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ABSTRACT

COMMUNICATION RISK AND STRATEGY IN TEMPORARY ORGANIZATIONS

by
Shelley R. McIvor

Communication is a critical and emerging metric for successful outcomes in the high-stakes field of project management. Professional management societies have quantified financial losses caused by ineffective communication. Consulting project management exemplifies a maximum communication risk environment—misunderstanding threatens project finances, strict deadlines, and technical benchmarks—exacerbated by the complexity of a temporary organization structure.

The context of work in a temporary organization adds layers of ambiguity to project communications—an ill-structured domain in technical communication terms. Formal study of communication in temporary organizations is relatively new. Recent studies are derived from engineering and business management perspectives.

This baseline study investigates risk and strategy in temporary organizations from a communication perspective. Project management consultants dialogue about their experiences of project risk and communication strategy in a critical incident interview.

This research identifies the communication complexities of work in these temporary contexts. Contrasting the base communication models of professional project management, this study proposes rhetorical analysis as a systems thinking strategy for project communication. This thesis argues that professional technical communication is strategic expertise and advocates humanistic strategies to mitigate the elevated sociotechnical communication risk within a temporary organization.

**COMMUNICATION RISK AND STRATEGY IN TEMPORARY
ORGANIZATIONS**

by
Shelley R. McIvor

**A Thesis
Submitted to the Faculty of
New Jersey Institute of Technology
in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Professional and Technical Communication**

Department of Humanities

May 2015

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APPROVAL PAGE

**COMMUNICATION RISK AND STRATEGY IN TEMPORARY
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To all the consultants who gave their time to participate in my interview or help pilot test the questions—without you there would be no research.

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CHAPTER 1

INTRODUCTION

1.1 Studying Communication in Temporary Organizations

Communication is a risk of increasing significance and complexity in the field of project management (PM). The objective of this thesis is to examine project risks and communication strategies within the discipline of project management consulting using foundations and practices in professional technical communication. Project management and technical communication share a surprising number of disciplinary challenges. However, their core communication approaches are fundamentally polar. Understanding elements of the culture, practices, and strengths of each discipline outlines how their alternate communication priorities address the multifaceted risk of ineffective communication.

In the growing international market for outsourced expertise and remote contractors, project management consulting exemplifies a temporary organization work context. These temporary cross-functional teams and multi-vendor contracts traditionally rely on communication frameworks with foundations in engineering, business, and law. As the consulting market expands, the examination of communication risk requires further study by communication professionals.

This study uses foundations in technical communication to identify temporary organizational challenges that complicate project risks. By the simplest definition, projects are finite enterprises undertaken in a transitory framework of time, resources, and people. In the broad spectrum of professional communication contexts, temporary

consulting organizations represent an extreme risk. Each project has a unique constitution: alignment of stakeholders, specialized teams, resources, and mission objectives is time and labor intensive. Communication risk peaks in the context of these temporary, often consulting-based, frameworks: effective communication is critical to a successful outcome.

This research evaluates consulting communication contexts from a number of industries using the people-centered perspectives of technical communication. It considers the subtleties of human communication systems often obscured by the dominance of technical, financial, and contractual obligations within projects.

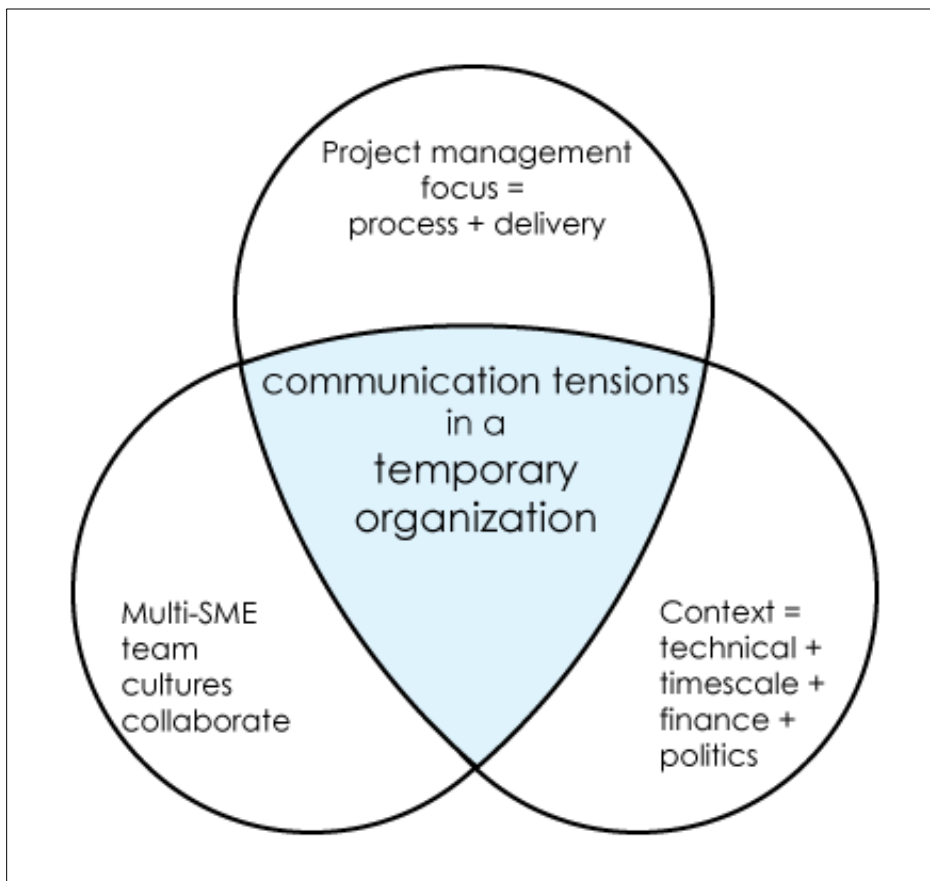


Figure 1.1 Venn expression of temporary organizational communication tensions as the objective of this research study.

Figure 1.1 shows a Venn diagram depiction of the research objective. The communication environment under review is within the intersection of project management performed as consulting, multiple groups of subject matter experts (SME) performing to the specifications of their own organizational cultural standards, and the high pressure context common to project enterprises. Successful outcomes of team-based consulting projects require the risk mitigation practices of a humanistic communication strategy. This research evaluates temporary organization form and function, as well as the experience of risk and communication strategy for project managers. It argues that including a technical communication strategist on the project management team is an avenue that consulting organizations could pursue to accurately address their unique rhetorical situation and mitigate communication risk.

1.2 Background Information

As the concept of globalization continues to gain momentum, the market for expensive expertise in the form of consulting and project management follows suit. The global consulting industry for 2014 was estimated at over \$400 billion dollars and forecast to grow.¹ Temporary organizations, exemplified in this study as project management consulting, are a growth industry.

General definitions of temporary organizations specify teams that form in response to an explicit and finite enterprise. They may function independently or in concert with an existing organizational infrastructure. Project management consulting matches these criteria; the functional nature of their organizational structure is defined by

¹ Plunkett Research®, Ltd.

the temporary context of the project itself. The unique boundaries, challenges, and management strategies of temporary organizations are an emerging focus of research.

To date, studies of temporary organization dynamics have been published from theory and practice in the fields of engineering and construction, IT development, and quality management (business). Recent research topics include project communication. The performance of good communication, poor communication, knowledge capitalism, knowledge societies, and knowledge transfer have been evaluated within these temporary structures. Communication and knowledge translation are recognized as critical components of success in managing projects. Peer-reviewed research and industry white papers combine the most basic rhetorical principles with process management theories to define communication metrics for managing (internal and external) stakeholders and controlling project outcomes. There is a distinct lack of research and discourse on communication dynamics in temporary organizations from the field of professional technical communication. This study begins to address that gap by contrasting the approaches of professional project management and professional technical communication.

1.2.1 Communication in Temporary Organizations: A Project Management Lens

Project management is a process and delivery oriented discipline—often a merger of engineering and management practices. Certain constructs are traditional hallmarks of the field, namely the famous *triple constraint* of time, cost, and quality. Professional project management focuses on the delivery of ambitiously technical enterprises that conform to internal and external governance standards, on time, and on budget. Project managers work in every industry and sector around the globe. They have a large professional

organization (the Project Management Institute, PMI) to support their body of knowledge (PMBok), education and certification, and networking resources. While there are academic paths to qualify for the practice of project management, many project managers are not a member of any professional PM society—membership in an association is not a strict requirement to practice. A combination of educational background, a specific expertise, plus years of experience and natural aptitude can move professionals from work within the process to work managing the process. The many roads into project management contributed to its moniker as *the accidental profession* in decades past (Pinto and Kharbanda, *Lessons*).

No longer considered accidental, the structured protocols of the PMI provide detailed ISO-standardized² processes for a well-executed project from conception to handover in any sector of practice. Roles, responsibilities, and process work flows, including communication, are well laid out in PMI publications and training resources. However, the PMI demarcation line between project work and static organizational work lies solely in the repetitive nature of the work itself. By PMI standards, every project is a temporary organization. While this is a necessary division for examining their own disciplinary work contexts, it is an insufficient definition for researching communication risk in this study.

This thesis argues that communication risk multiplies not only in the context of non-repetitive work but also in the collaborations of a non-repetitive workforce—the human participants and performers of the work. Therefore, a further division is required for this research. This study of communication risk and strategy does not consider non-

² ISO is the globally accepted acronym for the International Standards Organization.

repetitive work projects run within the bounds of a static organization by members of that organization (employees) as temporary organizations. Research dialogue with corporate project manager employees, about largely internal corporate projects, no matter how innovative, must assume that the entire project group operates under a shared communication umbrella of implicit and explicit organizational policies and authority.

The risk demarcation line for projects as temporary organizations in this study is the assembly of people that forms outside or tangential to a shared communication umbrella—a context that assumes navigation in a wholly uncharted organizational culture. Contracts involving external management teams or entirely new organizations of subject matter experts assembled for a single finite enterprise better exemplify the unique risks that exist while communicating in temporary organizations. While the PMI makes a similar distinction called project based organizations (PBO), they do not further elaborate how that context impacts the dynamic of communication risk.

What PMI members and independent professionals agree on is the ultimate evidence of a successful project delivery. Professional value is demonstrated by meeting the technical, financial, and contractual performance specifications. As in any sound profession, project managers acknowledge the importance of satisfying stakeholder expectations, both internal and external. Communication is a procedural path to those delivery outcomes.

The basic PMI communication model is shown in Figure 1.2. From this foundation, the PMI further systematically and analytically defines communication planning, management, and control procedures required to meet performance metrics—meetings, reports, and document control feature prominently. PMI communication is an

avenue to achieve the greater technical and capital goals by managing financial stakeholders, controlling multiple vendors, monitoring regulatory governance, and juggling the planning schedule. Communication is a process management exercise and an information control mechanism.

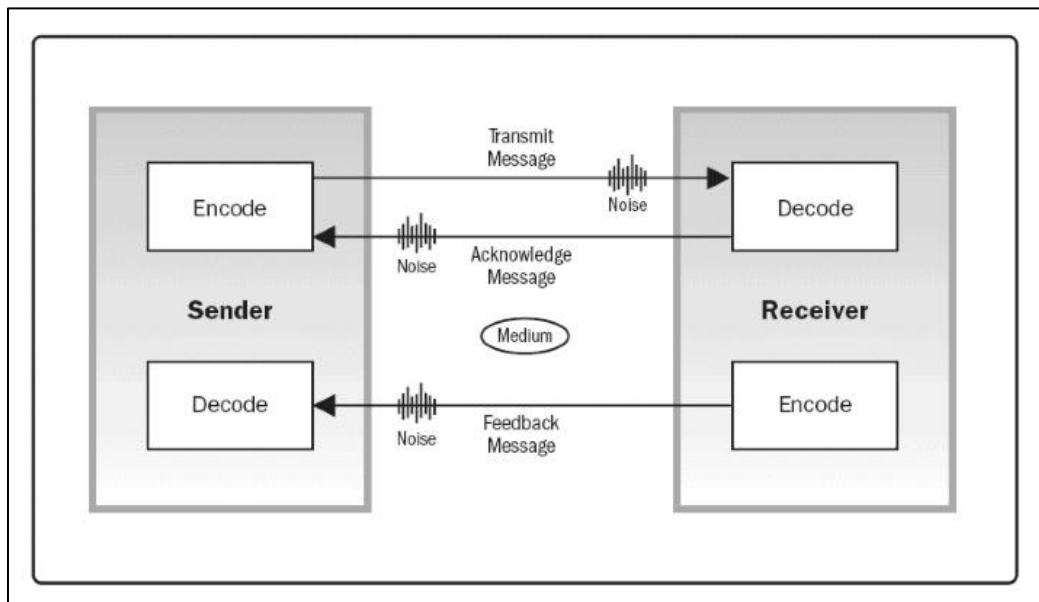


Figure 1.2 The basic communication model described in the Project Management Body of Knowledge Guide as a foundation for discussing communication considerations.

Source: Project Management Institute Inc. “A Guide to the Project Management Body of Knowledge Fifth Edition” Project Management Institute, Atlanta, Georgia, 2013. Kindle Edition.

Control and management communication practices are standardized as integrated input-process-output workflows between departments. Figure 1.3 demonstrates the breakdown of inputs and outputs required to develop a stakeholder communication plan. Stakeholder registers are ranked and prioritized distinguishing known knowledge, power, and influence roles. Outputs required to successfully manage stakeholders are simplified as the communication management (who gets notified, when, and how) plus the project updates (the information transfer).

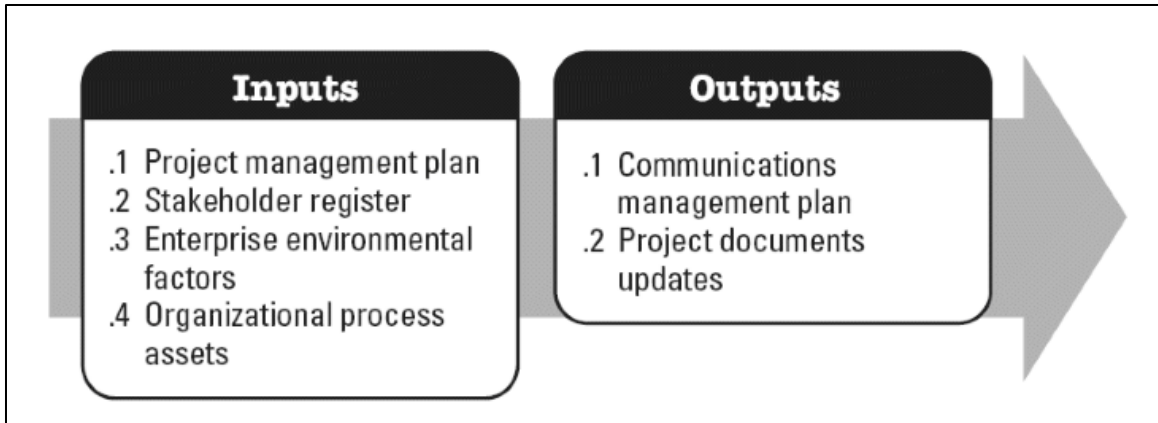


Figure 1.3 Plan Communications Management: Inputs and Outputs. This is the visual simplification of the process of developing a plan for project communications to effectively and efficiently communicate with stakeholders.

Source: Project Management Institute Inc. “A Guide to the Project Management Body of Knowledge Fifth Edition” Project Management Institute, Atlanta, Georgia, 2013. Kindle Edition.

Every process and resource in a project is linked the same way: plan, execute, monitor, and control each input and output from conception to delivery. With such explicit, linear workflows for project communication processes, further research on temporary organization communication might appear redundant. However, the last few decades of project management research has demonstrated growing acknowledgement from the profession that people and culture are the *fourth constraint* to project success. Communication, at its core, is people-centric and (dys)functions within the understanding of the interacting individual and group dynamics.

The majority of the published research on communication for temporary organizations is the result of engineering and construction studies and surveys for professional associations, like the Project Management Institute (PMI). Even contemporary research from the field of quality management focuses on communication-as-process for studying complex communication contexts. Process-oriented disciplines

are simultaneously acknowledging and oversimplifying human communication considerations.

1.2.2 Communication in Temporary Organizations: A Technical Communication Lens

Technical communication is a human-centered knowledge-orienting discipline. Simply put, the discipline focuses on optimizing how people experience, navigate, and make sense of information. Hallmarks of the field include many strategic forms of communication designed for ease of comprehension, response, and interaction. Core competencies center on the design and exchange of information: elements of these strategies come from interdisciplinary research on writing and speaking, information architecture, visual design, instructional design, usability, accessibility, and knowledge translation.

As a people-centric discipline, technical communication expects implicit and explicit cultural diversity (disciplinary, organizational, geographical, national, etc.) to factor into cross-functional teamwork. Advanced technical communication anticipates the ill-structured domains inherent in many communication contexts, like those found in temporary organization projects.

The discipline of technical communication incorporates a unique focus, ethos, and technical skill set into a project's objectives, but it shares some disciplinary challenges with project management. Like project management, technical communication is a borderless profession addressing professional challenges in every sector of industry on a global scale. It has the support of a professional society—the Society for Technical Communication (STC)—with a body of knowledge (STCBoK) and membership chapters worldwide for training, certification, and networking resources. Similar to project

management, membership in any particular professional organization is not a strict requirement to practice. Expressing the value of work is also a shared burden for both disciplines; managing and communicating work are not often revenue generating streams. They can be perceived as intangible which challenges the assessment of the value of work in quantitative terms.

The intangibles in technical communication compound with the perception of communication as undefinable and abstract—difficult to research and tricky to evaluate. Communication is often considered a soft skill, an unquantifiable social skill or behavioral competency. Satisfying ISO standardization, the PMI has addressed this potentially intangible construct by overlaying their input-process-output management model to add definition and control to the potentially abstract *fourth constraint* relating to people. Contemporary technical communication addresses potential intangibles by creating and refining heuristic³ guides to determine and refine important variables for communication within a specific work context.

Technical communication builds tangible communication structure by combining theory and problem-solving heuristics grounded in the context of the communication circumstance. Communication is not only a procedural path to a technical or financial end, but a critical project design goal and outcome in itself. From a user-advocacy perspective, technical communication connects relevancy of information, user feedback, and individual and collective knowledge barriers. This reflective practice creates an iterative, participatory, context-based communication foundation like the one shown in

³ James Porter defines heuristics as “open-ended questions, prompts, categories, memory-devices, and/or visual grids...tables...frameworks...[to] aid thinking, discovery, deliberation, research, and design.” (*Solving Problems*, 2013).

Figure 1.4. Interactive dialogue fosters mutual understanding and collaborative action; the expert-centered concentration of power is re-distributed as shared meaning (Salvo, 2001).

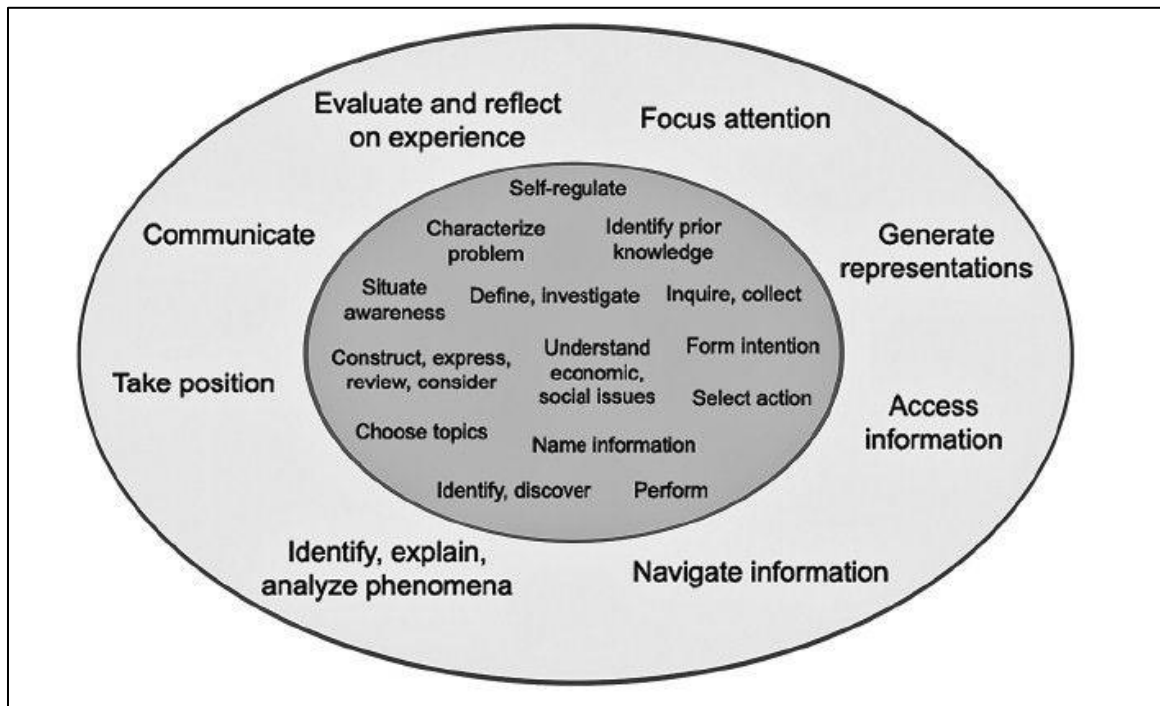


Figure 1.4 Heuristic overview of rhetorically-sensitive technical communication problem-solving in the 21st century.

Source: Brad Mehlenbacher. “What is the Future of Technical Communication?” *Solving Problems in Technical Communication*. Chicago: U of Chicago P, 2013. Kindle file.

Rather than simply benchmarking *poor* or *good* communication definitions to decide if the sender has adequately crafted a message (Figure 1.2), technical communication creates communication foundations that are designed to specifically invite and generate participation, dialogue, interaction, and feedback. The communication planning actually begins with studying the *receiver*. The example heuristic in Figure 1.5 is a stakeholder framework that anticipates stakeholder needs, reactions, and interventions as part of a holistic communication strategy. It recognizes the individual as

a critical part of the larger work context, and respects that individual concerns often vary considerably.

<p>A. OPERATIONAL CHARACTERISTICS:</p> <p>1. His role within the organization and consequent value system:</p> <p>2. His daily concerns and attitudes:</p> <p>3. His knowledge of your technical responsibilities and assignment:</p> <p>4. What he will need from your report:</p> <p>5. What staff and other persons will be activated by your report through him:</p> <p>6. How your report could affect his role:</p> <p>B. OBJECTIVE CHARACTERISTICS:</p> <p>1. His education—levels, fields, and years:</p> <p>2. His past professional experiences and roles:</p> <p>3. His knowledge of your technical area:</p> <p>C. PERSONAL CHARACTERISTICS:</p> <p>Personal characteristics that could influence his reactions—age, attitudes, pet concerns, etc.</p>

Figure 1.5 A detailed ego-centric heuristic form for anticipating individual stakeholder needs and reactions (as report readers in this case) from 1976. The authors of this heuristic form note that experienced communicators perform these types of detailed evaluations in a more intrinsic fashion as they go about their work.

Source: Mathes, J.C., and Stevenson, Dwight W. *Designing Technical Reports: Writing for Audiences in Organizations*. Indianapolis: Bobbs-Merrill Co. Inc., 1976.

Even 40 years ago, technical communication explicitly planned for participation and feedback, expecting that people will and should react to information. The project knowledge does not reside solely with a specific silo of experts. Although this heuristic focuses on technical communication as a writing plan, it is an example of the contrast between a humanistic and a process control approach to communication. Mathes and Stevenson write, “The organization chart may describe the organization, but it does not describe how the organization functions.” Heuristics like Figure 1.5 help assess information for optimizing understanding and interaction. Information is purposely designed to be shared individually and collectively, as knowledge translated and transferred, to coordinate a community of people to achieve satisfaction from realizing a common goal (the project).

Matching skills with responsibilities is an important strategy for all organizations; this is no less true for communication expertise. Technical communication provides human-centered approaches and advanced communication competencies—skills plus finesse for emerging work contexts (Wagner, 2000).

CHAPTER 2

TEMPORARY ORGANIZATIONS: A LITERATURE REVIEW

Existing literature from the fields of technical communication and project management are organized by topic in the following sections. The final section presents a gap analysis to locate this study with respect to current communication research and practices in technical communication and project management (engineering, construction, and IT industries).

2.1 Technical Communication Perspectives

In 1984, *Communication* published an article about the progression of the contractual relationship between communication consultants and their clients. The model of the communication relationship stages was designed to help illuminate and navigate the ethical and political boundaries specific to this temporary relationship context. The authors began with the strong assertion that consultants are not all frauds, “quacks doctors”, or data manipulators complicated further because “communication is a rather intangible, poorly-defined concept” (Smeltzer, Watson, and Barker; 25). The field of technical communication continues to debate and articulate the value of communication work since that synopsis of the field was printed.

