, a plan for outsourcing, and a strategy to manage people outside the organization. Information communication technologies (ICTs) assist employees to gain new knowledge, communicate, to be productive, and help the organization to remain competitive.

Project Management and the Influence of Communication

When IT organizations embark on projects, there are specific skills and behaviors expected from project team members. Jetu and Riedl (2012) believed project team

success is derived from leadership, teamwork, behavior that is conducive to producing team cohesiveness, flexibility, the ability to adapt, a team collective spirit to meet team goals, and communication that leads to success. Project management requires effective communication to garner successful outcomes regardless of the industry. Project management requires effective communication to understand the requirements for the IT project.

Requirements Gathering and the Influence of Communication

When IT organizations begin the requirements gathering phase of projects communication with end users is important to the efficiency and quality of the requirements gathered. Analysts use interviews, observation, models, and prototype techniques to obtain the information needed from users. Nevo, Benbasat, and Wand (2012) argued that obtaining the information needed from end users requires effective communication skills, an attitude of cooperation, and trust. When business analysts, programmers, and programmer analysts discuss with users the functionality of proposed modifications to software or hardware understanding the language used by the user is important. Understanding the language used by the business analyst, programmers, and programmer analyst is equally important. To obtain the knowledge held by others people must become skilled at negotiation and communicating.

Summary and Conclusions

The subject of this literature review is how effective and ineffective communication plays a role in IT and IS systems management. Some of the topics explored are the literature search strategy, review of the concepts surrounding effective

and ineffective communication, human behavior and communication, gender influence on communication, technology and communication. Other topics explored includes communication styles, organization infrastructure and communication, conflict management, leadership influences, sustainability and communication, the net generation and educational influences, verbal communication, relationship management, the Internet, education, communication, customer relationship management, and virtual environments. These subject areas included information concerning the influence of effective and ineffective communication behaviors. These subject areas addressed the phenomenon of communication in conjunction with business partners domestic and international, employees in workplace and remote locations, relationship building with employees and business partners, IT and IS systems development, implementation, risk assessment, governance, compliance, and social change all of which assists organizations to remain viable and competitive. Chapter 3 addresses the research methodology.

Chapter 3: Research Method

The purpose of this qualitative phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. Exploring these communication behaviors or constructs assisted to provide additional understanding to use in development of improvements for ineffective communication. The research design, study population, sampling process, sample size, instrument, data collection process, data analysis technique, dependability, credibility, transferability, and confirmability are covered in this chapter. The Walden University Institutional Review Board (IRB) approval number is 09-25-14-0156948.

IT management was the intended audience to facilitate improved methods of communication within the organization. The participants in the study were business analysts, programmers, and programmer analysts within the Midwest region. Each participant signed an informed consent form to participate in the study. The rigor of the research is established through credibility, dependability, confirmability, and transferability (Houghton, Casey, Shaw, & Murphy, 2013). To work toward credibility, dependability, confirmability, and transferability, I collected questionnaires over an extended period, 4 weeks total. If needed, multiple follow up questions were scheduled with participants to collect the data and to confirm understanding. The data from the questionnaires are complete when all participants have responded. Transferability refers to the findings and the application of those findings to other disciplines, businesses, and society. I exercised the use of researcher reflexivity to provide additional meaning and

interpretation to participant responses. To accomplish researcher reflexivity, notes are recorded (Houghton et al. 2013). The recorded notes provided the basis for analysis of the data from the questionnaires.

The documentation of the answers to the open-ended questions were documented without personal conversation and discussion. Maintaining an audit trail of the data from participants by participant number, question, and date increases dependability and confirmability. I collected the questionnaires from the participants, coded the data, analyzed the data, and presented the findings (see Appendix D). To manage the data collected, I used NVivo software. Trustworthiness, transferability, creditability, and dependability of the qualitative phenomenological study is reinforced through the use of NVivo analysis functions, the generation of charts, and graphs that clearly show the process. This process reinforces trustworthiness of the data and assisted to ensure the possibility of transferability to other industries.

Treating each participant with respect, dignity, and honesty was critical to the study. Each participant was treated in accordance with the ethical research guidelines of the IRB. Building a relationship with each participant developed trust. Allowing the participants to voice their concerns, answering their questions, and creating a dialogue with the participants assisted in building a professional working relationship.

Research Design and Rationale

A mixed methods methodology allows the combining of qualitative and quantitative methods into a single study to understand some phenomena. A mixed methods model was not selected for use due to the combination of qualitative and

quantitative strategies and the fact that its use within business management research is not extensive in studying organization behaviors and organization strategy concerns. The mixed methods approach would not be efficient in providing a deeper understanding of the lived experiences of the communication behaviors or constructs within an information technology organization (Patton, 2002).

A quantitative research methodology pertains to formulation of hypothesis, statistical analysis, and testing of data collected that pertains to some phenomena. A quantitative research methodology has a more statistical or numbers-based methodology. A quantitative research methodology was not selected because it would have required a statistical basis for the research and hypotheses testing for drawing of conclusions and reporting.

A qualitative approach allows selection from a range of inquiry perspectives, and exploration at a deeper level to understand the communication behaviors or constructs that lead to ineffective communication and IT project failures. A qualitative approach allows a deeper understanding and an exploration of participant responses. A qualitative approach allows the focus to be upon the meaning of some experience or phenomena. A qualitative approach allows the interpretation of the data in a manner that allows recognizing patterns and emergent themes (Patton, 2002).

From a design standpoint, a narrative research approach is appropriate to understand and discover information through stories from participants in a group or individually. This approach was not selected because the story of an individual business analyst, programmer, and programmer analyst pertaining to communication behavior or

constructs is not the intent of the study. A case study approach seeks to provide a deeper understanding of some phenomena. This approach was not selected because exploring at an in-depth level communication behaviors or constructs using a minimum of three forms of data collection types are not the intent of the study. A grounded theory approach seeks to discover and develop new theories. This approach was not selected because the discovery and generation of new theories pertaining to communication behavior or constructs that lead to IT project failures is not the intent of the study. An ethnography approach seeks to understand and describe the behaviors of a group. This approach to inquiry was not selected because the focus is on individual business analysts, programmers, and programmer analysts not a group of business analysts, programmers, or programmer analysts as it pertains to communication behaviors or constructs that can lead to IT project failures (Patton, 2002).

A phenomenology study is used to understand at a deeper level and explore lived experiences pertaining to some complex issue or situation from various perspectives. Phenomenology has been used to explore the lived experiences of people pertaining to some issue within IT and IS from stakeholder involvement, requirements gathering, leadership, systems analysis, communication, and behaviors (Denning, 2010; Dilmaghani & Dibble, 2012; Grant, 2012). A qualitative research phenomenology approach allows exploration of the lived experiences associated with the phenomena of communication behaviors or constructs that can lead to IT project failures. The phenomenology approach allows answering the research question by exploration of the lived experiences of the phenomenon (Moustakas, 1994) pertaining to communication behavior or constructs of

business analysts, programmers, and programmer analysts. A phenomenology approach was selected because it allows the exploration of the phenomena and the documentation of the participants lived experiences within their IT work environment (Moustakas, 1994). A phenomenology approach was selected because it allows the analysis of the data in a manner that will provide the ability to identify patterns and themes by the researcher.

Role of the Researcher

I am the instrument in the study. I distributed the questions using SurveyMonkey. During the analysis of data, I looked for patterns and themes associated with communication behaviors or constructs frequently imposed into the art of communicating. Rigorous questioning assisted in answering the research question. Documentation of findings, results, and conclusion are presented in Chapters 4 and 5.

Methodology

The methodology section contains detailed information on the qualitative phenomenological approach including participant recruitment. The participant recruitment process began with an e-mail to potential participants identified using social networking and snowballing technique. The e-mail requested their participation in the study and directed them to a SurveyMonkey link (see Appendix E). The e-mail address of the potential participants' was provided by the participants and remained confidential throughout the study and after the study.

Participant Recruitment Process

Participants were recruited for the participant questionnaire using social networking and snowballing technique. The participants were asked to respond to a

SurveyMonkey participant questionnaire. The sample size will assist with accuracy of the research. The sample size provides the means to obtain knowledge from various perspectives that provide critical data for analysis, interpretations, and drawing of conclusions. The sample size is important to research (Singh, Hillman, & Wang, 2011). The sample size of 20 is adequate for the study or until data saturation occurs, meaning no additional knowledge or meaning is gained (Moustakas, 1994).

Population

The research population is a defined group of people with similar responsibilities and characteristics. The population in this study is the set of business analysts, programmers, and programmer analysts working in the United States. The United States Department of Labor (2013) estimated a population of 544,400 jobs in business analysis or computer systems analysis. The populations of business analysts or computer systems analysts jobs are in line with the determination that these participants can provide data that allow patterns and themes pertaining to effective communication to be identified.

Sampling Procedure and Sample Size

The sampling technique used for this study was a purposeful sample of business analysts, programmers, and programmer analysts that have worked on an IT software development project with the assigned responsibility of performing analysis, requirements gathering, coding, testing, project management, implementation, quality control or production support. A purposive sample and social networking using snowball technique provides the ability to obtain a smaller sample size to explore and understand the data until saturation is achieved. A smaller sample size is acceptable for a qualitative

phenomenological study when the sample size is large enough to analyze the research problem, and answer the research questions (Patton, 2002). Saturation is achieved when there are no new themes and patterns emerging from participant responses (Patton, 2002). The sample size is consistent with Moustakas's (1994) belief that five to 25 participants are acceptable for phenomenological studies. A purposeful sample and social networking using snowball technique can provide a sample that is representative of the regional location, participants, processes, and procedures (Maxwell, 2013). The sample size of 20 participants who have worked in a common capacity and performed similar tasks can provide the required data for analysis or until saturation occurs is adequate for the study as noted by Moustakas (1994).

The participants were informed about the study through social networking and e-mail notification. The sample is based on participants meeting criteria defined by the researcher and documented in SurveyMonkey Questions 1-7 descriptive characteristics. Twenty-one participants were selected from the social networking and e-mail responses. The 21 participants were directed to a SurveyMonkey participant questionnaire. Participants were not compensated monetarily but were given a copy of the executive summary at the conclusion of the study. The participants provided data for the study using a questionnaire containing open-ended questions approved by the dissertation committee and Walden University.

Data Collection Technique and Protocol

This qualitative phenomenology study used a data collection protocol and procedures that include a questionnaire of 17 questions (see Appendix B). The data

collection protocol contains specific steps to ensure a positive working relationship is forged with selected participants by informing the participants about the study, acquiring a signed informed consent form, asking for questions to ensure clarity multiple times, and ensuring participants understand they can withdraw from the study at any point (see Appendix F). Member checking was used to assist with accuracy. Member checking provides the participant an opportunity to approve the transcript of the interviews and to make desired corrections. Member checking helps to ensure the data obtained is of the highest quality, accurate, and credible. These measures assisted in acquiring quality and reliable data collection for the study. The collected data records were scanned into NVivo and securely stored on personal laptop computer. The paper documents will be shredded after 5 years; electronic documents will be erased.

Data Analysis Techniques

The data were analyzed using open and axial coding. The open coding technique requires reading the data transcripts multiple times and assigning labels to groups of emerging data. For example, a label assigned could be leadership. Axial coding allows identifying and categorizing the relationships found in the data from the open coding (see Appendix D). For example, the open code label leadership could lead to coding that leadership influences effective communication. The data is presented in tables, figures, and discussion format. The data analysis strategy used code identification based on the words in the data collected, theme development from the codes, the identification of the patterns based on the categories and themes identified in the data. The data analysis was

completed when saturation was achieved, which means no new themes and patterns are emerging.

Pilot Study

A pilot study was conducted to see if the interview questions and the instructions were clear and understandable before the start of the study (see Appendix B). The pilot study consists of three participants that are not part of the participant pool of 20-business analysts, programmers, or programmer analysts working in IT within the region with similar job responsibilities while working on a software development project. The same questionnaire was used in the study. The three participants were asked the following questions to clarify the questionnaire and the instructions:

- Are the instructions in the questionnaire protocol clear and understandable?
- Are the questionnaire clear and understandable?
- Are there instructions in the questionnaire protocol that should be changed, added, or deleted?
- Should any of the questionnaire questions be changed, added, or deleted?

A pilot tested questionnaire to study organization communication was used. The appropriate participant permissions were obtained to use the questionnaire (see Appendix B). The answers could include bias perspectives on the part of the participant. The participants' could answer the questionnaire questions falsely. The total removal of bias perspectives at the participant level was not possible. I acknowledged these possibilities

and attempted to minimize the participant bias perspectives by explanation of participant expectations in the consent process.

Issues of Trustworthiness

Credibility

Controlling bias perspectives carries high importance for research. The proposed data collection methods, procedures, and analysis functions using a web-based application and NVivo software helps to eliminate or control bias perspectives from the researcher. There was the potential for participants to respond with less than honest interpretations of the interview questions. To mitigate this potential issue the participants were informed about the study, and the information provided by the participants remains confidential during the study and afterwards. The participant names are changed to a participant number for anonymity. The trust of the participant is needed to develop a productive and trusting working relationship for the study. The steps of the data collection process are documented in a research journal and stored in NVivo software. Credibility of study was established using this method. This process mitigates the potential for bias opinions and the incompleteness of data collected. Data collected from the participants was reviewed with them before analysis giving them an opportunity to review and clarify as necessary.

Transferability

People seek information from peers and colleagues across all discipline's and industries. The skill of communicating means a person has the ability to verbalize information needed by others and to provide information to others clearly (Nevo,

Benbasat, & Wand, 2012). The descriptions of the phenomena of ineffective communication as described by the lived experiences of business analysts, programmers, and programmer analysts will be included in the findings. Due to the small number of participants, and one geographic location, findings from the phenomenological study will most likely not result in transferability to other disciplines and industries. The design of the phenomenological study can be replicated and results compared possibly leading to improvements in communication within those disciplines and industries. The findings from the phenomenological study can be distributed to other disciplines and industries in an executive summary format for review, decision-making, and consideration for action.

Dependability

The study process and procedures were reviewed with participants prior to the study. Points of clarification were made and each participant signed a consent form prior to the data collection process start. The process and procedures are documented in a journal and input into qualitative data analysis software NVivo. The data collection protocol was defined, documented, and reviewed with participants for understanding prior to the study and during the interviewing process. Member checking was used to ensure credible and accurate data was obtained.

Confirmability

I am the primary instrument in the phenomenological study collecting data for analysis, interpretations, findings, and reporting. I input the data collected into NVivo software minimizing the risk for bias perspectives. I ensured the data collected was input into NVivo accurately. I ensured the participants understood their role and the protocol. I

ensured the participants knew they could withdraw from the study at any time. I ensured the participants understood a number not a name would identify them.

Ethical Procedures

Building a trustworthy and comfortable working relationship with the participants helped to ensure trust, honesty, and integrity of the researcher. Informing the participants about the qualitative phenomenology study was important in creating an ethical environment to study communication behaviors or constructs and lived experiences of the participants. I strived to ensure integrity, high ethical standards, and morals throughout the research.

Participant Informed Consent

The authorization to collect data occurs by receiving written permission from each participant in the form of a signature. The signature of the participant provides the documentation that the data procedure was understood and approved to collect data from the participant. By securing the participants' signature on the informed consent form the data could be collected from the business analysts, programmers, and programmer analysts (see Appendix G).

