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The Integration of Three Factors That Lead to a Project Manager's Success

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The Integration of Three Factors That Lead to a Project Manager's Success

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We certify that we have read this dissertation and approve it as adequate in scope and quality. We found that it is complete and satisfactory in all respects, and that any and all revisions required by the final examining committee have been made.

Dissertation Committee

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Abstract

The purpose of this multi case positivistic study was to determine if the combination, rather than any individual skill or competency, of project management technical skills, communication skills, and emotional intelligence is what makes a project manager successful. While numerous studies have been conducted on the importance of individual project management technical skills, communication skills, and emotional intelligence, it is the combination of these three skills and competencies that differentiate this case study. This multi case positivistic case study relied on interviews with five project managers (as well as four or five peers for each project manager) to explore the importance of the combined skills contributing to the success of five project managers. Findings included: (a) project managers needed project management technical skills; (b) communication skills were important, although having strength in one area (verbal, written, and listening communication skills) compensated for gaps in other areas; (c) emotional intelligence competence (self-awareness, self-management, social awareness, and relationship management) was valued by team members. Research was not found that specifically delineated communication skills as verbal, written, and listening skills so this combination and breakdown of communication skills as including all three is also new.

Keywords:

Project manager, project management, Emotional intelligence, verbal communication skills, written communication skills, listening, self-awareness, self-management, social awareness, relationship management

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I cannot imagine going through this process on my own.

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Chapter One

Many organizations employ project management as a technique to ensure successful completion of projects that are important to meeting business objectives. Project management has been an intriguing field for this researcher since high school. Of course, the field did not have a name until the researcher entered the corporate world in her middle 20s. As a consultant, the researcher has been called in to work with many struggling projects. Frequently technical skills were the main criteria for promotion into a project manager role. Some project managers seem to have the right characteristics that facilitated project success and others seem to create environments that are fraught with problems.

Researcher's Interest and Background

The researcher has spent 20 years coaching, facilitating, and leading project teams in both for-profit and nonprofit organizations. She has been a certified Project Management Professional (PMP) through the Project Management Institute for eight years. The researcher teaches project management curriculum and related content in both credit and noncredit programs at seven colleges and universities. In her work as both an internal and external project management resource, she has seen some people excel and others struggle. A project team member summarized project challenges in his organization as, "projects leave scorched earth behind them." In another organization, a project manager described that a project was completed by "wearing people down." Both of these statements summarized the pain that can occur on a project. Not only is the immediate project painful but the long-term sustainability of the work is also in jeopardy. So much of a business's success is dependent on the successful implementation of

projects; organizations hold the individuals who manage these projects accountable for the effectiveness of the project, yet they do not provide the skill development in three critical areas – technical skills, communications skills, and emotional intelligence. It is the reasons for project (and project managers') success and failure that are at the foundation of this research study. Many times it has not been clear why a project was going well or why it was derailing. And, while the researcher has studied project management extensively, functioned as a practitioner in all types of for-profit and nonprofit organizations, and taught project management at the university level, the reasons projects succeed or fail were still unclear to her. The researcher wanted to find out if projects succeed or fail because of a single reason (budget constraints, time constraints, inadequate communication skills, or communications planning) or if (and how) emotional intelligence plays a role in project success. The researcher undertook this research to determine if it is the unique combination of these three factors – technical skills, communication skills, and emotional intelligence – that make a project manager, and by default a project, successful.

Research Problem Description

Traditionally, project management curriculum and methodologies focus mainly on technical skills and tools. Simple measures such as time, cost, and specifications (quality) are used to rate project success because they are easy to use and within the realm of the group that defines project methodology or priority (Jugdev & Müller, 2005). While technical skills are important, they alone do not ensure the project will be successful. The project manager also needs to have communication skills and emotional intelligence (Clarke, 2010; Goleman, 1995).

Communication skills are necessary so that the team members and the project team leader have a common understanding of the work to be completed, by when, and how much effort should be expended to complete the tasks. If the project manager does not have good listening skills, there could be confusion about the entire approach the team members are taking. An example would be risk identification and response planning. If the project manager does not identify the potential risk and understand the severity and implications of that risk, the appropriate response strategy may not be adopted and the project approach could derail the project (Andersen et al., 2012).

Emotional intelligence (EI) is also a key element for project managers. Emotional intelligence, a concept introduced into the mainstream by Daniel Goleman (1995), is a combination of self-awareness, self-management, social awareness, and relationship management strategies. The emotional intelligence of a project manager can impact the project team members. A project manager could create a negative project culture and have a negative impact on future projects. Team members in future projects may struggle to stay motivated and complete their work within the cost, time, and quality expectations because of morale and productivity repercussions from previous projects. Additionally, according to Bradberry and Greaves (2011), "leaders who had high [EI] scores… were 20% more productive than their low… [EI] counterparts, accounting for $250,000 more productivity per head than low…[EI] colleagues in the same regions" (p. 8).

Project managers with a lower level of emotional intelligence are likely to be less aware of how they impact others around them and therefore they may reduce the likelihood of good data (estimates, risk assessments, and response plans) being submitted. The emotional intelligence of a project manager can affect the project team members and

the projects that are conducted in that organization, which in turn affects the quality of the work, timeliness, and the cost of current and future projects.

In a research study completed on Information Technology (IT) projects reported in the Project Management Institute's (PMI) *PM Magazine* (Standish Group, 2005), 29% of projects were found to be successful as defined by being completed on time, on budget, and meeting quality requirements; 53% were found to have schedule or budget overruns, and 18% failed on all three criteria – time, budget, and quality. Projects were defined as having failed if they were terminated before completion or completed and never used.

Problem Statement

Project managers face unique challenges in their work environment that can be exacerbated if they do not have the technical skills, communication skills, and emotional intelligence to do the work. Project management can be very complex depending on the scope, stakeholder's involvement, and the amount of flexibility in terms of cost, quality requirements, and schedule. The project manager's overall success is impacted by his or her technical skills, communication skills, and emotional intelligence. This researcher undertook this study to provide evidence that the combination of these three components lead to a project manager's success. While there is substantial research available on the individual areas that lead to project managers' success (technical skills, communication skills, and emotional intelligence), there is a notable lack of research on the combination of these three areas and their relationship to project managers' success. Through an extensive literature review, expertise achieved in her 20-plus years of experience as a

project management professional, and the results of this research study, this researcher believes the combination of these skills is necessary for project managers' success.

Research Purpose

The purpose of this study was to test the researcher's proposition, using a positivistic case study methodology, that the combination of project management technical skills, communication skills, and emotional intelligence is what makes a project manager successful.

Research Question and Proposition

This research study addressed the question: What are the skills, beyond technical skills, that are needed for a project manager to be successful? The research study focused on the research proposition: The combination of project management technical skills, communication skills, and emotional intelligence lead to the ability of a project manager to resolve project cost, quality, and schedule discrepancies.

Research Design

The methodology chosen for this research was a positivistic case study. Each project manager was a case. This was a multiple case design since the study included five project managers (cases).

Data collection was conducted by:

- interviewing the project managers using Likert-scale questions with follow-up probes;
- interviewing four to five team members, who worked with the project manager in the past two years, using Likert-scale questions with follow-up probes;

- analyzing the results of a multi-rater and self-assessment emotional intelligence instrument for each participant;
- analyzing interview data and input from others on technical skills, communication skills, and emotional intelligence.

A more detailed description of the research approach is in chapter three.

Definition of Terms

The literature review, and the researcher's personal experience, revealed several specialized terms that were used in the construction and execution of this research study.

Project cost. The cost refers to the expense in labor time or cash spent to complete the work of the project.

Emotional Intelligence (EI). EI refers to the capacity for recognizing one's own feelings and those of others in motivating ourselves and managing our emotions in relationships with others (Goleman, 1995).

Project management. Project management is the planning, organizing, directing, and controlling of company resources for a relatively short term to complete specific goals and objectives (Kerzner, 2006).

Project Management Professional (PMP). PMP is a certification provided by PMI (Project Management Institute) that requires documentation of project experience and education, agreement to follow the code of ethics and professional conduct, and a passing grade on a comprehensive exam (Schwalbe, 2009).

Project manager. A project manager works with the project sponsor, the project team, and other key stakeholders to meet the project goals (Schwalbe, 2009).

Schedule. The schedule refers to the time allotted for the completion of the project.

Scope. The scope is the work that will be completed as part of this project; it refers to the product, service, or result the stakeholders expect from this project.

Project manager success. A good project manager is successful if he or she took action to resolve cost, quality, and schedule discrepancies.

Project success. This refers to the favorable outcome of a project in terms of budget (cost), quality, and time (schedule) constraints.

Triple constraint. A triple constraint is sometimes referred to as the "magic triangle" or "iron triangle." The triple constraint refers to the cost, quality (scope), and schedule of the project (Newell & Grashina, 2004).

Chapter Two: Literature Review

The literature review covers the three factors that combine to make project managers successful – technical skills (cost, quality, schedule/timing); communication skills (verbal, written, listening, and group communications); and emotional intelligence (self-awareness, self-management, social awareness, and relationship management).

Technical Skills

Cost, quality, schedule/timing as measures of success. From the 1960s through the 1980s, simple measures such as cost, specifications (quality), and schedule/timing, and were used to rate project success because they were easy to use and within the realm of the project's organization. Project management focus was on getting the work completed, ensuring functionality, and getting it out the door to the customer. There was not much of a focus on long-term success or on customer/stakeholder input (Jugdev & Müller, 2005).

The magic triangle (also called iron triangle or triple constraint) which includes cost, quality, and schedule/timing, was the primary means of evaluating project success until the 1980s when more research was available about project success factors. In their research, Anderson, Grude, Haug, and Turner (1987) asked project managers to record the reasons their projects failed. The researchers identified project pitfalls and things that project managers might do, or not do, that increased the chance of failure. The researchers' focus was on how the project was established, planned, organized, and controlled. The project manager was only directly listed once and that mention was that the project manager should be selected for managerial competence rather than technical skills.

In the last 20 years, there has been an evolution in the project management field about how success of projects is measured. Project success today takes these things into consideration: stakeholder satisfaction, business and organization benefit, and team development measures (Atkinson, 1999; Baccarini, 1999). Kerzner (2006) provided an overview of project management from 1945 to 2006 and highlights the development, over three different periods, of non-project-driven enterprises into hybrid enterprises that are primarily production-driven but also include numerous projects. The present-day situation and the future will, according to Kerzner, focus on project-driven enterprises, where the project manager has profit-and-loss responsibilities and where project management is a recognized profession.

Jugdev and Müller (2005) and Turner and Müller (2005) investigated success criterion for projects and for project managers. Jugdev and Müller (2005) defined four conditions that are necessary for a successful project:

- agreement with stakeholders about the success criteria, not only before but also during a project;
- a collaborative relationship between the project owner/sponsor and the project manager;
- the empowerment of the project manager to deal with unforeseen situations;
- the interest taken by the project sponsors/owners in the performance of the project.

Turner and Müller (2005) found that "literature has largely ignored the impact of the project managers, and his/her leadership style and competence, on project success" (p. 59). They noted that, in general management literature, the functional manager's

leadership style contributes to the organization's success and that more research was needed specifically about the project manager's role in the success of the project.

Project Management Professional (PMP) certification. In addition to cost, quality, and schedule/timing, a large part of a project manager's technical skills are a result of training and experience that ready a project manager for certification as a project management professional (Heerkens, 2002). Project Management Professional (PMP) is a professional certification provided by PMI (Project Management Institute). PMI is a global professional society that focuses on the field of project management. In 1999, PMI had 43,000 members (DiVincenzo, 2006). The organization has grown 790% in 12 years to a membership of 340,000 members. This significant increase in membership shows a definitive upward trend in interest in the project management field (PMI, 2011).

PMI's certification process was established in 1984. Achieving PMP certification involves passing two reviews. The first review is a qualification review. In order to qualify for certification, applicants must demonstrate they have a basic level of education and work experience. Current requirements are either a four-year degree, three years or more of project management experience with 4500 hours leading and directing projects and 35 hours of project management education; or a secondary diploma, five years of project management experience, at least 7500 hours leading and directing projects, and 35 hours of project management education (PMI, 2011).

The second part of the certification requires applicants to sit for a rigorous examination that assesses their mastery of the project management competencies as defined by the PMBOK (Project Management Body of Knowledge) which is published

by PMI. The exam includes 200 multiple choice questions that are completed in a four-hour time period (PMI, 2011).

John Davidson Frame (1999) spent six years as the director of certification for PMI. Frame explained that, while the exam cannot assess whether the project professionals' organization provides the needed support for the project workers to operate effectively and it does not measure the political or empathetic skills of aspiring project professionals, it does evaluate if they have the basic knowledge needed to do their jobs effectively. For example, if project managers can schedule a project, they would need knowledge of critical path calculation techniques. Another example would be the ability to identify the risks associated with various contract types and how that would impact their ability to manage vendors. The PMI organization and the PMP certification is the industry standard. More than 370,000 people have received PMP certification since the certification process began 27 years ago (Gray & Larson, 2006; PMI, 2011; Schwalbe, 2009).

The PMP certification measures the project managers' knowledge of ten knowledge areas (PMI, 2013). A knowledge area represents a complete set of concepts, terms, and activities that make up a professional field, project management field, or area of specialization. These knowledge areas are used on most projects most of the time. The knowledge areas provide a detailed description of the process inputs and outputs along with the descriptive explanation of tools and techniques most frequently used within the process to produce project planning deliverables. The process inputs and outputs for each knowledge area are iterative and interact throughout the project management lifecycle. These ten knowledge areas are outlined in Table 1 (PMI, 2013).