In contrast to the perception of communication as an abstract construct, the practice of technical communication today uses theory and research to inform humanistic designs that foster mutual understanding. The umbrella of technical communication incorporates participatory dialogue to foster autonomy, learnability, understanding, recall,

retention, and ease of use. Technical communication assimilates a diverse inventory of human-centered communication theories and practices.

2.1.1 Communication Theory and Research: A Brief Synopsis

In the intervening three decades, the practice of communication has been researched and modelled from a rich variety of angles:

- cognitive elements defining writing as process (Hayes, 2012)
- feminist theories, in contrast with traditional viewpoints: competition vs. community, cause-effect vs. integrative thinking, and autonomy vs. connection (Buzzanell, 1994)
- genre sets, systems, repertoires, and ecologies that define the rules of interpretation in a social context (Miller, *Genre*, 1984; Spinuzzi, 2004)
- narrative and storytelling infrastructure and assessment (Ball-Rokeach, Kim, and Matei, 2001)
- new media language and contexts for interactivity (Dennis and Ash, 2001)
- tensions within knowledge-power structures (Longo, *Tensions*, 2003)
- and myriad aspects of cultural and institutional contexts of work (Bickerstaff et al, 2010; Longo *Authorship*, 2013, *Applying Cultural Study Theory*, 1998; *Human+Machine*, 2009).

Putting aside the argument of whether or not technical communication is a discipline, field, or profession, there is a growing foundation of theories and techniques to build upon (Craig, 1999; Coppola, 2010). Technical Communication weaves the unique mosaic of these varied values and ethos into our research and evaluation techniques: humanistic rationale (Miller, *Humanistic Rationale*, 1979), expediency (Katz, *Ethic*, 1992), the conduit of language (Katz, *Language*, 2001), user-experience design (Williams, 2007), rhetoric of clarity and participation (Kostelnick, 2008), complexity of purpose (Plung, 2006) and constructive resistance (Herndl, 1993). Researchers and practitioners of technical communication model, debate, and evaluate

communication and knowledge-making with the overarching goal of ensuring that communication as mutual understanding actually occurs.

2.1.2 Communication Research Specific to Consulting and Temporary Organizations

The rich potential for research and analysis in technical communication consulting was documented by Palmer and Killingsworth in 2002. Their study identified industry proprietary constraints as the reason why this potential has not been and likely will not be practically realized. They advocated for further study on the value of research and reflection in the field in order to move past the service-based orientation and focus of practice. Though this paper won the 2002 Nell Ann Pickett Award for the best article published in the *Association of Teachers of Technical Writing (ATTW)*, the trail of any follow-up studies grows cold. Most recently an interview study in *Technical Communication* focused on technical communicators that worked as remote consultants on project teams (Rice-Bailey, 2014). While raising some very important practical challenges for technical communicators in temporary organizations, the technical communicator as the communication strategist subject matter expert (SME) is absent from the discussion.

The limited research and discourse on technical communication consulting in project management are noted (Dicks, 2013). Foundational reference books still focus on communication project management as service-oriented information and publication management work within permanent organizational infrastructures. Technical communicators as professional communication strategists are either rare or not contributing to research for reasons noted above. Temporary organization contexts are

not yet on the radar of the discipline, despite the growth of consulting industries and service outsourcing.

2.2 Communication Theories from Management Perspectives

2.2.1 Qualifying and Quantifying Communication

No successful organization contests the benefit of good communication; contemporary organizations place the responsibility of communication on everyone. Analysts are qualifying and quantifying the value of communication strategies in temporary and venture organizations such as project management or mergers and acquisitions [M&A] (PMI, 2013; Storytellers, 2013). By linking ineffective communication practices to the risk of poor project or merger outcomes, these analysts have calculated the potential financial loss caused by poor communication.

Traditionally, the success of PM was a mathematical expression called the *triple constraint* expressed as quality multiplied by money and divided by time (Durham, 2007; PMI, 2013; Pinto and Kharbanda, 1995). This equation expresses the natural tensions that arise between internal and external stakeholders. Projects cannot simultaneously excel on all three variables and project management must juggle the trade-offs. Improved quality is labor and time intensive and therefore costly. Working faster generally has an inverse relationship to quality; mistakes and rework have a price tag. Evaluation and management of these internal tensions represents a critical communication requirement and risk management exercise.

More recently, the triple constraint has expanded. The *fourth constraint* is the management of stakeholder expectations (Durham, 2007; Gil, 2010; Pinto and Kharbanda, 1995; PMI, 2013). Satisfaction of parties with potentially competing

purposes and priorities requires carefully considered communication strategies that respect the cultural values of those diverse groups over the course of the project and beyond.

2.2.2 Challenges Unique to Temporary Organizations

Boundaries for consultant-client relationships are an evolving topic modelled from various management theories and perspectives (Sturdy, 2009). Temporary organizations may function as an enclave within a permanent organization or as a coordination bridge between multiple organizations and diverse stakeholder groups. As the field of project management continues to grow, the unique context and dynamic of communication within temporary organizations is an increasing foundation for research (Baiden, Price, and Dainty, 2006; Linder and Wald, 2011; Klarner et al., 2013).

2.2.3 People and Culture

More recently, the variables of people and culture have been studied as mediators of success or failure in temporary organizations or organizations in transition, as in the case of mergers and acquisitions (Storytellers, 2013). Temporary organizations need a strategy for dealing with the communication barriers and challenges in these dynamic circumstances. The value of knowledge creation, use and sharing, transfer and retrieval, plus communication detail, frequency, and consistency are all culturally determined. Each variable contributes to the degree of project success (Linder and Wald, 2011; Klarner et al., 2013; Lawler and Finegold, 2000). These metrics are increasingly under review.

2.2.4 Communication Competencies: Soft Skills or Strategy?

Despite the advancements in IT and specialized PM software, project teams are still struggling to manage the complexity of communications and the expectations of the stakeholders. Professional relationships and transparency of tasks and responsibilities can be difficult to navigate: decision-making silos, organizational multiplicity, and hierarchies add complication and conflict (Müller et al. 2013; Senescu, Aranda-Mena, and Haymaker, 2013).

Communication in management and engineering practices is most often operationalized as a behavioral competency—a soft skill—rather than a technical competency in its own right (Gil, 2010; Klarner et al, 2013; Linder and Wald, 2010). Related competencies required for success have been listed as assertiveness, strategic influence, relationship development, and political savvy (Gil, 2010; Pinto, *Understanding*, 2000). However, the most recently published hallmarks of successful projects are those incorporating formal communication strategies. The complex contexts of a temporary organization change the communication parameters: conflicting and shifting obligations and priorities, tailored knowledge making, knowledge transfer, collaboration potential, transparency, iteration time, and flexibility have been studied (Klarner et al. 2013; Senescu, Aranda-Mena, and Haymaker, 2013).

2.2.5 Governance and Authority

Governance is the latest proposed mediator for setting a work context and fostering trust and transparency (clear objectives and methods understood by all parties) in temporary organizations (Müller, 2013). The merger of ethics, trust, and governance for project management teams is a new topic. Technical professionals value autonomy but authority

in project management takes many various forms which create tension (Lawler and Finegold, 2000; Pinto and Kharbanda, *Lessons*, 1995). The unique circumstances of the temporary organization raise questions about how and why decision-making processes are articulated and whether or not the complexity of purpose can be explored in a transparent and accountable manner.

2.3 The Context of the Gap

As contexts of work evolve with globalization and technology, temporary organizations are meeting demands for expertise. The PMI has published their calculations linking poor communication and project failure. The field of project management covers both static organization work and temporary organization contexts. Project management consulting offers a relevant baseline to examine communication within temporary organizations.

If effective communication is “the most crucial success factor in project management”⁴ and a quantifiable risk, the gap is two-fold. First, the analysis of that risk and the development of mitigation strategies should include strategic consultation from professional communication subject matter experts. The PMI summarized the four strategies of highly-effective communicators:

1. Relay the business benefits (relevance of the work) so teams take ownership.
2. Tailor communications to the stakeholders and eliminate jargon.
3. Acknowledge the value of project management and communication.
4. Communicate clearly and consistently (standardize communication).

All four are very solid points; however the simplicity of that communication strategy

⁴ Quoted from “The High Cost of Low Performance: The Essential Role of Communications”. PMI, May 2013, page 2. Summary of the four strategies was modified from page 8.

does not correspond with the gravity of their calculated financial losses. Further collaboration with communication experts might provide more detail on how project managers can launch and evaluate those objectives in their own work. Second, the field of technical communication needs to research communication in temporary organizations to determine a baseline context from a humanistic standpoint. Important people-centered inquiries create heuristics for continuous communication improvement going forward.

Acknowledging that mature communication strategy is the result of purposeful effort and ongoing work (it is not simple, naturally-occurring, nor self-sustaining)⁵ necessitates determining the root source of miscommunications within human contexts. Communication is listed as a central determiner of the success of all business excellence plans. Project management not only manages the financial, quality, and time-sensitive part of these enterprises, but also the sociotechnical aspects mediated by communication. The PMI communication process conforms to ISO-standardized, consistent communication inputs and outputs. The PMBoK does not explicitly offer any flexible or alternative communication models for addressing communication complexities in either static mature organizations or temporary organizations. There are no required professional development communication credentials for project managers, yet:

“Project managers spend most of their time communicating with team members and other project stakeholders, whether they are internal (at all organizational levels) or external to the organization. Effective communication creates a bridge between diverse stakeholders who may have different cultural and organizational backgrounds, different levels of expertise, and different perspectives and interests, which impact or have an influence upon the project execution or outcome.”⁶

⁵ A modified Maturity Diagnostic Indicator (MDI) from *Building Quality Management Systems*, 2010, Kindle Edition, Chapter 4.

⁶ Project Management Institute (2012-09-01). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—Fifth Ed. (Kindle Locations 4842-4845). Project Management Institute. Kindle Edition, Chapter 10.

Communication as a bridge that respects the varying backgrounds, wants, needs, perspectives and purposes of stakeholders cannot be a control and management process fashioned after a financial spreadsheet for cost accounting. If project managers spend the bulk of their time communicating with stakeholders, communication and stakeholder management should be prioritized. Effective communication that mitigates the risk of financial losses will require more effort and diligence than a typical waterfall manufacturing process, especially in a temporary organization context.

Published research on temporary organizations is limited. What exists comes from the fields that have experienced financial losses (construction, engineering, management, and IT). Technical communication rarely promotes the rhetorical humanistic critical thinking competencies as communication expertise for professional contexts requiring strategy, communication auditing, and project management. When the field performs communication research, it often surveys or interviews other communication professionals rather than branching out and feeding interdisciplinary work back into a centralized body of knowledge. This study takes technical communication questions into project management consulting contexts.

This study provides stark contrast to the input-process-output model of communication protocols in the PMBoK. If those assembly line processes provided optimal usability (performance and satisfaction) for addressing communication with stakeholders, the accumulation of financial losses from ineffective communication would not have warranted a published research study. The carefully outlined procedures are not

successfully meeting communication benchmarks in the majority of projects⁷ in mature organizations; what is going wrong, and how might this be exacerbated in temporary organizations?

Exploration of this gap will use methodologies in keeping with the human-centered foundations of technical communication. Rather than tackle the issue of quantitation of financial loss from risky communication behaviors, this study will use contextual inquiry to examine the experience of project risks and communication strategies across a variety of industries and educational backgrounds. Referencing Figure 1.1, the gap analysis begins by asking what communication looks like within the Venn expression of project management in a temporary organization. How ill-structured is this domain and how might that create communication tensions that contribute to risk?

⁷ The PMI reports only one in four of the studied organizations were categorized as highly effective communicators, page 3.

CHAPTER 3

COMMUNICATION AS RISK MITIGATION

This research uses foundations of professional technical communication to study temporary organization communication practices. Interest in these practices grows as the global market for consulting and outsourcing expertise increases. This study focuses on the field of project management consulting as a prominent example of a temporary organization context. Ineffective communication increases the probability that a project will fail to meet all of its objectives; ineffective communication constitutes risk. Currently, temporary organizations have not been studied from a professional communication perspective.

3.1 The Research Question

The central research topic is communication as risk management. The purpose of this investigation is to determine what communication strategies project managers (PM) use to mitigate project risks. The primary research question is what communication themes and tensions create risk for a project management team in the context of a temporary organization culture?

First, this study must initially qualify the context of a temporary organizational structure. The definition of a temporary organization as a group collaborating to produce or manage a single finite project or enterprise indicates the function but not the form. This study lays out some baseline demographic indicators to analyze the potential scope

of project management consulting as a temporary organization. What unique communication circumstances exist in project management consulting?

Second, after gaining an initial functional understanding of the communication context Venn diagram expressed in Figure 1.1, this research explores how those circumstances contribute to overall project risks and specific communication risks. Finally, this study examines communication strategies that are currently employed by project managers in the field as risk mitigation.

3.2 The Thesis of this Thesis

This baseline research uses the field of project management consulting as a platform for contextual inquiry into temporary organizations. The discussion explores converging and diverging communication values and techniques between project management and professional technical communication. The unique challenges of temporary organizations create opportunities for communication-based risk mitigation.

This thesis will argue that a technical communication strategist within the PM team is an avenue that temporary organizations could pursue to address their demanding rhetorical context and mitigate project risks. The discussion includes justification that temporary organizations are ill-structured domains that require context and multicultural auditing to preclude successful communication. Technical communication theory and practice can identify complex root sources of ineffective communication and build heuristics to navigate these intricate rhetorical circumstances. Communication strategy is a legitimate expertise complementing operational, financial, and technical project

management disciplines and techniques. The field of technical communication offers risk mitigation strategies for other disciplines.

CHAPTER 4

THEORETICAL METHODOLOGY

4.1 Matching the Research Objectives to a Method

Lacking previous technical communication research on project management (PM) risks and communication strategies to build upon, this baseline exploration looked for answers tangled within the professional experiences of PM consultants as subject matter experts (SMEs). To meet the research objectives, the study design targeted variables embedded in previous professional circumstances:

- What are the boundaries of a temporary organization? How do these organizations form? What is the composition of a typical team?
- What themes or tensions create risk to a project?
- What communication strategies are used to mitigate those risks?
- What are the critical success or failure factors in these communication contexts?

Without knowing the variables or exactly what questions to ask, a survey is not an ideal choice for collecting valid results. The non-disclosure, proprietary information, and confidentiality complications of studying PM communications eliminate ethnographic study as a potential method of investigation. A methodological combination of critical incident technique (CIT) and behavior based interviewing (BBI) offers an open-ended interview structure where PM can define and expand on the communication strategies they have used to mitigate project risks. These two techniques allow a more participant-driven interview process rather than a researcher-driven interview. Flexible semi-structured probing methods permit PM to inform the study about critical aspects of their communication strategy from past in situ experiences rather than assume the researcher

can compile a more structured set of relevant survey questions to ask.

4.2 The Investigation Method: CIT and BBI

By the simplest definition, research asks and answers questions. The questions asked become pivotal in defining and limiting the direction of investigation. The method of inquiry (of asking, observing, or testing) is the vital determiner of the scope of answers (data) the research can expect to collect. The research method also necessarily limits the pool of potential interpretative choices for results which in turn funnels the discussion parameters and conclusions that can be drawn based on the initial inquiry. Choice of method impacts the entire research structure.

CIT and BBI are both well-used cognitive task analysis techniques. This literature review supports CIT and BBI as valid complementary instruments for interviewing PM about their previous temporary communication contexts. The remainder of this chapter addresses how the theoretical aspects of these two techniques inform the research question and further impact the study design, data collection, data analysis, deliverables, and the limitations of these techniques.

4.3 Methodology Literature Review

4.3.1 The Umbrella of Cognitive Task Analysis

CIT and BBI are both interviewing methods under the broad umbrella of cognitive task analysis—an array of techniques employed to uncover how a system works and how information flows. The task environment, interrelated elements (dependencies), tools, skills, and variations in the process can all be examined. Task analysis can determine the

rationale for workflows performed to achieve a goal, and uncover any barriers to task completion (Bevan, Sudhindra, and Saraiva, 2012). On the most basic level, cognitive task analysis methods help develop a conceptual framework to determine how people solve a problem or complete a task. On a more complex level, the methods further assess and suggest how people might optimally complete that task (Marine, 2014; Hanson and Brophy, 2012; Hughes, 2007).

Both techniques employ a semi-structured but open-ended survey or interview. This allows participants to elaborate on specific elements or events of their choosing. Data is collected in the form of narrative responses (written or oral). The responses can be coded quantitatively based on pre-determined rubrics or matrices of variables (deductive reasoning). Often the responses are coded qualitatively for emerging themes and categories (inductive reasoning). CIT and BBI methods ask for participant's reflections on actual experiences, including implicit knowledge and behaviors, in order to determine the elements leading to the outcome of a problem-solving exercise. Analysis of the positive, neutral, or negative factors leading to the outcome is intended to reveal details and patterns for task success or failure that are grounded in the reality of actual situations (Hanson and Brophy, 2012; Hughes, 2007).

4.3.2 History and Philosophical Foundations

The fields of industrial psychology and organizational behavior provide the early foundations for both CIT and BBI. Recognizing the distinct differences between what people say they do (present tense), what people think they might do (conditional future tense), and what they actually have done (past tense), these techniques are intended to analyze past situations and behaviors in order to inform or predict future behaviors.

The interview questions and evaluations purposely exclude what people assume is an appropriate action or the supposition of what they might do in a future tense. The evaluations of past events examine what the person actually did do in a defined context. These techniques are considered value-based interviews; they allow the participant to recount a memorable incident or situation and describe their actions and responses in a manner that maximizes participant autonomy.

4.3.2.1 Critical Incident Technique. Industrial psychologist, John Flanagan, developed his critical incident technique by studying military personnel during World War II. He published his interview design in 1954 as part of his 20-year plan to promote better organizational leadership.

Flanagan's classic five-step process has been the foundation of countless studies:

1. Define study aims
2. Plan specifications and parameters
3. Collect data
4. Analyze data
5. Interpret and report data

The CIT process defines and logs characteristics of events to best assess success or failure, effective or ineffective patterns of task performance, or helping and hindering factors contributing to an outcome (Marrelli, 2005; Gov't of Australia, 2007; Urquhart et al., 2003; Hanson and Brophy, 2012).

4.3.2.2 Behavioral Based Interviewing. Like CIT, the BBI technique defines task patterns and is frequently used in both corporate recruiting and benchmarking behaviors for talent management studies. The constructs also evolved out of psychology studies in

organizational contexts from the 1970s. BBI rests on the premise that past behavior is the most accurate predictor of future behavior. Interviews are semi-structured and usually scored by a rubric (matrix) of predetermined response categories as a quantitative metric (Baill, 2012; Seeling-Smith, 2013).

The scoring rubric construct is central to quantitative analysis of participant responses. The STAR response is often quoted as the base metric for scoring a question. Each response should include a defined Situation or Task, followed by an Action that was taken, and conclude with the corresponding Result of that action. This waterfall process indicates critical thinking and problem solving competencies. The SHARE response is another common acronym for calculating a quantitative score: Situation, Hindrance (problem), Action, Results, and Evaluation.

4.3.3 Theory and Practice

Both techniques collect situation-specific details in a narrative inquiry fashion. Neither technique preferentially focuses on positive or negative circumstances—there are lessons to be learned from either. Critical factors or metrics that impacted the outcome of a task or circumstance are the focus of the questions. The ultimate goal is most often a sense-making or knowledge transfer exercise: what can we learn or model from this data?

4.3.3.1 CIT + BBI: Complementary Task Analysis Techniques. CIT and BBI initiate the discussion by framing the situation to reveal a competency, then employ probing techniques to gain further details (Sanchez, 2006). The success of CIT in particular has been reported by professionals from numerous disciplines; the reliability and validity of the technique is well documented (Hanson and Brophy, 2012).

There are a variety of published contexts where one or both of these techniques represent an optimal investigative method:

- Workflow and process analysis/organizational auditing with respect to lessons learned, resources, and knowledge management (Bevan, Sudhindra, and Saraiva, 2012; Marrelli, 2005)
- Determining problem-solving abilities (De Saram, De Darshi, and Ahmed, 2004; Sanchez, 2006)
- Interviewing and short-listing employment candidates (Marrelli, 2005; Sanchez, 2006, Seeling-Smith, 2013; Shah, 2013)
- Benchmarking desired traits for talent management, e.g., performance and competency assessments (Wagner, 2000; Marrelli, 2005; De Saram, De Darshi, and Ahmed, 2004)
- Informing instructional design (Hanson and Brophy, 2012; Gov't of Australia, 2007)
- Information literacy design in health care and education (Hughes, 2007; Urquhart et al., 2003)
- Linking content and context analysis, strategy and systems thinking, and outcomes (Thompson, 2011; De Saram, De Darshi, and Ahmed, 2004; Hughes, 2007)
- Total quality management assessments (De Saram, De Darshi, and Ahmed, 2004)
- Crisis event analysis (Deverell, 2014; Thompson, 2011; Kirby, 2010)

4.3.3.2 Flexibility, Adaptability, and Versatility. The above spectrum of applications and perspectives that employ either of these research techniques indicate the flexibility and range of detail that can be gained by the interview dialogue. Because both techniques offer open-ended dialogue, they are readily adaptable and modifiable to a broad scope of research inquiry.

Either technique alone is designed to elicit sufficient levels of detail to promote honest responses. Probing follow-up questions help maximize the return of honest

responses; it is easier to exaggerate about general situations but exemplary details are difficult to manufacture impromptu (Seeling-Smith, 2013; Sanchez, 2006).

Depending on the research purpose and context, additional complementary methods for gathering information could include focus groups, performance records, and work diary analysis (Marrelli, 2005). In the context of studying communication risk and strategy in the field of project management consulting, none of the additional complementary methods could be undertaken across a broad range of industries appropriate to this baseline study. The previously mentioned complexity of non-disclosure, intellectual property, and confidentiality would also limit these additional methods.

4.3.4 Provisos of CIT and BBI Methods

4.3.4.1 Human Factor Notes. Any research involving human participants is responsible and accountable to ethical principles of autonomy, beneficence and equality. Confidentiality and anonymity must be protected to the maximum extent possible (Marrelli, 2005; Urquhart et al., 2003, Hughes, 2007; Hanson and Brophy, 2012). Extra time is required for institutional review board processing and approval of protocols and documentation.

Interview circumstances that foster intimidation, nervousness, or low rapport are not optimal for eliciting responses that are measurable or accurate. Maintaining a balance between positive, neutral, and negative probing questions will lower the intimidation factor in an interview. Encouragement during follow-up questioning can be used to let the participant know when they've gone into the amount of detail that is most helpful for the research study. (Marrelli, 2005; Baille, 2012; Sanchez, 2006).

Obvious disadvantages of hindsight event/behavior analysis include questions of the reliability of the mental reconstructions. Incidents are personal and filtered through human memory; consistency of personal recall may be questionable (Hughes 2007; Baille, 2012; Marrelli, 2005; Sanchez, 2006).

4.3.4.2 Instrument Design Notes. Though the reliability and validity of these methods have been verified in many applications, experts continue to debate the interview focus and conceptual semantics. Alternative terminologies have evolved to highlight the change in emphasis: Behavioral Event Interviewing (BEI) and Behavioral Performance Interviewing (BPI) are examples. These alternative taxonomies point to philosophical differences—some practitioners argue that past performance is not the same predictor variable as past behavior. Likewise, the term *critical incident* may evoke certain pre-conceived perceptions among participants.

Competencies that are increasingly abstract may be difficult to assess by direct observation making interview dialogues a better research choice. However, those relatively abstract constructs may hold different meaning for different people. Therefore, a key to successfully using these patterned semi-structured interviews is to appropriately match the open-ended questions/scenarios to target real behaviors or values of interest by carefully operationalizing behaviors, attitudes, and themes of interest. Primary questions and probing follow-up techniques need to be formulated in advance. Care must be taken not to seed the questions with the exact words that operationalize the variables. Any ambiguous terminology must be clarified so questions are minimally subject to interpretation (Baille, 2012; Sanchez, 2006; Shah 2013; Seeling-Smith, 2013; Urquhart et al., 2003).

4.3.4.3 Data Collection Notes. Interviews or direct observations are considered more effective than surveys because participants generally won't take the time to write down all their experiences with sufficient detail. Scoring metrics and note-taking during the interview help ensure that questions are answered to the level of detail required for useful analysis later (Hughes, 2007; Baille, 2012; Marrelli, 2005). Data collection should distinguish between participant's self-evaluation statements versus actual behaviors. Probing questions should address this difference which is critical for analysis of narratives (Sanchez, 2006). Depending on the interview circumstance, note-taking should be flexible; some researchers report that note-taking disrupted the flow of the interview and had participants questioning whether they said something 'wrong' (Hanson and Brophy, 2012).