Summary

The research methodology, rationale, and design I used to understand and explore communication behaviors or constructs of IT business analysts, programmers, and programmer analysts are explained in this section. In the literature review, many authors argued that communication skills are needed to master the art of software and hardware negotiations, requirements, implementations, business decisions, and social change. I

discussed the reason a phenomenological study was selected as the design instead of other methods. The target population, setting, sampling procedure, sample, instrumentation, data collection process, procedures, and data analysis procedures were discussed. Chapter 4 and 5 include an analysis of the data and interpretation of findings.

Chapter 4: Results

The purpose of this qualitative phenomenological study was to explore and describe the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. Exploring and understanding the lived experiences of business analysts, programmers, and programmer analysts may assist to provide additional understanding to use in improving communication. The findings of the study are documented in this chapter.

Pilot Study

The first three participants who responded to participate in the study were included in the pilot study. The aim of the pilot study was to determine if the questionnaire and the instructions were clear and understandable before the start of the actual study. The pilot study included one man and two women who met all participant selection criteria defined in Question 1-6 of the SurveyMonkey questionnaire (see Appendix B). The participants received a copy of the participant request letter (see Appendix H and M), the informed consent form (see Appendix I), and the SurveyMonkey Participant Questionnaire (see Appendix J). The participants were asked the following questions to clarify the questionnaire and the instructions:

- Are the instructions in the questionnaire protocol clear and understandable?
- Is the questionnaire clear and understandable?

- Are there instructions in the questionnaire protocol that should be changed, added, or deleted?
- Should any of the questions be changed, added, or deleted?

The results of the pilot study indicated the data collection instrument was acceptable for the phenomenology study. The pilot study participants did not recommend any changes to the questionnaire. The pilot study participants stated the questions and instructions were clear and understandable. The questionnaire allowed similar themes and patterns to be discerned from the data, which further supports the reliability and usefulness of the instrument.

Research Setting

Participants were recruited for the research study using social networks using a snowball sampling technique. The participants were asked to respond to a SurveyMonkey questionnaire using e-mail. Meeting with the participants face-to-face, by telephone, or teleconferencing was not necessary at any point in the study. E-mail was used as the media for communication with the participants. The location of the participants at the time of responding to the SurveyMonkey participant questionnaire was not significant to obtaining participant responses.

Demographics

The research population was a set of business analysts, programmers, and programmer analysts working in the United States with similar responsibilities and characteristics. The estimate for business analysis or computer systems analysis jobs is 544,400 (U.S. Department of Labor, 2013). The sample size of 20 business analysts,

programmers, and programmer analysts working in the United States was adequate and acceptable for a qualitative phenomenological study. According to Patton (2002), the sample size is sufficient when it is large enough to analyze the research problem and answer the research questions. A sample size of 20 or until data saturation occurs is sufficient for a qualitative study, according to Walden University and based on Moustakas's (1994) position that five to 25 participants are acceptable for phenomenological studies. The participants were informed about the study through social networks and snowball sampling technique. Participants were directed to a SurveyMonkey questionnaire. The participants selected were based on meeting the criteria I defined, as documented in SurveyMonkey Questions 1-5 descriptive characteristics that included job title, experience of working on a software development project, job responsibility while working on a software development project, frequency of communication when working on IT projects, and the type of communication used (see Appendix B).

There were 23 participants that responded to the questionnaire. Each participant was assigned a number, P1-P23. Two participants were eliminated, P22 and P23. These participants did not meet the criteria due to answering *NO* to Question 2, never having worked on a software development project. Sixteen men and five women participated in the research study. Job titles vary by organization but the responsibilities were the same as the job title of business analyst, programmer analyst, and programmer. Participants included six business analysts, two programmer analysts, three programmers, and 10 other job title specifications that included senior business/data analyst, systems support

analyst, IT associate director, systems analyst, network administrator, program manager, IT consultant, administration, and IT business consultant. Twenty-one participants worked on a software development project. The type of communication used by the 21 participants on a daily or weekly basis included e-mail, face-to-face meetings, telephone (mobile, desk, VOIP), teleconferencing (SKYPE, GoToMeeting, and other teleconferencing software), water cooler business chats, instant messenger, status reports, dashboards, and SharePoint. Elevator business chats was not a type of communication used by any of the 21 participants. The selection criteria data are presented in Table 1 and Table 2. Participants indicated on a daily basis 47% of communication encounters are through face-to-face meetings, 48% through e-mail, 43% through teleconferencing, and 33% through the use of the telephone (mobile and desk).

Participants were not compensated monetarily but were given a copy of the executive summary at the conclusion of the study. The participants provided data for the study using a questionnaire containing open-ended questions.

Table 1

Participant Job Title and Responsibility

Participant #	Job title	Job responsibility
P1, P3, P7, P9, P10, P18	Business Analyst	Requirements Gathering Production Support Project Management Implementation
P2	IT Business Consultant	Implementation
P4, P11	Programmer Analyst	Coding Project Management
P5	IT Consultant	Analysis
P6	Program Manager	Project Management
P8	Systems Analyst	Requirements Gathering
P12	IT Associate Director	Project Management
P13	Administration	Coding
P14, P15, P16	Programmer	Coding
P17	Senior Business/Data Analyst	Analysis
P19	Network Administrator	Testing
P20	Systems Support Analyst	Requirements Gathering
P21	IT Director	Project Management

Table 2

Participant Type of Communication and Frequency

Communication type	Frequency	Percentage of participants in agreement
Face-to-Face Meetings	Weekly	38%
Face-to-Face Meetings	Daily	47%
Telephone – Voice Over Internet Protocol (VOIP)	Weekly	19%
Telephone – Voice Over Internet Protocol (VOIP)	Daily	19%
Telephone – Mobile	Weekly	19%
Telephone – Mobile	Daily	33%
Telephone – Desk	Weekly	34%
Telephone – Desk	Daily	33%
E-mail	Weekly	24%
E-mail	Daily	48%
Teleconferencing – SKYPE	Daily	10%
Teleconferencing – SKYPE	Weekly	5%
Teleconferencing – GoToMeeting	Daily	10%
Teleconferencing – GoToMeeting	Weekly	14%
Teleconferencing – Other	Daily	43%

Communication type	Frequency	Percentage of participants in agreement
Water Cooler Business Chats	Daily	5%
Water Cooler Business Chats	Weekly	5%
Elevator Business Chats	N/A	N/A
Other: Instant Messenger, Status Reports, Dashboards, SharePoint	Daily	5%

(table continues)

Data Collection

The purpose of this qualitative phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. The questionnaire addressed the perspective of the participant concerning information sharing from management, information sharing among team members, and strategic direction of the organization in reference to the communication plan for IT projects. The information received from the questionnaire responses allowed similar themes and patterns to be discerned from the data to understand the processes, attitudes, interactions, and reactions of management, end users, and project team members when communicating while working on IT software development project.

The answers to the questionnaire generated rich data to answer the two research questions:

RQ1: What do business analysts, programmers, and programmer analysts believe are the causes of poor communication in the IT workplace that could lead to IT project failure?

RQ2: What do business analysts, programmers, and programmer analysts believe organization leadership should do to improve poor communication in the IT workplace? The data collection process defined in the protocol (see Appendix F) was followed:

1. Approval to conduct the study by the dissertation committee and Walden University. The IRB approval number is 09-25-14-0156948.
2. Participant selection using social networks and snowball sampling technique.
3. Approval by participant to be part of the study and to collect data by signing the informed consent form.
4. Establishing rapport with the participant and ensuring they understood the study, were willing to participant, and understood they could withdraw from the study at any time.
5. The participants were asked for questions and clarifications concerning the procedures and the research study process.
6. The participants were assured confidentiality and anonymity were of high importance to the researcher and their names would not be used within the study.
7. The participants were assigned a number P1- P21 to ensure confidentiality and anonymity. The average response time to answer the questionnaire was less than 10 minutes.

Data Analysis

The 21 participant (P1- P21) responses to the questionnaire were transcribed by me and imported into NVivo 10 for coding and analysis. The data was input by participant number and date. The data analysis process defined in the protocol (see Appendix F) included the following. First, the SurveyMonkey questionnaire (see Appendix J) was exported to a data file and printed to use in assigning a number to identify the selected participant. Each participant received an assigned number, P1- P21. The number was written on the printed document and added to the first column of the exported data file to identify the participant. The exported data file contained two lines of headings due to the multiple entries of some questions. The second line of headings were moved to line one, to ensure the import into NVivo 10 would recognize heading lines versus detail data lines. Second, after the participant number assignment, an open coding technique was used that entailed reading, examining, and writing notes on the printed documents of the 21 participant responses to the SurveyMonkey questionnaire. The open coding technique involved reading and examining the participant responses multiple times for common words and frequency of use of common words. Using the open coding technique allowed the assignment of labels to groups of emerging data (see Table 3). Axial coding allowed the identification and categorization of the relationships found in the data from the open coding that pertained to ineffective communication (see Table 3). The commonality across participants allowed a category of codes and themes to emerge from the data. The participant responses were examined multiple times to identify common information across the responses until no new information could be discerned

and the saturation of the data was obtained. Third, the exported participant responses were imported into NVivo 10 for extended coding and analysis of the data collected. Fourth and last, the data collected was input into NVivo10 by participant number and date. Trustworthiness, transferability, creditability, and dependability of the qualitative phenomenological study is reinforced through the use of NVivo analysis functions, the generation of charts, tables, and graphs that clearly show the process of coding and analysis of the data obtained provided an additional level of trustworthiness to the study.

Evidence of Trustworthiness

The steps of the data collection and analysis process were documented and stored in NVivo10 software. Credibility of study is established using this method. This process mitigates the potential for bias opinions and the incompleteness of data collected. The participants were provided an opportunity to clarify and to ask questions.

Credibility

The data collection protocol was followed and member checking provided the participants an opportunity to modify and/or clarify answers. No changes were made to participant responses. The responses from 21 participants were reviewed using an iterative process until data saturation, meaning no new information could be discerned from the data (Patton, 2002). Member checking helped to ensure my interpretations of the responses were accurate and authentic.

Transferability

The descriptions of the phenomena of ineffective communication as described by the lived experiences of business analysts, programmers, and programmer analysts were

documented in the findings. The design of the phenomenological study can be replicated and results compared possibly leading to improvements in communication within other disciplines and industries. The findings from the phenomenological study can be distributed to other disciplines and industries in an executive summary format. An executive summary was distributed to each participant.

Dependability

The process and procedures were documented and input into qualitative data analysis software NVivo 10. The data collection protocol was defined, documented, and reviewed with participants for understanding prior to the study. The pilot test provided the ability to test the questionnaire prior to the actual study. The pilot test resulted in no changes being made to the questionnaire. Member checking was used to ensure credible and accurate data was obtained using e-mail correspondence with participants. The study audit trail further establishes the dependability of the data, which includes the participant raw data, personal notes about the data, e-mail communications with participants, and consent forms. NVivo 10 served as a mean to import, store, and organize the data into categories to assist with analysis and interpretations.

Confirmability

I was the primary instrument in the phenomenological study collecting data for analysis, interpretations, findings, and reporting. I input the data collected into NVivo 10 software minimizing the risk for bias perspectives. I ensured the data collected was input into NVivo 10 accurately. I ensured the participants understood their role and the questionnaire protocol. I ensured the participants understood they could withdraw from

the study at any time. I ensured the participants understood they would be identified by a participant number not by name. The level of accuracy and attention to the defined detail process and procedures helped to establish a level of trust that the findings are accurate, and believable.

Research Results

Twenty-one participant questionnaires were exported from SurveyMonkey and transcribed. The transcripts were reviewed immediately after receipt. The data was manually analyzed, categorized, and coded for relevant experiences across the 21 participant's responses pertaining to the phenomenon of ineffective communication. The transcribed data was imported into NVivo 10 software by participant number and date. Nodes represent themes in NVivo 10. The nodes were identified to represent the coding of the transcribed data in relation to the research question. The identified themes allowed queries to be executed to assist with identification of patterns within the data. The themes based on the research questions were detailed in Table 3. The 10 communication behaviors or constructs associated with ineffective communication are detailed in Table 4 where 90% of the participants agreed that end users, management, and project team members believe they are displaying supportive behavior and 62% believed that disruptive behavior has an influence on ineffective communication.

The data collection process defined in the protocol (see Appendix D) was followed. The SurveyMonkey questionnaire was exported, printed, and explored. Each SurveyMonkey questionnaire was assigned a number to identify the selected participant, P1-P21. The printed SurveyMonkey questionnaires were analyzed for similar and

frequently used words across the participant responses. During this process, notes were written on the printed document that identified a theme or pattern in the data. The SurveyMonkey questionnaire responses were reviewed multiple times until no new information could be discerned from the data. Open coding and an iterative process of reviewing the SurveyMonkey data transcripts helped to ensure the accuracy of the coding and categorization. Axial coding allowed defining and assigning categories and themes to the data based on the information collected from participants P1-P21 (see Appendix D).

The categories identified that influence ineffective communication within IT software development projects included effective communication requirements (ECR), ineffective communication causes (IEC), business resources-people (BR-P), business processes (BP), project management (PM), outside vendor management (OVM), risk/challenges (RC), education (EDU), and financial obligations (FO). Within each of these codes, specific themes were identified with subthemes. Table 3 includes the results of the coding of categories and the emerging themes.

Table 3

Developed Codes using Manual and NVivo 10 Coding

Manual/NVivo codes/categories	Themes	Percentage of participants in agreement
Effective Communication Requirements (ECR)	Effective Communication Requirements • clear expectations • diverse input from multiple resources • feedback • listening • frequent communication and collaboration • written documentation	86%
Ineffective Communication Causes (IEC)	Factors influencing ineffective or poor communication • no face-to-face meetings • too reliant on e-mail for direction • inability to detail requirements • lack of written documentation • inadequate communication plan • procedures and processes inadequate • approval process inadequate	100%
Business Resources-People (BRP)	People • support • buy-in of stakeholders • staffing – employees (internal and external) • transparency • accountability • teamwork	100%

Manual/NVivo codes/categories	Themes	Percentage of participants in agreement
Business Processes (BP)	Business Procedures and Processes • Goals, Strategy • Functionality • Information Management • Business Terminology • IT Terminology	81%
Project Management (PM)	Project Management • Project Status • Transparency • Accountability	76%
Outside Vendor Management (OVM)	Vendor Management • Consultants • Processes • Training	9%
Risk/Challenges (RC)	Risk Management • Conflict Management • Disaster Recovery • Change Management	81%
Education (EDU)	Education • Training • Communication skills • Knowledge management • Time management	62%
Financial Obligations	Project Cost	9.5%

(table continues)

Table 4

Ten Communication Behaviors or Constructs

Questionnaire	Communication behavior or construct	Percentage of participants in agreement
Q7, Q12, Q13, Q14, Q15, Q16, Q17	Supportive	90%
Q7, Q8, Q12, Q13, Q14	Disruptive	62%
Q8, Q12, Q13, Q15, Q16	Authoritative	38%
Q7, Q12, Q13, Q14, Q15, Q16	Cooperative	38%
Q7, Q9, Q12, Q13, Q14, Q16	Champion Feedback	33%
Q1, Q16, Q17	Advocate Teamwork	29%
Q7, Q8, Q13, Q16, Q17	Good Listener	24%
Q7, Q8, Q12, Q13	Insubordinate	24%
Q7, Q8, Q12, Q13, Q14, Q15	Passive	24%
Q12, Q15, Q16	Collaborative	14%

The data revealed the reasons for poor communication include multiple issues. The participants identified the following list of potential causes of poor communication in response to research question RQ1:

> RQ1: What do business analysts, programmers, and programmer analysts believe are the causes of poor communication in the IT workplace that could lead to IT project failure?