Table 1

PMI Knowledge Areas

PMI Knowledge Area	Tasks associated with knowledge area
Project Integration Management	Project charter, project plan development, execution, and change control
Project Scope Management	Scope definition and planning
Project Time Management	Duration estimates, schedule control, and task interdependencies
Project Cost Management	Resource planning, cost estimating, cost budgeting, and cost control
Project Quality Management	Quality planning, quality assurance, and quality control
Project Human Resources Management	Organizational planning, staff acquisition, and team development
Project Communications Management	Planning, information distribution, project progress reporting, and other administrative requirements
Project Risk Management	Risk identification, risk quantification, and risk control
Project Procurement Management	Solicitation, source selection, contracts, and contract management
Project Stakeholder Management	Identification of stakeholders, creation of plans for managing and engaging stakeholders

Communication Skills

Because of the unique aspects of projects and the matrixed nature of projects, effective communication is vital for project success. Overlapping responsibilities, frequent changes in scope, complex integration and interface requirements, decentralized decision making processes, and potential for conflict are all factors that make communication on projects challenging (Verma, 1996). PMI published an in-depth report solely on the subject of communication in May of 2013. The report noted there were

three reasons for the urgent need to improve communications, and therefore project success rates: a "do more with less" economic climate, expanding global priorities, and the necessity to enable innovation (PMI, 2013). The *Pulse of the Profession* report revealed that US$135 million is at risk for every US$1 billion spent on a project. Further research showed that 56% (US$75 million of that $135 million) is at risk due to ineffective communications. PMI's research provides evidence that effective communications leads to more successful projects as well as the organization's ability to meet project goals (80% of projects on time, on budget, and meeting original goals).

Project managers (55%) also agree that effective communication to stakeholders is the most critical success factor in project management (PMI, 2013). Towers Watson research (2011-2012) showed that organizations with highly effective communication practices are 1.7 times more likely to outperform their peers financially. While effective communication is clearly a success factor for organizations, PMI Pulse (2013) research showed that only one in four organizations can be described as highly effective communicators. This demonstrates that the majority of organizations have opportunities for problem solving and improvement in this area.

Another area explored by the PMI Pulse (2013) study was the specific problem areas where communications tend to disintegrate. According to PMI, the biggest problem areas are communicating the business benefits and the project management jargon that is used to communicate project-related information. Communication of the business benefits relates to stakeholders understanding the long term goals so they know how they are contributing to the final goal and the impact they are having. The jargon issue was also related to the business goals and the strategic objectives and referred to

communicating the message in the language of the audience. That message, according to PMI, needs to be clear, relevant, and has to resonate with the audience.

High performing organizations excel in all quantified aspects of project communications, specifically with regard to the business benefits and the project management jargon. High performing organizations are better at:

- communicating project information such as objectives, budget, schedule, score outcomes, and business benefits;
- providing project communications in a timely manner, with appropriate detail and clarity, using "plain English," and appropriate setting and media for delivery;
- managing the frequency of formal communications.

The project managers had formal communication plans in place. These communication plans were three times more effective than their low-performing counterparts. Another statistic from the Pulse research (PMI, 2013) was that, of the two in five projects that fail to meet original goals, 50% do so because of ineffective communications.

The continuing growth of virtual teams, with geographically dispersed team members and technology-mediated communication (Gibson & Cohen, 2003), makes competency in communication all the more crucial for both current and future project managers. From a research perspective, the nature of communication competence in managing projects has received less attention than studies of communication processes.

Five sets of researchers examined the role of communications in successful project management efforts. Pinto and Slevin (1987) and White and Fortune (2002)

identified the criticality of feedback mechanisms and channels; Pinto and Pinto (1991) researched communication at the level of clarifying and establishing shared agreements; Ammeter and Dukerich (2002) showed the importance of communicating project goals by project managers; Sotiriou and Wittner (2001) examined communication in terms of the influence methods of project managers; and Henderson (2004) showed that project managers' competency in decoding and encoding communication and behavioral descriptors is significantly and positively associated with their team members' satisfaction and productivity. Specifically, project managers' encoding behaviors accounted for 21% of the variance in project team productivity and 8% of the variance in project team member satisfaction. Project managers' decoding behaviors accounted for 38% of the variance in project team member satisfaction.

One of the challenges that project managers face is choosing the channel of communication. The mathematical equation that is used for calculating the number of communication channels is n(n-1)/2. For example, if there are four people on the team, the number of potential communication channels is six. If the team size increases by just two people the number of communication channels increases to 15. Even for a relatively small project there are numerous communication pathways for the project manager to track (Schwalbe, 2009; Taylor, 2006).

The project manager has several stakeholder groups that will need communication throughout the project lifecycle. Verma (1996) identified four main audiences: external stakeholders such as regulatory agencies and public press; top management / clients / sponsors; project team members (internal and external); and other functional and project

managers. Taylor (2006) identified four types of communication the project manager would use with these audiences:

- formal written communication which encompasses the project charter and status reports;
- informal written communication which includes project notes and memos;
- formal oral communication which refers to presentations;
- informal oral communication which includes conversations and team meetings.

Verbal communication. Krahn and Hartment (2006) found that verbal communication was rated by experts in the top 10 of a list of 50 competencies important for project managers to be successful in today's organizational environments. Similarly, Brill, Bishop, and Walker (2006) found strong verbal communication skills ranked in the top 10 out of 78 project manager competencies and characteristics. Buhler (2011) and Taylor (2006), in separate studies, found that the verbal communication skills possessed by the project manager can create the proper image. Their separate studies concluded that:

- Project managers need to think about the terminology they use.
- Use of jargon and acronyms can inhibit the communication process to those outside the organization or those who are new to the project.
- Project managers must be aware of cultural differences in communicating.
- Correct terminology, rather than slang, should be used for project communication.

- Project managers spend most of their time communicating; they hold meetings, report to the team, customer, or senior management, solve problems, and negotiate with others for resources.
- A project manager's success depends greatly on his or her ability to communicate.

Written communication skills. Written communication skills have become significantly more complex with the advances in the mediums used for communication (Buhler, 2011). Buhler found that understanding how to select the appropriate communication channel is a challenge for project managers – with e-mail being an overused channel of choice. According to Buhler (2011) and Schwalbe (2009), e-mail should be used for routine communication situations and not for sensitive communications, discussions, or topics that need buy-in from stakeholders.

Listening skills. Several research groups in the past thirty-plus years emphasized the importance of effective listening as a communications skill. According to Verma (1996), because of the nature of the project manager's role, listening is an important component of communication and a skill that many project managers lack. Verma also found that effective listening helps develop mutual rapport, trust, and respect among project participants. Saylor, Bostrom, and Siebert (1989) found that the average worker spends about 50% of his or her business hours listening, but their research has shown that the average person only listens with 25 percent efficiency. They also found that better listeners tend to hold higher positions and are promoted more often than those who have less developed listening skills. Bucero (2006) summarized the importance of listening as:

> Listening is such a routine project activity that few people think of developing the skill. Yet when you know how to really listen, you increase your ability to acquire and retain knowledge. Listening also helps you to understand and influence your team members and project stakeholders. (p. 20)

According to Llopis (2013), during a typical business day the average person listens 45% of the time, spends 30% of the time talking, 16% reading, and 9% writing. Less than 2% of professionals have had formal education or training to improve their listening skills. Eighty five percent of what we have learned has been through listening. These statistics confirm how important listening is for the role of a project manager since much of his or her role is learning about the project performance.

Emotional Intelligence

In spite of the ability to trace the origins of emotional intelligence to 1973 and the pioneering work of Harvard professor David McClelland (Goleman, Boyatzis, & McKee, 2002), it is widely acknowledged that Daniel Goleman and the publication of a series of bestselling books (Goleman, 1995; Goleman, 1998b; Goleman et al., 2002) is largely responsible for introducing the concept of emotional intelligence to the business mainstream. Goleman (1995) proposed that effective leadership comprises two facets – baseline abilities and emotional intelligence. Baseline abilities are the technical skills and necessary intelligence quotient needed to accomplish the tasks for a particular profession. For example, a software engineer needs competence in various software languages and coding protocols. In contrast to these so-called hard skills, Goleman (1998b) suggested that emotional intelligence "*is the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our*

relationships [italics in original]" (p. 317). Fuimano (2004) described emotional intelligence as "the ability to understand and manage how you impact others emotionally … [and] the capacity to effectively perceive, express, understand, and manage your emotions and the emotions of others in a positive and productive manner" (p. 10).

Emotional intelligence comprises four domains: self-awareness, self-management, social awareness, and relationship management. There are eighteen associated competencies. The model has evolved from earlier versions that contained five domains and twenty-five associated competencies (Goleman et al., 2002). The four domains are characterized as being one of two types or skills (see Table 2), either personal competence, "capabilities [that] determine how we manage ourselves" (Goleman et al., 2002, p. 39), or social competence, "capabilities [that] determine how we manage relationships" (Goleman, et al., 2002, p. 39). The self-awareness and self-management domains comprise personal competence, and the social awareness and relationship management domains comprise social competence. Appendix A provides a more detailed description of the current model.

Table 2

Emotional Intelligence Skills and Associated Emotional Intelligence Domains

Skills	Domains
Personal Competence: How we manage ourselves	• Self-Awareness • Self-Management
Social Competence: How we manage relationships	• Social Awareness • Relationship Management

From Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston: Harvard Business School Press, p. 39.

In his research of competency models at 188 companies, Goleman (1998a) found that "emotional intelligence proved to be twice as important as … [other factors] for jobs at all levels. Moreover, when "star performers [were compared] with average ones in senior leadership positions, nearly 90% of the difference in their profiles was attributable to emotional intelligence factors rather than cognitive abilities" (p. 94).

Emotional intelligence and project managers. Although some research (Clarke, 2010; Davis, 2011) exists about the importance of emotional intelligence specifically related to the field of project management, the research tended to focus on the impact of emotional intelligence on the project manager's ability to lead the project team. The importance of the project manager's ability to interact with others and have awareness of his or her own reactions was noted in the work of Adams and Anantatmula (2010). Their research focused on the social and behavioral influences of an individual on the project team and how those behaviors impact the teams' social behaviors. Table 3 summarizes the individual/team's social/behavioral stage, the individual/team characteristics, effective management style, and the project manager's role. Adams and Anantatmula (2010) concluded that few groups reach the level of emotional intelligence due to the lack of a successful team development process.

Table 3

Team Process Characteristics and Management Guidelines

Social/Behavioral Stage	Individual/team characteristics	Effective management style	Project manager's role
Self-Identity – Forming Stage	Individual focuses on self Low team cohesion	High directive management	Meet one-on-one to assess skill levels Use assertive social behaviors to establish leadership

			Establish clear social and behavioral rules and expectations Encourage politeness Demonstrate intolerance for minority bias and non-acceptance of ideas
Social Identity – Storming Stage	Individual focuses on other team members Low team cohesion	High directive and low supportive management	Demonstrate positive emotions to convey leadership Address negative behaviors that result in support or status struggles Maintains awareness of individual's tendency to withdraw from team Match individual's social and behavioral attributes to meaningful tasks
Group Emotion – Norming Stage	Individual focuses on team members but starts to shift to team process Medium team cohesion	Medium directive and medium supportive management	Encourage formation of friendships Create opportunities for increased interaction on virtual teams Maintain personal positive emotion to maintain leadership status Encourage positive emotions and discourage negative emotions
Group Mood – Norming Stage/ Performing Stage	Individual focus on team process Medium team cohesion	Low directive and high supportive management	Monitor team for signs of emerging negative behaviors and high/low emotional state Intervene when negative behaviors are exhibited Maintain awareness of social loafing tendencies
Emotional Intelligence –	Team focuses on individual's	Team is self-managed	Monitor team behaviors and promote creativity

Performing Stage	thoughts and feelings High team cohesion Team functions as one entity	Maintain team awareness of project mission Minimize intervention to allow for natural progression of team process

From Adams, S., & Anantatmula, V. (2010). *Social and behavioral influences on team process.* Boston: Harvard Business School Press, p. 39.

Nicholas Clarke (2010) researched emotional intelligence and its relationship to transformational leadership and key project management competencies. Clarke's five hypotheses covered competence in teamwork, communication, attentiveness, conflict management, and transformational leadership. He found that emotional intelligence plays into projects in two significant ways. Team work and project management were found to be associated with the project manager's ability to use emotions to facilitate cooperative team behaviors. The study also found a positive relationship between empathy and the project manager's competence of attentiveness. The attentiveness competence related to the project manager's ability to build strong relationships, respond to team members' concerns, and build positive attitudes of team success. Clarke (2010) posed that, since there was a relationship between these factors, organizations might consider improving the emotional intelligence of their project managers to increase a project's success.

Davis (2011) investigated the impact of the project managers' emotional intelligence on his or her interpersonal competence. Davis' goal was to not only add to the knowledge about EI and build the case for training and development of project managers, but also to provide evidence of the importance of interpersonal competence for project managers.

In a 2008 study conducted at IBM that spanned 15 nations and 21 industries, 83% of chief executive officers (CEOs) reported an increasing gap between their expectations for substantial change and their organization's ability to execute this change (IBM, 2008). The increasing number of project failures and the inability to change needs to be brought to the attention of those ultimately responsible for the success of a project (Davis, 2011; DiVincenzo, 2006).

Conclusion

While there is substantial research available on the individual areas that lead to project managers' success (technical skills, communication skills, and emotional intelligence), the unique combination of these three areas and their relationship to project managers' success has not been studied. This researcher believes the combination of these skills is necessary for project managers' success.