CIT and BBI methods have been criticized in certain contexts for being potentially unidirectional i.e., the calibre of dialogue depends on the probing follow-up technique (Shah, 2013; Sanchez, 2006).

4.3.4.4 Data Analysis and Interpretation Notes. CIT and BBI design, data collection, and analysis are notoriously labor and time intensive (Marrelli, 2005). They are not necessarily valid cause and effect predictors i.e., there could easily be other variables that are being overlooked that created the circumstance of the (un)successful outcome or behavior. Resolution of any third variable problems requires systems thinking (Deverell, 2014; Thompson, 2011; Kirby, 2010).

The phenomenon of *analysis paralysis* is a risk. Poorly defined or abstract constructs may create unnecessary and unresolvable complexities when data analysis is

attempted (i.e., communication is often perceived as an abstract construct as discussed in Section 1.2.2).

Generalizability is a pivotal lesson from analyzing critical incidents in actual crisis events. Whether research intends to apply the knowledge to an actual crisis or simply pain points in normal organizational activities, lessons learned have the potential for rigid application that severely narrow their future usefulness. Take-away messages need to be stated in universal terms, adaptable to varying circumstances in time and space (contexts, scale, and scope adaptable) to maximize effectiveness (Deverell, 2014; Bevan, Sudhindra, and Saraiva, 2012; Thompson, 2011; Kirby, 2010).

Training additional researchers to construct categories and determine themes adds complexity to these protocols. Inter-rater reliability assessments and validation need to be included in these circumstances (Hughes, 2007).

CIT is a poor choice for assessing incidents in which there was no decision to act (Urquhart et al., 2003). CIT is less valid for assessing routine events because the distinct details become blurry between the recall of many similar incidents (Hanson and Brophy, 2012).

4.4 Application of the Method to the Research Design

4.4.1 The Methodology Gap

There is no published evidence that CIT and BBI have been combined to study how temporary organizational work contexts articulate, strategize, and resolve communication risks. However, the versatility and adaptability of both methods are demonstrated and documented in many other fields and disciplines ranging from health care and construction management to performance evaluation. A merger of the two methods

addresses the research design goal of allowing participants to expand on their own task processes and outcomes in an open-ended discussion format.

CIT allows participants to choose their own experiences and situations for investigation. The method is specifically noted for being open to any positive, neutral, or negative spin within the dialogue. The addition of BBI as a complementary technique will allow the research to measure the appropriateness of the depth and detail of the response during the interview process to ease some of the intensity of the data analysis phase. BBI will also flag any answers that could potentially present as self-assessment or self-justification on the part of the participant rather than an actual communication behavior or strategy. The combination of interview techniques considers autonomy of participants and completeness of data collection, while helping the interviewer to remain present and actively engaged in the participant responses.

4.4.2 Method Development Requirements: A Summary from the Literature

The literature on the individual CIT and BBI techniques justifies using a complementary combination for a baseline study of communication strategies in temporary organizations. While both methods are considered semi-structured (e.g., as opposed to a Likert-scaled survey), the development of the interview instrument and interpretation of the data remains a rigorous process with explicit requirements:

- Validated task analysis methods must be grounded in a specific bounded experience or situation.
- Relevant questions must be determined in advance, clearly stated with definitions of terminology if necessary.
- Interview instruments must be pilot tested for iteration and further delineation of appropriate probing questions for follow-up.

- Pre-determined patterned probing questions are designed for flexibility depending on topic and discussion path during the actual interview dialogue.
- The probing questions benchmark whether responses have the appropriate level of detail for analysis.
- The potential for flexibility and open-systems thinking during analysis must be retained: critical incidents cannot be planned and there is more than one path to any outcome (Thompson, 2011).
- The instrument design fosters theme analysis that focuses on development of a conceptual framework and theory.
- Analysis is geared not only towards uncovering immediate lessons learned but on further collective knowledge and sense-making constructions.
- Interpretation of the results should offer a heuristic to inform any future study based on the data categorization.

The relevant themes and tensions discovered by CIT and BBI should inform communication contexts that impact strategic decision-making communication processes within the unique boundaries of temporary organizations. While researchers are necessarily limited to gathering answers only to the questions they pose, CIT and BBI are intended to create an open format to accept any path to any number of possible outcomes within the interview responses. The scope of inquiry is maximized along with the autonomy of the participants.

Given the small sample size in this study, each interview narrative accounts for a large portion of the overall data set. The combined rigor of CIT and BBI ensures the collection of consistent levels of detail of PM communication strategies from each participant narrative. The open-ended semi-structured interview style invites details about participant reasoning processes and actions where communication strategy increases or decreases project risk. The reliability and validity of both techniques has been

documented extensively; both theoretical methodologies provide maximum adaptability to best fit this study's design objectives.

CHAPTER 5

RESEARCH DESIGN

This chapter uses the theoretical methodology details in Chapter 4 to outline the actual design and procedural parameters of the study. The study outline generally follows Flanagan's CIT steps: research purpose and design goals, design specifications and parameters, and finally data collection and analysis methods. The interpretation and reporting of results follow in Chapter 6.

5.1 Research Purpose and Design Goals

There is limited research specifically connecting communication risk and strategy in temporary organizational contexts. This study is necessarily a qualitative baseline approach to examine the communication challenges experienced by project consultants. Themes and tensions brought forward in this study will then be variables on which to base future study of communication in temporary organizations.

5.1.1 Objectives

This study was designed to question the context of temporary organizations and the experiences of risk within that context:

- What is the form of a temporary organization? Project management consulting is used as a disciplinary example of a temporary organization context.
- How does this context challenge communication? What is unique about the rhetorical situation?
- What are project managers' experiences of project risks (tensions)? Can those risks be categorized (themes)?

- What communication strategies do project managers use to mitigate project risks? Can those strategies be categorized?
- How do foundations in technical communication compare or contrast with project management approaches?

Studying the PMBoK communication planning, control and management processes is insufficient to determine if those linear communication lines actually function as designed (parallel to the way that an organizational chart demonstrates design intention but doesn't actually demonstrate how it (dys)functions as discussed in Section 2.3). To determine if communication form meets function, PMs from the widest sectors of practice possible will be recruited to maximize the baseline scope of inquiry. Narrative communication experiences from a range of projects and industries will inform a larger future study.

5.2 Design Specifications and Parameters

The following section covers the sampling design including recruiting of participants, the instrument (interview) design and pilot testing process, and the logistics and required resources for this study.

5.2.1 Sampling Design

As a baseline qualitative investigation, this study targeted the voluntary participation of a small sample of subject matter experts (SMEs). Researching risk and strategy from a technical communications perspective requires examining the emic⁸ relationships of communication variables and how those variables function within temporary organizations. Study participants were recruited by purposive (non-probability) sampling

⁸ Uncovering the insider perspective.

based on professional experience.

Attempting probability sampling of project managers would necessarily be limited to random sampling from a database of a professional society such as the Project Management Institute (PMI). The representativeness of such a dataset is questionable; as discussed in Section 1.2.1, membership in a particular professional organizational body is not a requirement to practice. It is strongly suspected that the PMI population data set does not accurately represent the disciplinary variety of the target group under investigation. Probability sampling using membership rosters could add considerable bias in this circumstance.

Purposive sampling is also biased. This study focused on the internal communications of temporary organizations experienced by consultants as cultural experts. Consultants are key informants in a hard-to-reach professional population. Without introductions and recommendations from within their (in most cases) closely held networks, interview access is unlikely. Continued voluntary participation used the snowball sampling technique (aka chain-referral or network sampling) which is essentially a vetted peer recommendation scheme.

How many peer-vetted consultants constitute a valid sample size? For determining major themes experienced by cultural experts, as little as six informants have revealed a consensus of categories (Bernard, 1975, 446-7). Given the research time frame and the labor-intensive methodology, this study targeted a maximum of twenty consultants with the recruiting parameters by snowball sampling. Details of the interview response rate inform future research regarding the logistics of recruiting larger sample sizes (discussed further in Section 8.2).

5.2.1.1 Recruiting Criteria. Three recruiting criteria set the temporary organization boundaries for this study:

1. The PM must have experience in a consultant circumstance (a temporary organization context, not an employee managing a project within a static organizational context).

This criterion required further definition during the initial recruiting phase. Some PMs are paid by a static organization but their professional work contexts are external to the company itself i.e., managing project teams outside the boundaries of their own consulting company. In the context of this study, this expanded definition still fit the spirit of the recruiting criteria and smoothly segued into criterion number two.

2. The PM must have experience working as a team within the client organizational context or as a member of a distinct team of consultants that functions as an organization (not a single consultant in a role such as auditing or reporting on an external organization's processes only).
3. The PM must have more than three years' experience in these professional contexts.

5.2.1.2 Recruiting Plan. Potential voluntary participants were contacted by email to verify their qualification based on the three recruiting criteria. At this time, the potential participants were informed of the purpose and basic procedure of the study, the researchers involved, and their rights to refuse entirely, participate only partially, or terminate the interview at any point for any reason. The important details were all excerpts from the standard approved NJIT human subject research *Consent to Participate* protocols and documents.

5.2.1.3 Recruiting Modifications. In the process of recruiting for the first few interviews, it became clear that potential participants needed a more detailed picture of the overall process before they would consider granting the interview. To address this information shortfall, a second standardized email was created. This new email highlighted details from the NJIT *Consent to Participate* form plus reiterated a step-by-

step interview process. This synopsis email eliminated further clarification steps in the subsequent recruiting process.

From a technical communications perspective, this is a critical step to note. Though the synopsis email did not actually add any new information, the modified format and presentation of information allowed potential participants to confidently accept or decline the interview request. Reformatting the information added clarity to the details and removed the intimidation of virtually receiving a formal *Consent to Participate* document as an email attachment. This step was vital for creating rapport and trust. Further discussion relating to this lesson learned continues in Section 8.2.1.

5.2.2 Instrument Design

Based on the literature review in Chapter 4, CIT and BBI methods were combined to design an investigation into the complex performance systems required to navigate project risk and communication strategy in a temporary organization. Examples of these performance systems from the list of technical communication competencies are those that employ critical thinking and problem solving, information multi-tasking, prioritizing, organization, retention, and recall. The interview instrument needed to open a dialogue on the experience of risk and communication strategy by accessing the internal human knowledge management systems (cognitive task analysis) of consultants. The flexibility, adaptability, and versatility of CIT and BBI techniques were important to the construction of the interview.

CIT framed the major semi-structured open-ended interview questions that addressed the study objectives listed in Section 5.1.1. BBI was used to further benchmark the depth of detail in participant responses to ensure responses were complete enough to

be analyzed. This was achieved by creating a patterned probing question list to tailor additional questions based on initial consultant responses. Modified probing questions helped confirm the complete coverage of topics in a less prescriptive fashion. This interview strategy was intended to proactively address anticipated differences in communication practices stemming from the variety of PM industries that were recruited for this study.

The two-phase study design also anticipated diverse communication practices by industry. The first phase collected project demographic information as a contextual inquiry into the scope of temporary organizational work contexts. PM participants were able to define the broad spectrum of industries and macro parameters under which they operate professionally (timelines, budget variances, cross-functional teams, and cultures). This initial demographic phase was also designed to develop an easy rapport to ease into the second phase of dialogue on their professional experiences.

The second phase was the semi-structured open-ended interview relating to project risk and communication strategy. The CIT and BBI methods cross-validated the responses to ensure the participant answers were grounded in actual behavioral, performance-based situations rather than potential self-evaluations or justifications. Judging a consistency level of detail (not the details themselves) across the range of participants was assisted by the list of probing questions. During the course of the interview, the tailored probing questions were mentally checked off as covered by the consultant dialogue, not relevant to this circumstance, or posed as an interview question if participants skipped over a category previously. This response benchmarking list was a

way to quickly evaluate response details while allowing the researcher to remain present (actively listening) in the interview itself.

5.2.2.1 Interview Design Reliability and Validity. This initial study established baseline content validity for future investigation. Reliability of the instrument in this context was not yet established at the time of this study. The interview instrument is an iterative model for further research.

From an initial evaluation standpoint, questions were well-received by participants, required little-to-no additional clarification, and proceeded very naturally and smoothly after pilot testing. This qualitative interview design opened a dialogue into contextual values, practices, and strategies in project management consulting as a temporary organization. Tension and strategy themes from the consultant narratives were coded and analyzed from the perspectives of technical communication practices without being prohibitively labor intensive. The interview design collected responses that informed how technical communication practice could focus efforts to bridge gaps in professional communication. Evaluation of expected and novel themes demonstrated interdisciplinary parallels and divergence in communication strategy. These initial qualifying benchmarks indicated that the interview design was robust. The full interview instrument and script is listed in Appendix A.

5.2.3 Logistics and Resource Requirements

Following the design of the interview, the study proceeded through five major steps:

1. Pilot testing the interview instrument
2. Recruiting and scheduling the interviews
3. Recording interviews (and soliciting new participants by snowball sampling)

4. Transcribing and coding the audio narratives
5. Compiling and interpreting the data for reporting and discussion purposes

5.2.3.1 Pilot testing. Study questions were pilot tested as recommended by CIT and BBI literature. The purpose was to ensure clarity and fix any ambiguous terminology prior to the participant interviews. The tests were also timed to confirm that the overall interview did not take longer than the anticipated 40 minutes. Giving participants a realistic timeframe for their contribution was critical to the transparency and credibility of the study; this step was also intended to prevent incomplete data sets from interviews where participants ran out of time. Pilot testing the interview instrument continued until the flow of the interview and probing questions required no further iteration or revision.

Four pilot tests were performed successively before the timing was within limits and dialogue flowed as expected. Iteration after each pilot test included the following:

- Questions were rearranged to promote more fluid dialogue. When the actual interviews were performed, some consultants who spoke more freely and naturally actually moved from one question into another without the question being asked by the researcher.
- Probing questions were added to the benchmarking list to ensure details were clarified and topics were not missed.
- A few well-placed probing questions were added in case a redirect was needed if a consultant got too far off topic.
- An alternative audio recording method was investigated and trialed. Half of the consultants in the pilot test did not use the planned GoToMeeting™ software already. Despite the free download, it was potentially a minor deterrent to participation. Audio MP3 recording software for Skype™ was tested and confirmed as a contingency plan.

Pilot testing was performed on volunteer consultants from the researcher's known professional-personal network. Using the snowball sampling technique, the pilot participants were asked to put forward colleagues who may be interested in taking part in

this study. All but one of the pilot participants passed on at least one other potential consultant to the actual research study.

5.2.3.2 Recruiting and Scheduling. The institutional review board requirements for this study included a prescriptive recruiting email in addition to the *Consent to Participate* form. Details included any risks and benefits, and what participation in the study would entail, all conforming to Human Subject Research mandates.

The standardized consent forms were found to be insufficient communication. As identified earlier in Section 5.2.1, despite all the pertinent details presented in the recruiting and consent documents, participants still required a separate synopsis of the step-by-step flow of the entire process (i.e., “If I say yes, what happens next? Does a 40-minute interview really mean just 40 minutes and do I have time to commit to this?”). This intervening step bridged the decision gap between the recruiting email and the actual return of the signed *Consent to Participate* form for most participants.

Complicating the scheduling and transfer of documents was the distributed context of the consultant’s typical work-life reality. Participants were expected to be in various time zones, geographies, and professional contexts at the time of the study. Extra time was allotted to account for the recruiting and orientation emails (agreement to participate, return of signed *Consent to Participate* document, and determination of mutually acceptable time to dialogue that didn’t impact sleeping patterns) in preparation for the actual interview. This round-trip process from initial recruiting contact to the completion of the interview took a minimum of one week and up to five weeks.

5.2.3.3 Recording Technology. Audio recording software (VoIP) was required to ensure the context of discussion was maintained between the narrative dialogue and the data

analysis phase of the study. Each audio interview was transcribed before any data coding for themes occurred. The first choice for recording was Citrix™ GoToMeeting™ because it offers screen sharing potential in case a consultant wanted to diagram a process or view the interview question as posed in real time. Based on the researcher's previous experience in the field, this software was assumed to be a common choice among project management consultants.

This assumption turned out to be wholly incorrect. The pilot testing phase, earlier in this section, indicated that a contingency plan was required for audio recording technology. The contingency alternative of Skype™ coupled with an independent MP3 Skype recorder application was trialed. A very important advantage to this software was discovered later in the study: Skype was also capable of recording Skype-to-cell phone conversations. This was required in a number of interviews where the consultants were actually in the field without convenient access to their computer or tablet with WIFI capabilities. The contingency technology plan became the standard for this study.

5.2.3.4 Additional Technology Requirements. Microsoft Office provided the standard document, spreadsheet, and diagramming software required to manage the data collection and analysis for this study.

5.3 Data Collection and Analysis Methods

5.3.1 Data Collection Specifications

The study collected narrative responses via a 40-minute Voice over Internet Protocol (VoIP) audio interview. Each participant was given a unique number corresponding to the date of the actual interview to purposely avoid connecting personal details with the saved audio recording or the transcription file.

During the audio recording, brief notes were taken for use as memory triggers and clarifying points so the researcher could employ active listening techniques. The audio narratives were transcribed into MS Word files for data analysis. Audio files were deleted after the thesis defense. None of the consultants nor the projects were identifiable from their responses to the interview questions.

5.3.1.1 Interview Procedural Checklist. In order to keep the process as consistent as possible, each interview followed a prescriptive format:

- Confirmed participant contact preference and checked audio equipment settings (microphone play back tested) prior to the interview call.
- Contacted the participant at the scheduled time and confirmed that they would have 40-60 minutes for a dialogue.
- Referred to the scripted interview document prepared as pilot tested and submitted in Appendix A.
- Confirmed briefly the consent to participate was signed and returned, the recruiting criteria were met, and that the interview was being recorded and notes were going to be taken during the interview.
- Verified that the premise of the study was understood and reiterated the primary research question and the overall interview structure so each participant would be refreshed on what to expect.
- Proceeded with the recorded interview according to the script adding in tailored patterned probing questions depending on the dialogue path.
- Followed the interview with the request for peer recommendations to recruit further participants for the study.
- Sent a follow-up email as thank you for the participant's time and assistance with the study.

5.3.1.2 Interviewer Reliability. A single interviewer performed the entire recruiting, interview, transcription, and coding procedures. This involved obvious biases but

maximized the consistency and congruency of the process. Additionally, no inter-reader reliability validation steps were required.

5.3.1.3 Confidentiality Notes. Security of personal email data, audio recordings, and transcription files met confidentiality and anonymity requirements to the maximum extent possible. No personal details were requested or purposefully collected from participants.

Risk to anonymity would potentially come from hacking into recruiting emails to determine which potential consultants actually agreed to participate and returned their signed consent forms. Skype recording technology does add the phone number called or the Skype user name (which may or may not be the name of the participant) to the audio recording files. These details could be obtained from the confirmation of the interview appointment emails as well. The MS Word transcription files contain a number reference only. Audio and transcription files were stored in completely separate filing trees on the researcher's computer and were scheduled to be deleted after the study submission. Connecting this data trail would require significant effort and would likely pose less than minimal risk to anonymity for any participant.

5.3.2 Data Analysis Specifications

Narrative transcriptions were coded for communication themes of importance to consultants in temporary organizations using a combination of deductive and inductive approaches. The variables pulled from management literature were used to operationalize communication values, practices, and strategies which were coded via a deductive approach. New themes that emerged from a technical communication perspective were incorporated into the coding structure using an inductive approach.

Unlike many of the published CIT studies following Flanagan's protocol, this research was not continued until the emergence of new narrative themes stopped. Flanagan's continuous protocol has been estimated to require a range from 50 to 100 participants upwards to 1000 depending on the topic under review (Urquhart et al., 2003). In this case, there was uncertainty about the access to PM consultants and their willingness to participate. Coupled with this study's time-limitation and IRB approval constraints, data analysis from even 50 participants would have exceeded the capability of this study. The emphasis here was on the qualitative collection of experiences of communication risk and strategy from a variety of project management consultants rather than a large comprehensive database of participant responses to quantitatively analyze.

Transcription and coding was performed as soon as possible after each interview. Coding structures were iterative and increasingly granular from the first to last interview i.e., the first interviews helped inform the subsequent interview coding and categorization.

5.3.2.1 Interpretation and Reporting. Initial interpretation of the communication themes and tensions was based on the benchmarked categories built into the interview design. These deductive evaluations from the sparse literature relating to communication were structured into a risk idea map. Major and minor risk relationships were conceptualized. Communication strategies were tied to the risks they were used to mitigate. The same process was followed for new themes by inductive reasoning.

Some data cleanup was required to parallel terminologies between the fields of business, various sectors of project management, and technical communication. These terminology implications are examined in Chapter 8.

5.3.2.2 Deliverables and Outcomes. The adapted versions of CIT and BBI methods used in this study are as similar to a contextual inquiry as possible without being an ethnographic study (i.e., there is little possibility of an evaluation of project managers in their native communication contexts in the role a researcher). The interview instrument and data analysis structures were designed to reveal:

- Required knowledge categories or professional *rules of thumb*
- Foundational strategic knowledge frameworks (cause-effect, if-then, decision trees)
- Triggers, tools, and task flows used to mitigate risk
- Optimization decisions and prioritization parameters in temporary organizations
- Lessons learned and pain points in consulting communication circumstances

This study breaks down risk and strategic communication from the experiences of consultants to expand on the linear PMBOK *input-process-output* communication model. Major and minor communication themes and tensions that contribute to risk and strategy in temporary organizations were intended to be expressed visually to demonstrate the relationships between the themes.

The field of technical communication provides evidence for both short-term communication solutions and long-term strategies. Ill-structured communication domains, exemplified here by project management consulting, are expected by technical communication SMEs. This baseline research methodology situates the best practices of technical communication as sound communication design strategies critical to the success of fast-tracked temporary organization outcomes.

5.3.3 Human Subject Research and Institutional Review Board Criteria

According to the NJIT Institutional Review Board (IRB), any study involving human participants must be subjected to review and risk assessment. The IRB approval details are submitted in Appendix B. All participants were required to submit a signed standardized *Consent to Participate* form marked with the IRB protocol number. This research received an expedited review under the justification of less than minimal risk to participants.

CHAPTER 6

INTERVIEW RESULTS: WHAT PROJECT MANAGERS SAID

Ten project management consultants, six men and four women, participated in the CIT semi-structured interview. Within the small sample size (n=10), this study collected narrative representations from the widest spectrum of professional contexts possible. This chapter summarizes the coded and mapped results of their narrative dialogues.

The first section of this chapter highlights the diverse demographics of project management consulting. Included are the representative sectors of key industries, the ranges of the most basic contract variables (time and money), and the consultants' perceptions of their work contexts: as individuals, as team leaders, and as members of a profession. The second section ranks the four primary project risks and consequences coded from the interview dialogues. The third section ranks the four primary strategy categories used as risk mitigation by the consultants. The last two sections summarize the discussions on communication changes and challenges within the profession.

6.1 Project Management Consulting Demographics

The potential scope of contexts in project management consulting is vast. The combinations and permutations of variables for temporary organizational circumstances exemplify the ill-structured domains discussed by contemporary technical communicators. The demographic diversity of temporary organizations in this study reflects why their communication challenges are unique and require further study.

6.1.1 Industry Representation

As described in Section 5.5.1, participants were recruited by snowball sampling based on their professional experience in temporary organizations. All but one of the project managers had more than a decade of experience; this depth of experience often translated into a long list of multiple industries and various sectors corresponding to where they practice as consultants. Based on the chosen risk and strategy dialogue circumstance, the interviews can be grouped into four main industries: energy and resources (e.g., power, land, oil and gas), engineering infrastructure and construction (e.g., highways, bridges, dams), heavy industry manufacturing (e.g., shipbuilding), and IT (e.g., data systems).

Though the study did not specifically address educational background, generally those with engineering backgrounds held more static titles as project managers throughout their career (e.g., project lead, technical lead). They also tended to remain within a particular industry. Those with business management or IT backgrounds had more diverse titles and a broader scope of practice in multiple industries.

Project managers note that titles and respective roles change from project to project, from sector to sector, and with project geography. The title of project manager is not a definitive indicator of roles and responsibilities either in or across sectors. One consultant asked, “What is a project manager?”, commenting further that widespread adoption of the title has led to over-use and dilution of previously implied meanings.

6.1.2 Diversity of Timelines

Time constraints create communication constraints. What defines *temporary* when we study temporary organizations as project management consulting? The scope of potential time lines is relevant to the relationship of project risk requiring communication strategy.

In this study, the minimum duration of consulting projects was less than one month and up to six months (the median was one month, the average was three months). The maximum duration of consulting projects ranged from two years to ten years (the median was three years, the average was four years). Generally, project management consultants expect to commit to project timelines between one month and 36 months.