The participants attributed potential causes of poor communication as, not understanding the problem to be solved with the software development effort correctly

and the inability to communicate to business associates the risks and challenges of software project implementation. Some participants expressed the quality of the information received from management and end users were inadequate to develop solutions that worked by the project team members. Participant P1 commented, “Maybe concern of being the messenger of bad news.” Participant P3 commented, “More information provided to team members.” A concern expressed by participants that lead to poor communication and software project failures relates to financial concerns of management, the overall cost, and the potential for being over budget. Participant P3 commented, “Trying to save money, not caring if a part of the implementation failed, manager inexperience.” Another concern voiced by participants relates to education, training and learning the business processes prior to coding a program. Participant P5 commented, “More clarity, time invested in explaining the business process, as opposed to what they feel the IT process should be. I understand the tech, but I don’t necessarily know their business.” The concern regarding education about the business processes was echoed by participant P6, who mentioned, “Education of process.” Participant P7 commented, “The ability to deliver clear, concise descriptions of the business issue.” The participants seemed to echo the idea that end users, management, and project team members need to understand the business process and be able to document clear, concise specifications, and requirements for software development. Another point expressed by participants concerns listening skills. Participants believed listening was key in communication and repeating what was heard. Participants stress this technique would provide the opportunity to clarify requirements prior to starting to code.

The participants identified the following list of potential improvements to communication plans and processes in response to research question RQ2:

> RQ2: What do business analysts, programmers, and programmer analysts believe organization leadership should do to improve poor communication in the IT workplace?

The participants' responses revealed effective communication requirements (ECR) includes a need for management and end users to keep the project team members involved in the software development project life cycle. Participant P1 commented that end users should "Keep them involved and seek their input so that they are involved." Concerning management P1 stated, "Be clear, forth-coming and communicate often." Concerning project team members P1 stated, "Communicate in a manner that refers to a team (employees and vendors) so that all have buy-in." Participant P2 commented, "Be encouraging and helpful to each other." Participant P3 commented, "Provide opportunities to meet clients in a fun environment for building relationships." Participant P3 made a point that management should provide training, and all team members must be provided with the same information. Other participants shared this sentiment of inclusion and having the right people involved in the software development project. Participant P4 commented, "Have the right people be part of the project and have ownership in the outcome that improves any communication."

Participant P5 shared, that end users and project team members need to be aware of deadlines, have regular follow up, feedback and discussions. Participant P5 stated, "Provide clarity on deadlines, follow up with developers on a regular basis to discuss

issues." The participants shared a common idea that constant feedback and sticking to the original design plan was important for project successes. Participant P5 stated, "Provide ongoing updates, particularity to timeline; boldness in sticking with original design and scope, instead of constant shifting." Participant P6 stated, "Transparency." Participant P6 stated, "Communication skills are needed to be successful and education of process, identification of requirements, and execution of requirements" as being important to improve communication.

Participant P7 expressed, "Coach and measure" as a means to improve communication between end users, management, and project team members. Participant P8 commented, "Simple and straight forward communication, concise and to the point, and accountability" as a method to improve communication. Participant P9 commented, "Using a production support tool instead of e-mail or telephone to capture and communicate production issues." This participant believed that management should advocate a sense of fairness, compassion, and empathy in dealing with end users and project team members. Participant P9 stated, "Allow team to perform duties without management micro managing."

The comments by participants led to the development of nine themes related to ineffective communication causes and identification of behavior or constructs associated with ineffective communication between end users, management, and project team members.

Theme 1: Effective Communication Requirements

The participant responses revealed effective communication requirements (ECR) includes presenting clear expectations, receiving diverse input from multiple resources, and feedback. Good listening skills including repeating what is heard, frequent communication and collaboration between end users, management, and project team. The participant resources pointed to the importance of written documentation, emotional intelligence including compassion and empathy for others. Theme 1 was shared by 86% of the participants. Participant P1 commented, "To communicate in a way that you are their advocate (end users), you understand their issues and want to make their work better. Listen and repeat what you hear."

Table 5

Effective Communication Requirements

Effective communication requirements	Percentage of participants in agreement
Clear expectations	86%
Diverse input from multiple resources	
Feedback	
Good listening skills	
Frequent communication and collaboration	
Written documentation	
Emotional intelligence	

Theme 2: Factors Influencing Ineffective Communication

The participant responses revealed that ineffective communication causes (IEC) surround multiple factors between management, end users, and the project team. Factors that influence ineffective or poor communication included limited or no face-to-face meetings for discussion of software project requirements and issues. Participants stressed being too reliant on e-mail for communication of directions and requirements, the inability to detail requirements for understanding by end users, management, and project team. Another point by the participants was the lack of written documentation, inadequate communication plans, inadequate procedures and processes to govern software development within the organization, and an inadequate approval process. Theme 2 was shared by 100% of the participants. Participant P7 commented, “Poor understanding of business process, poor understanding of technology, and required specificity.”

Table 6

Factors Influencing Ineffective Communication

Factors influencing ineffective communication	Percentage of participants in agreement
No face-to-face meetings	100%
Too reliant on e-mail for direction	
Inability to detail requirements	
Lack of written documentation	
Inadequate communication plan	
Procedures and processes inadequate	
Approval process inadequate	

Theme 3: People

An organization needs people to provide software development and other IT services. The theme of people emerged from participant responses. People are the organizations greatest resource and have a need to work with end users, management, and the project team in a manner that is conducive to gaining success. However, people do not always work well together due to miscommunication between the parties. Participant P11 believed the attitudes, interactions, and reactions of end users, management, and project team members was good when communicating on a software development project. P11 stated communication with end users was *formal*, communication with

management, “usual employee to boss relationship,” and communication with project team members, “less formal.” Participant P12 stated, “Managers have a desire to solve problems and so does the project team, the managers provided feedback.” Participant P12 believed the attitude of the end user was an attitude of being grateful for the assistance. However, P12 believed the interactions of the end user lacked detail concerning the project information shared, and the feedback received lacked detail. The reactions of the end users were one of relief that the project was moving to production, regardless of the fact issues were unresolved. In regards to the differences in how people communicate, Participant 12 stated, “End users tend to provide a limited amount of details when asked to provide information.” Management tends to provide “only macro level information,” and project team members provide a substantial amount of technical details. Participant 13 believed, “End users are not technology savvy and require less technical details when information is provided.” P13 said that management “Don’t want the details.” Participant 14, in regards to end user, management, and project team member attitudes, interactions, and reactions stated, “Usually easy going unless receiving pressure from high ups.” Participant 14 believed that people fail to document processes when created or changed which leads to miscommunications and invalid information. This participant believed there are “too many executives with differing agendas,” all stakeholders are not working toward the same goal. Participant P4 stated, “Key people too busy to make time for you,” leads to ineffective communication. Participant P12 stated that people had to double test applications because the workflow process was not supportive of the software development environment. Participant P19 said, “People are usually on board and buy-in

to the project initially, but become contentious before project is concluded." Participant P17 thought, "The person in the department that was a subject matter expert was uncooperative as they believed they would lose their job once the project was completed." The theme of people was shared by 100% of the participants. Participants shared that end users, management, and project team member behaviors change depending on the circumstances surrounding the communication effort. At times the attitudes, interactions and reactions are laid back, friendly, supportive, a no blame mentality. In addition the attitudes, interactions and reactions are angry, a sense of frustration, a feeling of urgency, or surprised depending on the need for the communication engagement. The attitudes, interactions, and reactions can change during the process from positive to negative.

Table 7

People

People	Percentage of participants in agreement
All Participants	100%

Theme 4: Business Procedures and Processes

Goals, strategy, functionality, information management, business terminology and IT terminology are concerns for ineffective communication during a software development project. Participant P14 stated "Too many executives with differing agendas," all stakeholders are not working toward the same goal. Participant P19 shared a similar thought that people buy-in to a project initially and toward the end become

contentious, angry, disruptive, and passive. Participant P1 shared that 20% of the people on a project team are reserved, too busy, a do not care to be involved attitude, and learn new procedures and processes. Participant P2 stated, "Hesitant to learn new ways and refer to how the old system worked." The participant data revealed some of the communication problems were a direct result of the challenges of learning new procedures and processes. The participant data revealed these communication problems occurred without the aid of end users, managers, and project team members involvement that have the required knowledge and skill set. A lack of understanding the goals of management and the goal of the software development project. Some of the communication problems were due to a lack of understanding the business processes, business terminology, and IT terminology. Participant P3 stated, "Managers do not always care about your challenges." The business processes of an organization must be communicated and understood by end users, management, and project team members to implement software development projects effectively. Theme 4 was shared by 81% of the participants.

Table 8

Business Procedures and Processes

Theme	Percentage of participants in agreement
Business procedures and processes	81%

Theme 5: Project Management

The participant data revealed ineffective communication problems was a direct result of poor project management and manager inexperience. Participant P4 stated, "Have the right managers." Participant P5 believed project managers should use e-mail, face-to-face meetings, telephone, and online project management systems to convey project information to end users, management, and the project team. Participant P6 stated, "Establish a check-list of issues to be discussed during project turnover and require management concurrence." Participant P7 believed effective project management involves the ability to deliver clear, concise descriptions of business issues. Participant P7 believed project management involved the ability to apply influence within the organization as needed, and the ability to think in broad terms about business issues. According to P7, a project manager needs to strike a balance when providing information to end users, management, and project team. Provide the detail of the technical functions to the project team, and provide less technical knowledge to management. Participant P12 shared this sentiment, "End users tend to be limited in terms of detail when asked to provide information, management only macro level information is provided, and project team members fairly heavy in terms of technical details." Project management requires full use of multiple mediums for communication. Project managers need face-to-face meetings, e-mail, telephone, and teleconferencing when managing a software development project. Participant P16 believed effective communication when managing a project requires more direction from end users to the project team, more delegation of

requirement gathering among management, and more understanding of the end user functions by the project team. The theme was shared by 76% of the participants.

Table 9

Project Management

Theme	Percentage of participants in agreement
Project management	76%

Theme 6: Vendor Management

The participant data revealed ineffective communication was a direct result of vendor management problems. Organizations outsource as a means to reduce the cost of software development. Outsourcing requires effective communication to be successful. Participant P1 shared that management have a difficult time holding vendors responsible for software projects. Managers at times appear to be surprised that vendors did not understand the requirements leading to useable software development. Participant P1 stated, "With a vendor involved it appears to be them versus us and starting to point fingers at each other problems occur." When organizations have businesses located globally, communication becomes more important to ensure software development is successful. Participant P10 stated "As a global organization there have been implementations in the UK without any communication to North America. Without communication the result led to numerous support calls and corrections for the way the United States did business." Two participants, P1 and P10, contributed insights to the vendor management theme. The theme was shared by 9% of the participants.

Theme 7: Risk Management

The participant data revealed ineffective communication was a direct result of failing to manage challenges and risk. Participant P17 stated "Project team attitudes depends on the subject but has ranged from truly wanting to understand to resisting change." End users tend to resist change and are fearful of moving away from what works. Managers tend to seek information at a higher level and are not concerned with communication of details. This participant believes in some instances this is a failure to communicate, especially when the software development project has a high level of risk associated with an implementation of the changes. In response to how to improve communication in this instance, P17 was *not sure*. The theme was shared by 81% of the participants.

Table 10

Risk Management

Theme	Percentage of participants in agreement
Risk management	81%

Theme 8: Education and Training

The participant data revealed ineffective communication was a direct result of a failure to provide education and training to end users, management, and project team members concerning business processes, procedures, and project goals. Participant 3 believed additional training and problem solving skills are required to be successful communicators. Participant 3 stated education and training was needed for end users, management, and project team. Participant 4 said, "You need the right skills, experience, and knowledge to have good communication." Participant 6 commented in reference to end users being subject matter experts requires more education of the business processes. This theme was shared by 62% of the participants.

Table 11

Education and Training

Theme	Percentage of participants in agreement
Education and training	62%

Theme 9: Cost

The participant data revealed ineffective communication occurs as a result of financial concerns related to project cost. End users and management request changes to applications that require multiple resources from people to equipment in some cases. Management is more focused on the financial cost of an implementation than implementing a workable solution. Participant P2 stated as a reason for poor communication, "trying to save money, not caring if a part of the implementation failed, manager inexperience." Participant P18 stated that management, "Focus on time = dollars." When management and end users continue to make changes to the requirements of a project, the cost continues to escalate. Two participants, P2 and P18, contributed insights to the cost theme. The theme of cost was shared by 9.5% of the participants.

Summary

The purpose of this qualitative phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. Twenty-one business analysts, programmers, and programmer analysts participated by responding to a SurveyMonkey questionnaire. Identification of nine themes led to an understanding regarding the experiences of business analysts, programmers, and programmer analysts in relation to the reasons for ineffective communication between end users, management, project teams, and the correlation to 10 behaviors or constructs associated with communication which are supportive, authoritative, disruptive,

collaborative, cooperative, insubordinate, advocate teamwork, good listener, champion feedback, and passive. Chapter 5 contains the conclusions and recommendations based on the findings presented in Chapter 4. In addition, Chapter 5 provides the study conclusions, interpretation of the study, relationship to social change, limitations of the study, and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. Jobs in business analysis or computer systems were estimated at 544,400 (U.S. Department of Labor, 2013). By exploring the communication practices and identification of behaviors or constructs associated with ineffective communication between end users, management, and project teams, IT management might be able to improve communication strategies and plans leading to elimination or stalling of the downward spiral of IT project failures and result in social change for stakeholders.

Interpretation of the Findings

Twenty-one participants responded to a SurveyMonkey pilot tested questionnaire. Open and axial coding allowed the identification and categorization of the relationships found in the data from the open coding that pertained to ineffective communication. Responses by the participants provided rich data that led to nine themes and the findings in answering RQ1: What do business analysts, programmers, and programmer analysts believe are the causes of poor communication in the IT workplace that could lead to IT project failure?

Based on participant responses effective communication requirements (ECR) means end users, management, and project team members need to provide clear expectations for the software development project. The participant responses indicated that clear expectations for the project, the end goal of the organization and the reason

behind the modification or new application should be provided to the project team. People have a need to understand the reason for the project to develop a sense of owning the project. The stakeholders involved in the project are from various units within the organization to ensure requirements are addressed for each unit and the effect on each unit. The stakeholders are required to be cooperative, a team player, and to use effective communication. This finding corresponds to the beliefs of Nevo, Benbasat, and Wand (2012) who suggested factors that influence-obtaining information includes effective communication skills, an attitude of cooperation and trust among the stakeholders.