Table 4

Literature Review Summary

Topic	Research Focus / Findings	Researcher / Author
Project success / failure	Project management focus was on getting the work completed, ensuring functionality, and getting it out the door to the customer. Not much focus was on long-term success or on customer/stakeholder input.	Jugdev & Müller (2005)
Project success / failure	The researchers identified project pitfalls and things that project managers might do, or not do, that increased the chance of failure. The researchers' focus was on how the project was established, planned, organized, and controlled.	Anderson, Grude, Haug, & Turner (1987)

Project success / failure	Both studies focused on evolution in the project management field on how success of projects is measured. Project success today takes these things into consideration: stakeholder satisfaction, business and organization benefit, and team development measures.	Atkinson (1999); Baccarini (1999)
Project success / failure	Research included new focus on project-driven enterprises – where the project manager has profit-and-loss responsibilities and where project management is a recognized profession.	Kerzner (2006)
Project success / failure	Researchers defined four conditions that are necessary for a successful project: • agreement with stakeholders about success criteria; • collaborative relationship between project owner/sponsor and the project manager; • empowerment of the project manager to deal with unforeseen situations; • interest taken by project sponsors/owners in the performance of project.	Jugdev & Müller (2005)
Project manager's leadership	Researchers found that "literature has largely ignored the impact of the project managers, and his/her leadership style and competence, on project success" (p. 59). They noted that, in general management literature, the functional manager's leadership style contributes to the organization's success and that more research was needed specifically about the project manager's role in the	Turner & Müller (2005)

	success of the project.	
PMI certification	In addition to cost, quality, and schedule/timing, a large part of a project manager's technical skills are a result of training and experience that ready a project manager for certification as a project management professional.	Heerkens (2002)
PMI membership	In 1999, PMI had 43,000 members. The organization has grown 790% in 12 years to a membership of 340,000 members.	DiVincenzo (2006); PMI (2011)
PMI membership and certification	This significant increase in PMI membership shows a definitive upward trend in interest in the project management field. PMI's certification process was established in 1984. Achieving PMP certification involves passing two reviews. The first review is a qualification review. In order to qualify for certification, applicants must demonstrate they have a basic level of education and work experience. Current requirements are either a four-year degree, three years or more of project management experience with 4500 hours leading and directing projects, and 35 hours of project management education; or a secondary diploma, five years of project management experience, at least 7500 hours leading and directing projects, and 35 hours of project management education. The second part of the certification requires applicants to sit for a rigorous examination that assesses their mastery of the	PMI (2011)

	project management competencies as defined by the PMBOK (Project Management Body of Knowledge) which is published by PMI. The exam includes 200 multiple choice questions that are completed in a four-hour time period.	
PMI certification exam	The PMP exam cannot assess whether the project professionals' organization provides the needed support for the project workers to operate effectively and it does not measure the political or empathetic skills of aspiring project professionals; it does evaluate if they have the basic knowledge needed to do their jobs effectively.	John Davidson Frame (1999)
PMI and certification	The PMI organization and the PMP certification is the industry standard. More than 370,000 people have received PMP certification since the certification process began 27 years ago.	Gray & Larson (2006); PMI (2011); Schwalbe (2009)
PMI certification	The PMP certification measures the project managers' knowledge of ten knowledge areas. A knowledge area represents a complete set of concepts, terms, and activities that make up a professional field, project management field, or area of specialization. These knowledge areas are used on most projects most of the time. The knowledge areas provide a detailed description of the process inputs and outputs along with the descriptive explanation of tools and techniques most frequently used within the process to	PMI (2013)

	produce project planning deliverables. The process inputs and outputs for each knowledge area are iterative and interact throughout the project management lifecycle. These ten knowledge areas are outlined in Table 1.	
Communication skills	Because of the unique aspects of projects and the matrixed nature of projects, effective communication is vital for project success. Overlapping responsibilities, frequent changes in scope, complex integration and interface requirements, decentralized decision making processes, and potential for conflict are all factors that make communication on projects challenging.	Verma (1996)
Communication skills	The report noted there were three reasons for the urgent need to improve communications, and therefore project success rates: a "do more with less" economic climate, expanding global priorities, and the necessity to enable innovation. The *Pulse of the Profession* report revealed that US$135 million is at risk for every US$1 billion spent on a project. Further research showed that 56% (US$75 million of that $135 million) is at risk due to ineffective communications. PMI's research provides evidence that effective communications leads to more successful projects as well as the organization's ability to meet project goals (80% of projects on time, on budget,	PMI (2013)

and meeting original goals).

Project managers (55%) also agree that effective communication to stakeholders is the most critical success factor in project management.

PMI Pulse (2013) research showed that only one in four organizations can be described as highly effective communicators. This demonstrates that the majority of organizations have opportunities for problem solving and improvement in this area.

Another area explored in the PMI Pulse (2013) study was the specific problem areas where communications tend to disintegrate. According to PMI, the biggest problem areas are communicating the business benefits and the project management jargon that is used to communicate project-related information. Communication of the business benefits relates to stakeholders understanding the long term goals so they know how they are contributing to the final goal and the impact they are having. The jargon issue was also related to the business goals and the strategic objectives and referred to communicating the message in the language of the audience. That message, according to PMI, needs to be clear, relevant, and has to resonate with the audience.

High performing organizations excel in all quantified aspects of

	project communications, specifically with regard to the business benefits and the project management jargon. High performing organizations are better at: • communicating project information such as objectives, budget, schedule, score outcomes, and business benefits; • providing project communications in a timely manner, with appropriate detail and clarity, using "plain English," and appropriate setting and media for delivery; • managing the frequency of formal communications. The project managers had formal communication plans in place. These communication plans were three times more effective than their low-performing counterparts. Another statistic from the Pulse research was that, of the two in five projects that fail to meet original goals, 50% do so because of ineffective communications.	
Communication skills	The research showed that organizations with highly effective communication practices are 1.7 times more likely to outperform their peers financially.	Towers Watson (2011-2012)
Communication – virtual teams	The continuing growth of virtual teams, with geographically dispersed team members and technology-mediated communication, makes competency in communication	Gibson & Cohen (2003)

	crucial for both current and future project managers. From a research perspective, the nature of communication competence in managing projects has received less attention than studies of communication processes.	
Communication – feedback	Researchers identified the criticality of feedback mechanisms and channels.	Pinto & Slevin (1987); White & Fortune (2002)
Communication – shared agreements	Researched communication at the level of clarifying and establishing shared agreements.	Pinto & Pinto (1991)
Communication – project goals	Research showed the importance of communicating project goals by project managers.	Ammeter & Dukerich (2002)
Communication – influence	Researchers examined communication in terms of the influence methods of project managers.	Sotiriou & Wittner (2001)
Communication encoding/decoding	Research showed that project managers' competency in decoding and encoding communication and behavioral descriptors is significantly and positively associated with their team members' satisfaction and productivity. Specifically, project managers' encoding behaviors accounted for 21% of the variance in project team productivity and 8% of the variance in project team member satisfaction. Project managers' decoding behaviors accounted for 38% of the variance in project team member satisfaction.	Henderson (2004)
Communication channels	Researchers examined the importance of attention to communication channels in project manager success. The	Schwalbe (2009); Taylor (2006).

	mathematical equation that is used for calculating the number of communication channels is n(n-1)/2.	
Communication audiences	Researchers identified four main audiences: external stakeholders such as regulatory agencies and public press; top management/clients/sponsors; project team members (internal and external); and other functional and project managers.	Verma (1996)
Communication types	Researcher identified four types of communication the project manager would use with these audiences: • formal written communication which encompasses the project charter and status reports; • informal written communication which includes project notes and memos; • formal oral communication which refers to presentations; • informal oral communication which includes conversations and team meetings.	Taylor (2006)
Verbal communication	Researchers found that verbal communication was rated by experts in the top 10 of a list of 50 competencies important for project managers to be successful in today's organizational environments.	Krahn & Hartment (2006)
Verbal communication	Researchers found strong verbal communication skills ranked in the top 10 out of 78 project manager competencies and characteristics.	Brill, Bishop, &Walker (2006)

Verbal communication	Researchers concluded in their separate studies: • Project managers need to think about the terminology they use. • Use of jargon and acronyms can inhibit the communication process to those outside the organization or those who are new to the project. • Project managers must be aware of cultural differences in communicating. • Correct terminology, rather than slang, should be used for project communication. • Project managers spend most of their time communicating; they hold meetings, report to the team, customer, or senior management, solve problems, and negotiate with others for resources. • A project manager's success depends greatly on his or her ability to communicate.	Buhler (2011); Taylor (2006)
Written communication skills	Buhler found that understanding how to select the appropriate communication channel is a challenge for project managers – with e-mail being an overused channel of choice.	Buhler (2011)
Communication – e-mail	E-mail should be used for routine communication situations and not for sensitive communications, discussions, or topics that need buy-in from stakeholders.	Buhler (2011); Schwalbe (2009)
Communication – listening skills	Listening is an important component of communication and a skill that many project managers lack. Verma also found that	Verma (1996)

	effective listening helps develop mutual rapport, trust, and respect among project participants.	
Communication – listening skills	Researchers found that the average worker spends about 50% of his or her business hours listening, but their research has shown that the average person only listens with 25 percent efficiency. They also found that better listeners tend to hold higher positions and are promoted more often than those who have less developed listening skills.	Saylor, Bostrom, & Siebert (1989)
Communication – listening skills	The researcher noted the importance of developing the skill of listening in terms of the ability to acquire and retain knowledge and understand and influence project team members and project stakeholders.	Bucero (2006)
Communication – listening skills	The researcher found that, during a typical business day the average person listens 45% of the time, spends 30% of the time talking, 16% reading, and 9% writing. Less than 2% of professionals have had formal education or training to improve their listening skills. Eighty five percent of what we have learned has been through listening.	Llopis (2013)
Emotional Intelligence	The researchers acknowledged the work of Daniel Goleman in introducing the concept of emotional intelligence to the business mainstream. Emotional intelligence comprises four domains: self-awareness, self-management, social awareness, and relationship	Goleman, Boyatzis, & McKee (2002)

	management. There are eighteen associated competencies. The model has evolved from earlier versions that contained five domains and twenty-five associated competencies. The four domains are characterized as being one of two types or skills (see Table 2), either personal competence, "capabilities [that] determine how we manage ourselves" (p. 39), or social competence, "capabilities [that] determine how we manage relationships." The self-awareness and self-management domains comprise personal competence, and the social awareness and relationship management domains comprise social competence. Appendix A provides a more detailed description of the current model.	
Emotional Intelligence	Goleman proposed that effective leadership comprises two facets – baseline abilities and emotional intelligence. Baseline abilities are the technical skills and intelligence quotient needed to accomplish the tasks for a particular profession.	Goleman (1995)
Emotional Intelligence	According to Goleman, Emotional Intelligence "*is the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships* [italics in original]" (p. 317).	Goleman (1998b)
Emotional Intelligence	The researcher noted that Emotional Intelligence is "the ability to understand and manage	Fuimano (2004)

	how you impact others emotionally … [and] the capacity to effectively perceive, express, understand, and manage your emotions and the emotions of others in a positive and productive manner" (p. 10).	
Emotional Intelligence and leadership	In his research of competency models at 188 companies, Goleman found that "emotional intelligence proved to be twice as important as … [other factors] for jobs at all levels. Moreover, when "star performers [were compared] with average ones in senior leadership positions, nearly 90% of the difference in their profiles was attributable to emotional intelligence factors rather than cognitive abilities" (p. 94).	Goleman (1998a)
Emotional Intelligence and project managers	While some research exists about the importance of emotional intelligence specifically related to the field of project management, the research tended to focus on the impact of emotional intelligence on the project manager's ability to lead the project team.	Clark (2010); Davis (2011)
Emotional Intelligence, project managers and their teams	The researchers focused on the social and behavioral influences of an individual on the project team and how those behaviors impact the teams' social behaviors. Table 3 summarizes the individual/team's social/behavioral stage, the individual/team characteristics, effective management style, and the project manager's role.	Adams &Anantatmula (2010)
Emotional intelligence and	Clarke's five hypotheses covered	Clarke (2010)

project managers	competence in teamwork, communication, attentiveness, conflict management, and transformational leadership. He found that emotional intelligence plays into projects in two significant ways. Team work and project management were found to be associated with the project manager's ability to use emotions to facilitate cooperative team behaviors. The study also found a positive relationship between empathy and the project manager's competence of attentiveness. The attentiveness competence related to the project manager's ability to build strong relationships, respond to team members' concerns, and build positive attitudes of team success. Clarke posed that, since there was a relationship between these factors, organizations might consider improving the emotional intelligence of their project managers to increase a project's success.	
Emotional intelligence and interpersonal competence	The research investigated the impact of the project managers' emotional intelligence on his or her interpersonal competence. Davis' goal was to not only add to the knowledge about EI and build the case for training and development of project managers, but also to provide evidence of the importance of interpersonal competence for project managers.	Davis (2011)
Project failure	The increasing number of project failures and the inability to change needs to be brought to the	Davis (2011); DiVincenzo (2006)

attention of those ultimately responsible for the success of a project.

Chapter Three: Methodology

Research Design

Yin (2009) stated that different research strategies can be used for exploratory, descriptive, or explanatory studies. This was an exploratory case study because it examined the factors that make a project manager successful to see if the proposition is supported. Yin does not use the term, but this is a positivistic case study. According to Yin (2009), the use of a research strategy is defined by three conditions: "(a) the type of research questions posed; (b) the extent of control an investigator has over actual behavioral event; and (c) the degree of focus on contemporary as opposed to historical events" (p. 8). Yin (2009) indicated that case studies, experiments, or histories work best when the research questions are "how" and "why" questions. This study focused on how project management technical skills, communication skills, and emotional intelligence contribute to the success of a project manager, which made the case study method a good fit for this research. The researcher did not have control over the actual behaviors the project managers used when managing their projects. The third condition is that the focus of the research is on a contemporary event. Questions were asked about how the project managers manage their projects not how projects were managed in a different organization or compared to early in their career.

In identifying when a case study approach should be used, Yin (2003) says: "The case study is preferred in examining contemporary events, but when the relevant behaviors cannot be manipulated" (p.7.). This study fit all of the conditions Yin identifies for a case study. The study involved asking project managers and their peers how they manage projects, but did not manipulate or influence their behavior.

Research Proposition

This research study addressed the research proposition: What are the skills, beyond project management technical skills, that are needed for a project manager to be successful? The researcher posited the following proposition in this positivistic case study: A combination of three factors lead to a project manager's success. These three factors include (a) a project manager's project management technical skills, (b) a project manager's communication skills, and (c) a project manager's level of emotional intelligence.