Within these diverse time scales, the study participants indicated that they may have multiple projects running at any given time. While one project is proceeding with preliminary contract negotiations, another project could be in the design phase, and yet another nearing completion. Some project managers work on as many as three projects within entirely different organizations on a given day. Projects of very short durations (one month or less) could be crisis projects that required immediate and swift intervention. Projects extending up to ten years were non-consecutive (described as ‘in-and-out’) consulting commitments for a single enterprise. Effective communication of technical information is vital in light of these diverse time scales and the possibility of non-consecutive time contexts.

6.1.3 Diversity of Project Budgets

Money is a ubiquitous bottom-line risk factor. How is *temporary* an additional risk in tangible financial terms? This study does not attempt to address the quantification of financial risk. However, the overall budget, in relation to the compressed time scales discussed in Section 6.1.2, informs the urgency and gravity of the project communication context.

This study specifically requested rough estimates of project budgets (not as the consultants billing numbers but as a comparative indicator of the risk to the finite

enterprises they managed). Each team and each member of a project is integral to the overall success. Failure of one part can have unrecoverable knock-on or trickle-down effects that risk the entire project outcome. The budget range impacts communication tensions.

So what does a budget look like for a temporary organization? All project budgets in this study were normalized to US dollars for consistency.⁹ Budgets were also normalized for time and expressed as dollars per month (e.g., to be able to compare budgets cited as x dollars for y months or z years). The minimum project budgets ranged from 30,000 to 3 million USD/month (the median was 90,000 USD/month; the average was 500,000 USD/month). The maximum project budgets ranged from 125,000 to 15 million USD/month (the median was 6.5 million USD/month; the average was 8.7 million USD/month). A temporary organization budget could range anywhere from 30,000 to 15 million USD/month.

On average, project management consultants in this study could expect their professional responsibilities to account for 0.5 million to almost 10 million USD/month over the course of the project timeline. Budgets of those magnitudes require considerable communication and coordination beyond the obvious financial considerations.

6.1.4 Relationship between Time Scale and Budget

Within the decades of experience of these ten consultants, their minimum and maximum project budgets are orders of magnitude apart. Even the normalized results of project management budgets per unit time indicate a radically irregular scope of financial

⁹ Budgets were originally given in GBP (Great Britain Pounds), CAD (Canadian dollars), USD (US dollars), EUR (Euros), and AED (Arab Emirate Dirham) and converted using the average exchange rate for 2014 (XE currency converter; www.xe.com).

accountability and risk if communication, and therefore appropriate and timely action, fails. This potential risk to the overall budget is amplified by the additional time-compression and time-context variables from Section 6.1.2. These extreme relationships between project time and budget verify the ill-structured domain of communication in project management consulting.

Adding to the ill-structured time-budget domain, at least three of the interview participants raised their reality of intangible financial value. This intangible financial factor impacted minimum time scale projects in three separate cases. Consultants carefully qualified their concerns in accurately answering the question of what a short contract would risk in budget terms. Participants shared experiences where the context and definition of financial value could be misconstrued: policy work has immense financial value/risk depending on the outcome of votes leading to the award of a project contract; certain management consulting projects have a price tag that can only be realized if the attempted changes actually occur within the larger organization; and finally, extreme construction changes in the context of manufacturing projects mean that the final project value (actual cost) is no longer related to the projected budget or market value of the completed works. These three examples of ill-structured domains and intangible financial values were each from a different industry sector.

6.1.5 Internal Perceptions of Project Management Consulting

Seeking to further illuminate the tremendous spectrum of consulting project management, participants were asked what project management means in their experience: What words would they use to define their profession and their practices? Each participant was asked for three words that described their profession and three words that described how they

approach their work as project managers (for a total of 30 responses [3 x 10 participants] for each question). Even considering the diversity of experiences as industry sectors, timelines, and budgets, the extreme range of answers here was still surprising. Descriptor words in both categories were almost never repeated between all 10 participants. Table 6.1 shows the categories of the replies that were similar enough to be amalgamated.

Overwhelmingly, the top reply category of what project management means was the planning/organizing category that appeared in 6/30 answers. This was followed by diligence and focus on details/definitions at 4/30. The third ranked category was communication at 3/30, followed by the focus on delivery/outcome at 2/30. The remaining 15 responses were radically different and didn't fall into neat categories. The top priorities of the field are as widespread as the sectors of practice.

Table 6.1 Project Managers' Experience of Practicing Project Management

Ranked order	Descriptions of the profession of project management	Descriptions of themselves as a project manager (their approach)
1	Planning, preparation, organization (6/30)	Leadership/delegation (4/30)
2	Detail oriented (4/30)	Detail oriented (3/30)
3	Communication (3/30)	Delivery/outcome/goal-oriented (3/30)
4	Delivery/outcome/goal-oriented (2/30)	Analytical (3/30)
--	Uncategorized (15/30) e.g., change, leadership, quality control, health and safety).	Uncategorized (17/30) e.g., communication, patient, political, assertive, proactive.

Similar to descriptions of their profession, consultants described their personal approach to project management in a host of varied terms, sometimes directly paralleling their descriptors for the profession. Ranked first was leadership/delegation category at 4/30. The second most common descriptor categories were a three-way tie at 3/30: detail-oriented and delivery/outcome/goal-oriented again made the list of categories, and analytical was added to the descriptor list. Again, the remaining 17 responses were distinct and unrelated (e.g., communication, patient, political, assertive). The professional approaches and self-descriptors of the consultants themselves mirror the diversity of practices and projects.

While it was surprising that there was not a more cohesive definition or priority list for the profession, the responses mirror the diverse scope of the consultants' industries of practice. The distinct combinations of philosophies and approaches to project management impact the communication context. While this is certainly not unique to temporary organizations, the context of a temporary organization could be expected to amplify those distinctions.

6.1.6 The Temporary Organization: The Makings of a Team

As anticipated in a study of consultants, all ten participants confirmed that overall, the composition of their project management team changed with every project. So how did these teams come into existence in the first place? The formation of consulting teams indicates whether there are any shared cultural assumptions or resources that factor into communication as shared meaning and foundations for decision-making.

The most typical experience of study participants was a mixed team composed of members from a client's larger static organization plus other outsourced consultants. This

did not necessarily imply that any team members had worked together previously. There was generally some professional latitude in recommending and retaining other subject matter experts (SME) enroute, as required to successfully meet the project goals. In these circumstances consultants could sometimes choose known (previously vetted) colleagues depending on availability. Government or non-profit funded projects required that consulting experts be recruited by formal proposal and bidding procedures. Project teams were most often made of multi-disciplinary SMEs unknown to each other previously.

Each team member, assigned or recruited, is an expert in their required field but the boundaries of expertise differ with each individual and team. The study dialogues confirm that a foundation of shared project culture and understanding needs to be quickly constructed. Each team member has a vital but potentially competing perspective on the expectations, boundaries, and integration lines of their technical expertise. Moving from multi-disciplinary islands of expertise to integrated and overlapping collaborations in these temporary yet innovative ventures clearly requires communication strategy.

With a mix of assigned and recommended multi-disciplinary team members, what experts are most important on a project team? When asked about the top five roles they would like with them in a team environment, most consultants thought this was a challenging question and very dependent on the project itself. As a result, this section required a lot of data cleanup to categorize the responses (e.g., consultants who listed very detailed titles for SMEs were put together under technical SMEs). Technical SMEs were the top category of valued roles on a project team.

When asked about the top five competencies they'd like everyone on their team to have, regardless of subject matter expertise, SMEs still ranked at the top of the wish list.

Competency and knowledge, no matter the field of expertise, is the top skill consultants want each team member to demonstrate. The ranked roles and skill sets, aggregated into categories, are compared in Table 6.2.

Table 6.2 Project Manager Value Demarcation: Roles and Competencies

Ranked order	Top five roles valued on project management teams	Top five competencies valued in all team members *
1	Technical SMEs (13/50)	Competent knowledgeable experts (whatever field) (9/45)
2	Commercial/financial SME (9/50)	Communication and persuasion (7/45) ^
3	Operations SMEs (6/50)	Interpersonal skills/Team players (6/45)
4	Planner/scheduler (4/50)	Patient/kind/calm under pressure (4/45)
5	Admin (document and information control) (4/50)	Logical and pragmatic (3/45) tied with Leadership (3/45)

* Not all of the 10 participants gave the full list of 5 responses; the total is not out of 50.

^ Communication leadership was specifically cited as not just “good writers” but analysts and persuaders with strategy and people skills.

The traditional *triple constraint* (time, cost, and quality) of the discipline appears in the demarcation of valued team roles. True to the highly technical nature of their work, the top four roles valued by project managers are connected to quality (technical and operational SMEs), costs (commercial and financial managers), and time (planners and schedulers). Administrative support, as document control and flow of information, is ranked fifth. As one participant phrased it, “You need communications reporting, and you have to be diligent about it, and all those who fail to keep those project management reports will fail.” From their process orientation, project management consultants value

communication as controlling and reporting information.

Project consultants were diligent about defining and justifying their responses to skill sets or competencies they wanted for the entire team. Top ranked competencies for the whole team again list expertise first. Regardless of the discipline, from accounting to welding, experts must demonstrate both knowledge and competence. Communication skills ranked second, but project managers wanted communication leadership, in addition to communication literacy.¹⁰ By their definitions, this competency required listening and persuasion, strategy for assessing and meeting stakeholder values, and understanding the project process while being “public savvy...without being patronizing or condescending”.

Interpersonal skills, or team players, were ranked third which ties into the fourth ranking of patience, kindness, and calm under pressure. The tie for fifth place was between logic/pragmatism and leadership skills.

From a technical communications perspective, the most interesting distinction in this section is the demarcation between communication as a SME role on the team vs. communication as a competency. As a competency for everyone on the team, communication was ranked much higher on the priority list and was much more extensive in the scope of expectations compared to communication on the team as administration and document control (in project management this is acknowledged as a very important part of the entire work). Since dedicated communication SMEs (as distinct from public and media relations consultants) are still relatively uncommon on project management teams, this unbalanced perception indicates the reality of the

¹⁰ Communication literacy defined as reading comprehension, writing, and oral presentation skills.

majority of present-day temporary organizations.

6.1.7 Beyond the “Triple Constraint”: The People Factor

Project management literature added people and culture as the *fourth constraint* in recent decades. As the growth of large multinational projects in all sectors continues, consultants express the critical challenges of temporary organization teams.

“...I often experience teams that are put together based on corporate selection...which tends to be, especially in this part of the world, a hodge-podge, not just of personalities, but of ethnicities and backgrounds, training and education, and that always makes project management more difficult.”

Equivalency in expectations of technical qualifications is challenging cross-culturally.

Some project managers are more firm about the importance of the people factor:

“Quite often what I will do is recommend the mix of people on the team. Or, if I’m going into an organization I will analyze the mix I have and supplement it...I wouldn’t take it on if I didn’t—not the specific people but the mix and the type of people. If I didn’t have agreement on that I wouldn’t take the project.”

Team dynamics are a major priority for project managers. The traditional engineering *triple constraint* is an equation (Quality x Money / Time); no project can ever excel at all three but must negotiate the compromises (Durham, 2007; Pinto, 1995). Are the constraints of project management still viewed as an equation and if so, how do people factor in? Table 6.2 shows the value ranking of roles, responsibilities, and competencies; objectively, it demonstrates a very demanding wish list. Six of the ten consultants listed interpersonal team skills among their top five skills; personality plus cultural expectations create another dimension of communication risk for a team.

Project managers want technical process experts who think in systems, adaptable team players, and savvy communicators to cope with the changes that inevitably occur in their non-repetitive work contexts. Coupled with the compression of time and budgets,

and the acknowledgement that consultants don't always get to select team members, the dialogue wish list presents another element of the ill-structured domain. Team dynamics potentially force tough compromises and contribute to project tensions in the compressed environments of a temporary organization.

6.2 Project Risks: Tensions Managed by Communication Strategy

The first CIT interview question asked consultants to describe a specific project circumstance where they used a communication strategy to mitigate a project risk. The most important reason for requesting a specific circumstance was to keep the dialogue grounded in a situation that actually happened (Chapter 4). Consultants were given uninterrupted reign to provide as much context as they liked; any skipped categories were added as probing questions. The circumstances chosen by the consultants for the interview dialogue were complex combinations of technical, governance, contractual, and financial entanglements; four out of ten consultants specifically noted how time limitations inescapably compromised their efforts. Change was the overarching risk theme in these dialogues.

At their core, temporary organizations mobilize to initiate a change. Projects are non-repetitive contexts for both the work and the people involved in the work (Section 1.2.1). Regardless of the industry, there are lists of individuals and organizations (the stakeholders) that must agree the parameters and participate toward this new enterprise. There are corresponding lists of individuals and organizations that don't have to agree, and may even actively oppose, a project (also stakeholders). A project sets in motion a series of changes that gain momentum as the work progresses; definitive consensus on

progress cannot always be clearly established.

Inevitably, as work progresses in these non-repetitive contexts, additional complexities develop. Orchestrating the events and people in this continually evolving project system is the biggest risk umbrella emerging from these ten consultant dialogues:

“Things are always going to change...The change issue and how it’s dealt with is one of those things that can really derail a project if you don’t pay it the respect it is due.”

In non-repetitive work contexts, one change can unleash an unexpected torrent. The potential effects of change are expressed by the popular metaphors used to explain how events link: the ripple effect (spreading outward), the domino effect (a chain of cause and effect), and the butterfly effect (small events add up in an unexpected or exponential ways). Figure 6.1 defines the primary project risk tensions in their simplest form. Within the continually changing context of a project, the metaphor descriptions of how events link are useful for visualizing how a change to one risk tension can expand into the others. Communication mediates the space between these tensions and contributes to the ripples, dominoes, and butterflies as project variables change.

Dialogue mapping and coding the project tensions ranks people at the top of the risk list. A visual representation of people as the central risk tension circle is shown in Figure 6.1. People commission and perform the work, governed by various rules of compliance, all intersected and mediated by some form of communication. In the constantly evolving system of a temporary organization, communication risks and consequences are also in constant flux. Though the tensions in Figure 6.1 are inextricably interconnected, breaking them into definable chunks facilitates discussion on possible paths toward a solution.

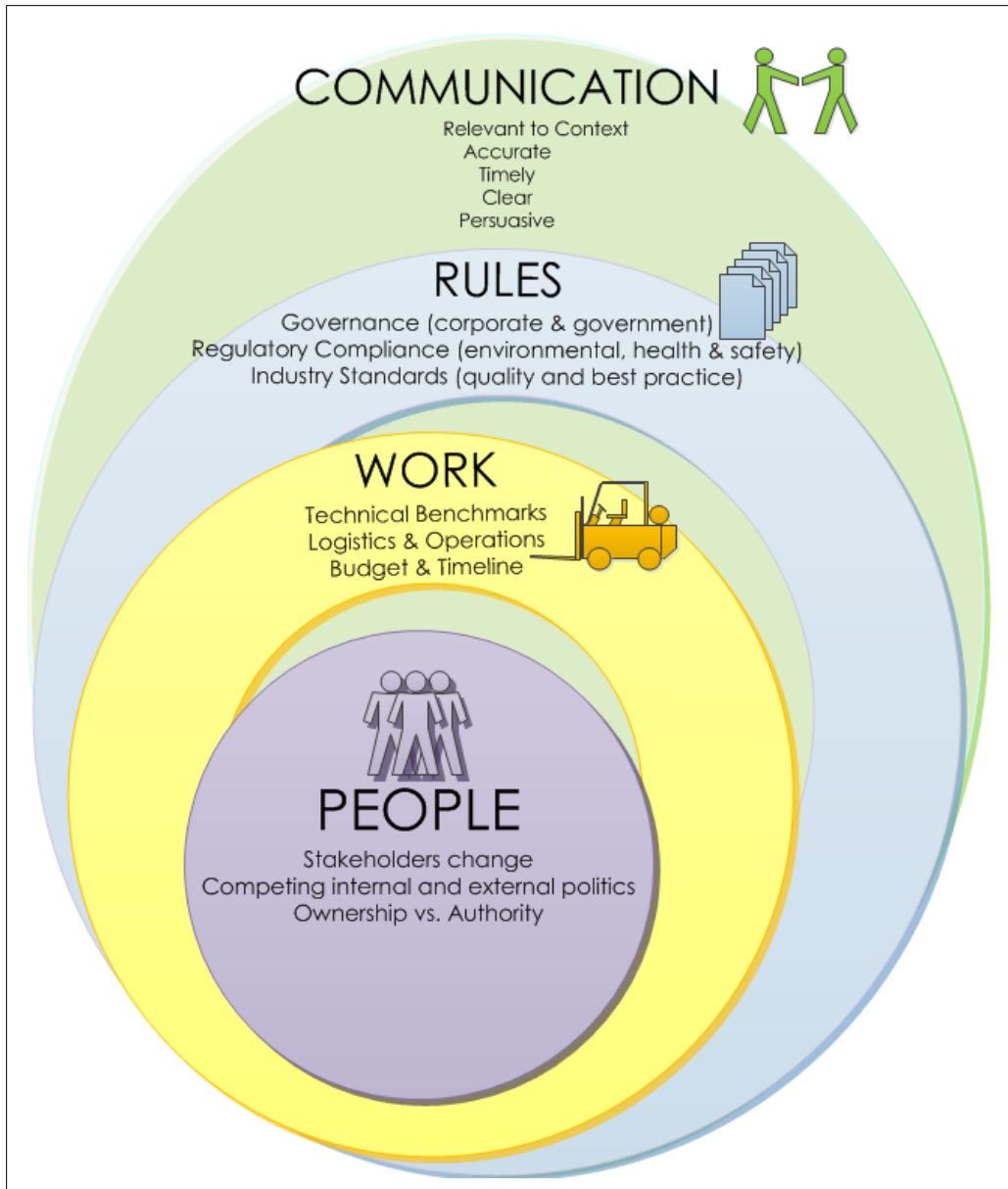


Figure 6.1 The Context of Project Risk. Visual depiction of the risk tensions from the study dialogues. People are at the center of the risk—their decisions and actions continually impact the surrounding work and application of rules. This constantly changing system is mediated by the communication spaces in between.

6.2.1 Stakeholders: People as Risk

By far, the largest node in the dialogue map from this study is people—the stakeholders.

As distinct from the actual project circumstances that framed the risks (the technical, governance, contractual, and financial entanglements including the general list of

stakeholder groups), when asked what the risk in those contexts were, consultants spent the bulk of the time discussing risks as they related to people.

A typical project stakeholder register considers the capacities and vested interests of those involved in a project. It helps define the major and minor interest groups, their roles and expectations, and subsequent interactions. Stakeholder registers are a risk mitigation exercise: these extensive lists are created to ensure everyone's perspective is accounted for and dealt with accordingly at the appropriate time.

What project management handbooks and stakeholder register templates don't define in detail are the risks experienced in these dialogues. There is a surprising range of ways an external stakeholder (usually a financial stakeholder) can contribute to risk. The consequences to consultants and the project vary:

- Stakeholders with capital to spend but little background experience or technical knowledge in the subject area.
 - a. Consultants start with specifications and definitions in an attempt to accurately capture the client wish list.
 - b. Consultants justify and convince the client of what the wish list requires in both technical compliance and scope of work.
 - c. This can include both a short and long term prospectus (projections that account for details long after the project is complete).
- Stakeholders with capital and previous experience or technical knowledge/skill that applies to the project.
 - a. Consultants must carefully articulate and justify each decision.
 - b. Reasons why alternate options are the lesser choice are often hot debates.
- Stakeholders with capital and verbal intelligence.¹¹

¹¹ Verbal intelligence is a term from Dörner's *Logic of Failure*. People accurately express concepts and ideas but their practical application reveals logical and functional gaps.

- a. Consultants must discern the limit between verbal and technical knowledge; sometimes this line is not immediately apparent.
- b. Consultants must carefully convince the stakeholder of the knowledge gap and additional requirements for compliance or work scope.
- c. Stakeholder expectations may require heavy adjustments.

Financial stakeholders come from a variety of backgrounds and decision-making platforms, as do internal project stakeholders. The usual mix of communication styles common to every organizational context exist here too, ranging anywhere from optimal to refusal. There are myriad stakeholder risks to juggle on the consultants' radar screen; in a temporary organization there is most often no umbrella of shared policies and the ultimate authority for decision and action can be competing or disguised.

Surprisingly, even in short term projects, major stakeholders can change entirely, requiring a fresh evaluation of priorities and communication strategy. Project consultants also identify the risk that major stakeholders are misidentified (thought to have more or less influence than they actually do) or initially omitted altogether (later becoming a voice of opposition). The ultimate consequences of these risks are time, money, and the possibility of a successful outcome.

6.2.1.1 Politics. The risk of stakeholder omission or misidentification rises in projects with political entities. The field of project management was acknowledging the role of politics in peer reviewed literature by the mid-1990s, usually referring to the realities of corporate, rather than government, entities (Pinto, *Understanding*, 2000). Both must be accounted for.

Politics is ubiquitous in project management consulting. There are literal politics, as government entities, involved in bidding and funding large capital infrastructure projects accountable to taxpayers. There are residual politics, sometimes discussed as

internal ego-management exercises. Either can derail a project.

“Politics is a significant part of this business for better or worse and diplomacy is a big part of it as well...there are very big egos, high sensitivity, and much to be gained and lost.”

Politics related to infrastructure projects were twice described as an albatross¹² in the context of sorting out the complexity of purposes, competing interests, and public promises of ‘good-fast-cheap’. The challenge for a temporary organization is uncovering all political stakeholders and sorting out who are the ultimate deciders and influencers.

Discovering the actual political decision-maker identifies who the consultant must convince. While many times this is indeed the senior leader with the obvious title and corner office, in a political context it is not always that clear. Taking the time to be sure a project has identified the correct political stakeholder(s) to target communication and persuasion is critical to project success in the compressed timeline.

Discovery and engagement are very time and labor intensive, “You never have as much time to bring people along as you think you’ll need”. Temporary organization communication is faced with extra discovery and engagement while the project clock is counting down. Even with a detailed and complete stakeholder register, project consultants are faced with tough political decisions on the demarcation between consultation and agreement. The reputation of the project and financial stakeholders includes being accountable to the expectations of those parties who were consulted but did not gain the majority position.

Reputation management was specifically raised by three consultants. Governments and corporations are keen to be communicating the appropriate message of

¹² Referring to the metaphor of an albatross being a burden or a curse.

responsibility and transparency at just the right time. This can require an entire communication strategy in itself. Reputation management, added to the list of stakeholder requirements, is a strong example of how adding or changing stakeholders can risk the alignment of the project mission and final outcome.

6.2.2 Scope Creep: Definition of Work as Risk

Changing the definitions of work or final project outcome is the second largest risk expressed by consultants. Moving the project goalposts is commonly referred to as scope or mission creep. Even with detailed contractual specifications, work breakdown structures, and meticulous project planning, both short and long term projects are at risk for the insidious multiplication of tasks and extensions known as scope creep. The tentacles of change can present as additions, modifications, or complete redirection; they risk budgets, timelines, and resources. Projects may have entire teams dedicated to managing these changes and their far-reaching ripple, domino, or butterfly effects.

How changes are managed and communicated feedback into stakeholder perceptions of performance and satisfaction, as well as stakeholder politics. In extreme cases, these changes can unpin the entire foundation of a project. Project management consultants are tuned-in to the potential for scope creep and try to remain flexible while managing the risk to the project outcome.

Scope creep starts as stakeholder or compliance tensions. The interviews revealed a number of examples: miscommunication of the original agreed scope of works, technical miscalculations, the introduction of new governance regulations, discovery of additional environmental constraints or health and safety requirements, and especially stakeholders changing their requirements. Changes to any major project dependency can

shift the project goalpost. These new discoveries or changes can require additional research, redesign, and rework, affecting not only time, budget, and quality but also the perception of satisfaction for both internal and external stakeholders.

Careful communication of scope changes and realignments can save morale and perceptions of performance and satisfaction. With every project being a unique enterprise, temporary organizations will always be faced with unforeseen changes despite the experience and forethought of professional project managers. Where permanent organizations can reliably use the predictive ability of knowledge management and knowledge transfer exercises, these resources have mixed reviews on their power given the unique and changing environment of a temporary organization (discussed further in Section 6.3.1). The absence of large scale knowledge transfer between similar projects, the non-repetitive work, and multiple SME workforces can all contribute to shifting the project goalposts in compound ways.

6.2.3 Compliance: Rules and Regulations as Risk

Change and misalignment risks in stakeholder relationships and project scope are further complicated by compliance and regulatory requirements. Both major and minor realignment decisions can impact the entire interaction matrix. As compliance and regulatory requirements change, the path to the project outcome can change drastically. Any changes feed back into the stakeholder decision and action priorities and the project scope of work in a continual fashion.