The participants shared that there are challenges working within virtual teams that includes language, culture, and at times the ICT used may have malfunctions impeding effective communication. The stakeholders might work within virtual team environments requiring the use of ICTs to communicate making it more essential to use communication behaviors that are conducive to success. These findings point to the research of Neufeld et al. (2010) who stated ICT allow organizations to share knowledge from remote locations. The location of the employee engaged in communication is a nonfactor with the advancements in ICT. However, the leadership, communication style, and behavior of the people engaged in discussion regardless of location and method used is a factor. End users, management, and project team members require effective communication styles and behaviors for success regardless of the method used to communicate. These findings are consistent with Neufeld et al. (2010), who argued that communication within virtual work environments at times is not effective or sufficient due to leadership. These findings relate to the research by Kirzinger, Weber, and Johnson (2012), who summarized that

genes and environment play a role in how people communicate. Understanding communication behaviors allows understanding the motivation behind the way people communicate. Feedback on project requirements and project status should occur from the start to the end of a project. End users, management, and the project team need to use critical listening skills. Listen and repeat the information heard to verify understanding and to limit miscommunication. End users, management, and the project team need to communicate frequently collaborate. End users have the information necessary to design innovative solutions for application problems. Building trust and a spirit of cooperation with end users, and providing open, honest, and detailed requirements increases the opportunity for project success. Critical to project success was the importance of written documentation, e-mail, telephone, IM, SharePoint or other repository for information and face-to-face meetings including teleconferencing technologies.

In some cases, ineffective communication causes (IEC) stem from no face-to-face meetings to discuss the software project. People have become reliant on e-mail and other online tools for project requirements and project status. The participants stressed the importance of including face-to-face meetings when gathering requirements. Participants pointed out the need to convey project status during the project. The participants did not reference gender as a cause of ineffective communication. This finding did not support the research by Kapidzic and Herring (2011), who argued that women are more outspoken in virtual environments than men. The participants pointed to a sense of interactive and interpersonal communication styles and behaviors regardless of the

gender. More specific questions pertaining to gender and age could be a second component to extend the research study.

Business resources-people (BR-P) are essential for effective communication. People should be supportive and buy-in to the software development project to ensure effective communication and project success. The participants stressed the importance of internal and external business partners buying in to the project. The business processes and procedures need to be followed by the software development project team, end users, and management. Transparency of procedures, processes, and project status is crucial to project success. An understanding that each person is accountable and should not be afraid to ask questions and seek answers from the subject matter experts. The participants stressed the importance of working together in a supportive manner, termed as teamwork, to accomplish the tasks. The leadership of project manager was important. Some participants believed the right project manager was the first step to ensure effective communication. These findings are consistent with research by De Vries, Bakker-Pieper, and Oostenveld (2010) who stated effective communication requires an effective leader who uses human oriented leadership. This human oriented leadership style includes expressing behaviors of friendliness, dominance, supportive, and caring behaviors. The participants noted that some leaders use a charismatic leadership style as defined by De Vries et al. (2010), which was associated with behaviors that are supportive, assuring, argumentative, precise, and nonaggressive from a verbal stance. The participants pointed out that end users, management, and project team members attitudes, interactions, reactions, reference some of the 10 behaviors or constructs identified in this study

including authoritative, supportive, passive, and disruptive behaviors. Some project teams had no documentation or a limited amount of documentation that lead to a breakdown in communication. The project team did not have written information to refer to during the software development project, and did not have access to subject matter experts to answer questions. The project continued without assurances the correct changes were being implemented. Management should ensure the communication plan is understood, subject matter experts are accessible, and information is accurate at all times. In some instances, management had not defined a communication plan for the organization, and there was not a communication plan for the software development project. The approval process for the software development project should be provided to end users, management, and the project team. There needs to be a responsible party that obtains check-off for each step of the project and the approval process.

The business processes (BP) and procedures need to be documented for review by others at any point during the project. The documentation serves as a means for people to evaluate information and to obtain answers to questions during the software develop project life cycle. People have a need to understand the reason for the software development project. People have a need to understand the organization goals, mission, and strategy. The functionality of the existing application is important to comprehend, so the new software application or changes do not cause existing processes to fail. Managing information within the organization, and the project team is of high importance. People have a need to understand the projects being worked on within the organization. The understanding of the projects provides a sense of inclusion and buy-in from the entire

organization. This method of inclusion makes people feel good about management, and the organization in which they work. People need skills in speaking at the level of the audience listening. When IT people are communicating and collaborating, IT terminology is acceptable. When IT people are communicating and collaborating with non-IT people, more business terminology is required to ensure effective communication. These findings are supported by the work of Goldkuhl and Lind (2008), who stated communication and agreement between parties as an essential component to project management.

Project management (PM) was revealed as a cause of ineffective communication. Some project managers do not have the skills and experience to manage the software development project. Transparency of procedures, processes, and project status is crucial to project success. An understanding that each person is accountable and should not be afraid to ask questions, and seek answers from the subject matter experts was important to project success. Project status should be conveyed to end users, management, and project team at an agreed upon schedule. These findings are supported by the work of Jetu and Riedl (2012), who believed project team success was derived from leadership, teamwork, behavior that is conducive to producing team cohesiveness, flexibility, the ability to adapt, a team collective spirit to meet team goals, and using communication skills at a level that leads to success.

Outside vendor management (OVM) was revealed as a cause of ineffective communication. Organizations use consultants to work on software development projects, but the consultants do not always have the skills and experience to develop workable solutions. Organizations need a method of informing and training outside

vendors about the business process and procedures prior to starting work on a software project. These findings are consistent with Manzin and Kodrič (2009) who believed the landscape of outsourcing has changed due to global economics and virtual workplaces. With the realization that organizations function in global virtual environments more education, training, and improved communication plans are required for successful project implementations.

Risk and challenges (RC) was revealed as a cause of ineffective communication. Organizations need a risk management plan to combat conflict, change management, and disasters. Management needs to understand that challenges arise within a project team that require their input to solve the problem. Some of the participants expressed concern that management is not always concerned with their challenges. The lack of concern by management can result in software project failures. These findings are consistent with Heyman, et al. (2009) who stated when the topic for discussion belongs to the communicator; the behavior may be different from the person who has no interest in the topic of the conversation. The leadership of the project needs communication behaviors displayed that show support and interest in the communicator's conversation. The interactions and the reactions of end users, management, and project team members require supportive and collaborative communication behaviors or constructs to succeed with project implementations.

Education (EDU) and training is crucial to software project development success. Many organizations do not provide training to employees. Employees learn new skills on their own or not at all. Employees require a specific skill set to be successful when

working on software development projects. These skills include listening, communication skills both verbal and written, time management skills and knowledge management. Cross training of employees was important. Subject matter experts require a backup subject matter expert. These findings are associated to research by Richards and Bilgin (2012) who suggested that educational training be inclusive of information communication technology (ICT) for students to learn how to communicate and work in cross-cultural environment prior to starting to work in a global industry. Some employees do not have the skill set for today's technological advanced work environments and require continuous educational and training opportunities. The participants believed effective communication does not become less important due to virtual team environments; it is more important because you are working in a global office environment. There are differences in culture, leadership, and understanding of what effective communication entails.

Financial obligations (FO) were revealed as a cause for ineffective communication. Management has a concern about escalating project cost and fail to allow project teams to gather complete requirements, code, test, and implement successful projects. There is a rush for implementation due to the project cost even when the project is not ready for implementation. These findings are consistent with Charette (2005), who stated IT project failure cost in the United States was estimated to be about $60 billion to $70 billion. When management fails to communicate with end users and project team members about project status and pushes the implementation forward regardless of the readiness of the software, results in higher cost to fix problems after the

implementation. The participants echoed a belief that improved communication interactions between project team, end users, and management could lead to a reduction in project cost.

Responses by the participants provided rich data that lead to findings in answering RQ2: What do business analysts, programmers, and programmer analysts believe organization leadership should do to improve poor communication in the IT workplace?

The participants believed to improve poor communication in the IT workplace organization leadership should provide clear lines of responsibility, include the right people for the tasks. Providing education, training, and coaching to employees, and monitoring and measuring employee progress in the area of communication skill building. The participants believed communication must be open, concise, and honest.

The methods used for communication across organizations include face-to-face meetings, e-mail, online tools for teleconferencing, SharePoint, messenger applications (IM), and telephone technologies (mobile, desk, VOIP). These methods of communication should be measured for successful use. Participants expressed that listening to project team, end users, and management with a critical ear was an important skill needed. The participants suggested repeating what is heard regardless of the method of communication used.

Participants shared other points to improve communication includes to seek stakeholder involvement (end user, management, project team, and subject matter experts), provide clear expectations, and the reason for the software project, provide detail for the software project in the form of structured requirements, functional

specifications, and technical specifications documents, provide project status frequently, and timelines, create a team environment for all (internal and external), and convey to stakeholders that time equals dollars for the organization as a whole.

Another point shared by participants involves management of people on a software development project. Participants suggested that managers should not micro manage and allow the project team to make major decisions as needed, ensure the project team includes the right people, be encouraging, supportive, transparent, accountable, and build relationships. Participants believed organization leadership must have compassion and show empathy. The ego of management, end users, and project team members should not be part of communication practices because it limits effective communication. People tend to withdraw from the conversation when ego, authoritative, or superior behaviors are exhibited.

The answers to the research questions lead to the identification and confirmation of 10 communication behaviors or constructs associated with ineffective communication through examination of the words used by participants and generating word queries in NVivo 10. Supportive behavior or constructs was shared by 90% of participants. Authoritative behavior or constructs was shared by 38% of participants. Disruptive behavior or constructs was shared by 61% of participants. Collaborative behavior or constructs was shared by 14% or participants. Cooperative behavior or constructs was shared by 38% of participants. Insubordinate behavior or constructs was shared by 23% of participants. Advocate teamwork behavior or constructs was shared by 28% of participants. Good listener behavior or constructs was shared by 28% of participants.

Champion feedback behavior or constructs was shared by 33% of participants. Passive behavior or constructs was shared by 23% of participants (see Appendix K).

This examination of the words used revealed that supportive behaviors or constructs, (90%), are used by end users, management, and project teams members but there is still a problem with implementing successful IT projects. People believe they are being supportive but are not communicating at a level that allows success to overcome the obstacles and challenges encountered when working on IT projects. There was evidence from participant responses that more work was required to garner effective communication while working on IT software development projects. Figure 3 represents the percentages of communication behaviors or constructs identified in the participant responses that contribute to ineffective communication. The percentages based on the participant responses were supportive 24%, disruptive 16%, collaborative 4%, authoritative 10%, champion feedback 9%, passive 6%, good listener 7%, teamwork 8%, insubordinate 6%, and cooperative 10%. End users, management, and project team members attempted supportive behavior, but other behaviors tend to outweigh the value of the supportive behaviors or constructs, and IT projects continue to fail. This representation ties to the conceptual model of organizational information processing theory depicting behaviors or constructs, strategies, practices, and feedback that can contribute to ineffective communication. In addition, Figure 2 representation ties to the conceptual model of critical social theory depicting behaviors or constructs, strategies, and practices. The ten behaviors or constructs tie to the belief established in the literature that effective communication is required for understanding strategic goals, decision-

making, project management, requirements gathering, quality control, risk management, and organization leadership (Meadows, 2008; Senge, 1990). When communication is ineffective in the IT workplace chaotic and complex situations arise that can cause failures (Dryer, 2006). There are multiple factors that influence ineffective communication (Cerpa & Verner, 2009).

Limitations of the Study

Limitations of the research study included a scope narrowly focused on business analysts, programmers, and programmer analysts that have worked on a software development project within an organization in the United States. To obtain a comprehensive perspective, future research should include participants from within global organizations, but include those participants outside of the United States. Future studies of global participants would provide the lived experiences and perspectives of employees that communicate from multiple countries and the challenges encountered with ineffective communication. Communication behavior or constructs can be explored in other departments within the organization outside of IT. The end users are from various departments and could provide rich data for analysis and determination of emerging patterns and themes concerning employee behaviors that cause ineffective communication.

Recommendations

The recommendations founded on the findings from this study directly point to IT management implementing education and training programs for employees to understand business strategy, goals, business processes, and procedures. This recommendation is

directly supported by Theme 8: Education and Training, and Theme 1: Effective Communication Requirements. The mandate to ensure external business partners including consultants understand the business processes and procedures prior to starting work on software development projects. Ensure the reason the software development project was needed, conveyed and understood, and to receive buy-in from all stakeholders.

The recommendations were that end users, management, and project team members engage in open, honest, frequent, detailed discussions concerning the software development project. These discussions should take place using a combination of medians including face-to-face meetings, e-mail, telephone, and various online tools for written documentation. The recommendation to include the right stakeholders from the start of the project through the end of the project was important. The recommendation to have frequent status updates among end users, management, and project team, and to promptly raise concerns about the project is also necessary. There was a strong recommendation among participants to build relationships with the project team members, end users, and management. In addition, for end users, management, and project team members to display compassion and empathy. Genuinely act like you care about the people and the work. People want to solve problems and implement successful IT software projects, but they also want to be heard when faced with risk and challenges that place the project in jeopardy of success. The project team members understand that time is dollars to the organization, but they require the involvement of end users and management to design, code and implement successful projects. This recommendation is

supported by Theme 9: Cost. The recommendation for end users and management to buy-in to the project and make time for requirements gathering, meetings, questions, testing, and the approval phase is crucial for successful software implementations. This recommendation is supported by Theme 3: People, Theme 4: Business Procedures and Processes, Theme 5: Project Management, Theme 6: Vendor Management and Theme 7: Risk Management.

Eliminating the authoritative, passive, insubordinate, uncooperative, and disruptive behaviors or constructs associated with end users, management, and project team members' increases the opportunity to implement successful software projects. The recommendations founded on the findings from this study could lead to management implementing communication plan changes to improve interactions with end users and project team members. The findings could directly lead to social change for stakeholders through improved communication skills, solutions that work to solve problems in society and organizations. The recommendation to build an IT work environment where project expectations are clear, including verbal and written documentation, people are supportive and cooperative, collaborate with each other, work as a team, listen to each other, and provide constructive honest feedback was optimal for effective communication and successful IT project implementations. This recommendation is supported by Theme 1: Effective Communication Requirements, Theme 2: Factors Influencing Ineffective or Poor Communication, and Theme 3: People.

Implications

Implications of this study included theoretical and research oriented inferences related to communication between end users, management, and project team members' communication skills, business knowledge, and abilities in the area of IT software development based on the perspectives of programmers, business analysts, and programmer analysts. From a theoretical perspective, the CT, CST, and OIPT guided the research study based on the premise that the role of theories reinforce the processes and learning within the organization structure. These theories are the foundation for the study of workplace communication, leadership, culture, disorder between organization employees working on software projects, and disorder in development of software and hardware implementations.

The study confirmed that business analysts, programmer analysts, and programmers encounter ineffective communication based on management strategies, practices, project leadership, cultural challenges, and communication behaviors or constructs that are not conducive to developing successful IT projects. The study confirmed based on participant responses there was an association between ineffective communication, and the behaviors or constructs that include supportive, authoritative, disruptive, collaborative, cooperative, insubordinate, advocate teamwork, good listener, champion feedback, and passive during interactions with others while working on software development projects. The study confirmed that leaders, project team members and end users require a balance between social skills, emotional intelligence, and communication skills to be effective leaders, team players, and communicators. The

study confirmed that end users, management, and project team members believe they are supportive and communicating, but the result of the communication efforts are IT project failures, which indicates additional education about the software project, business processes, business procedures, and training are needed to become successful communicators.