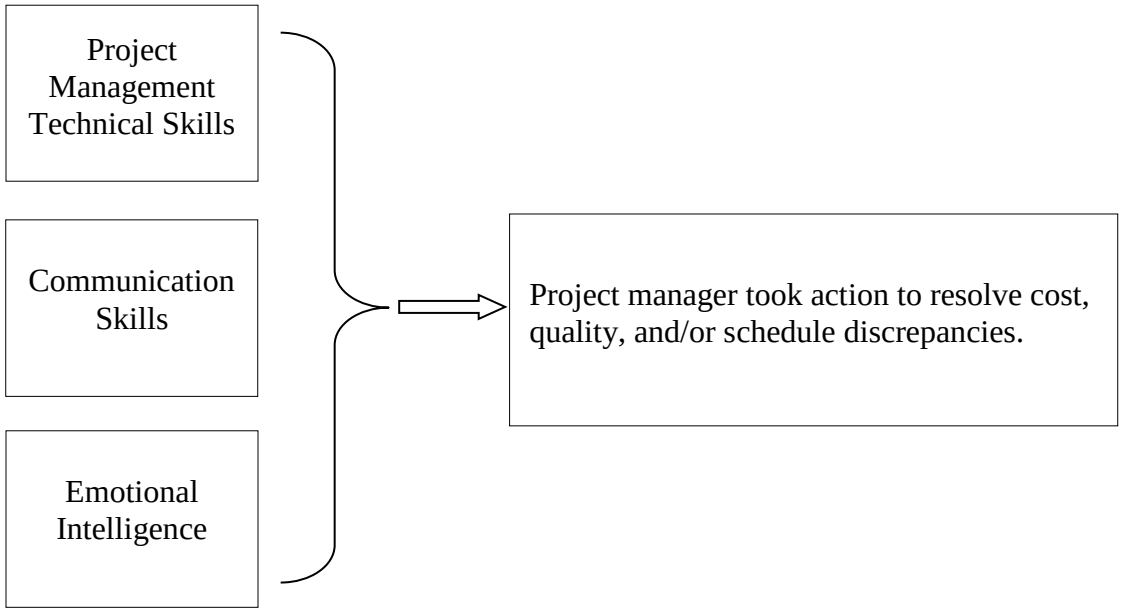


Figure 1. The researcher's proposition.

Elements of analysis. The third component of Yin's methodology is defining the units of analysis. Yin uses a person as a unit of analysis. For this study, Dubin's definition was used because the researcher thought the definition was a better fit to test the proposition. The elements of the analysis include each of the items the researcher

wanted to investigate. These units of analysis are supported by existing literature and the researcher's own experiences.

The elements of analysis in this study included (a) the project manager's project management technical skills; (b) the project manager's communication skills; and (c) the project manager's emotional intelligence. Table 4 outlines the chain of evidence for testing the researcher's proposition. All three areas were evaluated via the responses to Likert-scale interview questions from the project manager's peers. The evaluation of technical skills included questions about resolving cost, quality, and schedule/timing discrepancies. Communication was a combination of verbal (face to face and phone conversations, meetings, and presentations), written (reports, emails, presentation support, status boards), and listening (all settings).

The emotional intelligence evaluation questions included questions about the project manager's self-awareness, self-management, social awareness, and relationship management.

Table 5

Elements of Analysis and How Measured

Elements of analysis	Empirical indicator	Sources of data	Acceptable performance
PM technical skills	PMP certification	Have certification	Must have certification – 100%
	Peer rating	Interviews	Average score from peers is 4 out of 5 point scale on project management technical skills questions
	Peer examples	Interviews	Two examples from each peer that the project manager took

			action to resolve cost, quality, or schedule discrepancies
Communication skills	Peer rating	Interviews	Average score from peers is 4 out of 5 point scale on communication skills questions
	Peer examples	Interviews	One example from each peer that the project manager demonstrated verbal, written, and listening communication skills
Emotional Intelligence	Score on EI survey	EI survey	Raw EI score
	Peer examples	Interviews	Two examples from each peer that the project manager demonstrated emotional intelligence competence

Participant Selection Criteria

The following were the criteria the researcher used for participant selection of five project managers. Participants had to have five years of experience managing projects, have their PMP certification, and have been a project manager on at least five cross-functional projects. The factor of five cross-functional projects was selected because the researcher wanted them to have experience with different projects and different people. A lower number may not have provided the depth of responses required to address the research proposition. Additionally, even if all five projects were producers of the same line of products or in the same industry, there would have been a change of players and a significant evolution of the product over five projects. There was no restriction on participation based on industry, location, gender, or educational status. The project managers identified at least three people who were interviewed and questioned about the project manager's project management technical skills, communication skills, and

emotional intelligence; they also completed the emotional intelligence assessment. The individuals who provided feedback about the project managers worked with them in the last two years.

The selection process for the project managers was made by the organization's project management office (PMO), the manager of the project managers, the equivalent if a PMO did not exist, and/or the researcher's extensive network. The criteria were shared and the organizations were asked to pick exemplar project managers that met the criteria.

Data Collection

Data collection was accomplished in three steps. The first step was the interviews of the project managers about their project management technical skills, communication skills, and emotional intelligence. The second step was conducting interviews with the project managers' peers about the project manager's project management technical skills, communication skills, and emotional intelligence. The third step was the project managers and their peers completing the EI profile.

Step 1 – Interviews with project managers. The first step of the data collection process was the interview of the project managers about their own perceptions of their project management technical skills, communication skills, and emotional intelligence (Appendix B). A 5-point Likert scale was used on this assessment with a pre-determined acceptable score to support the proposition being an average of 4.0 or above. The interviewer used probes to solicit one or two examples for each of the questions. Questions about project management technical skills focused on managing the projects schedule, budget, and quality as well as the actions the project manager took to resolve any discrepancies in these three areas. Questions about communication skills focused on

the project manager's written, verbal, and listening skills. Finally, questions about emotional intelligence encompassed the four areas of self-awareness, self-management, social awareness, and relationship management. If the project manager received an average score of four on a five-point scale and an example in each area was identified, that was determined to be adequate evidence for the purposes of this study.

Step 2 – Interviews with peers of project managers. Interviews were also conducted with the project manager's peers to assess the project manager's project management technical skills, communication skills, and emotional intelligence (Appendix C). A 5-point Likert scale was used. An average score of 4.0 out of 5.0 was defined as supporting the proposition of this research. The questions for project management technical skills were focused on the units of study for technical skills (schedule, cost, and quality) as well as whether the project manager "took action to resolve cost, quality, and schedule discrepancies." The communication skills questions focused on the project managers written, verbal, and listening skills. The emotional intelligence questions solicited feedback on the project manager's self-awareness, self-management, social awareness, and relationship management. The interviews solicited a discrete example of each skill per case (project manager).

Step 3 – Completion of Emotional Intelligence Appraisal Me Edition. Step three was the completion by the project managers of the Emotional Intelligence Appraisal Me Edition developed and marketed by TalentSmart (Bradberry & Greaves, 2011). The project managers' peers completed the Emotional Intelligence Multi-Rater Edition also developed and marketed by TalentSmart (Bradberry & Greaves, 2011). The peer raters consisted of a pool that was broader than the peers that participated in the interviews

outlined in step 2. The project managers could identify up to 50 peers to evaluate them. The peers interviewed in step 2 were included in this audience. The project managers identified 5-31 people who completed the online emotional intelligence evaluation.

The researcher selected these instruments based on statistical analysis that indicated the Emotional Intelligence Appraisal Multi-Rater Edition instrument to be marked by high degrees of both validity and reliability. From a validity perspective, when studied in comparison to job performance in large-scale studies representing hundreds of thousands of individuals from a cross-section of industries…the [Emotional Intelligence Appraisal] Multi-Rater Edition… explains a highly significant amount of job performance (nearly 60%) for individuals in middle management through senior leadership positions (Bradberry & Greaves, 2011, p. 8).

The reliability of the instrument was high as well. The instrument's authors reported, "Cronbach alpha values for the four scales of the Emotional Intelligence Appraisal MR [Multi-Rater] Edition range … from .85 to .91 (Bradberry & Greaves, 2011, p. 13). Results in this range are considered to indicate a very high degree of reliability or internal consistency.

The instrument was administered online, with raters taking an average of seven minutes to complete (Bradberry & Greaves, 2011), and, consistent with the Emotional Intelligence Appraisal Me Edition, is composed of 28 "questions [that] measure the sufficient behavioral outcome needed to adequately assess" (Bradberry & Greaves, 2011, p. 6) an individual's aptitude in each of the four EI skills or domains as described by Goleman (1995).

Bradberry and Greaves (2011a) determined "the frequency that one exhibits the behavior related to a skill [EI domain] are the best measure of that skill [EI domain] …the questions are structured using a 6-point frequency scale" (p. 7). (See Table 5.) The Multi-Rater version also had open-ended questions so the users had an opportunity to elaborate on their feedback.

Table 6

Emotional Intelligence Appraisal (Me and Multi-Rater Editions) Behavioral Outcome Frequency Scale

Never	Rarely	Sometimes	Usually	Almost Always	Always
1	2	3	4	5	6

Note: Adapted from *Emotional Intelligence Appraisals – Technical Manual 2011 Edition* (Bradberry & Greaves, 2011a, p. 7).

Following completion of the Emotional Intelligence instruments, the researcher calculated the two sets of scores – the other-score (a compilation of the responses from the project managers' peers) and the self-score. Bradberry and Greaves (2011) described the format of the results and the interpretation of the scores in the technical manual. Both sets of scores are composed of an overall EI score as well as a score for each of the domains. All scores of the Emotional Intelligence Appraisal are norm-converted on a 1 to 100 point scale with a mean of 75 and standard deviation of 10. The normative database is composed of responses compared to the profile by 512,439 respondents (referring to the number of respondents in testing by TalentSmart, creators and distributors of the instrument. These data support the description of scores in the 80-89 range as being above average and scores in the 90-100 range as being much higher than average.

Data Analysis

The proposition was defined as "supported" if 80% of the cases met the acceptable performance criteria as defined in column four of Table 5, which described acceptable performance in terms of project manager technical skills, communication skills, and emotional intelligence. A table was created with the elements of study on one axis and the criteria elements along the other axis. The project managers' rating for each element was added to the body of the table. If the project manager did not meet the acceptable performance level for all the criteria, that case would be considered as not supporting the proposition. Columns two and three identified the empirical indicator (PMP certification, peer ratings and peer examples, and the score on the EI survey) and the sources of data (evidence of PMP certification, interviews, and completion of the EI survey).

Ethics and Protection of Research Participants

The research findings do not disclose the actual names of the participating organizations, the specific project managers, their peers, or their managers. Anonymity was strictly preserved by such methods as describing organizations in general, non-attributable terms and, when referencing particular individuals, pseudonyms were used. The research was compiled with all requirements prescribed by the Institutional Review Board of the University of St. Thomas including, but not limited to, the execution of a consent form, in appendix E, by all research participants. The consent form included background information describing the study, an explanation of the procedures in which the participants would engage, identification of, if any, risks and benefits of being in the study, steps taken to ensure confidentiality, assurances as to the voluntary nature of the

study, and contact information if there were any questions. For those who only completed the multi-rater online emotional intelligence survey, there was a line in the invitation letter that stated that by completing the profile they were giving their consent for the results to be used in this research study.

Research participants were not remunerated for their involvement in the study. All research participants (project managers) were provided access to the e-learning and multimedia EI skills development and goal tracking feature of the Emotional Intelligences Appraisal Multi-Rater Edition. This was not a requirement to complete the research study, but was considered an added benefit to the project manager.

The data collected was stored in a locked box in the home of the researcher. There were no electronic copies of the data that were associated with the project manager's name or the peer's name. Both hard and soft copies of the data will be kept for five years and then shredded or burned. All draft copies of the dissertation will also be destroyed five years after defense is completed.

Chapter Four: Findings

The researcher used the positivistic multiple case study method to test her proposition that a combination of project management technical skills, communication skills, and emotional intelligence are needed to be a successful project manager. (As noted in the definitions section, a good project manager is successful if he or she took action to resolve cost, quality, and schedule discrepancies; this study assumed that actions taken were helpful. This is an important distinction between project success which is defined as referring to the favorable outcome of a project in terms of time, budget, and quality constraints.) The methods of the study included interviews with the project managers themselves and their peers defining project technical skills, as well as the peers completing an evaluation of the project managers' competence in the three areas and an online multi-rater emotional intelligence profile.

The researcher interviewed a total of five project managers and four or five peers for each project manager. All of the project managers had a minimum of five years of experience managing projects; they all had their Project Management Professional (PMP) certification and had managed at least five cross-functional projects. All of the project managers worked in the engineering/manufacturing industry.

Each eligible project manager in this study served as an individual case. The participants were not provided with the questions prior to the interview and the researcher did not receive a request from any of the participants to review the questions prior to the interview.

Participant Description

The researcher sent out the initial request for participants and discovered there was a trend of engineering/manufacturing interest so the decision was made to focus on that industry to see if particular trends would emerge. Of the five project managers, three of the participants were in the medical device field and two were from the energy generation field. Gender varied as well: two of the project managers were female and three were male. All five project managers were from the Midwest region of the United States.

Table 7

Summary of Participants

Case	Has PMP	5+ years of experience	5+ cross functional projects	Gender	Field of practice	Number of peers interviewed	Number of online EI raters
1 Jason	Yes	Yes	Yes	Male	Energy generation	5	17
2 Frances	Yes	Yes	Yes	Female	Medical device	5	31
3 Amber	Yes	Yes	Yes	Female	Medical device	4	13
4 Matthew	Yes	Yes	Yes	Male	Medical device	4	5
5 Ted	Yes	Yes	Yes	Male	Energy generation	5	23

Individual Case Responses

The following outlines the results of each case in each of the three areas – project manager technical skills, communication skills, and emotional intelligence. A table

outlines the responses of the peer surveys for each of the five cases in each of these three areas.

Case 1 – Jason. Jason is a PMP certified project manager with experience in multiple organizations. He was identified as being a successful project manager by the head of program management for the business segment. The project management lead identified five peers who would have knowledge of Jason's competence as a project manager; all five were interviewed. The EI survey was sent to 24 people and 17 responded.

Case 1 (Jason) – project management technical skills. In the area of technical skills, the project manager was given an overall average of 4.13 by his peers. Jason rated himself slightly higher than his peers with a 4.67 average. Although not all of the peer ratings were above 4.0, the overall average was in the acceptable range. (See Table 8.)

Schedule. Jason and his peers described timeliness for project management as accomplishing the deliverables by the agreed upon dates or the "M-Reviews" (management reviews that are at specific stages of the organization's product development process). Jason rated himself as a 5 (very high) in this area. Two of his peers also gave him a rating of 5.