Compliance or regulatory changes can occur independent of the project itself (e.g., a new legislation) or they can result from a stakeholder decision or change in work scope. Both can require new research and presentation of viable options, which can mean

further stakeholder decisions and actions. New discoveries in compliance and regulatory requirements may impact the function and performance of the project outcome. Function and performance can add to the risk tensions by requiring new technical benchmarks; vendors may have redesign works or new vendors might be added to the project. Financial stakeholders will want to understand the short and long term impacts of the compliance changes. Internal and external compliance parameters vary depending on the industry and project geography in categories ranging from health and safety to an international manufacturing standard.

It's the project management consultant's job to excel at managing these converging and diverging processes. Stakeholder priorities, decisions, and actions change the scope of works and the application of rules and regulations in a revolving system of risk and consequence. The theories and structured practices of project management have grown and developed in the last few decades to inform and predict these variables in mature organizations. Training and professional development opportunities keep managers on top of the complex policies and regulations, whatever their field of expertise. Software innovations also support the management of these variables and help define a project's critical path and link all the relevant dependencies. The evidence of consultants' competence is measured by their ability to realign the people, the work, and the rules with minimal impact to the project space-time constraints.

Realignment means convincing all impacted stakeholders to agree the new path to the outcome. The longer a consensus takes, the larger the risk to time and finances. The logistics and operations of compliance, work, and stakeholder changes add complications; they require a significant communication focus to track and manage them.

Each operational element has a specific relevance to the supplier, installer, related contractors, and the overall effect of the completed project. Contingency planning is critical, and communication of those alternate possibilities is even more so. There are multiple logistics paths required to keep a project on a path to the outcome. Consultants express the burden and risk of analyzing and communicating these complex dependencies within in a multilayered project system.

6.2.4 Communication as Risk

Project managers in this study gave examples of effective communication contributing to successful outcomes and ineffective communication causing risk.

“Communication is always the thing that people think just happens...if people really understood what goes into making sure communication really goes right, what needs to be done to ensure it happens,...that would take away a lot of pain.”

Regardless of the specific context, miscommunication was expressed by consultants in four primary categories:

- No information: communication did not happen or was not received in a useable fashion. Various levels of operations are running in the dark.
- Confusing information: lack of clarity or implied details that were incorrectly interpreted. Ambiguity leads to errors, rework, and delays or work stops which causes delays.
- Inflammatory information: usually unintentional, the tone or presentation of data can be provoking rather than informative, relevant, or engaging. Inflammatory information is often followed by a high volume of unnecessary, confusing, or incorrect information.
- Wrong information: always leads to compound bad decisions or actions and the resulting rework, delay, and associated costs.

Each of these four information tensions could be further compounded by secondary communication risks that multiply the probability of a disconnect within the project system:

- Time-lag: communication missing its window of influence and effectiveness which can stall a project for much longer than the length of the original missed time window.
- Over-engineered: communication with too much detail (sometimes what the stakeholder requested didn't align with what they really wanted or needed).
- Knowledge translation required: incorrect assessment of verbal technical intelligence vs. functional knowledge. *Jargon* is contextual.
- Disguised relevance: missing the answer to 'why does that matter to me?' Lack of transparency or information silos can be intentional (political) or accidental.
- Noise: simply too much communication,

"The more communication that is out there circulating...it may not be relevant but it creates a lot of distraction and white noise. It means that the important stuff gets buried in the volume."

Communication risk has its own *triple constraint* of timing (kairos), quality (clarity) and cost (the currency of communication is relevance and meaning-to-noise ratio). Each of the ten consultants contributed multiple elements to this aggregated collection of communication as risk. The next section compounds the complex system of temporary organization risk by defining the role of communication as a risk mitigation strategy.

6.3 Communication Strategy: Themes in Project Risk Mitigation

The biggest theme umbrella of communication strategy to mitigate project risk is systems thinking. All of the consultants interviewed value team members (SMEs) who can anticipate consequences and plan contingencies. The constant risks to a changing system in Section 6.2 need to be monitored for the ripples, dominos, and butterfly effects of change. Systems strategy is critical for communications in temporary organizations,

“You can’t pull a communications person in and say ‘here’s what we’re doing, communicate it’. They need to be part of the whole process...The worst thing you can do is bring a communications person in at the last minute...[and] they have to bring strategic thinking to the table too, otherwise they’re just keeping a seat warm and they’re not going to get the respect they need”.

One consultant called strategic thinking ‘being a process-head’—the ability to solve problems by being able to see the impact to the entire enterprise matrix at various levels and stages.

Communication strategy requires critical thinking plus problem solving (or process-head aptitudes). In *The Logic of Failure: Recognizing and Avoiding Error in Complex Systems*, psychologist Dietrich Dörner contrasts systems thinking with ad hoc problem solving in simple cause-and-effect systems. The discussion with consultants reveals how they experience systems thinking for their own communication strategies. The dialogue map for communication strategies as risk mitigation was divisible into four primary categories.

6.3.1 Knowledge, Evidence, and Expertise

Research and evidence are standard foundations for a technically-based argument, particularly in western work contexts. When a large scale change or intervention is proposed or enforced mid-project, consultants re-examine existing research, incorporate new research as ‘just in time’ evidence, and seek additional expertise. These elements support their knowledge position and realignment strategy to get the project back on track.

Knowledge management and knowledge transfer hold different time and space connotations for temporary organizations, according to the consultants in this study. Some use these concepts as an engagement exercise from the project inception.

Depending on the scope of the project, they disseminate knowledge to foster buy-in and maintain a tight focus—as a way to consolidate the root cause of the project to clearly proclaim the critical ‘why’ component so everyone is participating towards the same goal. This version of knowledge management and transfer is used as team building on the front end and throughout the works.

Knowledge and evidence transfer on the front end also incorporates design calculations, models, and any measurable results that can be shared along the way to prove success or failure of a concept, trial, or progress benchmark. Some of the projects (or elements of them) discussed in this study had one-off classifications—they were novel innovations, applications, or environments. Initial knowledge and evidence at the start may only be loosely based on somewhat similar results, from tangentially related projects run elsewhere. Shared expertise and evidence are based on knowledge that is expected to translate but there is a margin of uncertainty. Consultants use precious project time to be thorough; they can’t afford not to and best guesses are an unprofessional and risky option. Accurate analysis of existing data and details is vital, as is respect for the justifications and conclusions of other credible SMEs. Evaluation and use of these types of tangential evidence as potential knowledge transfer are also a front end strategy.

Project managers are all familiar with knowledge management on the back end of the work—lessons learned are the default strategy. The perceived applicability of lessons learned exercises for temporary organizations varies. Due to the ever-changing nature of their work, consultants in this study tend to incorporate their lessons learned informally for the most part—a memory exercise in what was most (un)successful in a given

circumstance. Barriers to formal knowledge transfer are often the stakeholders themselves. Some cultures and project environments are uncomfortable with admitting error, even with the intention of rectifying or not repeating those mistakes. Financial stakeholders often don't want the project laundry list distributed to enough of the team to be considered useful. Transparency can be limited by non-disclosure agreements, making formal knowledge distribution and exchange limited or impossible.

In other temporary organizations, consultants take their actual procedures and processes, developed in response to unique project contexts, with them—as an individual professional knowledge transfer practice. These particular successful procedures can be reused in a similar or adaptable circumstance. In one case, these valuable processes were a registered intellectual property patent—part of a distinct professional consulting signature, validating that individual's particular management strategy.

One project consultant, whose work contexts tended to be shorter, had the potential to retain the same expert teams on later projects (non-repetitive work but some repetitive expertise required), and used knowledge management applications as risk mitigation for the future.

“I evaluate the project with all the suppliers...our expectation in the beginning...the end result and what we'd like to improve in the future...I think I'm one of the few [in my industry]...I need to look at the long term relationships with my contractors and suppliers. I don't see any project as an individual project.”

This follow up strategy is time and labor intensive, the sustainability of this level of detail would be unmanageable on a large scale without a dedicated communication strategy. Other consultants ultimately transfer knowledge on the back end of a project by bringing key people with them to subsequent projects whenever possible. This is often not possible

and some consultants disagreed with this as a knowledge transfer strategy.

Knowledge, evidence, and expertise are the primary communication strategies used to mitigate project risks. Within the unique bounds of a temporary organization created to manage a project, knowledge management and transfer can take various incarnations to suit the purposes. The perception and use of knowledge management practices as a risk management strategy differ widely.

6.3.2 *Wasta*: Power and Influence

The second most important communication strategy in temporary organizations is *wasta*. Temporary organizations quickly assess and continually monitor their backers and detractors as outlined in the stakeholder and political tensions in Section 6.2.1. *Wasta* is an Arabic word, loosely translated to mean power and influence based on status. For project managers in the Middle East, *wasta* has become a vital part of their project vocabulary; there is no equivalent word in English. Regardless of project language or geography, the construct of *wasta* was put forward as a major force in communication strategy for project management consulting.

Managing politics and stakeholders requires definition of who holds *wasta*. When Pinto and Kharbanda wrote about ‘the accidental profession’, they clearly stated the accountability vs. authority tension of the project manager (*Lessons*, 1995). The profession has classically been saddled with huge technical, logistical, and financial accountability most often coupled with a tenuous foundation of authority with which to achieve their mission. Consultants express how success and failure can depend on finding and engaging that key person(s) and convincing them of the mission. Failing projects have turned successful because of the engagement and intervention of these key people,

sometimes called ‘champions’ in change management terms. Depending on the project context, the champions may not be the person with the most obvious title, as the CEO or managing director (described in the stakeholder politics risk Section 6.2.1.1) . They could be the thought leaders, the persuaders, the innovators, the pied pipers, or the people with the money bankrolling the project. But it mitigates risk to figure out who they are and engage them in a dialogue on where they stand in relation to major project decisions. *Wasta* removes authority tensions and mitigates risk.

6.3.3 Values and Language

More than one project consultant joked that engineering school did not equip them with psychology techniques for communicating with people. Back in the project demographic section (Section 6.1.3), the difficulty articulating value as simple financial estimates was raised more than once. The determination of value definitions became a major communication strategy theme defined by one consultant as “sophisticated stakeholder work”. Beyond the basic stakeholders register details, two of the ten consultants use behavioral science (from mental modelling to neuro-linguistic programming) to improve their communication with internal and external stakeholders. Understanding and aligning the complex and competing system of values within a project is a risk mitigation strategy.

The value alignment or realignment strategies of those using behavioral science includes actual consultation assessments to explore how stakeholders express values and react to various terminology. When language or terminology needs to be changed, these consultants enforce the changes in a consistent manner over the entire organization. Other project managers assess end-user demographics and patterns in order to best match the project objectives. Despite the strict time constraints, labor intensive consultations and

dialogues were considered essential to prevent value misalignments later.

For those consultants who didn't use a particular behavioral science technique, they articulated their value realignment strategies in various ways. Some used a proxy method, finding people within the organization who knew and understood the intricacies of the politics or existing team dynamics. By back-end research they could decipher what value had gone awry and repair it indirectly. Others used selective persuasion and selective emphasis to divert the focus from unresolvable value realignments—where competing values could not be aligned. This was termed “smoke and mirrors” by one consultant. And, as in any enterprise involving multidisciplinary SMEs, there is the ubiquitous *What We Normally Do* value to realign. Each SME team has worked on high stakes projects and brings their own value system of what works best and what constitutes a waste of resources. Temporary organizations must realign all the versions of *What We Normally Do* from each team at the team demarcation lines. Where one team's expertise must intersect and integrate with the next team's expertise, consultants must decipher the value systems and align them into a cohesive *What We're Doing Here*. Aligning those values made smoother transitions.

Value alignment at the project conception is risk mitigation strategy for both internal and external stakeholder and end-user communities. This requires a sustainable assessment plan throughout the project, especially if a major change is proposed or enforced along the project timeline. It's important to note that some consultants recognize certain values are so complex or opposing that they cannot be aligned, but must be addressed nonetheless.

6.3.4 Credibility and Relationship

Credibility in temporary organizations is initially derived from proof of technical expertise based on reputation and past project success. Consultants recognize that that historical legitimacy will only carry them so far; they must quickly establish credibility in their new context. They do this in a number of related ways.

Project management consultants use process planning as credibility. They start planning early and have multiple contingency plans. The most elaborate communication design came out of a large scale IT installation project where a phased communication with launch meetings, countdown messages, and follow-up assessments generated a very positive response and final evaluation. Planning demonstrates credible process.

Credibility is also demonstrated in the mantle of ownership and responsibility. Identification and selection of trustworthy key people in a temporary organization is benchmarked by those who accept accountability. Consultants put their reputations on the line and expect that in return as a hallmark of a credible expert.

A critical behavior that signals credibility and helps legitimize a working relationship is transparency, especially in persuasion. Consultants indicated that in tough stakeholder negotiations, some of their most successful strategies were fighting hard for the ability to disclose sensitive details as a sign of trust and credibility. Persuasion was best achieved with honesty, clarity, and fair representation of all parties—including any noisy opposition.

Building a relationship in the context of persuasion required monitoring the landing and receipt of a message as well as the tone of feedback responses. Especially in the multidisciplinary and multicultural temporary organizations, credibility means paying attention to subtle clues, including what wasn't said. Credible consultants adapt their

communication to their context, realizing that communication is a challenging burden for some stakeholders.

Project management requires constant persuasion and convincing, and a number of consultants articulated the need to be adaptable in how they go about this. Finding the best solution, especially in change situations means modifying their behavior.

“It’s us [consultants] going into these companies. It’s all about our behaviour modification. We have to slot into whatever the company will respond to and not the other way around...we have to adapt quite considerably.”

Building a credible relationship in a temporary context is a central communication strategy that mitigates risk for project managers.

6.4 The Pain of Communication

User experience and usability research advocates observer empathy as a humanist strategy in task analysis. Following this approach, part of the CIT interview asked project managers what hurts the most—what they wish would just go away—about communication in project consulting. Consultants thought this was an interesting and novel question, and their answers were immediate.

Ambiguity causes pain. Project managers are familiar with high risk, high reward, and high stress circumstances. They excel at planning and risk assessment practices. Delay and risk caused by unclear communication is a theme of pain. Unclear expression of specifications and expectations has a number of root cause tensions articulated by consultants:

- Ego Communication: Needless and confusing communications designed expressly to sooth and stroke the various project ego cultures.
- Attitude: It’s not my job to communicate with xyz.

- Just do it: the project is [time, money, quality] and communication is tangential to those higher order processes.
- Kickback from clients and pushback from colleagues are often unclear in the expression of what needs to be rectified. What people want and what they say they want are not always the same.
- Asynchronous communication, specifically email.

The communication method, specifically email are a big source of pain for consultants in the compressed time frames and tenuous relationships in temporary organizations. Because it is easy to hit [send], under the guise of meeting communication and reporting requirements, the sheer volume of unusable emails is considered a massive waste of time overall. The tone can cause misunderstanding or even offense in the absence of a previous relationship. This can damage efforts at building credibility and new relationships. The consultant has no measure of reading, understanding and acting based on the email, “you only need 20% of the people not to read the email and, suddenly, what was trying to be done, fails”. Email is non-sequential, unidirectional communication rather than dialogue and that creates risk in itself. Most of the consultants find asynchronous communication to be so painful for critical topics that they go to great lengths to collocate and strategize face-to-face.

6.5 Managing the Changes within the Profession: What Can No Longer Be Ignored

The last decades have brought changes further legitimizing the project management profession. Government, corporate, and private financial stakeholders continue to impose rigorous health, safety and environmental care constraints. Community and public interfaces are not just nice, but necessary—projects are judged by the paying client, the end-user experience, the press, and recognized by peer and industry-based award criteria.

A “just do it” project management communication strategy doesn’t work and communication priorities are increasingly adopted on the front end of a project, rather than previous ad hoc and crisis communication methods.

Audiences and stakeholders are increasingly technologically sophisticated in the information age and their expectations of reporting, interim deliverables, and final outcomes run high with no less requirements of accuracy and precision.

“[There are] expectations of real time project management...and there has been no lowering on the standard for accuracy. They want things quicker but they don’t want it any less accurate.”

Project management consulting is expected in real-time. What previously took days or weeks to resolve is now expected in a midnight phone call because project management consulting is global and the technology never stops.

The expectations of a consultant’s scope of knowledge continue to grow and evolve. Project managers must answer questions beyond the technical and procedural, in almost 360° fashion and on the fly. As technology applications integrate into almost every aspect of life, clients want to know not only how technology elements will interface with work style or lifestyle, but also how it will look, and how it will feel. Project managers consult on how the project outcome will be experienced, and this is a discipline unto itself. Addressing the satisfaction and user experiences of technology and interfaces is a growing part of consulting that project managers emphasize they don’t have the luxury of time to address.

In conjunction with technology form and function, project consultants are becoming more aware of how their communication lands, how their messages are received and how stakeholders react to their method of engagement, especially in the

global market. Tone and influence are crucial—consultants continually search for ways to be more diplomatic, more clear, more precise and concise, more persuasive and influential, all without being patronizing or condescending.

Communication technology has improved dramatically. While this has increased the quantity of communication (cheap, quick, easy), it has decreased the actual quality of communication (clear, concise, relevant). A number of project managers advocate the unparalleled value of face-to-face communication or some form of synchronous (phone) communication over asynchronous (email). Consultants worry about the precedent of potential legal liabilities of email communications. One consultant stressed communication “to cover your ass”; formal documentation procedures are increasingly necessary. The importance of teamwork has grown substantially. With these changes come communication risks and additional considerations for successful communication strategies.

Temporary organizations most certainly have unique boundaries compared to static organizations where the culture provides clues to communication norms. Risk mitigation is ultimately about evaluating and limiting the surprise factor. Of all the process and procedures that form a consulting project, the biggest potential surprises come from the people factor. Communication is dual nature in this context—both risk and strategy for risk mitigation.

CHAPTER 7

THE RELEVANCE OF TECHNICAL COMMUNICATION STRATEGY FOR TEMPORARY ORGANIZATIONS

The work context in a temporary organization is unique; the major factors compressing the communication environment are listed in Section 6.1. Project communication contexts are continually shifting; the tensions experienced as risk are ranked in Section 6.2. Coded from the consultant dialogues, Figure 6.1 defines these interrelated risks as connected and mediated by communication. This dialogue evaluation does not propose a reductionist view of temporary organization risk distilled down to the single variable of communication. Rather, it highlights the relevance of applying technical communication to the tensions that consultants experience as risk.

This chapter will also review the significance of consultants' communication strategies within their dynamic professional contexts. Consultants' chose dialogue contexts that memorably represented communication priorities and strategies in their risk circumstances. Analysis of the communication context, the perception of risk, and the application of communication strategy (Section 6.3) will further inform how technical communication complements or contrasts project management approaches.

7.1 Culture Shock: The Contextual Challenge of Temporary Organizations

Exploring temporary organizations from a technical communication perspective means uncovering whatever boundaries exist in the absence of a shared organizational structure. The first objective of this study was to shape an understanding of what *temporary* means as a work context. The visual representation in Figure 1.1 could be colloquially expressed

as, “What does a temporary organization work context look like, feel like, or behave like?” and similarly, “What is unique about that structure (or lack of) that is risky for completing a project objective?” The demographic dialogue points from Section 6.1 summarize the competing temporary organization tensions in project management consulting:

- Time-compression and time-context, as both multiple simultaneous and non-consecutive contract segments, are expected.
- Financial commitments are proportionately high and widely variable. Additionally, not all critical contract elements have definable or tangible financial value.
- Consultant titles and responsibilities under the heading of project management vary widely between projects, industry sectors, and project geographies.
- Consultants’ perceptions of the profession of project management and core approaches to practice are as varied as the work contexts themselves.
- Contracts include technical, often innovative, benchmarks that require multiple teams of interdisciplinary SMEs to collaborate. Regulatory and governance standards change depending on the project context.
- Team compositions are mixed; members are assigned or recruited in myriad configurations often with limited input from the project manager.
- The most valued team roles parallel the traditional *triple constraint* (i.e., quality = technical experts, cost = financial analysts and contract managers, time = planning and scheduling experts).
- The most valued team skills are knowledge and competence (again, as SMEs). Some elements of the *fourth constraint* (people) present as communication skills or behaviors (i.e., persuasion, collaboration, and calm under pressure).

This baseline demographic summary of project management consulting marks boundaries that begin to differentiate temporary organization work contexts. The competing tensions expand on the study’s initial definitions of non-repetitive work coupled with non-repetitive work forces from Section 1.2.1. Considering these individual boundaries as a collective context, the compression of the communication environment in

a temporary organization starts to emerge.

It is important to remember how these temporary organizations form. A project represents a change—in a landscape, a corporation, a culture, or likely all three. The project requires expert collaboration to inform, manage, and complete the objectives. The temporary organization is formed among these multiple expert disciplines that must collaborate, many for the first time, toward the successful handover of a complex but finite enterprise. There is no large scale iteration scheme and no second chances within these contexts.

While the mission and goals of the finite enterprise can be stated clearly (e.g., “We are building ‘x’, to ‘y’ specifications”), translating this mission into the assembly and integration of every person and process, from design to handover, cannot be oversimplified nor underestimated. In fact, that assembly and integration process summarizes how the project management profession articulates the value of its work. It manages and controls those complex processes, including communication.

This value base is evident in the wish list of team members from Table 6.2. For the consultants, the general risks of their compressed project environment are first mitigated by retaining knowledgeable and competent SMEs in specific technical, financial, and scheduling fields. From a technical communication perspective, the formation of those diverse SME teams raises red flag questions regarding the assumption of shared meaning.

A major foundation of technical communication is finding the demarcation line between the assumption and the creation of shared meaning. An organizational culture and history provide vital clues that people use to discern shared values and meaning that

support decision-making. These implicit and explicit cognitive clues are largely absent in a temporary organization. A lack of organizational norms that prioritize forward progression toward a goal add risk to the already compressed communication environment. Absence of shared culture, history, and norms of communication and understanding create a functional culture shock requiring human-centered communication strategies.

Temporary organizations begin with the risk of communication culture shock, but the absence of shared history and assumptions of shared meaning clearly doesn't indicate a blank slate. The temporary organization is not a vacuum in which to build a well-synced team of SMEs from all the various professional cultures. These SME teams come with their own disciplinary value and sense-making systems; they bring their own politics. Temporary organization projects continually cross the lines of SME authority which creates a clash of the various culturally pre-programmed versions of common sense (Longo, *Authorship*, 2013 and *Cultural Study Theory*, 1998). In these low-context (non-homogenous) groups there is an absence of a central reference that benchmarks either common or sense. Section 6.3.3 introduces *What We Normally Do*, the strong and pervasive professional sense-making and prioritization mechanism grounded in individual and SME team knowledge and experience. The unique communication challenge is to discover where implicit *What We Normally Do* (in each professional culture) might clash with *What We're Doing Here* (in the new temporary shared culture) within the compressed environment. Competing professional cultures quickly fill any cultural vacuum created by the formation of the temporary organization. While this

phenomenon exists to a lesser extent in static organizations, it is exacerbated in a temporary organization. *What We Normally Do* can derail a project from inception.

By recognizing the risk of competing professional cultures and value systems, a cohesive technical communication strategy sets a tone and an expectation for the entire project. As outlined in Section 1.2.2, technical communication expects interdisciplinary diversity. Technical communication is proficient at cultural auditing; recognizing that communication always performs within a specific context (Henry, 2013). The time expended in assessing and planning for diverse communication contexts lessens the culture shock inherent in creating and sustaining a functional temporary organization structure. As one consultant stated, “A communications focus at the senior level is really important.” While the field of project management recognizes people as the *fourth constraint*, their awareness hasn’t yet translated to a demand for communication SMEs on their teams. Temporary organizations need human-centered communication strategy to mitigate risk of culture shock in compressed environments.

7.2 People + Communication: Risk in Temporary Organizations

The demographic section of the interview established some boundaries that indicate how *temporary* as a work context contributes to compression and risk. The CIT section of the interview then asked each consultant to express a memorable professional circumstance that framed their risk and communication strategy. Each circumstance was a unique combination of technical, operational, financial, political, and contractual variables.

The risk umbrella derived from those circumstances was change (Section 6.2). Consultants experienced project risk as the realignment of the project variables to

accommodate a new discovery or a change. Projects are agents of change in the largest sense. The biggest risk for a leader, in that rapidly evolving project system, is allowing new discoveries or changes to prevent realignment of the variables. One consultant called this “being the lynchpin”, keeping the wheels of the project on track. While these complex contexts framed the risks, the contexts did not equal the bottom line risk factor(s) or the communication strategies required for resolution. What is most relevant about the project risks as experienced by the consultants in Section 6.2?