Conclusions

The purpose of this qualitative phenomenological study was to explore the lived experiences of business analysts, programmers, and programmer analysts pertaining to the communication behaviors or constructs associated with ineffective communication. The research questions pertained to the identification of communication behaviors or constructs related to poor communication. The attitudes, interactions, and reactions of end users, management, and project team members was explored to develop a sense of understanding how communication breaks down between these parties leading to software development project failures. The determination that 90% of the participants indicated end users, management, and project team members believe they are supportive and communicating effectively, but not at a level that leads to project success in all cases. Based on the participant responses there are problems with communicating that require management, end user, and project team interventions to correct the problems encountered. The problems with communication stem from the wrong stakeholders involved in the project, not all stakeholders buying in to the project, a lack of gathering the correct project requirements, lack of documentation, no face-to-face meetings, using e-mail correspondence only to understand requirements for a project and project status,

cost of the project leads to a rush by management to implement in a short window of time, risk of implementation not documented and understood by all stakeholders, and attitudes of authority, inflexibility, passive, and disruptive behaviors or constructs. Findings from the study supported a recommendation to include additional education and training for end users, management, and project team members in the area of improving communication skills, social skills, organization processes, and procedures.

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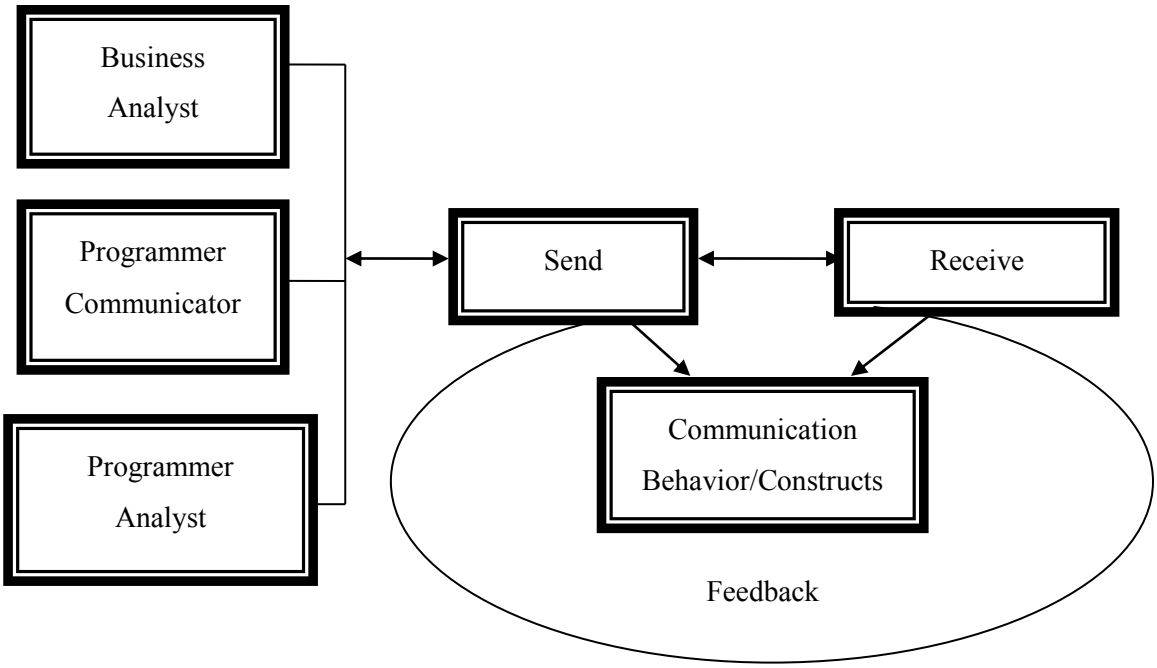
Appendix A: Communication Behaviors or Constructs

Communication Behaviors or Constructs	1. Supportive
	2. Authoritative
	3. Disruptive
	4. Collaborative
	5. Cooperative
	6. Insubordinate
	7. Advocate Teamwork
	8. Good Listener
	9. Champion Feedback
	10. Passive



Appendix B: Interview Questions

The primary research questions pertain to the communication behaviors or construct that cause verbal and nonverbal communication to be ineffective at various times within the workplace. Questions 1- 6 are related to descriptive characteristics, questions 7-16 are derived from research question 1 (RQ1), and 17 derived from research question 2 (RQ2). The questions are administered using a SurveyMonkey participant questionnaire with provisions for follow-up by e-mail, telephone, and SKYPE sessions as needed. The questions were used for the pilot study and personal interviews.

RQ1: What do business analysts, programmers, and programmer analysts believe are the causes of poor communication in the IT workplace that could lead to IT project failure?

1. What is your job title?
2. Have you worked on a software development project?
3. What was your job responsibility when working on the software development project?
4. What is the frequency of communication within the workplace when working on information technology projects?
5. What type of communication is used in the workplace?
6. What is your gender?
7. Tell me about a work related experience when there was poor communication doing the gathering of requirements, coding, testing, or during the implementation into production of the IT project.

Gathering requirements –

Coding –

Testing –

Implementation into production –

8. What do you believe were the reasons for the poor communication?

9. How do managers, project team members, and end users provide IT project information to you, face-to-face, virtual environment (SKYPE or other similar teleconference software), written documentation, telephone, or e-mail?

   End users –

   Management –

   Project team members –

   Other (please specify) -

10. Tell me how you provide feedback to end users, management, and project team members when project information received is not understood.

    End users –

    Management –

    Project team members –

11. How does management, end users, and project team members communicate to you project information you provided to them is not understood?

    End users –

    Management –

    Project team members –

12. Tell me about the attitudes, interactions, and reactions of the project team members when communicating.

    Attitudes –

    Interactions –

    Reactions –

13. Tell me about the attitudes, interactions, and reactions of the managers when communicating.

    Attitudes –

    Interactions –

    Reactions –

14. Tell me about the attitudes, interactions, and reactions of the end users when communicating.

Attitudes –

Interactions –

Reactions –

15. What are some of the differences in communication between you and end users versus between you and management, and you and the project team members?

End users –

Management –

Project team members –

16. To improve communication, what communication skills do you believe are needed?

RQ2: What do business analyst, programmers, and programmer analysts believe organization leadership should do to improve poor communication in the IT workplace?

17. To improve communication, what can organization leadership do to improve communication between you and end users, management, and project team?

End users –

Management –

Project team members –

Researcher: Vanessa Mackey Data Collection Date: _____

Data Collection Method	**Email**	☐
	Telephone	☐
	SKYPE	☐
SurveyMonkey Participant Questionnaire		☐

PARTICIPANT # _____

The following information is retrieved from the SurveyMonkey Participant questionnaire

Participant Email Address: _____ Participant Telephone #: _____

(Email address and telephone # is removed prior to input in NVivo - used for contact with participant only)

1. Participant Role: Business Analyst ☐ Programmer ☐ Programmer Analyst ☐
2. Have you worked on a software development project? ☐ YES ☐ NO
3. What was your job responsibility when working on the software development project?

   Analysis ☐ Testing ☐ Quality Control ☐

   Requirements Gathering ☐ Project Management ☐ Production Support ☐

   Coding ☐ Implementation ☐ Documentation ☐
4. Communication Frequency: Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐
5. Communication Type: email ☐ Telephone - Mobile ☐ Telephone - Desk ☐

   Telephone - VOIP ☐ Face-to-Face Meetings ☐ Teleconferencing - SKYPE ☐

   Teleconferencing - GoToMeeting ☐ Teleconferencing - Other ☐

   Water Cooler Business Chats ☐ Elevator Business Chats ☐

   Teleconferencing - Other ☐
6. Gender: Female ☐ Male ☐

Interview Questions

7. Tell me about a work related experience when there was poor communication doing the gathering of requirements, coding, testing or during the implementation into production of the IT project.

Gathering requirements –

_____

_____

_____

_____

Coding –

_____

_____

_____

_____

Testing –

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_____

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_____

Implementation into production –

_____

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_____

_____

8. What do you believe were the reasons for the poor communication?

_____

_____

_____

_____

9. How do managers, project team members, and end users provide IT project information to you, face-to-face, virtual environment (SKYPE or other similar teleconference software), written documentation, telephone or e-mail?

End users –

_____

_____

_____

_____

Management –

_____

_____

_____

_____

Project team members –

_____

_____

_____

_____

10. Tell me how you provide feedback to end users, management and project team members when project information received is not understood.

End users –

_____

_____

_____

_____

Management –

_____

_____

_____

_____

Project team members –

_____

_____

_____

_____

11. How does management, end users, and project team members communicate to you project information you provided to them is not understood?

End users

_____

_____

_____

_____

Management –

_____

_____

_____

_____

Project team members –

_____

_____

_____

_____

12. Tell me about the attitudes, interactions, and reactions of the project team members when communicating?

Attitudes –

_____

_____

Interactions –

Reactions –

13. Tell me about the attitudes, interactions, and reactions of the managers when communicating.

Attitudes –

Interactions –

_____

_____

Reactions –

_____

_____

_____

_____

14. Tell me about the attitudes, interactions, and reactions of the end users when communicating.

Attitudes –

_____

_____

_____

_____

Interactions –

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Reactions –

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15. What are some of the differences in communication between you and end users versus between you and management, and you and the project team members?

End users –

_____

_____

_____

_____

Management –

_____

_____

_____

_____

Project team members –

_____

_____

_____

_____

16. To improve communication, what communication skills do you believe are needed?

_____

_____

_____

_____

17. To improve communication, what can organization leadership do to improve communication between you and end users, management, and project team?

End users –

_____

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Management –

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Project team members –

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Appendix C: Conceptual Models

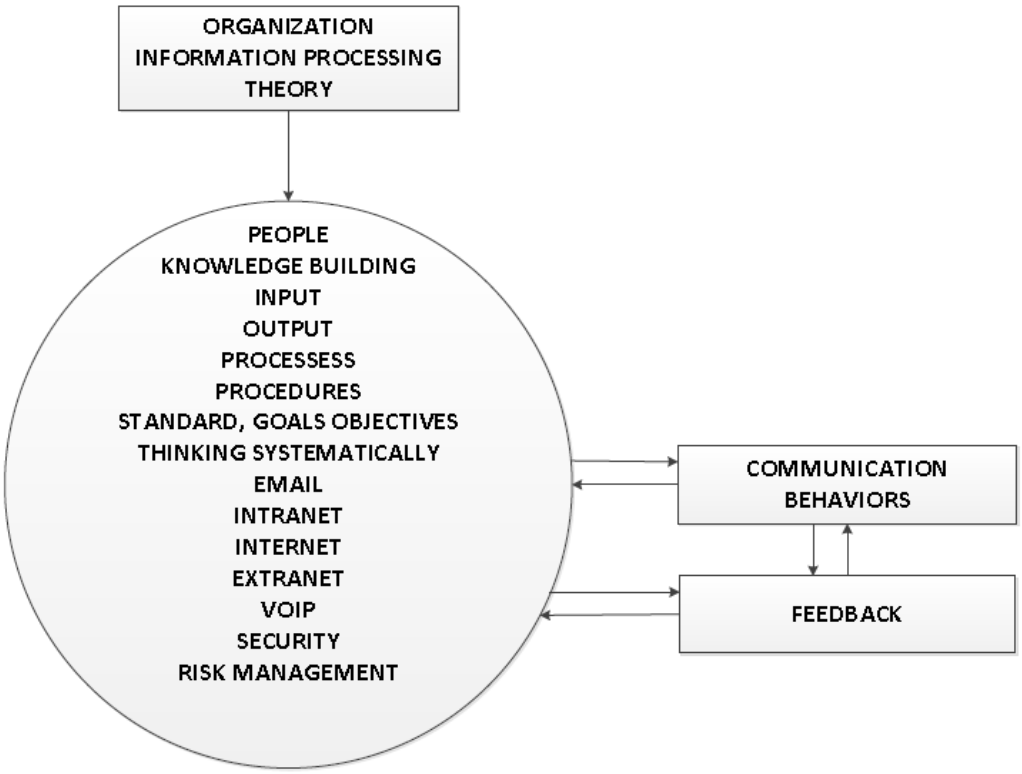


Figure 1. Conceptual model of organizational information processing theory depicting behaviors or constructs, strategies, and practices.

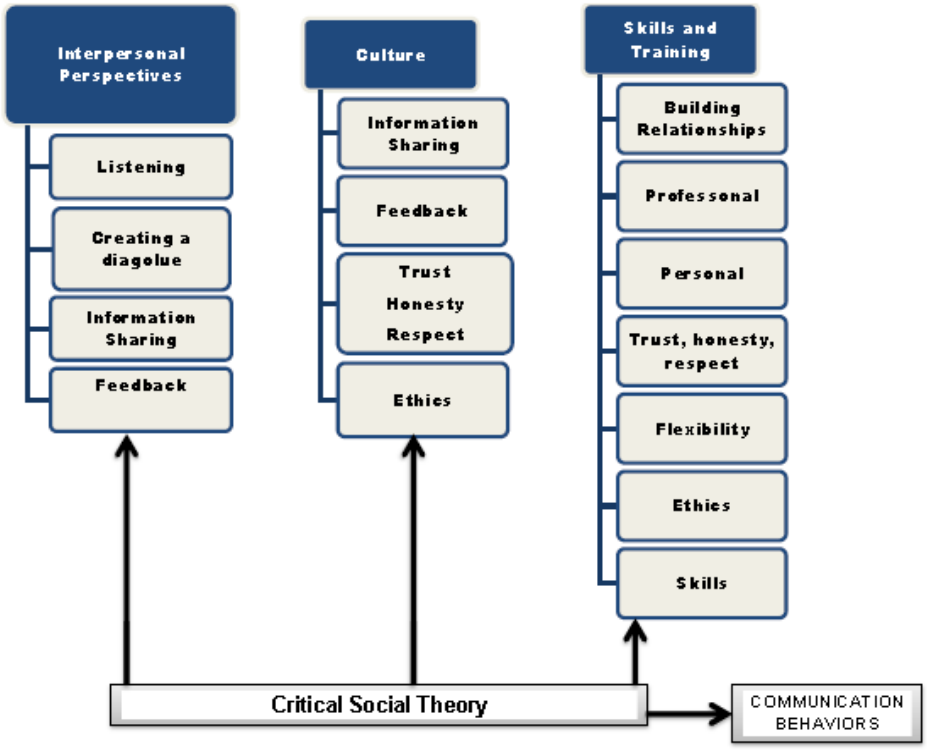


Figure 2. Conceptual model of critical social theory depicting behaviors or constructs, strategies, and practices.

Appendix D: Data Coding of Participant Transcripts

Researcher: Vanessa Mackey

Data Coding Date: _____Time: _____ Location: _____

Descriptive Characteristics – Question 1 - 6

PARTICIPANT QUESTION	**Participant Response**		**Coding**	**Categories**	**Themes**
Participant # _____					
1. What is your job title?					
2. Have you worked on a software development project?					
3. What was your job responsibility when working on the software development project?					
4. What is the frequency of					

communication within the workplace when working on Information Technology projects?					
5. What type of communication is used in the workplace?					
6. What is your gender?					