Budget. Budget in this organization was not "owned" by the project manager; the engineering manager owns accountability for people's time and project expenditures. This accountability and visibility was shifting during the time these interviews were conducted. The organization does not track time (effort) to a specific project. This makes tracking effort expended very difficult. Historically, the project managers also did not have a lot of input upfront on the overall budget for the project. This is changing; the

project manager shared that, for the first phase in his current project, the budgeted amount was tracked to actual expenditures. The project manager commented that this was a "huge culture change – the organization is willing to keep the buckets of money big." The peers experienced the project manager having direct conversations with team members or departments about resource allocation.

Quality. Quality was easier than budget for the peers to identify in this organization. Jason defined quality as "putting on the customer glasses" and that he is also in charge of testing to ensure the product meets the requirements. The peers also defined quality as meeting the customer requirements. Two of the peers referenced that part of quality was accomplishing the requirements to the schedule. Jason and his peers were in alignment on his ability to manage quality with all but one of Jason's peers giving him a 4. The other peer gave him a rating of 5.

Table 8

Case 1 (Jason) Self and Peer Ratings on Technical Skills

Jason	Schedule	Budget	Quality	Average
Self	5	5	4	4.67
Peer Average	4.4	3.8	4.2	4.13
1C1	4	3	4	3.67
1C2	5	4	4	4.33
1C3	5	4	5	4.67
1C4	4	4	4	4.00
1C5	4	4	4	4.00

Case 1 (Jason) – communication skills. The peers expected a lot from the project manager in the area of communication. Jason received an average of 3.87 overall. Jason considered himself to be a very good communicator with an overall self-rating of 4.67. (See Table 9.) Jason said that he communicated "all the time" and that he was a "present" project manager.

Verbal communication. Verbal communication was a strong area from both Jason's perspective (5.0) and that of his peers (4.2). He conducted weekly meetings with various teams. On Mondays he met for half an hour with a subgroup to solicit input to the next phase (M-stage gate). On Wednesdays he met with a cross functional team to discuss where they are on the project and what's next on the radar. On Fridays he met with the engineers to discuss progress that has been made during the week, changes for the next week, and where there are roadblocks that need to be removed. Jason mentioned that he did a lot of 5-10 minute drop by meetings with the team members. This allowed him to do informal recruitment of support for new ideas or approaches to the work. Peers had high praise for Jason's verbal communication skills. They appreciated the one-on-one meetings and his ability to adjust his style: "He walks around and spends time talking to us," and "he is very good at speaking about technical matters to non-technical people. He bridges the silos and can translate the requirements to cross functional groups." Another peer said: "His communication is almost always verbal, he walks over and has impromptu meetings with key people. He understands who he is talking to and adjusts his style accordingly. His style is clear and concise – he's not wordy, he gets to the point."

Written communication. Written communication was an area of opportunity for Jason. Jason gave himself a rating of 4 and the peer rating averaged 3.6. One peer could

not cite examples of written communications. Another peer said this was a method of communication that was underutilized. The peers did appreciate the weekly meeting summaries. “He creates a set of slides that summarize the status.” When they have meetings, Jason will summarize the meeting. “He collects the voices and then sends a written email summary within one week. The summary highlights key messages and he augments with data below.” The directness of his verbal style carried over to his written communication. “He is concise and to the point. His emails are concise, the points are clear.”

Listening. Jason’s peers appreciated his focus and being present when he was listening to them. “He is engaged in meetings, not on his phone or computer.” One peer further elaborated: “He makes eye contact and lets the speaker complete their train of thought – he doesn’t interrupt.” The peers felt he was listening since he asked questions to clarify and made sure he understood the concern. One peer shared: “Jason is sometimes in a hurry and it is difficult to be neutral, but this has only happened once or twice in probably 50 situations.”

Jason sees listening as key to the project manager role. He shared that sometimes he will go for a walk or run with a team member to provide an opportunity outside the work setting for them to talk or vent. “I ask, ‘How is your day going and let them ‘dump’ for five minutes.’ They feel better when they are listened to and I can sometimes take a ‘couple of monkeys off their back.’” Jason’s peers gave him an overall average rating of 3.8 for listening and he gave himself a rating of 5.0.

Table 9

Case 1 (Jason) Self and Peer Ratings on Communication Skills

Jason	Verbal	Written	Listening	Average
Self	5	4	5	4.67
Peer Average	4.2	3.6	3.8	3.87
1C1	4	4	4	4.00
1C2	5	3	4	4.00
1C3	4	4	3	3.67
1C4	4	3	4	3.67
1C5	4	4	4	4.00

Case 1 (Jason) – Emotional intelligence. For emotional intelligence, the peers interviewed were slightly more critical (4.05) than the broader audience that filled out the online profile (86). On a 5-point scale an 85 would have been 4.3. Jason stayed consistent on his over/under estimation between the interview rating and the online profile. He tended to overestimate his self-awareness and underestimate his social awareness. The survey was sent to 24 people and 17 people responded.

Self-awareness and self-management. In the areas of self-awareness and self-management, Jason was very confident of his skills. He said: "I seek feedback from my manager, core team, technical leads, and staff. I do personality assessments annually and I read a lot of books. I make job choices based on the personal development opportunities." He gave himself ratings of 4.5 and 5, respectively. (See Table 10.) On the online profile he gave himself ratings of 92 and 85, respectively. (See Table 11.)

Peers shared examples of his self-awareness and self-management as well. “Jason doesn’t show frustration in a meeting; he stays calm no matter what the news is.” Another peer shared: “I’ve seen him frustrated; he handles it well, he doesn’t blow up, he stays calm and problem solving.” A third peer shared a situation when there was a conflict in a meeting, saying that he [Jason] “kept himself on a low keel and he took it offline. He is very professional.” Another peer mentioned an example of his [Jason’s] self-awareness and noted that he is aware of his skill gaps and he “solicited input from a team member about how to address the gap.” In the online profile, which was filled out by a broader audience (n=17), the two of Jason’s top three behaviors depicting self-awareness were: “can be counted on” (self-management) and “is confident in his abilities.” Of Jason’s lowest five scores, four were in the self-awareness category: “acknowledges his shortcomings, is aware of his emotions as they happen, recognizes how his behavior impacts others, and understands how others influence his emotional state.” Jason’s peer average rating for self-awareness during the interviews was 4.0 and online rating was 85. For self-management his interview average was 3.8 and his online rating was 87.

Social awareness and relationship management. In the social awareness and relationship management areas, Jason gave himself a 4 in both areas and the peers’ average rating was 4 and 4.4 respectively. (See Table 10.) The online data showed a gap between Jason’s interpretations of his social awareness skills (78) and his peer perceptions of his social awareness (87). The self vs. peer rating was much more aligned in terms of relationship management. Jason’s rating was 86 and his peer rating overall was 84. (See Table 11.) Examples given in the interview of his abilities in this area include: “He communicates openly to all functions and silos equally; he isn’t

hierarchical. When making decisions he tries to build consensus. He doesn't tattle – he talks directly to the person first." Another peer described him saying: "He is inclusive, he doesn't discount a group's perspective, he's respectful and everyone's opinion is warranted and valued." During a conflict situation he said, "Let's put it on the table. Let's figure out what's going on." Another example was that he approached the peer and engaged him/her by asking questions, seeking his/her perspective and he strove to understand the underlying reason for the problem. Many of the comments that mirrored the interviews were about how well he handles his emotions in a meeting setting. An example comment was: "I've seen Jason in stressful meetings but his reaction to emotionally explosive topics and interactions is always collected and cool." There were only three constructive comments about the need to put on a false face for the moment, be less demanding, and avoid placing blame.

Table 10

Case 1 (Jason) EI interview Data

Jason	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Average
Self	4.5	5	4	4	4.38
Peer Average	4	3.8	4	4.4	4.05
1C1	4	4	4	4	4.00
1C2	4	4	5	4	4.25
1C3	5	4	3	5	4.25
1C4	4	3	4	4	3.75
1C5	3	4	4	5	4.00

Table 11

Case 1 (Jason) EI Online Data

Jason	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Overall Score
EQ Self	92	85	78	86	85
EQ Other	85	87	87	84	86

Case 1 (Jason) summary. The data about Jason supported the proposition on most of the elements. (See Table 12.) He had his PMP certification and his peers gave him an overall average of 4.13 (4.00 needed to support the proposition) in the area of project management technical skills. In the area of communication skills Jason did not support the proposition. His peers gave him an overall average of 3.87 (average of 4.00 needed to support the proposition). If support for the proposition had been based on mode instead of average, Jason would have supported the proposition in this area. All the peers were not able to identify at least one example in each of the three areas. One peer could not identify an example of his written communication skills. For emotional intelligence, support for the proposition was also demonstrated with an average of 4.05 (4.00 needed to support the proposition) on the peer interview rating and 86 on the online rating (80 needed to support the proposition) on the online assessment. Jason's peers were able to identify examples of how he used emotional intelligence in his project management work.

Table 12

Case 1 (Jason) Elements of Analysis Response

Elements of analysis	Empirical indicator	Source of data and measurement to support proposition	Met measurement?	Proposition supported?
Project management technical skills	PMP certification	Certification achieved	Met	Supported
	Peer rating	Average rating from interview – 4.13	Met – needed to be 4.00+	
	Peer examples	All five peers were able to identify two examples that the project manager took action to resolve cost, quality, or schedule discrepancies	Met – all peers needed to identify 2 examples	
Communication skills	Peer rating	Average rating from interview – 3.87	Did not meet – needed to be 4.0+	Not supported
	Peer examples	Four of the five peers were able to identify examples for all three areas. One peer couldn't identify a written communication example	Did not meet – all peers needed to identify examples	
Emotional Intelligence	Score on EI survey	Self-awareness – 85 Self-	Met - needed to be 80+	Supported (proposition is supported if two

	management – 87 Social awareness – 87 Relationship management – 84 Overall emotional intelligence score – 86		of three are met)
Peer rating	Average rating from interview – 4.05	Met – needed to be 4.00+	
Peer examples	All five peers were able to cite two examples	Met – all peers needed to identify 2 examples	

Case 2 – Frances. Frances is a PMP certified project manager with experience in multiple organizations. She was identified as being a successful project manager by the head of the program management department for the business segment. The project manager identified five peers who were interviewed. The EI survey was sent to 50 people and 31 responded.

Case 2 (Frances) – Project management technical skills. In the area of technical skills, the project manager was given an overall average of 4.27 by her peers. Frances rated herself slightly lower than her peers with a 4.00 average. All of Frances' peers gave her a rating of 4 or above. (See Table 13.)

Schedule. Frances and her peers described timeliness as being "do something by when they say they will," "meeting deadlines – always on time or ahead of time," and

"clearing roadblocks to enable the team to meet their goals." Frances rated herself as a 4 (high) in this area. Four of her peers also gave her a 4.0. The fifth peer rated her higher with a 5.0.

Budget. Frances's ratings were a little higher in the area of budgeting than scheduling. The peer average was 4.4, which was .4 higher than Frances gave herself (4.0). When asked to define what budgeting meant to the team members, they described categories of money that were clearly and transparently allocated for a particular purpose and tracked quarterly, for example a set amount of money would be allocated for contract labor. One peer also talked about her ability to manage the budget issues when dealing with "vertical partners." For example, in one area they report into a separate business unit, but they would be charging costs to the project. This is particularly challenging due to the need to influence without authority.

Quality. Quality in the medical device world addresses not only the technical features of the product but also the regulatory guidelines required by the Food and Drug Administration (FDA). Frances said: "You have to be an expert in the quality system." The peers described quality as, "meeting or exceeding the requirements," "having proper capability and characterization," and "the effectiveness of the team meeting the requirements." Frances considered quality to be a strength. During the entire interview, she only gave herself two "5" ratings and this was one of them. Most of her peers were in alignment on her ability to manage quality with all but one giving her a 4. The other peer gave her a rating of 5.

Table 13

Case 2 (Frances) Self and Peer Ratings on Technical Skills

Frances	Schedule	Budget	Quality	Average
Self	4	4	5	4.33
Peer	4.2	4.4	4.2	4.27
1M1	4	4	4	4.00
1M2	4	5	4	4.33
1M3	4	4	5	4.33
1M4	4	4	4	4.00
1M5	5	5	4	4.67

Case 2 (Frances) – Communication skills. The peers felt communication was a strong attribute for Frances. She received an average of 4.53 overall. Frances was more critical of her communication skills, giving herself an average of 3.67. (See Table 14.) Frances said she communicated with the team as well as to senior leaders.

Verbal communication. Frances's peers considered verbal communication a significant strength (4.8). Four out of five peers gave her a rating of 5.0. She gave herself a rating of 4. Examples of verbal communication were her weekly team meetings, presentations to management, and project status meetings. The team is co-located which has necessitated more face-to-face communication in terms of not only one-on-ones with the project manager but also for ad hoc problem solving. Frances was known for her "willingness to say what needs to be said." Two peers expressed concern that this behavior was counter culture and they were hoping that wouldn't impact her in the long run. "Frances is not bound or gagged by politics; she doesn't hold it against others." An example of a challenging verbal communication situation was when the budget was

adversely impacted by a problem and she handled the communication to the broader team in a timely manner.

Written communication. Frances said that English class in school was a struggle for her and gave herself a rating of 4.0 on written communication skills. Her peers disagreed and gave her the highest rating (4.8) any of the project managers received. Frances said she sometimes will use email to start a conversation that will later be continued face-to-face. She likes to give people time to think about the situation or topic. She has been using more visual management techniques and she prefers to show the project schedule in a PERT (Program Evaluation Review Technique) chart format. She joked that sometimes she dreams in PERT chart format. Frances also produces a project tracker report that she updates monthly that is sent out to the team and their functional managers. Her peers said her status presentations were of high quality with one peer saying her "status presentations are phenomenal. She has a structure that she uses that is concise." Another peer shared: "I've never seen anyone as thorough in documentation as Frances." An example of her documentation was when the team was evaluating options for the approach they were going to take: "She created spreadsheets with summaries that really helped with the decision making." A corrective action situation was used as an example: "She got the information she needed and just did it; there was 'no fight' about how this was going to be completed." The only constructive comment was: "Sometimes she documents too much at one time, maybe some filtering should happen so she doesn't distract the team members."