The primary project risk tension (of losing a wheel in temporary organizations) is people—the internal and external stakeholders and their interwoven politics. If communication is to act as risk mitigation (Chapter 3), it will have to prioritize stakeholders. While it appears obvious that communication would have to prioritize people, consider the process control communication approach in Figure 1.3. Consultants in this study experienced project risk, not in ordering their stakeholder register columns or the document control of their progress reporting lines, but in discoveries and changes that required increasingly complex interactions between people. Keeping the wheels on the project required adapting to project changes by realigning the decisions and actions of multidisciplinary and potentially adversarial groups. Risks from changes in compliance and scope of work were both described within the context of the revolving system of realigning internal and external stakeholders. How do consultants experience the risk of people and communication in connection with rules (compliance) and work (scope)?

Compliance has many interrelated categories as defined in Figure 6.1 (e.g., corporate governance, industry regulations, health and safety, environmental protection, quality manufacturing standards, contractual agreements). Changes to any compliance

category can quickly move the goalposts of a project causing scope creep. Likewise, discoveries or changes that impact the scope of works can translate into additional compliance constraints or new applications of those rules. Work and the rules of work are a continual feedback loop in the non-repetitive work and non-repetitive work force context of a temporary organization. This rule-work feedback loop is experienced as risk by the consultants.

In the center of this rule-work feedback loop is the primary risk tension of people commissioning, managing, or performing the work within the rules. Discovery or change often originates with the stakeholders. These stakeholder changes can first translate into additional compliance constraints that then contribute to scope creep or the changes might first add to the scope of works which then increase the burden of compliance as a result. Stakeholders instigate changes based on complex implicit and explicit values and priorities in every category: financial, technical, legal, historical, and personal. Communication connects this entire system as both a risk variable and a mediation strategy; communication was the ubiquitous 4th tension linking people to the project.

For consultants, communication with stakeholders required risky judgment calls. One consultant described the role of project managers in consultations as being a “lightning rod” for communication tensions. Misjudging stakeholders’ wants, needs, capacities, capabilities, and priorities frustrates the possibility of effective realignment of the project plan (Section 6.2.4). Consultants state their conflict: authentic stakeholder consultations with real dialogue vs. time and cost of education and awareness campaigns. Add to this conflict the pressure of time and the question of whether it is possible to achieve agreement—what metric constitutes consensus in each project and does

consensus equal agreement? In situations where these conflicts created irreconcilable differences, the study consultants went to great effort to model and logic the best path to move the project forward.

In this baseline study, the answer to the primary research question, what project tensions created risk that required communication strategy, were not wholly unexpected. What was most enlightening was the priority (ranking) in the dialogue map of tensions: *triple constraint* contexts were risks as they related to stakeholders. Specifically, the technical, compliance, operations, finances, or delay contexts all related back to the risk of getting the right people convinced to make appropriate decisions to act. None of the professional circumstances chosen were communication strategies solely directed at mitigating a *triple constraint* risk. Project tensions (derived from new discoveries and changes) required realignment strategies to convince people.

The risk of communication judgment calls—what is convincing—within a compressed environment raises a critical strategy problem. Is communication both risk and strategy? If so, does communication in a temporary organization context exceed the ceiling of an ill-structured domain and become elevated to the realm of a *wicked problem*?¹³ Wicked problems, and the more recent elevation of *super-wicked problems*, are the topic of conferences, symposiums, and even software development efforts, particularly in fields that deal specifically with the competing purposes of people (e.g., social-policy fields).

First described by design theorist Horst Rittel in the 1960s, the construct of

¹³ The predominant indicators of wicked problems are lack of precedent (unique), no prescriptive solution (right or wrong), ambiguous cause and unclear end point, resolution of one part raises other problems, irresolvable elements of conflict, and cause and solution seem to derive from the same source.

wicked problems has also been adopted by technical communication (Wickman, 2014). Mehlenbacher discusses their significance to technical communication in what he terms “accelerated organizational contexts” (2013). He reemphasises how wicked problems are often misidentified and oversimplified; this is particularly true of complex problems in the practice of communication. Oversimplification translates into ignoring any unresolvable elements (outliers and other incongruences) to avoid analysis paralysis. The result is a rigid one-size-fits-all framework solving the known elements for which there is a precedent, while largely disregarding the remainder of the context of the problem.

The development of the individual concept maps for each dialogue and the cumulative dialogue map from all ten interviews revealed an exponentially more complicated interaction matrix than simple lines of reporting. Figure 7.1 maps the tensions creating risk and potential consequences in a spider web of dependencies. Even this simplified dialogue map of these conversations resembles the non-linear links of dependencies that rise out of wicked problem sets. To label these complex and competing interactions as simply ill-structured is to marginalize the pain and concerted efforts of the individuals and teams professionally bound by this communication matrix.

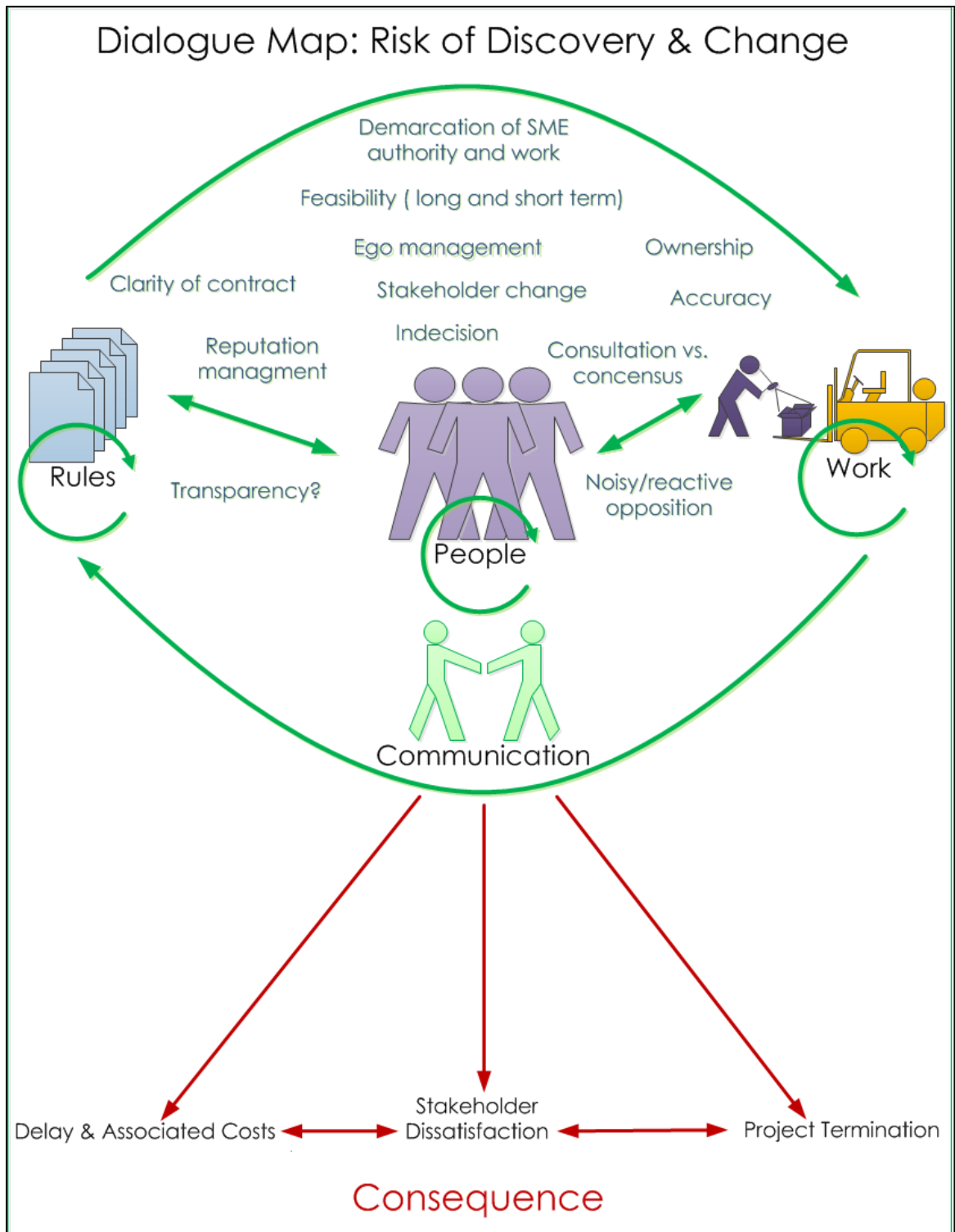


Figure 7.1 A dialogue map of the risks of discovery and change from the consultant interviews in this study. The constant feedback loop of compliance (rules) and the scope of work (scope creep) are connected to the potential consequences through the communication of decisions and actions of the various stakeholders (people).

The consultant dialogues do not suggest that all communication within temporary organizations suffers from unresolvable elements of wicked problems. In fact, all 10 participant-chosen risk and strategy discussions were ultimately successful, despite the compromised and complicated path to the final outcome. But within these strategies, consultants specifically articulated the need for artful navigation and intervention in the context of irreconcilable differences. Competing purposes did not cause failure of these project enterprises or the potential consequences in Figure 7.1. They were experienced as significant risks that required a convincing strategy. Compromises often lacked consensus for an obvious right answer; another indicator of a potential wicked problem.

Every risk/strategy dialogue was subject to competing perspectives and value systems. Some required reconciliation of viewpoints that fell completely outside the expert consensus of common sense. Communication compromises held countless woven dependencies and intervention points that changed the path to completion and possibly the definition of completion itself. Authority in projects was often ambiguous, particularly when major stakeholders changed or politics were systemic. And, most relevant to this study of temporary organizations, a primary risk and the strategic solutions both derived from a single construct: communication was both a significant risk and a risk mitigation strategy.

If communication in temporary organizations demonstrates elements of wicked problems, how is technical communication useful? Mehlenbacher stresses that technical communicators are *sociotechnical mediators*, recognizing that subject matter expertise is a social, technical, and cultural construct that functions within a specific context. Temporary organization contexts compress and stress these complicated human-process

mergers. Humanistic negotiation strategies can articulate those tensions and determine their sociotechnical relevance to the whole group. The competency of cultural auditing in Section 7.1 is part of that resolution. Temporary organizations have unique demands; professional communication has human-centered strategies to meet them.

7.3 What Makes Communication Strategic?

Tactic and strategy are traditionally military terms. These terms represent precision in risk analysis and contingency planning to meet objectives. This ethos of precision and competency instigated the terms widespread adoption, crossing disciplinary lines from social media marketing to investment banking. Though not traditional vocabulary in the practice of technical communication, tactic and strategy accurately represent the professional risk assessment (detailed analysis of audience and purpose) and development of objectives to perform and sustain a communication plan.

Strategic communication is by-design—as opposed to an ad hoc or abstract extension of casual social interaction. It studies the boundaries of interaction and benchmarks not only the relevant information but also the contexts, intentions, and relationships within the communication system. Strategic communication is communication literacy plus applied problem solving and critical thinking. Analysis of a communication system, form plus function, is a systems thinking strategy that incorporates contingencies, intervention points, and iteration for continuous improvement. Section 2.2.4 questions the management philosophy that communication is a behavioral competence as opposed to professional expertise. While communication in modern organizations is everyone's responsibility, communication risk assessments and

strategic intervention for spiraling wicked problems are not simply collaborative behaviors.

Prescriptive project management communication strategies consist of meetings, reporting, document templates, and defined interaction matrices. These protocols can capably manage and control rote communication within known contexts. Project management, performed in temporary organizations, requires communication strategy that anticipates continual change and realignment within the entire system. Project communication cannot be “tick-box” communication, as one consultant clarified. Research and reporting are nullified if the results are only ticked off in the process checklist and filed away as completed. Strategy is continuous iteration by evaluation of the research and report: what happened and also what didn’t happen, what is working and also what isn’t, and why or why not. Sustainable and resilient communication requires continuous assessment, improvement and realignment strategy to mitigate risk in temporary organizations.

7.4 Human-Centered Communication Strategies

Technical communication prioritizes people in the practice of knowledge orienteering. As a practice, it studies how people experience and use knowledge to make sense of a situation or context. These humanistic approaches are continually evolving.

Modern approaches demonstrate rigorous analysis of people in context. Crafting a message could be imagined as starting with the *receiver* rather than the *sender* in Figure 1.2. Current practices foster expert-user analysis where people teach the discipline how knowledge (information) is useful, learnable, and accessible to them. Rather than simply

looking to the product of a communication model (sender-receiver, input-process-output), the varying modes of technical communication are grounded in human factors—strategies to study and improve human experiences in interactions with information. Audiences and stakeholders tether the entire framework of a communication strategy. Employing techniques and adapting theories from many diverse disciplines (cognitive psychology, history, physiology, art, anthropology, sociology), technical communication is a convergence point for communication as mutual understanding.

Discovering how individuals and groups access, use, learn, and adapt information just as often uncovers how knowledge-making attempts fail. Technical communication expects both implicit and explicit sense-making; shared meaning cannot be assumed. Competing purposes and value systems are critical variables (cultural, emotional, social, physical, or historical). Studying the entire context of communication including transitions of tools and artifacts, symbols, language, physical and technological spaces informs the best fit for creating a message. Success is a feedback loop that measures relevance by engagement, interaction, and discourse. Decentralizing knowledge in a usable, accessible, memorable, and credible manner demands iteration with empathy for the barriers and complexities of mutual understanding. Technical communication is an expert-user design and evaluation strategy.

In a temporary organization, an expert-user humanistic approach optimizes the creation and evaluation of relevant technical messages in those compressed environments. Effective communication considers the boundaries of shared meaning and competing purposes. A new dynamic of SME collaborators on a project needs a tailored communication strategy. Theoretical and practical applications from rhetorical analysis,

user experience, information architecture, visual and instructional design principles inform knowledge translation among silos of experts. Technical communication prioritizes human-centric strategies that are absent in communication-as-process models.

7.4.1 Rhetoric as a Humanist Communication Strategy

Deliberative rhetoric or persuasive rhetoric has a long history of assessing the impact of the communication environment on the relevance of information. Contemporary rhetoric considers the entire human context of communication: history and culture, values and language, timing, delivery and tone, venue and access. Rhetoric is people-centered.

Rhetorical analysis of an audience employs the humanistic rationale that communication occurs in communities—in relationship contexts. Rhetoric demands reflective practice (i.e., the heuristic in Figure 1.4) and rejects the belief that there is only one objective way to interpret a circumstance (Miller, *Humanistic Rationale*, 1979). As part of reflective practice, ego-centric audience analysis considers how to exchange knowledge in community work contexts to create relevant and useful messages. The ego-centric evaluation in Figure 1.5 seeks an emic, insider view of a communication context. Organizations are composed of roles and titles that are occupied by people with unique priorities and personalities. Developing a human-centered attitude to communication decreases the potential for false assumptions about what is relevant and how information might be received or rejected. Compressed communication environments in temporary organizations should be expected to account for a high concentration of multiple, overlapping, and competing purposes (Plung, 2006). The reflective practice of rhetoric is a critical thinking and problem solving heuristic for studying and optimizing communication, especially in the context of a wicked problem (Wickman, 2014).

Rhetoric is also a systems approach to communication strategy. In order for information to be truly persuasive, the communication strategy must include detailed analysis of alternate or opposing arguments. Persuasive communication incorporates research to understand other perspectives—alternate points of view inform and change not only the strategy but possibly the entire outcome. Expert-user approaches maximize audience autonomy valuing their SME feedback into the complex system of communication interactions. A rhetorical foundation offers a sound communication base for the complexities inherent in temporary organizations.

7.5 Applied Rhetoric: Convincing Communication Strategies

What was the common denominator from the communication strategies consultants used in Chapter 6? Analyzing how consultants determined, prioritized, and applied communication strategies to project risks, the key theme and common denominator in every dialogue was *convincing*.

The origins of the word *convince*¹⁴ come from conquering or overcoming firmly or decisively in the context of argument or discourse. Rhetoric uses the term persuasion. The four principle communication strategies that mitigated project risk were methods of overcoming obstacles and moving people to decide or act. New discoveries or change led to project system misalignments; realignment required convincing.

In the face of discovery or change, consultants employed four main strategies to convince people:

- Knowledge, evidence, and expertise

¹⁴ Douglas Harper online etymology dictionary (<http://www.etymonline.com>)

- *Wasta*—the Arabic word for status, power, and influence
- Values and Language
- Credibility and Relationships.

This section continues the discussion of consultants' critical success factors (CSF) and connects technical communication perspectives to the application of convincing communication strategies.

7.5.1 CSF 1: Knowledge, Evidence, and Expertise

Consultants model the logical consequences of a discovery or change. They keep up with their research throughout the project and plan contingencies. Presentation of evidence and expert opinion was the number one way consultants convinced stakeholders of the best path to proceed. Using evidence to convince stakeholders to decide or act realigned the other project system variables and kept the project on track.

Rather than believing that evidence is a static fact, systems thinking continually reassesses the validity of hypotheses and assumptions (Dörner, 1996). It asks questions and seeks answers in the context of the entire system of interaction. Rhetorical analysis performs those system thinking actions. It emphasizes that communication performs within a specific interactive context (Henry, 2013). Continual evaluation of changing contextual parameters of *evidence* is a systems approach to solving complex communication problems.

Rhetoric also considers *expert* as a contextual construct (Henry, 2013; Mehlenbacher, 2013; Miller, *Humanistic Rationale*, 1979). In a temporary organization, the sociotechnical context of the work determines the value and priority ranking of who is and who is not an expert in that time and space. Convincing people to decide or act must

consider the communication context of accepted evidence and experts. Positivism as a single correct path or objective truth narrows the possibility of effective communication as mutual understanding. The relevance of evidence and expertise is relative.

7.5.2 CSF 2: *Wasta* (Power and Influence)

As project complexity increases, convincing the whole stakeholder register can be impossibly time consuming and ultimately unrewarding. Each stakeholder holds a different relationship to the project and varying degrees of influence on the outcome. If the consultant can't convince everyone to collaborate and agree decisions, their critical success factor is convincing the person who can. *Wasta* is the power of push.

The power relationship between knowledge and influence is a foundational theme in technical communication. Institutional and organizational sources of power alternately marginalize and legitimize certain views over others (Bickerstaff 2010; Longo, *Cultural Study Theory*, 1998 and *Tensions*, 2003). Rhetorically, the construct of *wasta* holds deeper meaning than the power of push. It is an implicit communication tipping point. Depending on the context of the communication culture, push by power and influence may gain acceptance leading to the desired decisions or actions. In a context of communication culture shock and *What We Normally Do* prioritization and sense-making, this can be a critical intervention point where the compressed environment will push back. The ego-centric stakeholder heuristic in Figure 1.5 considers how perspectives and timing alter the receipt of information when pushing a particular message.

Explicitly planning for stakeholder intervention and feedback decentralizes expert positions (Ceraso, 2013). Planning participatory designs for knowledge and information have *wasta* of their own. They offer stakeholders a voice and a choice. Rhetorical

analysis recognizes the points of intervention as gaining power by choice, by authority, or a mix of the two. *Wasta* will be culturally dependent on multiple levels. Defining what holds power and influence for convincing internal and external stakeholders in the context of marginalized and legitimized views is a complex rhetorical question.

7.5.3 CSF 3: Values and Language

Consultants were clear that the word *value* must not be limited to money or budgets. They raised differences in their own value systems (e.g., delivery and technical focused) with those of stakeholders (e.g., safety, luxury, reputation). Aligning project values mitigated the risks of stakeholder pushback. Value misalignments were demonstrated in culturally different ways (e.g., silence, verbal agreement but no action, debate, complaint, or refusal). Consequently, consultants were diligent about determining values and changing terminology or language to reflect value discoveries. Understanding value parameters was critical to convincing communication for realigning project variables in response to changes.

The practice of rhetoric is intimately connected with values and language. Persuasion requires understanding that language is never neutral; *sender-receiver* communication models fail to account for the ways language itself conveys value and meaning (Katz, *Language*, 2001). Rhetoric requires that communication is constructed from not just an understanding of the opposing point of view but also that the rhetorician empathize with it (Levi, 1995). Ethical discourse needs to study and become the audience to understand how persuasion affects the people whose views are in opposition. Convincing arguments that question stakeholder value systems must address the relevance of why, “You have to explain why. You have to explain why this is

important...that's where you move people to make decisions.” Why and the ethic of transparency respects autonomous human sense-making.

Presenting the relevance of why something is important to a project invites dialogue. From a technical communication standpoint, explicitly opening a discourse on value encourages people to assess why a project or particular piece of work within it is relevant (or not) to them. This approach squashes a *culture of silence* (Herndl, 1993, quoting Freire). Multicultural and interdisciplinary temporary organizations need caution regarding assumptions of silence as equivalent to agreement or compliance.

7.5.4 CSF 4: Credibility and Relationship

Consultants use valuable time to develop credibility and relationships that build teams and foster ownership of the goals. Team collaboration is vital to success. Despite the move towards remote and virtual teaming, interactions on a personal level were unanimously considered most successful. Whenever possible, collocation is the communication context of choice to help dissolve residual politics (*What We Normally Do*). Face-to-face interaction was critical to develop respect between specialized teams and external stakeholders. This move fostered credibility and relationships faster and with less communication mishaps.

Communication is a dynamic context of community interaction (Miller, *Genre*, 1979; Spinuzzi, 2004). Rhetorical analysis includes not just language but also the signs, symbols, and behaviors that affect how people form opinions and navigate social and physical contexts. It considers how people categorize information and how this process supports social interaction. Rhetorically speaking, time spent interacting with internal and external stakeholders would be considered vital to establishing a foundation for

credibility and relationships that improve shared meaning and mutual understanding.

7.6 Technical Communication Analysis of PMBoK

Convincing communication is not a single theme that can be applied to project management in prescriptive form. As a minimum, it is composed of the critical success factors and compromises discussed previously, recognizing the same potential for the metaphorical ripples, dominos, and butterfly event linkages that applied to risks in Section 6.2. The combination of technologically advanced stakeholders and real time communication expectations (Section 6.4 and 6.5) add enormous pressure on consultants to be a 360° stakeholder resource. Articulating and communicating technical information to the right people at the right time is a grossly simplified version of what project communication entails. Consultants are tasked with measuring how communication is accepted or rejected with the ultimate goal being stakeholder satisfaction, “The dialogue is much higher level these days.” Convincing communication must be authentic, not condescending or patronizing; accurately judging what constitutes *jargon* in every context is just the beginning.

Expert-user communication strategies are adaptable to any project stakeholder context. Engaging any title or level of user in any role (an individual, a community, the general public, or a commercial entity) as a SME in their own right matches the project to the people. Communication becomes more than just an information pathway; it’s a dynamic demonstration of useful, learnable, and accessible knowledge (Salvo, 2001). With the recognition that project management is not only a financial-technical contract but also a social contract, rhetorical evaluations are necessary to successfully match the

sociotechnical requirements of performance and satisfaction.

7.6.1 Alternate Communication Priorities

People and politics define the primary experience of risk in this study. Convincing is the underlying strategy used as risk mitigation by consultants. Project management communication by the PMBoK is a planning, management, and control exercise largely comprised of reporting, meetings, and document control. Do these priorities resolve project risks as experienced in this study? Unlikely. Do the PMBoK communication models offer guidance or resources to mitigate the risk priorities that were revealed in this study? The short answer is no. The PMBoK includes stakeholders as one of a long list of variables to be managed and controlled. Requirements for ISO consistency have marginalized communication and people to a procedural process devoid of any humanistic considerations.

Studying the history and source of information is a sense-making activity. Every document and tool (artefact or technology) created and used by an organization implicitly and explicitly shares a message of the organization's values and priorities. This network of underlying messages sets a tone for the entire organization and often reaches well outside the organization itself (Bouelle, 2012). Studying the relevance of the PMBoK (the handbook, course content and certifications, and literature) to the profession of project management, it clearly supports management processes and efficiencies (Section 1.2.2).

In 2013, the PMI published their in-depth quantitative analysis of the financial losses caused by ineffective project communication. The report states, "The most crucial success factor in project management is effective communication" (PMI, *The High Cost*,

3). The PMI has gone to great effort to research project failures to identify and quantify a significant risk within their professional practices.

Published that same year was the latest edition (5th) of the PMBoK guide to the PMIs international standard of project management. Stakeholder management was added as a new chapter to the end of the guide; the chapter on communication remained near the end. What might this incongruent implicit message of the priority of communication say to their own professional community and the interdisciplinary communities where they practice? Despite their efforts to uncover communication as a risk, the communication-as-process models remain as the status quo.

The PMI also offers an online support structure for their professional community. Their communication tagged resources from all online PMI sources¹⁵ since 2010 number only 14. In the 18 months after the communication report was published only one communication tagged resource was published. Communications and stakeholder analysis doesn't appear to be an active or growing area of research and development despite the 2013 report on financial risk from poor communication.