Research Question 1

What do business analysts, programmers, and programmer analysts believe are the causes of poor communication in the IT workplace that could lead to IT project failure?

Participant Question	**Participant Response**		**Coding**	**Categories**	**Themes**
Participant # _____					
7. Tell me about a work related					

experience when there was poor communication doing the gathering of requirements, coding, testing, or during the implementation into production of the IT project.					
Gathering requirements					
Coding					
Testing					
Implementation into production					
8. What do you believe were the					

reasons for the poor communication?					
9. How do managers, project team members, and end users provide IT project information to you, face-to-face, virtual environment (SKYPE or other similar teleconference software), written documentation, telephone, or e-mail?					
End users					
Management					

Project Team Members					
10. Tell me how you provide feedback to end users, management, and project team members when project information received is not understood.					
End users					
Management					
Project Team Members					
11. How does management, end users, and project team members communicate to you project					

information you provided to them is not understood?					
End users					
Management					
Project team members					
12. Tell me about the attitudes, interactions, and reactions of the project team members when communicating?					
Attitudes					
Interactions					
Reactions					
13. Tell me about the attitudes, interactions, and					

reactions of the managers when communicating?					
Attitudes					
Interactions					
Reactions					
14. Tell me about the attitudes, interactions, and reactions of the end users when communicating?					
Attitudes					
Interactions					
Reactions					
15. What are some of the differences in communication between you and end users versus between you and					

management, and you and the project team members?					
End users					
Management					
Project team members					
16. To improve communication, what communication skills do you believe are needed?					

Research Question 2

What do business analysts, programmers, and programmer analysts believe organization leadership should do to improve poor communication in the IT workplace?

PARTICIPANT QUESTION	**Participant Response**		**Coding**	**Categories**	**Themes**
Participant # _____					

17. To improve communication, what can organization leadership do to improve communication between you and end users, management and project team?					
End Users					
Management					
Project Team Members					

Appendix E: Participation Survey Request E-Mail - Actual Study

June 23, 2014

To Whom It May Concern – Request for Participant's in Research Study

My name is Vanessa L. Mackey. I am a doctoral candidate in the College of Management and Technology at Walden University. I am conducting a qualitative research phenomenology study as part of the requirements of my degree in Management with specialization in Information Systems Management. I would like to invite you to participate in the study. This study is sponsored by Walden University.

I am performing research to understand, and explore the perspectives on behaviors that cause ineffective communication in the work environment.

Purpose of the research
Effective communication is essential for organizations to thrive, remain viable, and competitive. The research question relates to what are the employee behaviors exhibited that cause communication failures within the Information Technology (IT) department, what are the behaviors that cause employees to ignore and adhere to organization strategic goals, what are the reasons for the behavior that cause communication failures and how can an organization mitigate the threat of ineffective communication. The research findings I hope can help organizations to discover new methods of communication and assist in improvements in decision-making and feedback.

Type of Research Intervention
The research involves a purposeful sample of 23 participants, 3 for pilot study, and 20 (or until saturation occurs) selected for the actual study by using social networking and a snowballing technique. The snowballing technique occurs when the social network contact provides the participation survey request e-mail to another person. Participants that are interested in completing a SurveyMonkey Participant questionnaire are asked to call or e-mail me their contact information and to indicate their interest in participating in the research study.

The first three participants using social networking and a snowballing technique that respond they are willing to participant in the study will be in the pilot study. The next 20 participants, or until saturation occurs, using social networking and snowballing technique that respond they are willing to participant in the study will be in the actual study. After all University approvals are received the participants that have indicated their willingness to participate in the study by e-mail or phone call will be assigned a number.

The participant provided e-mail address or phone number will be used to contact the participant to establish a time for an initial conversation by e-mail, phone, or SKYPE (based on participants preference) to review the research study purpose, procedures, process, review

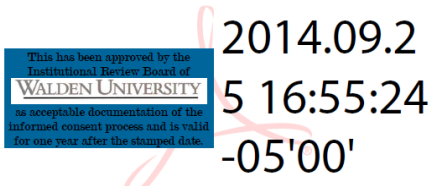
the informed consent form, and obtain a signature on the informed consent form. The informed consent form will be e-mailed to each participant for a signature and the participant is asked to return the informed consent form to me by e-mail.
After the informed consent form is received, the next step is to invite the participant to take the SurveyMonkey Participant questionnaire by clicking the URL https://www.surveymonkey.com/s/DDHTHL6 to enter the survey responses for the actual study.

The next step is to invite the participant to half hour follow-up interviews as needed by e-mail, face-to-face, or SKYPE. This session is to clarify responses to SurveyMonkey Participant questionnaire questions. The session could include audio, by e-mail, telephone, or teleconference, SKYPE for a period of 2 months or less. The sessions will be pre-arranged by e-mail or phone to meet the requirements of the participants and can be rescheduled when required.

An executive summary of the research study findings will be provided to participants upon completion of the study using the e-mail address provided by the participant. Participants will not be compensated.

Please contact me at XXXXXXXXXXXXXXX or call me at XXX-XXX-XXXX with questions. Thank you for your time and consideration.

Best regards,
Vanessa Mackey
Doctoral Candidate – PhD in Management
Walden University
XXXXXXXXXXXXXXXXXXXXXXXXXX



Appendix F: Data Collection Protocol

- The researcher obtained written approval and consent from Walden University Institutional Review Board (IRB) prior to data collection. Walden University IRB Approval # 09-25-14-0156948.
- The researcher will send an e-mail participant request letter using social networking and snowballing technique to potential participants requesting interest and participation in the study (see Appendix L).
- The researcher secures written authorization and permissions from the participant to conduct the phenomenology research study and collect data (see Appendix G).
- The researcher will send an e-mail notification announcing the study and requesting participation in the study using the participant e-mail address (see Appendix E). The participant's willingness to participate in the study is indicated by clicking on the URL https://www.surveymonkey.com/s/DDHTHL6 and taking the SurveyMonkey participant selection questionnaire (see Appendix J).
- The data organization strategy is by participant number, date of data collection, and method of data collection.
- The participant informed consent form notes the participant's identity is confidential at all times during the study and after the study.
- The researcher will collect responses from the SurveyMonkey participant selection questionnaire, and analyze the responses for five required criteria:
    - Job title of business analyst, programmer, or programmer analyst
    - Worked on a software development project

    - Job responsibility when working on the software development project was analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support, or documentation
    - Daily, weekly, monthly, or yearly communication frequency
    - The type of communication used is e-mail, VOIP, face-to-face meetings, teleconferencing meetings, water cooler or elevator business chats.
- The participant selection SurveyMonkey questionnaire is used to gather descriptive characteristics and other pertinent information to the study (e.g., gender).
- The researcher will notify the first 23 participants that meet the criteria of their selection to participate in the study using the supplied e-mail address.
- The researcher assigns a number to identify the selected participant. For the duration of the study, the assigned number will identify the participant. The e-mail address will only be retained to contact participant to arrange a meeting for the signing of the informed consent form, and to arrange follow-up interviews. The e-mail address is not disclosed within the study.
- The researcher contacts the participant selected by e-mail to arrange follow-up interviews as needed (see Appendix G and D).
- The participant follow-up interviews take place by telephone, face-to-face using teleconferencing application, SKYPE, and e-mail. The participant will determine the method to use for the follow-up interview that is most conducive to their time constraints.

- The data collection process uses a SurveyMonkey Participant Questionnaire. The follow up interviews occur within a specific timeframe dependent upon the participant's schedule. It is possible several interview sessions will be conducted, depending on the need for follow up interviews.
- The participants will be asked for follow up interviews only by e-mail, telephone, and face-to-face using teleconferencing, SKYPE.
- The researcher is a participant in the sense of asking the interview questions, documenting the answers, and creating audio of the telephone and SKYPE follow up interviews. The participants will be asked the same research questions.
- The researcher will refrain from involvement in the follow up interviews and interjection of personal perspectives during the follow up interviews, the researcher will not inject bias perspectives, or engage in discussion of SurveyMonkey Participant questionnaire questions based on the experience of the researcher. The researcher is an instrument in documenting follow up interview answers during the session, and documenting field notes.
- The data collected is analyzed, coded, and input into NVivo software by me. Open coding assist to ensure the SurveyMonkey Participant Questionnaire data transcripts are accurate. Axial coding allows defining and assigning categories and themes to the data based on the information collected from participants (see Appendix D).
- The coding scheme used by the NVivo software allows one entry per participant number. I will input into the NVivo software transcripts of the interviews by participant number.

- NVivo is used to input the data in the phenomenological study database. The hard copy documents will be housed under lock, and key in my office file cabinet. The key to the office and file cabinet is kept by me; no other people will have access. The data downloaded to the NVivo software is secure on a laptop and backup USB drive housed in my office.
- The name of the participant will remain unknown due to coding of the participant number in the NVivo data file.
- NVivo software is used to house the data and to generate analysis. Using NVivo software I can analyze, generate reports, graphs, and manage the data collected effectively and accurately.
- I will record the answers to the follow up interview questions and transcribe after each session into the NVivo software.
- The NVivo software is used to input internal and external data generated from SurveyMonkey Participant Questionnaire, follow up interviews, literature, and for analysis of various themes and patterns that emerge from the input data collected.
- The NVivo software will allow me to look for key words across the SurveyMonkey Participant Questionnaire and follow up interview sessions.
- A pilot study is executed prior to the start of the primary study. The pilot study helps to establish that the SurveyMonkey Participant Questionnaire instructions and questions are clear and understood by the participants. The pilot study uses 3 participants that are not part of the 20 participants in the study (see Appendix B).

- The information in the informed consent is reviewed with each participant for understanding and clarification prior to starting the study.
- The information collected from the participants is reviewed with the participant. The participant can modify their SurveyMonkey Participant Questionnaire response transcript for clarity and corrections. The participants will be asked to approve the SurveyMonkey Participant Questionnaire transcript prior to inclusion in the study.
- The collected data records will be scanned into NVivo and securely stored on personal laptop computer. The paper documents will be shredded after 5 years; electronic documents will be erased.
- The researcher sends thank you e-mail to participants for their participation in the pilot and actual study after the participants express interest in participating (see Appendix N and O).

Appendix G: Informed Consent Form Actual Study

Qualitative Phenomenological Research Study Informed Consent - Actual Study

Informed Consent Form for a Qualitative Research Study

"Communication Constructs That Influence Information Technology Project Failure"

Informed Consent Form for Business Analysts, Programmer Analysts, and Programmers in Information Technology (IT)

Titled "Communication Constructs That Influence Information Technology Project Failure".

Name of Principle Investigator: Vanessa L. Mackey
Name of Organization: Doctoral Candidate
Name of Sponsor: Walden University
Name of Project: ***Informed Consent Form for*** **"**Communication Constructs That Influence Information Technology Project Failure" - A Phenomenology study – A Qualitative Research Study **–** ***Actual Study***

Part I: Information Sheet

Introduction
My name is Vanessa L. Mackey. I am a doctoral candidate in the College of Management and Technology at Walden University. I am conducting a qualitative phenomenology study as part of the requirements of my degree in Management with specialization in Information Systems. I would like to invite you to participate in the study. Walden University is the study sponsor.
I am performing research to explore, and understand the perspectives on communication behavior or constructs that can cause ineffective communication in the work environment leading to IT project failure.

Purpose of the research
Effective communication is essential for organizations to thrive, remain viable, and competitive. The question relates to what are the employee behaviors exhibited that cause communication and IT failures in the IT department, what are the behaviors that cause employees to ignore and adhere to organization strategic goals, what are the reasons for the behavior that cause communication failures and how can an organization mitigate the threat of ineffective communication. The research findings could help organizations to discover new methods of communication and assist in improvements in decision-making and feedback.

Type of Research Intervention and Participate Selection
The research involves a purposeful sample of 23 participants selected by using social networking and a snowballing technique. The snowballing technique occurs when the social

network contact provides the participation survey request e-mail to another person. Participants that are interested in completing a SurveyMonkey Participant questionnaire are asked to call or e-mail to me their contact information, which implies their interest in participating in the research study.

The first three participants using social networking and a snowballing technique that respond they are willing to participant in the study will be in the pilot study. The next 20 participants, or until saturation occurs, using social networking and snowballing technique that respond they are willing to participant in the study will be in the actual study. After all University approvals are received the participants that have indicated their willingness to participate in the study by e-mail or phone call will be assigned a number.

The participant provided e-mail address or phone number will be used to contact the participant to establish a time for an initial conversation by e-mail, phone, or SKYPE to review the research study purpose, procedures, process, review the informed consent form, and obtain a signature on the informed consent form. The informed consent form will be e-mailed to each participant for a signature and the participant is asked to return the informed consent form to me by e-mail. After the informed consent form is received, the next step is to invite the participant to take the SurveyMonkey questionnaire. An executive summary of the research study findings will be provided to the participant upon completion of the study by e-mail. Participants will not be compensated. The study begins only after Walden University approval.

The participant must be a business analyst, programmer, programmer analyst or related job title/role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation.
Question 1- 5 on the participant SurveyMonkey Participant questionnaire are related to inclusion criteria - participant job role – communication tools used, role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation.

Voluntary Participation
Participation in the phenomenology study is voluntary and confidential. Phenomenology study information will be input into a secure application NVivo. Documents will be housed in a locked file cabinet and office. The results of the study could be published as the PhD Dissertation requirement, and/or presented at professional seminars and meetings. It is your decision to participate or not to participate. If you select to participate, you may decide during the study to withdraw from participation at any time. Participants can request to eliminate their questionnaire from the research study. All participants identity is secure, and participates will be identified by a participant number only in the study.

Procedures

Participant signup and consent procedure

The participants will receive an e-mail requesting participation by taking the SurveyMonkey questionnaire. The e-mail will provide information about the purpose of the phenomenology study and provide explanation on confidentiality. The participant is stored in the file as participant 1, 2, 3, etc. The number is provided to the participant for retention and use in the study. The participant will only be known by the number. The participant will sign a consent form. The consent document provides authorization/and permission to administer the questionnaire, document, and record follow-up interviews using audio recordings for the study.

Use of NVivo software procedure

The NVivo software is used to input internal and external data generated from SurveyMonkey questionnaire (audio), literature, and for analysis of various themes and patterns that emerge from the input data. The researcher will import the data file into NVivo software. The consent documents will be included in the data imported into the NVivo software. The follow-up interview audio files will be imported into the NVivo software. NVivo software is used to store the data and to generate analysis. The software will generate reports and graphs based on the answers to each question. This software will ensure credibility and reliability of the data.

SurveyMonkey Questionnaire procedure

Participates will be asked to participate by answering questions contained in a SurveyMonkey questionnaire sent by e-mail. Any follow-up interviews are by e-mail, telephone, and SKYPE on multiple occasions as needed to clarify responses to questionnaire. The researcher is a participant in the follow-up interview sessions as an instrument to document data only. The data collected is analyzed and coded. The coding scheme allows an entry per participant number. The NVivo software will contain transcripts of the follow-up interviews (audio) and the audio file (.wav) for discovery of patterns across the identified themes in the data.

Member checking procedure

Participants will be contacted to arrange review of the participant questionnaire transcript for accuracy, changes, and approval prior to publishing findings. This can be completed by e-mail, phone, or SKYPE.

Sample SurveyMonkey Questionnaire questions

Two SurveyMonkey Questionnaire questions have been included to give you an idea of the types of questions you will be asked.