Listening. Frances gave herself a 3 on listening and her peers averaged a 4.0 (range of 3-5). Frances said she can get impatient when someone comes to her with a

problem without a solution or a meeting that doesn't have a purpose. If she owns the meeting, she tries to preserve the dignity of others and takes things offline. She asks people to shut down their computers and gets them on task. If a team member is presenting at someone else's meeting, she is very conscious of staying focused. Her peers commented that she will "active listen." For example, on a technical calibration issue, she asked the technicians follow up questions to fully understand the impact of the choices. Three peers made comments about her drive when she gets an idea that is workable. "When she gets something workable, she is ready to move on. Maybe less tolerance with her peers." "Once her opinion is formed – watch out, she's on a mission." "She listens for key things and then translates them. She summarizes and directs." Three peers made comments about her ability to summarize and paraphrase: "She is comprehensive. She remembers all the data and can make conclusions. A constructive comment that was made: "Sometimes she can come off as "distracted – being on her laptop or phone." One peer commented, "Frances will listen as long as I want to talk. She probably wants me to talk more."

Table 14

Case 2 (Frances) Self and Peer Ratings on Communication Skills

Frances	Verbal	Written	Listening	Average
Self	4	4	3	3.67
Peer Average	4.8	4.8	4	4.53
1C1	4	5	3	4.00
1C2	5	5	4	4.67
1C3	5	5	5	5.00
1C4	5	4	4	4.33

1C5	5	5	4	4.67

Case 2 (Frances) – Emotional intelligence. For emotional intelligence, the five peers interviewed were very much aligned (4.25) with the broader audience (31) that filled out the online profile (86). On a 5-point scale an 85 would have been 4.25. Frances's personal average was 4.25 and the peer interview average was 4.25. (See Tables 15 and 16.) The profile was sent to 50 peers and completed by 31.

Self-awareness and self-management. In the areas of self-awareness and self-management, Frances was very confident of her skills. She said: "I have done a lot of work on this in life. I am aware if I'm sick, upset, snarky, or excited. If I'm really frustrated sometimes I don't take long enough to reframe. I might shut down and walk away." Frances shared an example of earlier in her career when she was assigned a project to rewrite a process; she didn't do a good job of managing her frustration and "it took four years to recover from the situation." Frances's self-rating on self-awareness in the interview was 5.0 and online it was only 82. The peer ratings were 4.6 in the interviews and 86 on the profile for self-awareness. The interview rating for self-management from the peers in the interview average was 4.0 and online was 85. Peers shared examples of her self-awareness and self-management as well. "During director meetings she makes a concerted effort to be level, neutral, and not emotional. She sticks with the data and represents the team." Another peer shared: "She can compartmentalize and separate for the project." A peer mentioned another example of self-management: "She has the ability to vent in effective ways, she runs issues by team members and solicits input to see if we are headed on the right track." The peer who gave her a 3 for self-management shared a situation where she made a snarky response to a team member

in front of others during a meeting. The team member had a talk with her after the meeting about not doing that in a public forum. In the online profile, which was filled out by a broader audience (n=31), the two of Frances's top three behaviors were: "can be counted on" (self-management) and "is confident in her abilities" (self-awareness). Of Frances's lowest three scores, one of them was related to self-awareness: "…understands how others influence her emotional state" (4.52/6.0). Another one of the lowest in the online survey was in the area of self-management: "…resists the desire to act or speak when it will not help the situation (4.16/6.0).

Social awareness and relationship management. In the social awareness and relationship management areas, Frances gave herself a 4 in both areas and the peer average rating was 4.5 and 4.0 respectively. (See Table 15.) In the online profile she gave herself ratings of 88 and 86 respectively. The peer online ratings were higher than Frances's self-assessment. The peers gave her an 87 on social awareness and an 85 on relationship management. (See Table 16.) Examples given in the interviews of her abilities in this area include: "If someone is not aligned, she finds out why, she isn't afraid of conflict." "In our team meetings we have a 'tangent talker.' She was aware it was going on and delicately redirected the conversation back while preserving the team member's dignity." A peer gave her a rating of 3 on both social awareness and relationship management because of a peer who gets stressed by too much flexibility – the project manager doesn't recognize the person is incurring stress." In the online profile, peers gave Frances an 87 on social awareness and an 85 on relationship management. Many of the comments that mirrored the interviews were about how well she handles her emotions in a meeting setting. An example comment about tense

meetings was: "When conflict arises in a meeting regarding decisions that need to be made, Frances is good at boiling down [rewording/explaining] the issue and is usually successful in making it into a logical [non-emotional] exercise. She also is effective at disarming the room with her humor. She takes time to work on relationships and puts forth effort in the area (schedule an afternoon at a local pub for instance). She treats all team members with great respect and is a pleasure to work with." Out of 30 comments made on the online profile, only three were constructive and they had varied suggestions. One person wanted her to show more empathy for others. One peer wanted her to separate the people from the problem more, and the final comment was about her ability to draw out those who hold back. For every constructive comment there was at least one that complimented Frances on her ability in that area. Frances is known and appreciated for her directness and some peers (interviews and online profile) were concerned that all may not always embrace directness as a good thing. A peer commented: "I wish she could teach others how to manage their emotions. She could make a living teaching other PMs…we need her leadership here…"

Table 15

Case 2 (Frances) EI interview Data

Frances	Self-Awareness	Self - Management	Social Awareness	Relationship Management	Average
Self	5	4	4	4	4.25
Peer	4.6	4	4.5	4	4.25
1C1	5	4	3	3	3.75
1C2	4	4	5	4	4.25
1C3	5	4	5	5	4.75
1C4	5	5	4	4	4.50

1C5	4	3	5	4	4.00

Table 16

Case 2 (Frances's) EI Online Data

Frances	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Overall Score
EQ Self	82	79	88	86	84
EQ Other	86	85	87	85	86

Case 2 (Frances) summary. Frances supported the proposition on all of the factors. (See Table 17.) She had her PMP certification and her peers gave her an overall average of 4.27 (4.00 needed to support the proposition) in the area of project management technical skills. In the area of communication skills she also supported the proposition. Her peers gave her an overall average of 4.53 (4.00 needed to support the proposition) and they were all able to identify at least one example in each of the three areas. For emotional intelligence, support for the proposition was also demonstrated with an average of 4.25 (4.00 needed to support the proposition) on the peer interview rating and 86 (80 needed to support the proposition) on the online assessment. Her peers were able to identify examples of how she used emotional intelligence in her project management work.

Table 17

Case 2 (Frances) Elements of Analysis Response

Elements of analysis	Empirical indicator	Source of data and measurement to support	Met measurement?	Proposition supported?

		proposition		
Project management technical skills	PMP certification	Certification achieved	Met	Supported
	Peer rating	Average rating from interview – 4.27	Met – needed 4.00+	
	Peer examples	All five peers were able to identify two examples of actions taken to resolve cost, quality or schedule	Met – all peers needed to provide two examples	
Communication skills	Peer rating	Average rating from interview – 4.53	Met – needed to be 4.00+	Supported
	Peer examples	All five peers were able to identify an example of each mode of communication	Met – all peers needed to identify examples for each mode	
Emotional Intelligence	Score on EI survey	Self-awareness – 86 Self-management – 85 Social awareness – 87 Relationship management – 85 Overall emotional intelligence score – 86	Met – needed to be 80+	Supported (met 2 of 3 criteria)
	Peer rating	Average rating from Interview	Met – needed to	

	– 4.25	be 4.00+
Peer examples	All five peers were able to cite 2 examples	Met – needed 2 examples from each peer

Case 3 – Amber. Amber is a PMP certified project manager who works in the medical device field. She was identified as being a successful project manager by the head of the program management department for the business segment and by a peer project manager (not interviewed). The project manager identified four peers who were interviewed. The EI survey was sent to 15 people and 13 responded.

Case 3 (Amber) – Project management technical skills. In the area of technical skills, the project manager was given an overall average of 4.25 by her peers. Amber rated herself slightly higher than her peers with a 4.33 average. All but one of Amber's peers gave her a rating of 4 or above. (See Table 18.)

Schedule. Amber and her peers described timeliness as setting realistic goals and dates based on stakeholder input and needs. They also said that schedule had a quality component, the deliverables needed to be what the stakeholder requested. Amber rated herself as a 4 (high) in this area. All of her peers also gave her a 4.0.

Budget. Amber's ratings were a little lower in the area of budgeting than scheduling. The peer average was 3.75, which was .25 lower than Amber gave herself (4.0). When asked to define what budgeting meant to the team members, they described budgeting as being a plan upfront to estimate the hours and expenses (material, equipment, and parts) on a project. One peer also talked about her ability to manage the budget issues when she has to consider what is best for the organization and not just what

is best for her or her project. The peer commented on how important this was for the organization.

Quality. Quality in the medical device world is not only the technical features of the product but also the regulatory guidelines required by the Food and Drug Administration (FDA). Amber said: "In order to have it be releasable by the FDA, we need to ensure we have all the paperwork in place, no issues, a clear, crisp message. I assume we will get audited and have everything in order. You have to stay on top of scope changes to be able to stay on schedule." Amber considered quality to be a strength. She only gave herself a rating of 5 twice during the interview and this was one of them. All of her peers were in alignment on her ability to manage quality with all of them giving her a 5. Her peer said: "She understands quality systems and facilitated the signatures of bureaucracy." Another peer said: "She is really, really good at understanding all of the quality procedures; she has a holistic understanding and view and we rely on her expertise."

Table 18

Case 3 (Amber) Self and Peer Ratings on Technical Skills

Amber	Schedule	Budget	Quality	Average
Self	4	4	5	4.33
Peer Average	4	3.75	5	4.25
1M1	4	4	5	4.33
1M2	4	3	5	4.00
1M3	4	4	5	4.33
1M4	4	4	5	4.33

Case 3 (Amber) – Communication skills. The peers felt communication was a strong attribute for Amber. She received an average of 4.50 overall. Amber was more critical of her communication skills, giving herself an average of 3.67. (See Table 19.) Amber's peers commented on how well she was able to adjust the message to the audience.

Verbal communication. Amber's peers considered verbal communication as a strength (4.0). The scores ranged from a 3 to a 5. She gave herself a rating of 3. Examples of verbal communication were her weekly meetings with various audiences and presentations to management. Amber confessed that this was a challenging area for her and that she gets nervous presenting to senior leaders. She believes that if she doesn't present well, this will impact their impression of the whole team. She likes to anticipate what they will ask about and have prepared answers, especially in the areas of risk and finance. She has participated in toastmasters which she found very helpful. A peer said: "She is very transparent about changes and she talks about the implications with the team." Another example of her verbal skills was her ability to work with engineers: "She is excellent at dealing with engineers. She draws people out and paraphrases what they are saying clearly and concisely. She's succinct." One criticism shared by a peer was that sometimes she could be more direct with saying who has responsibility for an action, and they were aware of her nervousness about senior leadership presentations.

Written communications. Amber debated about what to give herself for written communication skills and ended up with a 4.0. She thought it would be a 3 for her emails because they can be very "to the point." She said she would give herself a 5, due to the visual tools she has introduced to the team and others stakeholders. Her peers gave her an

overall written communications score of 4.75; three of the four gave her a rating of 5. (See Table 19.) Amber's peers appreciated her emails being "to the point" with 3 of the 4 commenting specifically about her email style. Other positive comments about her written communication skills were: "She is very good at project documentation; she has it all in one place and controlled. Since she has control, others can let go." "Her presentation slides are good, direct, and to the point for the audience. She adjusts them to the audience as needed." Amber mentioned that she likes to use written and visual support methods during the meetings. For example there is a weekly stand up meeting regarding the schedule and the team jots risks on post it notes to ensure they are captured.

Listening. Amber gave herself a 4 on listening and her peers averaged a 4.75. Amber said she can get impolite when certain team members stall out and continue to resurface old or resolved issues. Her peers only had positive comments about her ability to listen. "She listens and respects viewpoints and opinions. She incorporates the team member's input into the final decision." Sometimes the project manager doesn't have the technical expertise of the team members: "She is patient with listening until she gets it." "She doesn't show favoritism; she seems open and even." A peer described her ability to listen as being helpful in providing clarity of the issue for other team members – a translator role. "She listens very well. She will try to understand the issues from the subject matter expert and then helps communicate it back to the whole team. She does this throughout the project with all the team members."

Table 19

Case 3 (Amber) Self and Peer Ratings on Communication Skills

Amber	Verbal	Written	Listening	Average

Self	3	4	4	3.67
Peer	4	4.75	4.75	4.5
1C1	4	5	5	4.67
1C2	5	4	4	4.33
1C3	3	5	5	4.33
1C4	4	5	5	4.67

Case 3 (Amber) – Emotional intelligence. For emotional intelligence, the peers interviewed were higher (4.31) than the broader audience that filled out the online profile (86). On a 5-point scale an 85 would have been 4.25. (See Tables 20 and 21.) Amber tended to underestimate her emotional intelligence compared to the peer ratings. The only area where she was higher in the interview and the online ratings was that she gave herself a 5.00 on self-awareness during the interview; the peers were 4.5. The EI survey was sent to 15 people and 13 responded.

Self-awareness and self-management. In the areas of self-awareness and self-management, Amber was confident of her skills. She said: "I read books and do a lot of self-reflection. I knew of a team member that had a difficult life experience and I put that team member in my head as I interact with team members." Amber shared again that toastmasters and "lots of rehearsals" has helped her with self-management. She gave herself ratings of 5 for self-awareness and 4 for self-management. On the online profile, she rated herself 86 and 72 respectively. Peers shared examples of her self-awareness and self-management as well. "Amber knows she is getting hot and tones down." "She is aware of her emotion." A peer that was more of a confidante shared that they act as a sounding board for each other and sometimes Amber shares her feelings after a meeting. This peer could also see a change in body language when Amber was becoming uneasy

or frustrated. One peer commented about her ability to hide the emotion. “She doesn’t show she is mad – she doesn’t get snarky.” Peers gave her an average rating of 4.5 for self-awareness during the interviews and an 86 online.