Project management is a respected profession; the PMI has been supporting their efforts since 1969 and connects a large community of almost 3 million members. What might account for the incongruent message about project communication? From a technical communication perspective, the PMI has completed the important first step of identifying communication as a problem and a risk. Further investigation to improve project communications holds a significantly higher degree of complexity and difficulty. Considering the PMI has communication locked into the ISO process control format,

¹⁵PMI online sources cover research symposiums and conferences, education and training certifications, journals and quarterly magazines.

their lack of published talks or papers on communication might be indicative of analysis paralysis trying to model a wicked problem.

In the compressed environment of a temporary organization, the project risks become increasingly wicked with each miscommunication in light of all the connected dependencies. Complex projects have thousands of those communications each day. Process control for communication does not offer the same predictive power that it provides other financial and manufacturing process metrics. It does little to indicate the complexities of potential communication failure.

The PMI basic communication models are clean and expedient—are they useful to demonstrate communication form and function in their work contexts (Katz, *Expediency*, 1992)? Are they good—at fostering communication as sense-making and mutual understanding (Miller, *What's Practical* 1989)? Distinguishing between expedience, usefulness, and use (good) are humanistic foundations of technical communication.

What sort of changes might technical communication suggest to start? The PMBoK does advocate that communication planning be performed in the early project development stages. However, PMI communication discussions are set to revolve around the *sender-receiver* communication model in Figure 1.2. This model expects no input from rhetorical analysis. The message is first encoded by the sender and then decoded by receiver. Transmission, acknowledgement, and feedback are at risk from the communication medium and the noise. Acknowledgment and feedback are assessment methods in the model. This raises questions about what acknowledgment might mean. Section 7.5.3 discussed the many potential forms of pushback (e.g., silence or refusal)

and the multicultural and multidisciplinary complications of assumptions of shared meaning. Rhetorical evaluation would retire this model as an ineffective and insufficient place to begin communication planning especially in an ill-structured domain or wicked communication environment.

Discussed in Sections 7.4 and 7.5, rhetorical analysis would examine the entire context of communication, including but not limited to the communication medium. A strategy would require evaluation of shared meaning and sense-making barriers between varying professional cultures as outlined in Section 7.1 on communication culture shock. Competing stakeholder purposes within the changing environment of a temporary organization need to be mapped. Recognizing the complexities of communication in temporary organizations, Figure 7.2 demonstrates a rhetorically based heuristic to address the experience of risk in non-repetitive work contexts described by the consultants in this study.

In Figure 7.2, communication mediates the paths between the people, the work, and the rules surrounding the work. The central communication risk box lists the experiences of risk articulated by the consultants' dialogues. Effective communication required to perform non-repetitive work by largely non-repetitive work forces means questioning what expertise means in that context. It questions the difference between satisfaction and performance benchmarks; it considers the entire human context of interaction within a system already under compression and intensified by constant change.

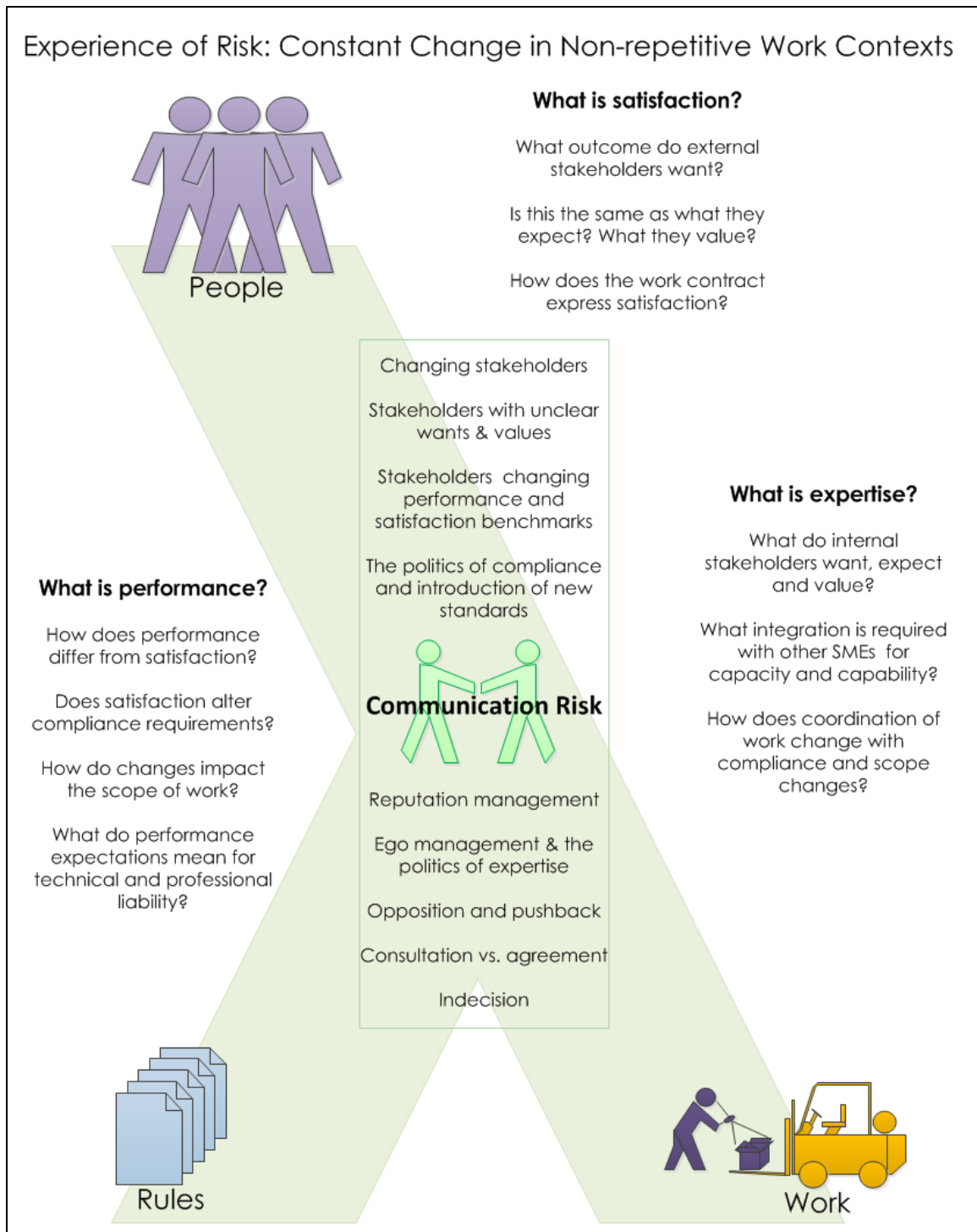


Figure 7.2 The Experience of Risk: Constant Change in Non-repetitive Work Contexts. A rhetorically based heuristic considers the entire communication context to inform a strategy. Defining the context means questioning the meaning and decision-making foundations of expertise, satisfaction, and performance. Examining those benchmarks opens the dialogue on competing purpose or potentially unresolvable communication disconnects.

Compressed systems undergoing constant change need to question the shared meaning and decision-making foundations of the stakeholders. Purposefully opening these dialogues on expertise, satisfaction, and performance can indicate areas of communication risk and reveal potentially unresolvable disconnects. Continual application of rhetoric lessens the risk of surprise in human communication contexts.

Consultants' experience communication with people as their biggest risk, "the human factor is very disturbing¹⁶ in the majority of projects", outweighing the other risk tensions combined. A communication-as-process model is an extreme one-size-fits-all approach that masks the complexity inherent in human communication. This oversimplification adds confusion and ambiguity. When communication inputs and outputs are configured correctly but fail to function as expected, then what? Process control communication leaves no room for the outliers and incongruences of communication as it occurs in communities of people.

7.6.2 Useable and Useful Communication in the Information Age

Further considering the values and priorities found in artifacts of work, Section 6.5 raised the pain of ubiquitous communication by email. In the age of accelerated technology, consultants are often expected to manage work in real time yet this is often mediated by the asynchronous expediency of email. Four consultants specifically raised their growing dissatisfaction with email as a method of communication:

1. Sending a quick email implies communication due diligence.
2. The ease of access and use supports the exponential volume of irrelevant white noise communication which wastes precious time.

¹⁶ In the dialogue context of unpredictable, disconcerting, or worrying.

3. The sheer volume promotes recipients to scan rather than read information—any implied or disguised relevance is skipped or ignored.
4. Email amplifies needless ego-political communication less common in face-to-face interaction (e.g., email provides an easier, less confrontational route to create a quick political smear campaign in a project).
5. It is impossible to assess how a communication ‘lands’ where there is no shared culture or previous relationship. Miscommunication is a big risk.
6. Quick email miscommunication has the growing risk of potential legal liability.

In the current era of information overload, this small sample of participants indicated that email has questionable use and benefit. The quantity of communication has increased; the quality of communication has decreased (Section 6.5). Can technology be blamed for poor quality communication (communication literacy) and inappropriate use or abuse? A cohesive communication strategy would need to set a tone and expectation of project communication, especially in a temporary organization.

Despite severely compressed time scales, project managers are dedicating extra effort, time, and money, to have synchronous discussions whenever possible. Collocation (on site, face-to-face) of key people is increasing becoming a benchmark for communication *done right*. This raises the interesting question of the perception that professionals put more thought or effort into effectively communicating in face-to-face contexts. Consultant comments and collocation priorities suggest that not only are there more communication clues face-to-face but also that face-to-face preparation, focus, and ultimate results are superior compared with email communication.

The age of accelerated technology also immerses consultants in user experience,

“Generally, we’re all much more technically aware...technically literate...you’re backing an almost constant level of disappointment when you don’t deliver that [vast complexity coupled with intuitive simplicity].”

Technology benchmarks are rising. Even infrastructure projects like highways have

integrated technology to provide weather and traffic information. The depth of stakeholder analysis to determine values and address relevancy must plan to distinguish perceptions of performance of the project outcome (the form and function meet the contract) vs. satisfaction (as or better than expected; striving for delighted stakeholders). Figure 7.2 contrasts how communication in these complex contexts cannot possibly be addressed by process control and management methods.

7.7 Salience from a Technical Communication Perspective

This research study can be summarized as follows:

- Outsourcing of expertise and remote work contracts are growing in every sector of every industry – temporary organizations are on the rise.
- Temporary organizations are compressed work contexts (time, money, logistics, and team tensions are compressed).
- Formation of temporary organizations creates a communication culture shock.
- Compression and culture shock increase communication risk.
- Consultants experience stakeholders and their politics as the highest category of risk in projects.
- Multidisciplinary temporary organizations require useful and usable communication strategies that revolve around convincing people to decide and act.
- Professional sources of support for project communication inadequately address these risks and strategies. They don't suggest a way to confront the functional realities of communication in these contexts.

What is communication? Do the elements of effective communication in one context translate (function) in the same fashion in every context? How do we know? Why or why not? The PMBoK successfully supports management for the business practices of controlling project processes. Although the PMI considers every project to be a

temporary organization (Section 1.2.1), the form and function of communication in temporary organizations as defined here do not fit the process control model. The PMI and PMBoK have identified communication as a crucial part of the project process. Moving forward to provide knowledge and sense-making resources that improve project communication is the challenging next step. That step starts with inquiry.

Technical communication treats the construct of communication as a dynamic inquiry. Project communication is a human context continually subject to change. The objective of communication is fostering understanding rather than rote performance of a task (Miller, *Humanistic Rationale*, 1979). Rote task performance without reflective practice risks blind expediency (Katz, *Ethic*, 1992). In a temporary organization, effective communication for people performing work governed by rules (Figure 6.1) requires a communication strategy built on dynamic inquiry that expects new discoveries and change.

Inquiry doesn't imply quick resolution. Recognition of the wicked elements of communication compromises in temporary organizations is the beginning of applying systems thinking to this problem. The power of this classification is somewhat counterintuitive. Categorizing the risks as wicked actually removes the analysis paralysis and frustrating dead ends of trying to assimilate the complex and competing dependencies of communication into a linear input-process-output model. The wicked category creates space to examine unresolvable value conflicts and grievous communication misalignments. Wicked accepts and expects equifinality, the possibility of multiple paths to an outcome, or even various definitions of a successful outcome.

7.7.1 Recognition of Wicked Communication Compromises

Sustainable and resilient communication planning recognizes the temporary organization as a system in constant motion. Changes and new discoveries are continually re-evaluated in light of realigning project variables. Convincing is the primary strategy.

Management and engineering disciplines traditionally talk about driving a process, pushing forward, and asserting their position. However, coding the consultant dialogues for themes of risk and strategy revealed a more complex implicit professional evaluation heuristic for communicating in increasingly dynamic wicked contexts.

Figure 7.3 represents the temporary organization communication decisions from the dialogues in this study. Within their compressed communication environments, convincing communication strategies are compromises on the scale between ideal and increasingly wicked. Starting in the inner feedback loop labelled *Ideal Communication Strategies*, consultants strive for *full transparency* and *accurate* analysis, representative of project knowledge, expertise, and credibility. They motivate by building *teamwork* and respecting SME *ownership* of their work, and the goal is for the consultations to end in *agreement of shared values*. As new discoveries and changes add complexity and risk, communication must consider *increasingly wicked compromises* (outer feedback loop) for each variable on a sliding scale. Consultants might have to navigate a communication context that can be fully transparent to all but they have to prioritize consensus of the most influential stakeholders—how will they articulate whose agreements were marginalized? Or maybe the context is urgent and they push forward using *wasta*—the person of power and influence. How might their teams react knowing that more time to be thorough would yield significantly different results?

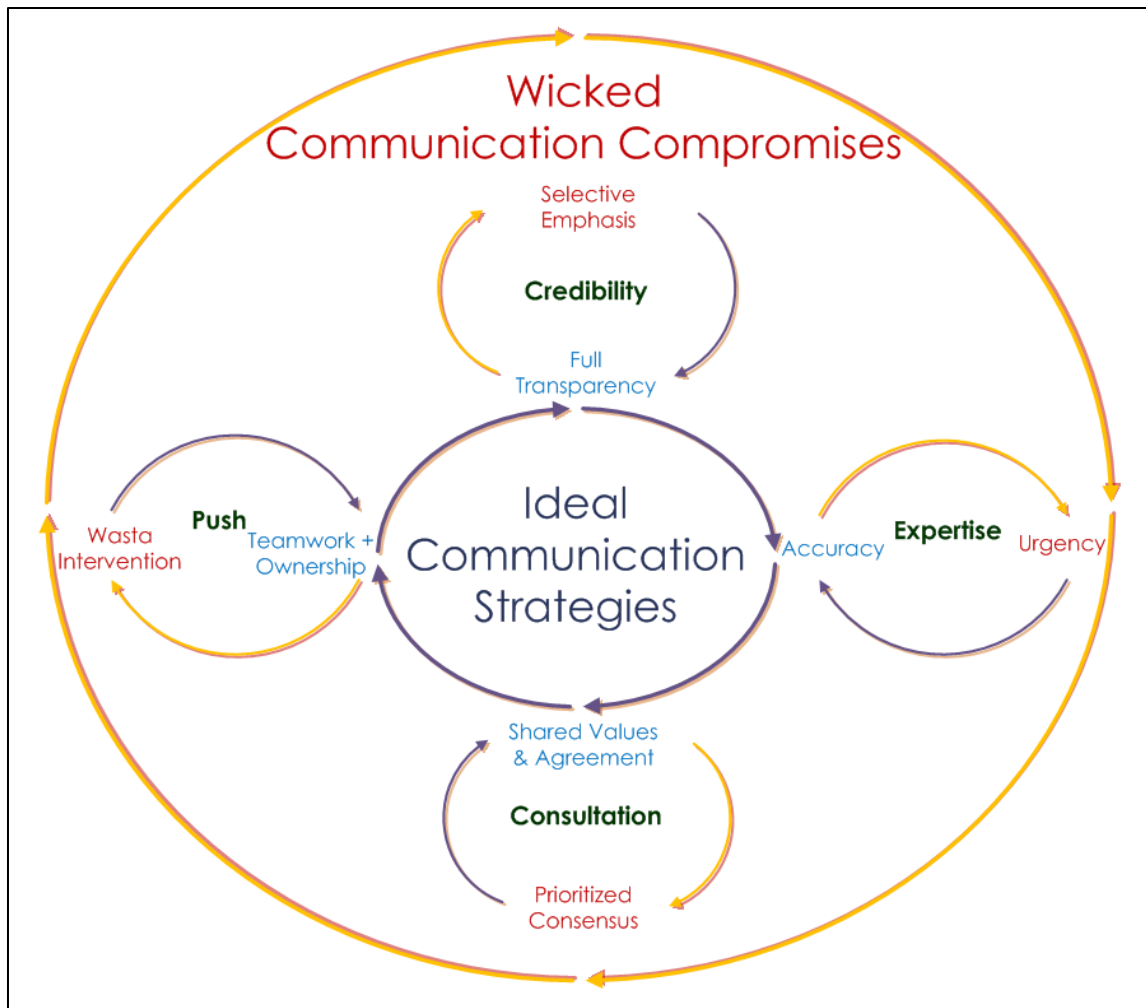


Figure 7.3 Communication in Temporary Organizations: Ideal Strategies to Wicked Compromises. Communication strategies represented as compromises between the inner range of ideal values of transparency, accuracy, agreement, and teamwork toward the outer range of increasingly wicked communication compromises to resolve irreconcilable differences.

Even strategy has been recognized as a wicked problem (Camillus, 2008). The combinations of compromises between ideal and wicked in temporary organization contexts are endless. What is required is a humanistic communication strategy and systems thinking to consider as many paths and ultimate outcomes as possible.

For the field of project management, communication is only one of many complex and competing priorities. As the complexity of work increases in a temporary organization, a project team will benefit from a communication SME to complement the

technical, financial, and planning SMEs. The people factor joined the *triple constraint* decades ago; it's time to move communication up the rank of priorities by recognizing it as expertise. Every risk mitigation strategy in this study involved *convincing* internal and external stakeholders of the most favorable path forward using combinations of evidence, *wasta* (power and influence), value matching, and building credible relationships. In technical communication, convincing is deliberative rhetoric which requires determining the root relevance of a proposition to all parties. Addressing the exigency of *why* fosters ownership, engagement, and both sense- and decision-making capabilities. Multi-tiered communication contexts demand the priority and purpose of a communications SME to strategize and optimize a sustainable plan for shared meaning, relevance, and mutual understanding.

CHAPTER 8

SYSTEMIC COMMUNICATION STRATEGY

At best, the context of communication in a temporary organization is ill-structured. Projects create change. The communication risk amplifies outside the structure of repetitive work and repetitive work forces where shared meaning is constructed by history and iteration. As project change and discovery add complexity and compression, communication exhibits the unresolvable elements characteristic of wicked problems. Effective communication in compressed environments cannot function as a series of rote reductive processes. Communication is a systemic web of interaction. For a temporary organization, communication is both risk and strategy.

Technical communication excels at leveraging human knowledge—at information orienteering adapting every contextual clue available to foster learning and sense-making. Rhetorical analysis is a systemic communication strategy for ill-structured and wicked problems. The umbrella of rhetorical consideration encompasses multiple communication theories and hyphenated practices from which to build and develop mutual understanding. The integration of dynamic inquiry, evaluation of theoretical hypotheses, and iteration of practical applications are hallmarks of reflective practice and systems thinking. Rhetoric accepts and expects equifinality—the potential for multiple paths to successful outcomes. As a humanist framework, rhetoric defines communication in terms of the experience and expertise that creates shared meaning.

Innovative perspectives within the growing field of technical communication are blurring the borders between users and subject matter experts. The profession is shifting industry focus from strictly usability analysis to participatory designs where the end-user

is a valued SME in their own right. The unique humanistic perspectives and user-centric foci of technical communication study requires further interdisciplinary research that expands our confidence in our roles and responsibilities as subject matter experts in communication strategy, design, and evaluation for temporary organizations.

Temporary organizations are a growing work context; cohesive humanist communication strategies are needed to build functional communities in compressed work contexts. Projects that are focused on the dominant technical, financial, and contractual obligations often wait to engage communication consultants until an untenable crisis arises or a sweeping change looms. Cohesive communication is crisis prevention. Professional technical communication provides deliberative rhetoric as communication strategy to other disciplines.

8.1 Interdisciplinary Collaboration Summary

Both project management and technical communication create change in the cultures of the industries and organizational contexts where they perform work. Practitioners in both fields juggle diverse roles in multiple professional contexts while navigating surprisingly common ill-structured or wicked domains. Both fields must flexibly manage implicit and explicit sociotechnical contracts with various paths to an outcome—success or failure. Failure analysis is still struggling with acceptance in certain professional and geographical cultures. In our global economy, interdisciplinary collaborations within temporary organizations need caution regarding professional and cultural assumptions.

Like project management, technical communication will continue to be shaped and evaluated by the industries and contexts of practice. As technical communication

continues to debate the value of work, professional practice might consider the value of the strategic communication they perform as tactical orchestrators of mutual understanding. The unique boundaries of temporary organizations offer a challenging proving ground for skillful systems communicators.

The critical communication requirements in the field of project management create a natural synergy for technical communication. There are positions at the strategy table for technical communicators who think in systems—those that embrace the complexity of ill-structured domains or wicked problems. Research and innovation in this field—recording, modelling, and solving communication challenges specific to temporary organizations—need to expand so we can join the strategic dialogue already in progress and validate our future participation on these management teams. Technical communication has an opportunity to reposition communication from a behavior to a holistic systems strategy that demands expertise.

Inquiry is critical to developing a cohesive communication strategy. Investigating the underlying assumptions of meaning in temporary organization cultures can inform understanding of the function or dysfunction of communication. Recognizing knowledge, power, and influence structures among adversarial or collaborating professional cultures indicates the potential for information decentralization and knowledge transfer. Examining governance and authority requirements, including the difference between marginalized and legitimized perspectives, can lay a foundation for realistic expectations that relieve some of the compression of temporary work contexts. Rhetorical analysis will search for ways to respect expert-user ideals and values, meeting not only performance requirements but satisfaction benchmarks as well.

8.1.1 Taxonomy and Terminology Considerations

Taxonomy and terminology often don't translate between disciplines. Rhetoric is a great example of a maligned and misrepresented construct outside of the disciplines that study and apply its principles. Considering technical communication as a discipline that actively works on sociotechnical mediation, it might seem obvious to simply adopt the taxonomies and vocabulary of business and management contexts where we work.

Technical communication studies the vocabulary of HTML, graphic design, user experience, and instructional design to intelligently converse with our colleagues in various complementary fields of practice. While it is vital for a technical communicator to understand alternate professional language use and meanings where we actively practice, it is worth noting that some of those alternate terminologies could implicitly and explicitly change the context of communication from humanist to Homo economicus¹⁷. Categories like *Stakeholder Management* might imply a communication value system different to that of technical communication. Phrases like *Control Communications* might erode the expert-user humanistic perspectives fostered by technical communication in the last decade. Understanding how seemingly similar taxonomies alter shared meaning and sense-making objectives is worth consideration and part of reflective practice. Most important to studying the applications of other taxonomies is the understanding of the underlying ethos and value systems that differentiate technical communication from business management.

¹⁷ People as motivated by the calculated power and rationale of productivity. Used here in the context of being the opposite of Homo reciprocans where people strive for collaboration and community. Exact origin of this term is debated.

8.2 Useful and Useable Future Research

Strategy and systems thinking has recent developments in professional technical communication. Since 2012, a new workshop symposium dialogues on designing communication in the face of complex circumstances. The *Symposium on Communicating Complex Information* (SCCI) focuses on complex communication environments, presentation challenges, and influences of design and context. This symposium is recognition of the diversity and growth potential for the field of technical communication. It represents technical communication as a systems strategy for wicked problems like communication in temporary organizations such as project management.

This study has raised questions for further investigation. The CIT interview instrument could again be modified to continue research into temporary organization communication:

- Addressing communication culture shock in temporary organizations.
 - a. Preferences for collocation vs. virtual teaming for defining demarcation lines between SME.
 - b. Overcoming the dissatisfaction of communication via email and evaluating the perceptions of increased focus and effort in face-to-face communication (Section 7.6.2).
 - c. Onsite team integration vs. fragmentation (Linder and Walds, 2011).
 - d. Decentralizing expertise: responsive communication rather than waterfall communication for temporary organizations.
- Knowledge management and transfer during and after the temporary organization.
 - a. Is the predictive power of lessons learned less valid for temporary organizations (Section 6.3.1)?
 - b. Investigation into the varying practical connotations and barriers in temporary organizations.

- c. Knowledge is most certainly being lost. As one consultant phrased it, “I can say with all confidence, in my field anyway, there is a huge loss going on.” Purposeful and useful knowledge transfer is not a naturally occurring or self-sustaining process. Can lost knowledge be recovered?
- Maturity Diagnostic Indicators (MDI) have been used to benchmark organization values, attitudes, and work practices for quality management systems.
 - a. Is there value in a formative benchmark for communication auditing in temporary organizations?
 - b. At the early stage of project development could MDI demonstrate where communication is not useful or usable and indicate a path to improvement?
 - c. Could an adaptable MDI for communication predict a wicked problem?