1. How does management, end users, and project team members communicate to you project information you provided to them is not understood?

2. Tell me about the attitudes, interactions, and reactions of the project team members when communicating.

Duration

The research to last two months or less. During that time, the researcher will have an initial contact using SurveyMonkey Participant questionnaire, and follow-up interviews not to exceed three follow-up interview sessions. The SurveyMonkey Participant questionnaire (survey) is 30 minutes or less.

Risks

There is not any risk to the participant's organization or the participants in the study.

Benefits

There is not a direct benefit to the participant and organization. The findings we hope will assist the participant and/or organization to learn new ways to improve communication.

Compensation

There are not any incentives to participate in the study. Participants will not be compensated. The participants will receive and executive summary at the end of the study.

Confidentiality

There is not an opportunity for the participants to be identified by name in the research findings. When the participant is selected, a number is assigned. The participant is known by a number within the study. The number is stored in the NVivo file as participant 1, 2, 3, etc. These precautions will ensure anonymity of participants during and after the study.

Sharing the Results

The research summary will contain the results of the analysis, reports, and graphs from NVivo. The researcher will not publish results to the participant's organization. A narrative story format will be used to document the results. Detail of the SurveyMonkey questionnaire will be included in the results. NVivo reports will provide the qualitative coded data for use in the summary. The results will allow the participant and organization to development methods to improve performance, profits, understanding of employee attitudes and opinions. Better decision making will be a result of the insights realized from the study. The information from the phenomenology study will allow new global partner relationships, relationship management, and improved communications and collaborations. The participants of the pilot and actual study will receive an executive summary of the findings by e-mail.

Right to Refuse or Withdraw

The participants have the right to withdraw from the study at any time by contacting the researcher at XXXXXXXXXXXXXXXXX.

Contact

The phenomenology study has been approved by Walden University. You may contact the Walden University Research Participant Advocate representative – Dr. Leilani Endicott, irb@waldenu.edu or 1-612-312-1210 with questions about your rights as a participant in the actual study. Walden University IRB Approval # 09-25-14-0156948

Part II: Certificate of Consent

I _____ have been invited to participate in research about behaviors that cause effective and ineffective communication in the work environment.

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about the study and the questions have been answered to my satisfaction. I consent voluntarily to be a participant in this study. I certify that I am 18 years old or older. I certify that I am not a resident of a facility (prison, treatment facility, nursing home, assisted living, or group home for minors). I certify that I am of sound mind and body.
Please check the statement that applies to your relationship to the researcher:
I am not a subordinate of the researcher _____I am a subordinate of the researcher _____

Print Name of Participant: _____
Signature of Participant: _____
Date _____
Day/month/year

Statement by the researcher/person taking consent

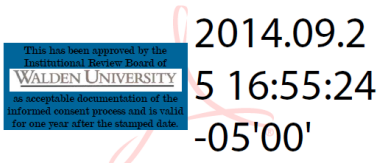
I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

1. SurveyMonkey Participant Questionnaire, and follow-up interviews with/without audio by e-mail, telephone, and SKYPE as needed.
2. Documentation of findings.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this consent form has been provided to the participant.

Print Name of Researcher/person taking the consent Vanessa L. Mackey
Signature of Researcher /person taking the consent
Vanessa L. Mackey **Date** _____



Appendix H: Participant Request Letter - Pilot Study

June 15, 2014

To Whom It May Concern

My name is Vanessa L. Mackey. I am a doctoral candidate in the College of Management and Technology at Walden University. I am conducting a qualitative research phenomenology study as part of the requirements of my degree in Management with specialization in Information Systems Management. I would like to invite you to participate in the study. This study is sponsored by Walden University. I am performing research to understand, and explore the perspectives on behavior that causes ineffective communication in the work environment.

Effective communication is essential for organizations to thrive, remain viable, and competitive. The research question relates to what are the employee behaviors exhibited that cause communication failures within the Information Technology (IT) department, what are the behaviors that cause employees to ignore and adhere to organization strategic goals, what are the reasons for the behavior that cause communication failures and how can an organization mitigate the threat of ineffective communication. The research findings I hope can help organizations to discover new methods of communication and assist in improvements in decision-making and feedback.

Type of Research Intervention

The participant must be a business analyst, programmer, programmer analyst or related job title/role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation. Interview Question 1- 5 on the participant SurveyMonkey Participant questionnaire are related to inclusion criteria - participant job role – communication tools used, role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation.

The research involves a purposeful sample of 23 participants, 3 for the pilot study, and 20 (or until saturation occurs) for the actual study. Participants are selected by using social networking and a snowballing technique. The snowballing technique occurs when the social networking contact provides the participation survey request e-mail to another person. Participants that are interested in completing a SurveyMonkey interview questionnaire are asked to call or e-mail to me their contact information which implies their interest in participating in the research study.

The first three participants using social networking and a snowballing technique that respond they are willing to participant in the study will be in the pilot study. The next 20 participants,

or until saturation occurs, using social networking and snowballing technique that respond they are willing to participant in the study will be in the actual study. After all University approvals are received the participants that have indicated their willingness to participate in the study by e-mail or phone call will be assigned a number.

The participant provided e-mail address or phone number will be used to contact the participant to establish a time for an initial conversation by e-mail, phone, or SKYPE to review the research study purpose, procedures, process, review the informed consent form, and obtain a signature on the informed consent form. The informed consent form will be e-mailed to each participant for a signature and the participant is asked to return the informed consent form to me by e-mail. After the informed consent form is received, the next step is to invite the participant to take the SurveyMonkey interview questionnaire. An executive summary of the research study findings will be provided to the participant upon completion of the study by e-mail. Participants will not be compensated. The study begins only after Walden University approval.

To confirm your interest in participating in the pilot study please contact me by e-mail or phone to confirm your interest and to answer any questions concerning the study. Please contact me at XXXXXXXXXXXXXXXXXXXXX or call me at XXX-XXX-XXXX. Thank you for your time and consideration.

Best regards,
Vanessa Mackey
Doctoral Candidate – PhD in Management
Specialization Information Systems Management
Walden University
XXXXXXXXXXXXXXXXX XXX-XXX-XXXX

Appendix I: Informed Consent Form – Pilot Study

Qualitative Phenomenological Research Study Informed Consent - Pilot Study

Informed Consent Form for a Qualitative Research Study

"Communication Constructs That Influence

Information Technology Project Failure"

Informed Consent Form for Business Analysts, Programmer Analysts, and Programmers in Information Technology (IT)

Titled "Communication Constructs That Influence Information Technology Project Failure".

Name of Principle Investigator: Vanessa L. Mackey
Name of Organization: Doctoral Candidate
Name of Sponsor: Walden University
Name of Project: ***Informed Consent Form for*** **"**Communication Constructs That Influence Information Technology Project Failure" - A Phenomenology study – A Qualitative Research Study **–** ***Pilot Study***

Part I: Information Sheet

Introduction
My name is Vanessa L. Mackey. I am a doctoral candidate in the College of Management and Technology at Walden University. I am conducting a qualitative phenomenology study as part of the requirements of my degree in Management with specialization in Information Systems. I would like to invite you to participate in the study. Walden University is the study sponsor.
I am performing research to explore, and understand the perspectives on communication behavior or constructs that can cause ineffective communication in the work environment leading to IT project failure.

Purpose of the research
Effective communication is essential for organizations to thrive, remain viable, and competitive. The question relates to what are the employee behaviors exhibited that cause communication and IT failures in the IT department, what are the behaviors that cause employees to ignore and adhere to organization strategic goals, what are the reasons for the behavior that cause communication failures and how can an organization mitigate the threat of ineffective communication. The research findings could help organizations to discover new methods of communication and assist in improvements in decision-making and feedback.

Type of Research Intervention and Participate Selection

The participant must be a business analyst, programmer, programmer analyst or related job title/role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation. Interview Question 1- 5 on the participant SurveyMonkey Participant questionnaire are related to inclusion criteria - participant job role – communication tools used, role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation.

The research involves a purposeful sample of 23 participants selected by using social networking and a snowballing technique. The snowballing technique occurs when the social network contact provides the participation survey request e-mail to another person. Participants that are interested in completing a SurveyMonkey interview questionnaire are asked to call or e-mail to me their contact information which implies their interest in participating in the research study.

The first three participants using social networking and a snowballing technique that respond they are willing to participant in the study will be in the pilot study. The next 20 participants, or until saturation occurs, using social networking and snowballing technique that respond they are willing to participant in the study will be in the actual study. After all University approvals are received the participants that have indicated their willingness to participate in the study by e-mail or phone call will be assigned a number.

The participant provided e-mail address or phone number will be used to contact the participant to establish a time for an initial conversation by e-mail, phone, or SKYPE to review the research study purpose, procedures, process, review the informed consent form, and obtain a signature on the informed consent form. The informed consent form will be e-mailed to each participant for a signature and the participant is asked to return the informed consent form to me by e-mail. After the informed consent form is received, the next step is to invite the participant to take the SurveyMonkey interview questionnaire. An executive summary of the research study findings will be provided to the participant upon completion of the study by e-mail. Participants will not be compensated. The study begins only after Walden University approval.

The participant must be a business analyst, programmer, programmer analyst or related job title/role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation.

Voluntary Participation

Participation in the phenomenology study is voluntary and confidential. Phenomenology study information will be input into a secure application NVivo. Documents will be housed in

a locked file cabinet and office. The results of the study could be published as the PhD Dissertation requirement, and/or presented at professional seminars and meetings. It is your decision to participate or not to participate. If you select to participate, you may decide during the study to withdraw from participation at any time. Participants can request to eliminate their interview from the research study. All participants identity is secure, and participates will be identified by a participant number only in the study.

Procedures

Participant signup and consent procedure

The participants will receive an e-mail requesting participation in the interviews. The e-mail will provide information about the purpose of the phenomenology study and provide explanation on confidentiality. The participant is stored in the file as participant 1, 2, 3, etc. The number is provided to the participant for retention and use in the study. The participant will only be known by the number. The participant will sign a consent form. The consent document provides authorization/and permission to interview, document, and record interviews using audio recordings for the study.

Use of NVivo software procedure

The NVivo software is used to input internal and external data generated from interviews (audio), literature, and for analysis of various themes and patterns that emerge from the input data. The researcher will import the data file into NVivo software. The consent documents will be included in the data imported into the NVivo software. The interview audio files will be imported into the NVivo software. NVivo software is used to store the data and to generate analysis. The software will generate reports and graphs based on the answers to each question. This software will ensure credibility and reliability of the data.

Interviews procedure

Participates will be asked for interviews by e-mail, telephone, and SKYPE on multiple occasions. The researcher is a participant in the interview sessions as an instrument to document data only. The data collected is analyzed and coded. The coding scheme allows an entry per participant number. The NVivo software will contain transcripts of the audio interviews and the audio file (.wav) for discovery of patterns across the identified themes in the data.

Member checking procedure

Participants will be contacted to arrange review of the participant interview transcript for accuracy, changes, and approval prior to publishing findings. This can be completed by e-mail, phone, or SKYPE.

Sample interview questions

Two interview questions have been included to give you an idea of the types of questions you will be asked.

1. How does management, end users, and project team members communicate to you project information you provided to them is not understood?

2. Tell me about the attitudes, interactions, and reactions of the project team members when communicating.

Duration

The research to last two months or less. During that time, the researcher will have an initial contact using SurveyMonkey interview questionnaire, and follow-up interviews not to exceed three interview sessions. The SurveyMonkey interview questionnaire (survey) is 30 minutes or less.

Risks

There is not any risk to the participant's organization or the participants in the study.

Benefits

There is not a direct benefit to the participant and organization. The findings we hope will assist the participant and/or organization to learn new ways to improve communication.

Compensation

There are not any incentives to participate in the study. Participants will not be compensated. The participants will receive and executive summary at the end of the study.

Confidentiality

There is not an opportunity for the participants to be identified by name in the research findings. When the participant is selected, a number is assigned. The participant is known by a number within the study. The number is stored in the NVivo file as participant 1, 2, 3, etc. These precautions will ensure anonymity of participants during and after the study.

Sharing the Results

The research summary will contain the results of the analysis, reports, and graphs from NVivo. The researcher will not publish results to the participant's organization. A narrative story format will be used to document the results. Detail of interviews will be included in the results. NVivo reports will provide the qualitative coded data for use in the summary. The results will allow the participant and organization to development methods to improve performance, profits, understanding of employee attitudes and opinions. Better decision making will be a result of the insights realized from the study. The information from the phenomenology study will allow new global partner relationships, relationship management, and improved communications and collaborations.

Right to Refuse or Withdraw

The participants have the right to withdraw from the study at any time by contacting the researcher at XXXXXXXXXXXXXXX.

Contact

The phenomenology study has been approved by Walden University. You may contact the Walden University Research Participant Advocate representative – Dr. Leilani Endicott,

irb@waldenu.edu or 1-612-312-1210 with questions about your rights as a participant in the pilot study.

Part II: Certificate of Consent

I _____ have been invited to participate in research about behaviors that cause effective and ineffective communication in the work environment.