Social awareness and relationship management. In the social awareness and relationship management areas, Amber gave herself a 4 in social awareness and a 3 in relationship management. Her peers gave her 4 and 4.5 respectively. (See Table 20.) Her online scores were 84 for social awareness and 83 for relationship management. (See Table 21.) Although peers thought highly of Amber’s relationship management skills, she was more self-critical. Examples given in the interview of her abilities in this area include: “When there are “dart throwers,” people who ask trick questions of another team member, she intervenes and puts the onus back on them asking them why they are asking the question. She takes things offline when a team member is frustrated.” Another peer shared that Amber is able to sense when someone is overwhelmed with the deliverables and she will offer to help in a dignity preserving way. Taking things offline was referenced by another team member as well: “She calms them down, then talks to them offline. She diffuses the immediate situation and follows up offline. She doesn’t like to leave things hanging there.” This peer also shared that Amber is a “cool customer.” She is able to communicate complex issues to senior leaders and regulatory. “She handles high pressure that would break others and she is honest when she doesn’t know.”

Table 20

Case 3 (Amber) EI Interview Data

Amber	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Average
Self	5	4	4	3	4

Peer Average	4.5	4.25	4	4.5	4.31
1C1	5	5	4	4	4.5
1C2	5	5	4	5	4.75
1C3	4	3	4	4	3.75
1C4	4	4	4	5	4.25

Table 21

Case 3 (Amber) EI Online Data

Amber	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Overall
EQ Self	86	72	84	83	81
EQ other	86	88	86	85	86

Case 3 (Amber) summary. Amber supported the proposition on all of the elements. (See Table 22.) She had her PMP certification and her peers gave her an overall average of 4.25 (4.00 needed to support the proposition) in the area of project management technical skills. In the area of communication skills she also supported the proposition. Her peers gave her an overall average of 4.50 (4.00 needed to support the proposition) and they were all able to identify at least one example in each of the three areas. For emotional intelligence, support for the proposition was also demonstrated with an average of 4.31 (4.00 needed to support the proposition) on the peer interview rating and 86 (80 needed to support the proposition) on the online assessment. Her peers were able to identify examples of how she used emotional intelligence in her project management work.

Table 22

Case 3 (Amber) Elements of Analysis Response

Elements of analysis	Empirical indicator	Source of data and measurement to support proposition	Met measurement?	Proposition supported?
Project management technical skills	PMP certification	Certification achieved	Met	Supported
	Peer rating	Average rating from interview – 4.25	Met – needed to be 4.00+	
	Peer examples	All four peers were able to identify 2 examples of actions taken to resolve cost, quality, or schedule	Met – all peers needed to identify 2 examples	
Communication skills	Peer rating	Average rating from interview – 4.50	Met – needed to be 4.00+	Supported
	Peer examples	All four peers were able to identify an example of each mode of communication	Met – all peers provided an example of each mode	
Emotional Intelligence	Score on EI survey	Self-awareness – 86 Self-management – 88 Social awareness – 86 Relationship management – 85 Overall	Met – needed to be 80+	Supported – 2 of 3 met

	emotional intelligence score – 86	
Peer rating	Average rating from Interview – 4.31	Met – needed to be 4.00+
Peer examples	All four peers were able to cite 2 examples	Met – all peers provided 2 examples

Case 4 – Matthew. Matthew is a PMP certified project manager who works in the medical device field. He was identified as being a successful project manager by the head of his department. The project manager identified four peers who were interviewed. The EI survey was sent to the four people who were interviewed and they all responded.

Case 4 (Matthew) – Project management technical skills. In the area of technical skills, the project manager was given an overall average of 4.08 by his peers. Matthew rated himself very closely with a 4.00 average. The average peer ratings weren't all above 4.0, but the overall average was in the acceptable range. (See Table 23.)

Schedule. Matthew and his peers described timeliness for project management as being on schedule with respect to the scope as it was defined for the period of time. Matthew rated himself as a 4 (high) in this area. Three of his peers also gave him a rating of 4, with the fourth peer giving him a 5. One of the peers stated: "He is very good at accountability to holding to timelines."

Budget. Budgeting in this organization was allocated in categories, a specific amount of money for capital equipment, labor hours, etc. Matthew "does it in a more simplistic way on an excel spreadsheet than other project managers and his way is very successful and effective. He creates it at the beginning and manages as we go along."

Matthew deemed success as making sure that "we come in within 10% of the total expense and capital budget as defined in the project plan." Matthew gave himself a 4 in this area and his peers gave him a 3.75. (See Table 23.) The peer that gave him a 3 rating mentioned how hard it was to define a budget when everything is not known at the beginning of a project.

Quality. Quality has two components in the medical device field. One of Matthew's peers described it as "little q, which is delivering a quality product and big Q which is abiding by the requirements of the quality system." The organization's quality system must meet the FDA's requirements. Another description of quality was "being able to meet the customer and marketing needs and have the customers *like* the product." A peer described quality as "meeting the specs that were done upfront – being 'right on.'" Matthew gave himself a 4.00 in this area and his peers gave him a 4.25 average.

Table 23

Case 4 (Matthew) Self and Peer Ratings on Technical Skills

Matthew	Schedule	Budget	Quality	Average
Self	4	4	4	4.00
Peer Average	4.25	3.75	4.25	4.08
1C1	5	4	5	4.67
1C2	4	4	5	4.33
1C3	4	3	4	3.67
1C4	4	4	3	3.67

Case 4 (Matthew) – Communication skills. The area of communication was a strength for Matthew. He received an overall average of 4.67 which was the highest of all

the cases. Matthew was a bit more critical of himself with an average of 4.33. Even Matthew's lowest area, written communication, was high with a 4.25 average. (See Table 24.)

Verbal communication. Matthew was the only project manager to get a rating of all 5s for verbal communication skills from his peers. Matthew also considered this to be a strength, giving himself a 5.0 rating. Matthew conducts weekly meetings to ensure the project is progressing and then ad hoc meetings about a set topic as needed. Sometimes the ad hoc meetings were impromptu: "He just goes and finds the people and we gather at a white board to solve the problem." Matthew uses white boards a lot to create a visual to supplement the verbal conversation. Peers commented on his verbal communication skills: "He explains things, we identify the options, he clarifies the options, and we define a plan or flow to implement." Another peer shared that: "If someone gets lost, he steps back and catches them up." This ability to paraphrase and summarize was also exemplified with the statement that he says a lot: "So what I'm hearing you say…." A peer summarized Matthew's skills with the statement: "He is in constant communication."

Written communication. Matthew summarized what the peers said in the area of written communication. He gave himself a 5 for informal written skills and a 3 for more formal strategies, such as emails or written status tools. His overall self-rating was 4.0 and his peers gave him a 4.25. (See Table 24.) Written communication on Matthew's projects tended to revolve around the capturing of white board discussion and presentation of status. The white boards were sometimes captured with a camera and then either sent out as a photo or recreated in an electronic format. One peer cited examples of

Matthew's formal written examples as: "…brings his format for presentations to management and he sends emails and cc's others on areas of change."

Listening. Matthew summarized his listening skills with a 4.0 rating. He said: "My team is my 'go to' people. I trust them and value their opinion." The team rated him higher with three of the four peers giving him a 5 rating. The fourth person gave him a 4, but with very complimentary remarks. The only person to say anything constructive about Matthew's listening was himself. "Sometimes I might write off someone too soon, if I don't consider them to be a good performer based on an historical interaction with them." The peers interviewed said: "He listens and then is able to re-say it in a different way." "He can convey the message to someone else." "He says, 'if I understand you correctly… we should do....'" One peer said: "He wants the dialogue, he asks questions, he challenges responses and then he repeats and summarizes what's been said to verify his interpretation."

Table 24

Case 4 (Matthew) Communication Skills

Matthew	Verbal	Written	Listening	Average
Self	5	4	4	4.33
Peer Average	5	4.25	4.75	4.67
1C1	5	4	5	4.67
1C2	5	5	5	5.00
1C3	5	4	5	4.67
1C4	5	4	4	4.33

Case 4 (Matthew) – Emotional intelligence. For emotional intelligence, the ratings were similar between the interview and the online profile. The online overall rating was 91 and the interview rating was 4.44. A rating of 4.5 would convert to a rating of 90. Matthew was also consistent with an online overall rating of 88 and an interview rating of 4.5 (converted would be a 90 and 80+ supports the theory). (See Tables 25 and 26.)

Self-awareness and self-management. In the areas of self-awareness and self-management, Matthew was confident of his skills. During the interviews he gave himself ratings of 4 and 4, respectively. His online rating for self-awareness was higher (90) than his self-rating for self-management (83). (See Table 25.) He said: "If I'm getting riled up, I don't throw anything. I go to my core group and test it with trusted colleagues. I also use the 24-hour rule, if it seems like a crisis in the moment, will it still be one tomorrow? I try not to react to the energy of the other person. I stay calm and ask questions." The peers shared examples of when they knew he was frustrated and how he is able to get himself to a productive mindset. One of them sits near him and shared that sometimes he gets frustrated by red tape and they can hear him. Two peers shared that he admits when emotions are bugging him and that he knows his triggers. One peer shared some "Matthew quotes" that were variations of, "I'm fired up about this 'cuz we should be." The peers appreciated the transparency and his ability to control his emotions. The peers gave Matthew an average rating of 4.5 for self-awareness during the interviews and an 88 online. For self-management the peers rated this lower in the interview (4) and higher online (91). (See Tables 25 and 26.)

Social awareness and relationship management. In the social awareness and relationship management areas, Matthew gave himself a 5 in both areas and the peers' average rating was 4.5 and 4.75 respectively. (See Table 25.) The peers rated him 93 on a 100-point scale in the area of social awareness. This was the highest score any of the project managers received on any of the three categories – project management technical skills, communication skills, and emotional intelligence. (See Table 26.) The peers all commented on his ability to read other people and the various actions he takes to manage the relationships. Some of the examples given in the interview of his abilities in this area include: "He is aware of how people feel about something, not like other project managers, he is PRESENT [their emphasis]." "He knows when there are tensions and brings them back down and then gives them a chance to recover and get back on track." One peers says he is constantly "pinging," sending out feelers, and he says things like, "I'm not getting anything, where are you?" Taking people to lunch is a strategy that Matthew shared that he uses as did a peer. If the work situation has gotten tense, he takes them to lunch where they chit chat about other stuff and relate as individuals. This is usually an impromptu gesture that allows people to step away from the immediate situation.

Table 25

Case 4 (Matthew) EI Interview Data

Matthew	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Average
Self	4	4	5	5	4.5
Peer Average	4.5	4	4.5	4.75	4.44
1C1	5	4	4	4	4.25

1C2	4	5	5	5	4.75
1C3	5	3	5	5	4.5
1C4	4	4	4	5	4.25

Table 26

Case 4 (Matthew) EI Online Data

Matthew	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Overall
EQ Self	90	83	92	88	88
EQ other 5/5	88	91	93	89	91

Case 4 (Matthew) summary. Matthew supported the proposition on all of the elements. (See Table 27.) He had his PMP certification and his peers gave him an overall average rating of 4.08 (4.00 needed to support the proposition) in the area of project management technical skills. In the area of communication skills he also supported the proposition. His peers gave him an overall average of 4.67 (4.00 needed to support the proposition) and they were all able to identify at least one example in each of the three areas. For emotional intelligence, support for the proposition was also demonstrated with an average of 4.44 (4.00 needed to support the proposition) on the peer interview rating and 91 (80 needed to support the proposition) on the online assessment. His peers were able to identify examples of how he used emotional intelligence in his project management work.

Table 27

Case 4 (Matthew) Elements of Analysis Response

Elements of analysis	Empirical indicator	Source of data and measurement to support proposition	Met measurement?	Proposition supported?
Project management technical skills	PMP certification	Certification achieved	Met	Supported
	Peer rating	Average rating from interview – 4.08	Met – needed to be 4.00+	
	Peer examples	All 4 of the peers were able to identify 2 examples of actions taken to resolve cost, quality, and schedule issues	Met – needed 2 examples from each peer	
Communication skills	Peer rating	Average rating from interview – 4.67	Met – needed to be 4.00+	Supported
	Peer examples	All four peers were able to identify examples for all three areas	Met – needed all peers to identify examples for all three areas	
Emotional Intelligence	Score on EI survey	Self-awareness – 88 Self-management – 91 Social awareness – 93 Relationship management – 89 Overall emotional intelligence score – 91	Met – needed to be 80+	Supported 2 of 3 areas met
	Peer rating	Average rating from Interview	Met – needed	

	4.44	to be 4.00+
Peer examples	All four peers were able to cite 2 examples	Met – all peers needed to identify 2 examples

Case 5 – Ted. Ted was a PMP certified project manager with experience in multiple organizations. He was identified as being a successful project manager by the head of program management for the business segment. The project manager identified five peers who were interviewed. The EI survey was sent to 31 people and 23 responded.

Case 5 (Ted) – Project management technical skills. In the area of technical skills, the project manager was given an overall average of 2.9 by his peers. Ted rated himself higher than his peers with a 4.00 average. The average peer ratings were between 2.6 for quality and 3.25 in the area of budget. (See Table 28.) This is the biggest discrepancy for any of the project managers in any of the category averages.

Schedule. Ted's peers described timeliness for project management as meeting the agreed up timelines or delivery milestones. Schedule transparency was a frustrating point for one of the peers; he was told that the "schedule was confidential." Another peer emphasized that the "agreed upon" delivery milestones needed to be a consensus with the team members. Ted rated himself as a 4 (high) in this area. Two of his peers gave him 2, two peers gave him a rating of 3, and one peer gave him a rating of 4. (See Table 28.)

Budget. Budget in this organization was not "owned" by the project manager but rather the engineering manager owns accountability for people's time and project expenditures. In the past there was an "open checkbook" for budget and now the teams and project managers have more accountability for tracking where the money is being

spent. The project manager kept a spread sheet of the budget with categories for person-hours and material costs. Ratings from peers varied. One person said the team didn't have exposure to the budget and refused to provide a number rating. This person gave the project manager ratings of 2 in the other areas of technical project management. Ted's peer ratings were varied, two peers gave Ted a rating of 4 and one gave him a 3. One peer said he was unable to rate Ted in this area and then decided it was a 2. The fifth peer just said unable to rate. Ted gave himself a rating of 4.0 which was in alignment with two of the peers, but .75 higher than the average of 3.25. (See Table 28.) According to his peers' average ratings, this area was the highest for Ted.