8.2.1 Lessons Learned: Engaging a Hard-to-Reach Population

Over the 12 weeks of recruiting and interviewing, 22 interview requests yielded the 10 completed interviews in Chapter 6 (a 45% response rate). It was informative to analyze the mix of responses:

- Two requests were sent as cold calls, neither participated.
 - a. One didn’t respond.
 - b. One declined, specifically because there was no personal benefit.
- Three requests were sent to 1° contacts, none of which participated.
 - a. Each declined, questioning their qualifications for addressing the study topic.
 - b. Two of the three sent other potential participants in lieu of their own participation, indicating there was still support for the study objective.
- 15 requests were sent to 2° contacts passed on by the pilot study participants or the 1° contacts who didn’t participate, 8/15 participated.
 - a. 2 didn’t respond.
 - b. 3 initially agreed but didn’t follow through to sign the consent form and coordinate a time.
 - c. 2 declined stating they couldn’t address the study topic.

- 2 requests were sent to 3^o contacts passed on by the interviews with 2^o contacts, both participated.

The consultants who participated made a point of probing the introductory relationship introduction link (e.g., “So, how do you know [the contact who recommended them]?”). I suspect this was both an icebreaker comment and a credibility probe. The credibility and implied trust of being passed on by a vetted colleague was probably the most critical success factor for being granted these interviews at all. Participating consultants were kind, friendly, willing, and open, but also busy and rightfully wary of being dissected and somehow exposed or misrepresented. Just as they discussed credibility, relationship, and trust in the context of their work, they needed to establish it within this research context, particularly with the intimidating *Consent to Participate* form. As discussed in Sections 5.2.1 and 5.2.3.2, the standard form details were insufficient to provide a clear decision-tree project managers could confidently agree to.

It is worth noting that passing the communication-trust threshold for this group unleashed an unexpected willingness to candidly discuss the risks, strategies, and pain of project management communication. There was almost a cathartic tone to the articulation of the complexities of the project system and how those variables impact their experience of risk and the communication strategies available to them within those contextual constraints. The project managers that participated were very aware of communication being both a risk (hazard) and a strategy tangled in the entire system of the project. There is a definite bias here: 5/22 recruiting emails were declined because consultants didn’t feel they could address the topic of communication. Of the 10 consultants that chose to

participate, communication was something they'd considered at length and were comfortable discussing in an interview circumstance.

Noteworthy in the trust, relationship, and catharsis department was the difference between the final outcomes between the pilot study participants (who were all 1° contacts) and the actual interview consultants (who were all 2° or 3° contacts). Three of the four pilot test interviews discussed a communication strategy that had a negative outcome. Not one of the ten actual interviews in this study had a neutral or negative outcome. This is reasonable; it would be less comfortable sharing a failed communication strategy with an unknown researcher. The ultimate desire for catharsis is inhibited by lack of personal relationship.

On an unexpected note (though not part of the selection or exclusion criteria), not a single interview participant was a member of a governing professional body (e.g., PMI); though a number of those that declined the interview were. A few even stated disinterest or disbelief in the benefits of PMI. This reinforces the potential problems of gaining a representative sample by accessing the databases of a professional society.

The quality and depth of responses in the interviews leads me to expect there is a wealth of rich untapped information in the narratives of project managers. They expressed interest in why I was studying communication in their field; they stressed that project management strategy couldn't be based solely on communication strategy. Challenges to future research on temporary organizations will include gaining access to these closed-rank professionals. In an ethnographic sense, there is a high barrier to initial contact, especially for any recruiting by cold calling. Further access to a dialogue about consulting communication practices is another hurdle. An ultimate goal of participant

observation to research how humanistic approaches might impact project management communication (or other temporary organization communication) raises wicked questions: in a largely unprecedented context with a low probability of reproducibility, what might we learn that could be of future use? The temporary organization doesn't provide much opportunity for experimentation or iteration within the context itself. Dialogue that continues to explore heuristic questions like those in Figure 7.2 and 7.3 may be the best way to proceed.

By the end of these interview dialogues, I had invested 9 hours talking with 10 clever, dedicated professionals from very diverse backgrounds. Their candor about the depth and range of their experiences amazed me. These dialogues barely scratch the surface of what there is to learn about communication in temporary organizations; the participants have my sincere gratitude and respect.

APPENDIX A

STUDY INTERVIEW INSTRUMENT

The following interview script outlines the modified CIT semi-structured interview pattern. There were five main questions posed to each participant plus a series of potential probing questions to gain further detail, depending on the initial participant response.

COMMUNICATION RISK & STRATEGY IN TEMPORARY ORGANIZATIONS: A CIT PATTERNED INTERVIEW SCRIPT

Preamble

The purpose of this investigation is to determine what communication strategies project managers (PM) use to mitigate project risks. I'm specifically interested in project management consulting, that is, communication contexts that exist in temporary organizations. This is a semi-structured interview in two parts.

The first part is a short demographic section to define the scope of project management as you've experienced it. The second part consists of five main questions that revolve around one specific project or project circumstance of your choosing. I will ask questions within those main five to help gain the level of detail to help inform my research.

The primary research topic is communication as risk management: What communication themes and tensions create risk for a project management team in the context of a temporary organization culture?

Confirmation of Recruiting Criteria

You've confirmed that you meet the following recruiting criteria from the recruiting email:

1. The PM must have experience as a consultant (in a temporary organization context, not as an employee managing a project within a static organizational context).
2. The PM must have experience working as a team within the client organizational context or as a member of a distinct team of consultants that functions within the client's organization (not as a single consultant in a role such as auditing or reporting only).

3. The PM must have more than three years' experience in this type of context.

Confirmation of Signed NJIT IRB Consent to Participate Form:

You have signed and returned the consent to participate form by email. Just to reiterate, during the interview I will be taking notes as reminders to myself. The audio of our interview is being recorded solely for the purpose of transcription to accurately extract major communication strategy themes and will be deleted at the end of my study. Confidentiality and anonymity are maintained to the maximum extent possible. You are not expected to divulge proprietary or project sensitive details and you can stop this interview at any time without obligation or consequence. Would you like to get started?

Part I: Diversity of Demographic Contexts for Project Management in Temporary Organizations

The goal of these initial nine questions is to frame the contexts of communication within a PM temporary organization team.

1. Please list the sector(s) or industries where you have practiced PM?
2. Please approximate your shortest PM contract in a temporary organization circumstance? (i.e. weeks, months, years)
3. Please approximate your longest PM contract in a temporary organization circumstance?
4. Please approximate the lowest value of a PM contract you've participated in as part of a temporary organization?
5. Please approximate the highest value of a PM contract you've participated in as part of a temporary organization?
6. The next section is perception/word association that describes your experience practicing PM in a temporary organization. Tell me three words that describe PM to you.
7. Tell me three words that describe you as a PM or how you approach PM.

8. I'd like to know about PM team dynamics. What are the compositional/contextual constraints for PM teams? Generally is your PM team selected by you or directed/assigned by others (headhunted/recruited)? Please describe any relevant details on how that works.
9. Please describe your idea of the most successful PM team composition if you could choose. What would be the top five job titles or descriptions you'd like next to you and what would be the top five skill sets or competencies you want everyone on your team to have?

Part II: CIT Semi-structured Interview + Probing Question Possibilities

[The five numbered interview questions are asked of all participants. Alternate probing questions might be asked depending on the level of detail in initial responses. Not all participants are asked the exact probing questions.]

Please think about a project management circumstance when you were involved in a situation that required a strategic communication plan to mitigate a risk.

[Pause and give the participant time to think of a situation that fits those requirements. Define/give an example of strategic communication and risk in this context if required. Use the bullet points following each question to tailor probing questions as required.]

1. Please describe the situation (it isn't necessary to divulge names of people or project details beyond the use of generic titles and circumstances).
 - What was the situation or context?
 - Who was involved? Describe the various stakeholder groups and/or team members
 - What was the problem or hindrance? What was the issue?
 - How did you discover or troubleshoot this problem? How was it brought to your attention?
 - What was the obstacle or opportunity?
 - What were the contexts of the relationships?
2. Please describe the application of strategic communication.
 - Tasks/logistics/details on how the strategy played out
 - What did you do? [as actual behaviors rather than self-analysis or justifications]

- What did you say and to whom?
 - How did you work through 'x'?
 - How did you decide on this strategy?
 - How did you prioritize?
 - How did you align this strategy with the project objectives?
 - What was the risk and how did this communication strategy manage that risk?
 - If politics were involved, how did you account for those interests?
3. What was the most critical element(s) of the communication strategy that impacted that project circumstance?
- What was the bottom-line action that made the most difference?
 - What was the significance of that communication element?
 - What was the response to your strategic communication action?
 - How did you negotiate the situation?
 - How do transparency and NDA (non-disclosure agreements) impact your communication strategy choices?
4. How was the communication strategy most successful or what would you modify next time?
- What is the significance / lessons learned/take away message of your strategy?
 - Confirm either positive or negative or neutral overall result.
 - What would you take away from this to use next time?
 - What would you avoid next time?
 - What resources did your strategy rely on?
 - Did your strategy require adjustment over the course? What did you do when priorities change quickly or special changes were requested?
 - How did you get others on-board?
 - How did you communicate your strategy changes?
 - Was there any feedback/useful critiques or alternate suggestions?

5. Please describe how you perceive the expectations of communication have changed in the field of PM in the last decade.
- Follow up for the future of PM communication, what should happen now?
 - Tell me how communication is a macro or micro element of PM for you going forward?
 - How much knowledge management or transfer (formal or informal) is possible between projects? How do you facilitate this?
 - How do you incorporate professional development? Are there any leading edge communication developments or technologies in your field?
 - How can PM communication innovate as risk mitigation for future projects?
 - Tell me what hurts/the pain points/what you would like to just ‘go away’ about PM communication strategies.

Thank you for participating in this study. We are recruiting participants by a technique called snowball sampling where we ask each person if they can recommend a colleague that might be interested in our short interview. Do you know another project manager that we can contact about their strategic communication practices?

[Send thank you email as final contact with participant.]

APPENDIX B
HUMAN SUBJECT RESEARCH APPROVAL

This research study was approved as protocol number F208-14 by the New Jersey Institute of Technology's Institutional Review Board in October 2014.

WORKS CITED

- Baiden, B.K., A.D.F. Price, and A.R.J. Dainty. "The Extent of Team Integration within Construction Projects." *International Journal of Project Management* 24 (2006): 13-23. *ScienceDirect*. Web. 14 Sep. 2014.
- Ball-Rokeach, Sandra J., Yong-Chan Kim, and Sorin Matei. "Storytelling Neighborhood: Paths to Belonging in Diverse Urban Environments." *Communication Research* 28.4 (2001): 392-428. *Sage*. Web. 26 Sep. 2013.
- Bernhard, H. Russell. *Social Research Methods: Qualitative and Quantitative Approaches*. 2nd Ed. Los Angeles: Sage, 2013. Print.
- Bickerstaff, Karen et al. "Locating Scientific Citizenship: The Institutional Contexts and Cultures of Public Engagement." *Science, Technology & Human Values* 35.4 (Jul. 2010): 474-500. *Sage*. Web. 30 Jan. 2014.
- Bourelle, Tiffany. "Bridging the Gap between the Technical Communication Classroom and the Internship: Teaching Social Consciousness and Real-World Writing." *Journal of Technical Writing and Communication* 42.2 (2012): 186-97. Web. *EBSCO*. 25 Feb. 2014.
- Buzzanell, Patrice M. "Feminist Organizational Communication Theorizing." *Management Communication Quarterly* 7.4 (1994): 339-83. Web. *Sage*. 12 Oct. 2013.
- Camillus, John C. "Strategy as a Wicked Problem." *Harvard Business Review* 86.5 (2008): 98-106. *Business Source Premier*. Web. 28 Feb. 2015
- Ceraso, Antonio. "How Can Technical Communicators Plan for Users?" *Solving Problems in Technical Communication*. Ed. Johndan Johnson-Eilola and Stuart A. Selber. Chicago: U of Chicago P, 2013. Kindle file.
- Coppola, Nancy W. "The Technical Communication Body of Knowledge Initiative: An Academic-Practitioner Partnership." *Technical Communication* 57.1 (2010): 11-25. Web. 9 Sep. 2013.
- Craig, Robert T. "Communication Theory as a Field." *Communication Theory* 9.2 (1999): 119-61. Web. 9 Sep. 2013.
- Dennis, Everette E., and James Ash. "Toward a Taxonomy of New Media – Management Views on an Evolving Industry." *Journal of Media Management*. 3.1 (2001): 26-32. Web. 15 Oct. 2013.

- Dicks, R. Stanley. "How Can Technical Communicators Manage Projects?" *Solving Problems in Technical Communication*. Ed. Johndan Johnson-Eilola and Stuart A. Selber. Chicago: U of Chicago P, 2013. Kindle File.
- Dörner, Dietrich. *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations*. Trans. Rita and Robert Kimber. Cambridge: Perseus Books, 1996. Kindle file.
- Durham, Robert A and Marcus O. Durham. "What to do When Things Go Wrong: An Ethical Solution." *IEEE Paper No. PCIC-2077-3* (2007): 1-9. Web. 19 Sep. 2013.
- Gil, Nuno, A. "Language as a Resource in Project Management: A Case Study and Conceptual Framework." *IEEE Transactions on Engineering Management* 57.3 (August 2010): 450-62. Web. Ebsco. 30 Jan. 2014.
- Hayes, John R. "Modeling and Remodeling Writing." *Written Communication* 29.3 (2012): 369-88. Web. Sage. 04 Oct. 2013.
- Henry, Jim. "How Can Technical Commnicators Fit into Contemporary Organizations?" *Solving Problems in Technical Communication*. Ed. Johndan Johnson-Eilola and Stuart A. Selber. Chicago: U of Chicago P, 2013. Kindle file.
- Herndl, Carl G. "Teaching Discourse and Reproducing Culture: A Critique of Research and Pedagogy in Professional and Non-Academic Writing." *College Composition and Communication* 44.3 (1993): 349-63. JSTOR. Web. 30 Jan. 2014.
- Katz, Steven B. "The Ethic of Expediency: Classical Rhetoric, Technology, and the Holocaust." *College English* 54.3 (Mar 1992): 255-75. JStor. Web. 15 Feb. 2013.
- . "Language and Persuasion in Biotechnology Communication with the Public: How to Not Say What You're Not Going to Not Say and Not Say It." *AgBioForum* 4.2 (2001): 93-97. Web. 25 Jan. 2014.
- Klarner, Patricia, et al. "Disentangling the Effects of Team Competences, Team Adaptability, and Client Communication on the Performance of Management Consulting Teams." *Long Range Planning* 46 (2013): 258-286. ScienceDirect. Web. 27 Aug. 2014.
- Kostelnick, Charles. "The Visual Rhetoric of Data Displays: The Conundrum of Clarity." *IEEE Transactions on Professional Communication* 51.1 (March 2008): 116-130. Web. 11 Feb. 2014.
- Lawler III, Edward E., and David Finegold. "Individualizing the Organization: Past, Present, and Future." *Organizational Dynamics* 29.1 (2000): 1-15. Business Source Premier. Web. 14 Sept. 2014.
- Levi, Don S. "In Defense of Rhetoric." *Philosophy and Rhetoric* 28.4 (1995): 253 – 75. Web. 30 Jan. 2014.

- Linder, Frank and Andreas Wald. "Success Factors of Knowledge Management in Temporary Organizations." *International Journal of Project Management* 29 (2011): 877-88. Web. Elsevier/Science Direct. Aug 2014.
- Longo, Bernadette. "An Approach for Applying Cultural Study Theory to Technical Writing Research." *Technical Communication Quarterly* 7.1(1998): 53-73. Taylor and Francis Online. Web. 24 Nov. 2012.
- . "Authorship in the Cloud." *Professional Communication Conference (IPCC)*. (2013): 1-7. IEEEExplore. Web. 01 Jan. 2014.
- . "Human+Computer Culture: Where We Work." *Digital Literacy for Technical Communication: 21st Century Theory and Practice*. Ed. Rachel Spilka. New York: Routledge. 2009. 147-168. PDF file.
- . "Tensions in the Community: Myth, Strategy, Totalitarianism, Terror". *Journal of Academic Composition* 23.2 (2003): 291-317. PDF file.
- Mathes, J.C., and Stevenson, Dwight W. *Designing Technical Reports: Writing for Audiences in Organizations*. Indianapolis: Bobbs-Merrill Co. Inc., 1976. PDF file.
- Mehlenbacher, Brad. "What Is the Future of Technical Communication?" *Solving Problems in Technical Communication*. Ed. John dan Johnson-Eilola and Stuart A. Selber. Chicago: U of Chicago P, 2013. Kindle file.
- Miller, Carolyn R. "Genre as Social Action." *Quarterly Journal of Speech* 70 (1984): 151-67. Web. 25 Sep 2013.
- . "A Humanistic Rationale for Technical Writing." *College English* 40.6 (Feb 1979): 610-17. JStor. Web. 18 Oct. 2013.
- . "What's Practical About Technical Writing?" *Technical Writing Theory and Practice*. Ed. Bertie E. Fearing and W. Keats Sparrow. The Modern Language Association of America. New York (1989): 14-24. JStor. Web. 17 Oct. 2013.
- Müller, Ralf et al. "The Interrelationship of Governance, Trust, and Ethics in Temporary Organizations." *Project Management Journal* (August 2013): 26-44. Web. Ebsco. Aug 2014.
- Palmer, Jacqueline S., and M. Jimmie Killingsworth. "Research and Consulting In Technical Communication." *Technical Communication Quarterly* 11.4 (2002): 389. Business Source Premier. Web. 27 Aug. 2014.
- Pinto, Jeffrey K., and Om P. Kharbanda. "Lessons for an Accidental Profession." *Business Horizons* 38 (1995): 41-50. ScienceDirect. Web. 14 Sep. 2014.
- . "How to Fail in Project Management (Without Really Trying)." *Business Horizons* (Jul/Aug 1996): 44-53. ScienceDirect. Web. 14 Sep. 2014.

- Pinto, Jeffrey K. "Understanding the Role of Politics in Successful Project Management." *International Journal of Project Management* 18 (2000): 85-91. Elsevier. Web. 14 Sep. 2014.
- Plung, Daniel L. "Teaching the Complexity of Purpose: Promoting Complete and Creative Communications." *Journal of Technical Writing and Communication* 36.1 (2006): 29-42. EBSCOHost. Web. 30 Jan. 2014.
- Porter, James. "How Can Rhetorical Theory Inform the Practice of Technical Communication?" *Solving Problems in Technical Communication*. Ed. Johndan Johnson-Eilola and Stuart A. Selber. Chicago: U of Chicago P, 2013. Kindle file.
- Project Management Institute, Inc. *The High Cost of Low Performance: The Essential Role of Communication*. Philadelphia: PMI Pulse of the Profession Report (May 2013). Web. 26 Sep. 2014. PDF file.
- . *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*. 5th ed. Atlanta: PMI Inc., 2013. Kindle file.
- Rice-Bailey, Tammy. "Remote Technical Communicators: Accessing Audiences and Working on Project Teams." *Technical Communication Quarterly* 61.2 (2014): 95-109. Web. 29 Aug. 2014.
- Rocha-Lona, Luis, Jose Arturo Garza-Reyes, and Vikas Kumar. *Building Quality Management Systems: Selecting the Right Methods and Tools*. Boca Raton: CRC Press, Taylor & Francis Group, 2010. Kindle file.
- Salvo, Michael J. "Ethics of Engagement: User-Centered Design and Rhetorical Methodology." *Technical Communication Quarterly* 10.3 (2001): 273-90. EBSCO Web. 19 Feb. 2014.
- Senescu, Reid Robert, Guillermo Aranda-Mena, and John Riker Haymaker. "Relationships between Project Complexity and Communication." *Journal of Management and Engineering* (April 2013): 183-97. EBSCO. Web. 21 Aug. 2014.
- Smeltzer, Larry, Kittie Watson, and Larry Barker. "The Communication Consultant/Client Relationship: An Analysis of Ethical and Political Issues." *Communication* 13.1 (1984): 125-136. EBSCO. Web. 27 Aug. 2014.
- Spinuzzi, Clay. "Describing Assemblages: Genre Sets, Systems, Repertoires, and Ecologies." *Computer Writing and Research Lab. White Paper Series 040505-2*. (2004): 1-9. Web. 12 Oct. 2013. PDF file.
- Storytellers. *The Missing Chapter: Why Emotional Buy-in is Critical for Successful M&A*. London: The Storytellers and Merger Market Survey. 2013. Web. 19 Aug. 2014. PDF file.

- Sturdy, Andrew, et al. *Management Consultancy: Boundaries and Knowledge in Action*. New York: Oxford UP, 2009. EPUB file.
- Wagner, William F. "All Skill, No Finesse." *Workforce* 79.6 (2000): 108-116. *OmniFile Full Text Mega* (H.W. Wilson). Web. 14 Sept. 2014.
- Wickman, Chad. "Wicked Problems in Technical Communication." *Journal of Technical Writing & Communication* 44.1 (2014): 23-42. *Communication & Mass Media Complete*. Web. 28 Feb. 2015.
- Williams, Sean D. "User Experience Design for Technical Communication: Expanding Our Notions of Quality Information Design." *Professional Communication Conference, IPCC (2007)*: 1-13. *IEEE International*. Web. 02 Feb. 2014.

WORKS CITED: THEORETICAL METHODOLOGY

- Baill, Margot. “*Behavioral Interviewing: The 8 Most Common Mistakes.*” Hireology White Paper. 2012. Web. 14 Sep. 2014. PDF file.
- Bevan, Nigel, V. Sudhindra, and Carla Saraiva. “Task Analysis and Modelling Methods.” *Usability Body of Knowledge*. Apr. 2012. Web. 24 Sep. 2014.
- De Saram, D. Darshi, Syed M. Ahmed, and Michael Anson. “Suitability of the Critical Incident Technique to Measure Quality of Construction Coordination.” *Journal of Management in Engineering* 20.3 (2004): 97-109. *Business Source Premier*. Web. 24 Sep. 2014.
- Deverell, Edward. “Is Best Practice Always the Best? Learning to Become Better Crisis Managers.” *Journal of Critical Incident Analysis* (Fall 2012): 26-40. Web. 24 Sep. 2014.
- Government of Australia. “*Reflective Practice: A Critical Reflection Framework*”. 2007 CDROM reprint. Web. 02 Oct. 2014. PDF file.
- Hanson, James H. and Patrick D. Brophy. “The Critical Incident Technique: An Effective Tool for Gathering Experience from Practicing Engineers.” *Advances in Engineering Education* 3.1 (2012): 1-24. *OmniFile Full Text Mega (H.W. Wilson)*. Web. 24 Sep. 2014.
- Hughes, Hilary. “Critical Incident Technique.” *Exploring Methods in Information Literacy Research Chapter 4. QUT Digital Repository. Elsevier* 2007. Web. 24 Sep. 2014. PDF file.
- Kirby, Elizabeth A. “A Conceptual Model for Critical Incident Analysis.” *Journal of Critical Incident Analysis* (Fall 2010): 3-16. Web. 24 Sep. 2014.
- Marine, Larry. “Task Analysis: The Key UX Design Everyone Skips.” *Search Engine Watch*. 27 Mar. 2014. Weblog. 24 Sep. 2014.
- Marrelli, Anne F. “The Performance Technologist’s Toolbox: Critical Incidents.” *Performance Improvement* 44.10 (2005): 40-44. Web. ISPI.org. 24 Sep. 2014. PDF file.
- Sanchez, Juan. I. “*How to Design and Conduct Behavioral Interviews.*” © Juan I. Sanchez, PhD. 2006. Web. 11 Sep. 2014. MS Word file.
- Seeling Smith, Kim. “Top Tip for a Great Interview and the 3 Common Pitfalls.” *Ignite Global*. 16 May 2013. *YouTube*. 14 Sep. 2014.

- Shah, Dharmesh. "12 Unconventional Interview Questions Entrepreneurs Should Ask." Hubspot LinkedIn post. 13 May 2013. Web. 14 Sep. 2014.
- Thompson, Denise D.P. "Using the Open Systems Perspective to Understand Critical Incidents." *Journal of Critical Incident Analysis* (Fall 2011): 2-21. Web. 24 Sep. 2014.
- Wagner, William F. "All Skill, No Finesse." *Workforce* 79.6 (2000): 108-116. *OmniFile Full Text Mega* (H.W. Wilson). Web. 14 Sep. 2014.
- Urquhart, Christine et al. "Critical Incident Technique and Explication Interviewing in Studies of Information Behavior." *Library and Information Science Research* 25 (2003): 63-88. *EBSCO*. Web. 16 Sep. 2014.