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about the study and the questions have been answered to my satisfaction. I consent voluntarily to be a participant in this study. I certify that I am 18 years old or older. I certify that I am not a resident of a facility (prison, treatment facility, nursing home, assisted living, or group home for minors). I certify that I am of sound mind and body.
Please check the statement that applies to your relationship to the researcher:
I am not a subordinate of the researcher _____I am a subordinate of the researcher _____

Print Name of Participant: _____
Signature of Participant: _____
Date _____
Day/month/year

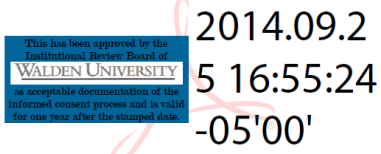
Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:

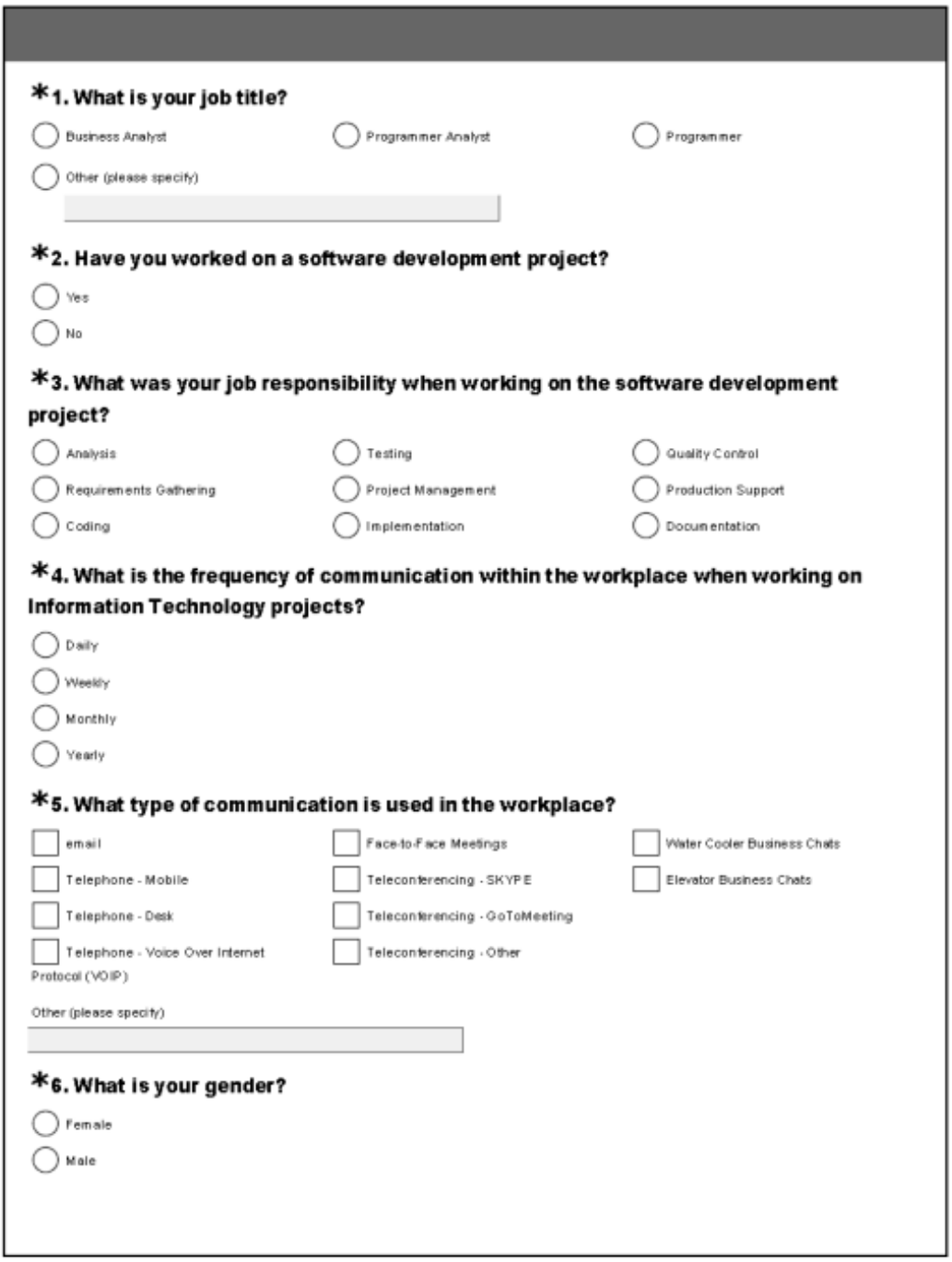
1. SurveyMonkey Participant Questionnaire, and follow-up interviews with/without audio by e-mail, telephone, and SKYPE as needed.
2. Documentation of findings.

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this consent form has been provided to the participant.
Print Name of Researcher/person taking the consent Vanessa L. Mackey
Signature of Researcher /person taking the consent
*Vanessa L. Mackey*_____**Date** _____



Appendix J: SurveyMonkey Participant Questionnaire



***1. What is your job title?**

- ◯ Business Analyst
- ◯ Programmer Analyst
- ◯ Programmer
- ◯ Other (please specify)

***2. Have you worked on a software development project?**

- ◯ Yes
- ◯ No

***3. What was your job responsibility when working on the software development project?**

- ◯ Analysis
- ◯ Testing
- ◯ Quality Control
- ◯ Requirements Gathering
- ◯ Project Management
- ◯ Production Support
- ◯ Coding
- ◯ Implementation
- ◯ Documentation

***4. What is the frequency of communication within the workplace when working on Information Technology projects?**

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Yearly

***5. What type of communication is used in the workplace?**

- ☐ email
- ☐ Face-to-Face Meetings
- ☐ Water Cooler Business Chats
- ☐ Telephone - Mobile
- ☐ Teleconferencing - SKYPE
- ☐ Elevator Business Chats
- ☐ Telephone - Desk
- ☐ Teleconferencing - GoToMeeting
- ☐ Telephone - Voice Over Internet Protocol (VOIP)
- ☐ Teleconferencing - Other

Other (please specify)

***6. What is your gender?**

- ◯ Female
- ◯ Male

***7. Tell me about a work related experience when there was poor communication doing the gathering of requirements, coding, testing, or during the implementation into production of the IT project.**

Gathering requirements	
Coding	
Testing	
Implementation into production	

***8. What do you believe were the reasons for the poor communication?**

***9. How do managers, project team members, and end-users provide IT project information to you, face-to-face, virtual environment (SKYPE or other similar teleconference software), written documentation, telephone, or email?**

	Face-to-Face	Virtual Environment (SKYPE or other teleconference software)	Written Documentation	Telephone	Email
End users	☐	☐	☐	☐	☐
Management	☐	☐	☐	☐	☐
Project team members	☐	☐	☐	☐	☐

Other (please specify)

***10. Tell me how you provide feedback to end users, management, and project team members when project information received is not understood.**

End users	
Management	
Project Team Members	

***11. How does management, end users, and project team members communicate to you project information you provided to them is not understood?**

End Users	
Management	
Project Team Members	

***12. Tell me about the attitudes, interactions, and reactions of the project team members when communicating.**

Project Team Attitudes	
Project Team Interactions	
Project Team Reactions	

***13. Tell me about the attitudes, interactions, and reactions of the managers when communicating.**

Manager Attitudes

Manager Interactions

Manager Reactions

***14. Tell me about the attitudes, interactions, and reactions of the end users when communicating.**

End User Attitudes

End User Interactions

End User Reactions

***15. What are some of the differences in communication between you and end users versus between you and management, and you and the project team members?**

End Users

Management

Project Team Members

***16. To improve communication, what communication skills do you believe are needed?**

End Users

Management

Project Team Members

***17. To improve communication, what can organization leadership do to improve communication between you and end users, management and project team?**

End Users

Management

Project Team Members

Appendix K: Communication Behaviors or Constructs Percentages

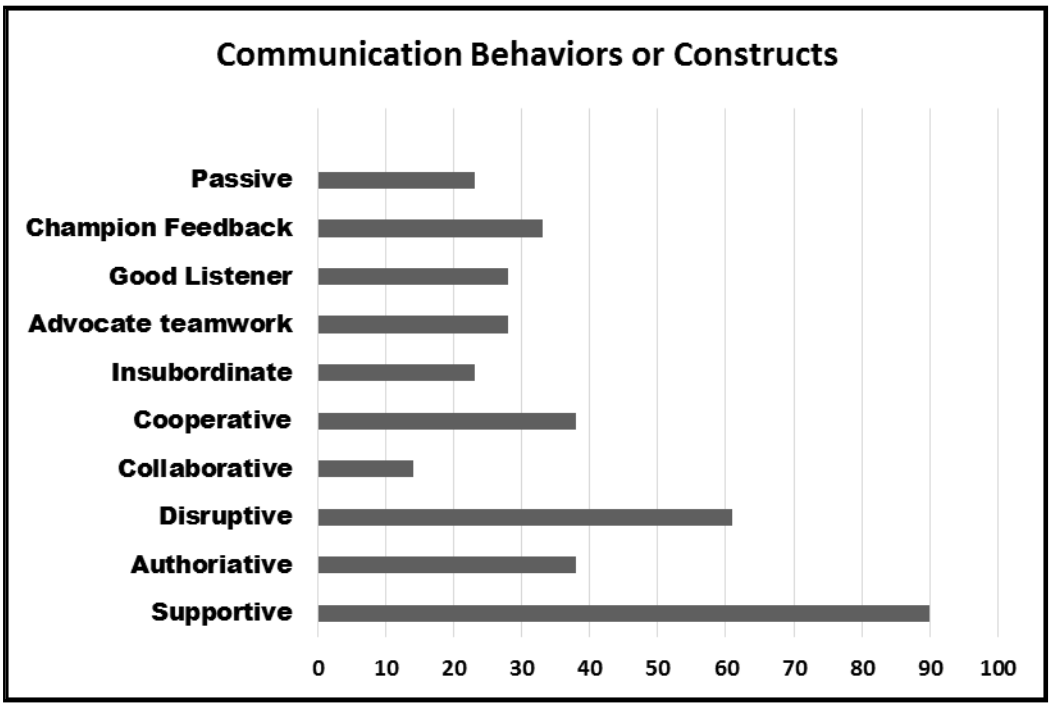


Figure 3. Percentages of communication behaviors or constructs identified through analysis of participant responses.

Appendix L: Participant Request Letter - Actual Study

June 15, 2014

To Whom It May Concern

My name is Vanessa L. Mackey. I am a doctoral candidate in the College of Management and Technology at Walden University. I am conducting a qualitative research phenomenology study as part of the requirements of my degree in Management with specialization in Information Systems Management. I would like to invite you to participate in the study. This study is sponsored by Walden University. I am performing research to understand, and explore the perspectives on behavior that causes ineffective communication in the work environment.

Effective communication is essential for organizations to thrive, remain viable, and competitive. The research question relates to what are the employee behaviors exhibited that cause communication failures within the Information Technology (IT) department, what are the behaviors that cause employees to ignore and adhere to organization strategic goals, what are the reasons for the behavior that cause communication failures and how can an organization mitigate the threat of ineffective communication. The research findings I hope can help organizations to discover new methods of communication and assist in improvements in decision-making and feedback.

Type of Research Intervention

The participant must be a business analyst, programmer, programmer analyst or related job title/role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation. Question 1- 5 on the participant SurveyMonkey Participant questionnaire are related to inclusion criteria - participant job role – communication tools used, role working within IT that have worked on a software development project performing similar responsibilities that include analysis, requirements gathering, coding, testing, project management, implementation, quality control, production support or documentation.

The research involves a purposeful sample of 23 participants, 3 for the pilot study, and 20 (or until saturation occurs) for the actual study. Participants are selected by using social networking and a snowballing technique. The snowballing technique occurs when the social networking contact provides the participation survey request e-mail to another person. Participants that are interested in completing a SurveyMonkey Participant questionnaire are asked to call or e-mail me their contact information which implies their interest in participating in the research study.

The first three participants using social networking and a snowballing technique that respond they are willing to participant in the study will be in the pilot study. The next 20 participants,

or until saturation occurs, using social networking and snowballing technique that respond they are willing to participant in the study will be in the actual study. After all University approvals are received the participants that have indicated their willingness to participate in the study by e-mail or phone call will be assigned a number.

The participant provided e-mail address or phone number will be used to contact the participant to establish a time for an initial conversation by e-mail, phone, or SKYPE to review the research study purpose, procedures, process, review the informed consent form, and obtain a signature on the informed consent form. The informed consent form will be e-mailed to each participant for a signature and the participant is asked to return the informed consent form to me by e-mail. After the informed consent form is received, the next step is to invite the participant to take the SurveyMonkey Participant questionnaire. An executive summary of the research study findings will be provided to the participant upon completion of the study by e-mail. Participants will not be compensated. The study begins only after Walden University approval.

To confirm your interest in participating in the actual study please contact me by e-mail or phone to confirm your interest and to answer any questions concerning the study. Please contact me at XXXXXXXXXXXXXX or call me at XXX-XXX-XXXX. Thank you for your time and consideration.

Best regards,
Vanessa Mackey
Doctoral Candidate – PhD in Management
Specialization Information Systems Management
Walden University
XXXXXXXXXXXXXXX XXX-XXX-XXXX

Appendix M: Participation Survey Request E-Mail - Pilot Study

June 23, 2014

To Whom It May Concern – Request for Participant's in Research Study

My name is Vanessa L. Mackey. I am a doctoral candidate in the College of Management and Technology at Walden University. I am conducting a qualitative research phenomenology study as part of the requirements of my degree in Management with specialization in Information Systems Management. I would like to invite you to participate in the study. This study is sponsored by Walden University.

I am performing research to understand, and explore the perspectives on behaviors that cause ineffective communication in the work environment.

Purpose of the research
Effective communication is essential for organizations to thrive, remain viable, and competitive. The research question relates to what are the employee behaviors exhibited that cause communication failures within the Information Technology (IT) department, what are the behaviors that cause employees to ignore and adhere to organization strategic goals, what are the reasons for the behavior that cause communication failures and how can an organization mitigate the threat of ineffective communication. The research findings I hope can help organizations to discover new methods of communication and assist in improvements in decision-making and feedback.

Type of Research Intervention
The research involves a purposeful sample of 23 participants selected by using social networking and a snowballing technique. The snowballing technique occurs when the social network contact provides the participation survey request e-mail to another person. Participants that are interested in completing a SurveyMonkey Participant Questionnaire are asked to call or e-mail me their contact information and to indicate their interest in participating in the research study.

The first three participants using social networking and a snowballing technique that respond they are willing to participant in the study will be in the pilot study. The next 20 participants, or until saturation occurs, using social networking and snowballing technique that respond they are willing to participant in the study will be in the actual study. After all University approvals are received the participants that have indicated their willingness to participate in the study by e-mail or phone call will be assigned a number.

The participant provided e-mail address or phone number will be used to contact the participant to establish a time for an initial conversation by e-mail, phone, or SKYPE (based on participants preference) to review the research study purpose, procedures, process, review the informed consent form, and obtain a signature on the informed consent form. The

informed consent form will be e-mailed to each participant for a signature and the participant is asked to return the informed consent form to me by e-mail.
After the informed consent form is received, the next step is to invite the participant to take the SurveyMonkey Participant Questionnaire by clicking the URL https://www.surveymonkey.com/s/DDHTHL6 to enter the survey responses.

The next step is to invite the participant to half hour follow up interviews as needed. This session is to clarify responses to SurveyMonkey Participant Questionnaire questions. The session could include audio, by e-mail, telephone, or teleconference, SKYPE for a period of 2 months or less. The sessions will be pre-arranged by e-mail or phone to meet the requirements of the participants and can be rescheduled when required.

An executive summary of the research study findings will be provided to participants upon completion of the study using the e-mail address provided by the participant. Participants will not be compensated.

Please contact me at XXXXXXXXXXXXXXXXX or call me at XXX-XXX-XXXX with questions. Thank you for your time and consideration.

Best regards,
Vanessa Mackey
Doctoral Candidate – PhD in Management
Walden University
XXXXXXXXXXXXXXXX XXX-XXX-XXXX

Appendix N: Participant Thank You Letter - Actual Study

June 15, 2014

To Whom It May Concern

Thank you for your interest and willingness to participant in the research study.

After all University approvals are received the participants that have indicated their willingness to participate in the study will be contacted by e-mail or phone call to begin the study.

The study begins only after Walden University approval.

Please contact me at XXXXXXXXXXXXXXXXX or call me at XXX-XXX-XXXX with questions. Thank you for your time and consideration.

Best regards,
Vanessa Mackey
Doctoral Candidate – PhD in Management
Specialization Information Systems Management
Walden University
XXXXXXXXXXXXXXX XXX-XXX-XXXX

Appendix O: Participant Thank You Letter - Pilot Study

June 15, 2014

To Whom It May Concern

Thank you for your interest and willingness to participant in the research study.

After all University approvals are received the participants that have indicated their willingness to participate in the study will be contacted by e-mail or phone to begin the study.

The study begins only after Walden University approval.

Please contact me at XXXXXXXXXXXXXXXXX or call me at XXX-XXX-XXXX with questions. Thank you for your time and consideration.

Best regards,
Vanessa Mackey
Doctoral Candidate – PhD in Management
Specialization Information Systems Management
Walden University
XXXXXXXXXXXXXXX XXX-XXX-XXXX