Quality. Quality was defined as delivering the product to the expectations agreed upon and abiding by the document that summarizes the customer requirements in terms of technical requirements. The project manager needs to work with marketing and the SMEs (subject matter experts) to make quality decision on the product. Ted gave himself a rating of 4.0 in this area which was much higher than his peers' average rating of 2.6. Three of the five peers gave him a rating of 2. (See Table 28.) Some of Ted's challenges in this area were his ability to understand the technical requirements and his approachability. Peers did not feel comfortable sharing bad news with the project manager due to his reactions. A peer shared that when "some parts didn't fit, he beat on folks to modify these parts." Another peer, when discussing how Ted manages projects to ensure quality requirements are met, said: "He has limited ability to do this." Positive comments about Ted's managing of quality included: "Because of his lack of depth, he pulls people together" and "he asks if we need the items, prioritizes, and explores the options available."

Table 28

Case 5 (Ted) Self and Peer Ratings on Technical Skills

Ted	Schedule	Budget	Quality	Average
Self	4	4	4	4.00
Peer Average	3	3.25	2.6	2.92
1C1	4	4	4	4.00
1C2	3	4	3	3.33
1C3	2	Unable to rate	2	2.00
1C4	3	2	2	2.33
1C5	2	3	2	2.33

Case 5 (Ted) – Communication skills. The peers expected a lot from the project manager in the area of communication. Ted received an average of 3.6 overall. Ted considered himself to be a good communicator with an overall rating of 4.00. Ted thought that his verbal skills were higher (5) than his listening skills (3). He was aware of opportunities for improvement in this area. (See Table 29.)

Verbal communication. Verbal communication was a strong area from Ted's perspective (5.0) and his peers gave him the highest rating in this area (3.8) compared to written communication and listening. Ted cited that he was very comfortable giving presentations to senior management and customers. Three of the peers also mentioned his willingness and sense of ease with presentations. "He communicates with keeping emotion at a sane level." One peer did not feel that the messages that needed to be shared during a presentation were always the messages that were shared. "When he gets in front, he wants everyone to drink his Kool-Aid and he wants them to be happy." Two of the

peers referenced his ability to lead an effective meeting: “He has an agenda.” “He is prepared and organized for the meeting.” One peer referenced an example of his verbal communication skills where he will “come around to you and he communicates in an open and clear manner.”

Written communication. Ted gave himself a rating of 4 and the peers averaged 3.6. (See Table 29.) The comments were more positive in this area than was reflected in the numerical ratings. The two negative comments were that the peer does not see a lot of intense written documents and that his presentations are written with the “same rosy message to placate the masses.” Ted shared that he has been really working on this area of written communication in the last couple of years. He has been striving to keep emails shorter and slides in presentations more succinct. The peers appreciated the short emails, charts/graphs, schedule documentations, and the congruency between his verbal and written messages.

Listening. Ted’s listening skills were rated lowest in the communications area by his peers. The average peer rating was 3.4 and Ted’s self-rating was 4.0. (See Table 29.) The peer average in this area was the lowest communication rating received by any of the project managers in this study. Three peers were able to share positive examples of Ted’s ability to listen. “He goes out of his way in meetings to verbally understand when he is confused.” “He is able to listen past the patience level of others, he is truly listening and hears them.” Another said: “He hears what people say, he stays present, he doesn’t interrupt, he plays it back.” Two of the peers could not cite a positive example of his listening skills. “During initial planning it is fast and he wants specific timelines and cost estimates. He doesn’t want to hear the risk factors.” Another peer shared: “He doesn’t

hear people, he doesn't pick up on what people are saying, he hears what he wants to hear." Ted shared that he needs to get better at listening for the hidden agenda and sometimes he goes into a conversation with an expected outcome. He said: "I need to listen to create working relationships with other people."

Table 29

Case 5 (Ted) Communication Skills

Ted	Verbal	Written	Listening	Average
Self	5	4	3	4.00
Peer Average	3.8	3.6	3.4	3.6
1C1	5	4	3	4.00
1C2	4	3	4	3.67
1C3	4	4	4	4.00
1C4	3	3	4	3.33
1C5	3	4	2	3.00

Case 5 (Ted) – Emotional intelligence. For emotional intelligence, the peers interviewed were more critical (3.21) than the broader audience that completed the online profile (71). On a 5-point scale a 70 would have been 3.5. Ted's overall self-scores were lower in the interview (3.5) than they were online (82). A score of 80 on a 5-point scale would have been 4.0. (See Tables 30 and 31.)

Self-awareness and self-management. In the areas of self-awareness and self-management, Ted shared that he is personally driven to succeed and he is aware when he is losing patience. "I've worked hard to develop a very professional presence at work. When an employee has crossed the line, I pull back and don't have a confrontation. Four of five of the peers mentioned progress in this area and that they consciously see him "try to let go, cool down and come back to it later in a different state of mind." "I've seen

progress in this area, his lack of listening got him into trouble in the past." "If he has passion about something, he knows when to let go and when to pursue it." "He tried to hide his emotions; if there is a time change on a project he shifts into a 'stay calm mode.'" Ted was more positive than his peers both in the interviews and in the online profile. His self-awareness interview rating was 4.0 and the peers gave him a 3.75. In the online profile the gap was more significant with Ted's self-rating an 89 and the peer rating a 75.

In the self-management area, Ted gave himself a rating during the interview of 4.0 and the peers gave him a rating of 3.6. In the online profile, Ted gave himself a rating of 79 and the peers gave him a rating of 69. This was the second lowest rating any of the project managers got on any of the categories in the emotional intelligence profile. The only lower rating was Ted's relationship management rating of 65. (See Tables 30 and 31.)

Social awareness and relationship management. In the social awareness and relationship management areas, Ted gave himself a 2 in social awareness and a rating of 4 in relationship management. This may mean that he is good at taking action on relationship challenges but is not aware of them. The peers were more positive with a rating of 3.2 in social awareness and more critical in the relationship management area (2.4). This was the lowest average rating given during the interviews. (See Table 30.) The peer online scores showed a higher level of social awareness (74) than relationship management (65). The rating of 65 was the lowest score for any of the project managers on any of the emotional intelligence areas. (See Tables 30 and 31.) A peer shared that he has gotten negative feedback in this area and he chose to change his behaviors; he

"reached out to get mentoring." Most of the comments were focused on Ted's lack of responding to peer emotions. "If he has passion about the design, he just moves forward. He needs to find out more about the technical issues offline." A peer shared that he was not aware if Ted is just not aware of other's emotions or if he just did not care. "He walks away rather than resolving it with the person. He escalates it to his manager." A specific situation related to a vendor was shared about Ted's lack of social awareness. "When the vendor gave us bad news, he told them to get up here and it was two days before Christmas." A statement that summed up this area was: "He could do more to steer the team by knowing the team more."

Table 30

Case 5 (Ted) EI Interview Data

Ted	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Average
Self	4	4	2	4	3.5
Peer Average	3.75	3.6	3.2	2.4	3.21
1C1	4	4	3	4	3.75
1C2	4	4	4	3	3.75
1C3	Unable to Rate	4	4	1	3
1C4	3	3	3	2	2.75
1C5	4	3	2	2	2.75

Table 31

Case 5 (Ted) EI Online Data

Ted	Self-Awareness	Self-Management	Social Awareness	Relationship Management	Overall

EQ self	89	79	79	80	82
EQ other	75	69	74	65	71

Case 5 (Ted) summary. Ted did not support the proposition in any of the three areas. (See Table 32.) He had his PMP certification and his peers gave him an overall average of 2.92 (4.00 needed to support the proposition) in the area of project management technical skills. In the area of communication skills, he did not support the proposition. His peers gave him an overall average of 3.6 (4.00 needed to support the proposition) and only three of the five were able to identify at least one example in each of the three areas. For emotional intelligence, support for the proposition was not demonstrated with an average of 3.21 (4.00 needed to support the proposition) on the peer interview rating and 71 (80 needed to support the proposition) on the online assessment. His peers were not able to identify examples of how he used emotional intelligence in his project management work.

When Ted's peers were asked what other factors besides project management technical skills, communication skills, and emotional intelligence were important, the peers said, truthfulness, integrity, attitude (2); energy and long hours were also mentioned. Attitude and integrity were mentioned by the peers of two other project managers but the comments were followed with examples of how the project manager exemplified the characteristic. For Ted, peers gave examples of when these factors were not demonstrated.

While Ted did not numerically support the proposition, the lack of technical skills, communication skills, and emotional intelligence did support the proposition. His

peers did not consider him to be a successful project manager and he did not have skills in any of the three areas. If Ted had supported the theory in one or two areas a different conclusion may have been made about the combination of the factors. Ted was viewed as an exemplar project manager by his manager. However Ted's peers – the people who worked on projects with Ted – had a different opinion; they saw a skill gap in all three areas and their comments supported the low ratings.

Table 32

Case 5 (Ted) Elements of Analysis Response

Elements of analysis	Empirical indicator	Source of data and measurement to support proposition	Met measurement?	Proposition supported?
Project management technical skills	PMP certification	Certification achieved	Met	Not supported
	Peer rating	Average rating from interview – 2.92	Did not meet – needed to be 4.0+	
	Peer examples	One peer out of 5 was able to identify 2 examples of actions taken to resolve cost, quality, and schedule issues.	Did not meet – needed to be all peers able to identify 2 examples	
Communication skills	Peer rating	Average rating from interview – 3.6	Did not meet – needed to be 4.0+	Not supported
	Peer examples	Three of the five peers were able to identify examples for all three areas. Two peers could not identify listening	Did not meet	

		communication examples.		
Emotional Intelligence	Score on EI survey	Self-awareness – 75 Self-management – 69 Social awareness – 74 Relationship management – 65 Overall emotional intelligence score – 71	Did not meet – needed to be 80+	Not supported
	Peer rating	Average rating from interview – 3.21	Did not meet – needed to be 4.0+	
	Peer examples	All five peers were able to cite 2 examples.	Met	

Report of Findings

The researcher determined that the proposition (that the combination of project management technical skills, communication skills, and emotional intelligence is what makes a project manager successful) was supported for the individual case when all three units of analysis were supported. In the cross-case analysis, the proposition was supported if 80% (four of the five project managers) of the overall individual cases were supported. The researcher selected 80% as her passing criteria to mirror a typical grading scale. The researcher wanted an above-average passing rate of the cases in the study to support her proposition. Note that the project manager's self-review is not included as supporting or not supporting the proposition but is included in the discussion of the results.

The proposition was that all three factors – project management technical skills, communication skills, and emotional intelligence – had to be present for each project manager. In three of the five cases the proposition was supported. (See Table 6.)

Table 33

Units of Analysis, Empirical Indicator, and Proposition Support

Elements of analysis	Empirical indicator	Acceptable performance	Proposition supported when?	Findings
PM technical skills	PMP certification	Must have certification – 100%	Have certification.	All 5 participants have PMP certification (proposition supported)
	Peer rating	Average score from peers is 4 out of 5-point scale on project management technical skills questions	Overall peer averages 4 or above.	4 of 5 participants with peer rating of 4 or above (proposition supported)
	Peer examples	Two examples from each peer that the project manager took action to resolve cost, quality, or schedule discrepancies	Two examples from each peer.	Two peer examples provided for 4 of 5 participants (proposition supported)
Communication skills	Peer rating	Average scores of 4 out of 5 point scale from peers on communication skills questions	Overall peer averages 4 or above	3 of 5 participants with peer rating of 4 or above (proposition not supported)
	Peer examples	One example from each peer that the	One example from each peer	One peer example

		project manager demonstrated communication skills		provided for 3 of 5 participants (proposition not supported)
Emotional Intelligence	Score on EI survey	Raw EI score is 80 or above	Two of the three: EI survey result is 80+, peer rating average is 4+, or two examples from each peer	4 of 5 participants with peer rating of 80 or above (proposition supported)
	Peer rating	Average scores of 4 out of 5 point scale from peers on emotional intelligence questions		4 of 5 participants with peer rating of 4 or above (proposition supported)
	Peer examples	Two examples from each peer that the project manager demonstrated emotional intelligence competence		Two peer examples provided for 4 of 5 participants (proposition supported)

Four out of five of the project managers supported the proposition in the area of technical skills. The determination of support was that the project manager had his or her PMP certification and received an average rating of 4.0 or more from his or her peers and that the peers were able to provide two or more examples of technical skills.

In the area of communication skills, three of the project managers supported the proposition and two of the project managers did not support the proposition. Support was defined as an average peer rating of above 4.0 and at least one example in each of the three areas of communication (verbal, written, and listening skills). Jason and Ted's peers

were able to cite examples in all three communication areas but the overall average of the peer rating was less than 4.0, so they did not support the proposition.

Emotional intelligence support was defined as the project manager meeting two of the three measures – a Raw EI score of 80 or above, a peer rating of 4+, or two examples from each peer. The four that supported the proposition met the criteria in all three areas. Case 5 (Ted) did not meet the criteria for any of the three sub-scales. Three of the project managers got an overall score of 86 on the online profile. One was higher with 91 and one was lower with 71.

Table 7 shows the case-by-case support of the proposition for project management technical skills, communication skills, and emotional intelligence competence. The proposition is supported if the case (project manager) demonstrates all three factors.

Table 34

Proposition Support

Elements of analysis / Cases	PM technical skills	Communication skills	Emotional intelligence	Proposition support
Case 1 Jason	Supported	Not supported	Supported	Not supported
Case 2 Frances	Supported	Supported	Supported	Supported
Case 3 Amber	Supported	Supported	Supported	Supported
Case 4 Matthew	Supported	Supported	Supported	Supported
Case 5 Ted	Not supported	Not supported	Not supported	Not supported

Overall Proposition Supported	80% Supported	60% Not Supported	80% Supported	60% Not Supported

Summary of Findings

The proposition was that all three factors – project management technical skills, communication skills, and emotional intelligence – had to be present for each project manager. In three of the five cases the proposition was supported. (See Table 34.)

Four out of five of the project managers supported the proposition in the area of project management technical skills. The determination of support was that the project manager had his or her PMP certification, received an average rating of 4.0 or more from his or her peers, and the peers were able to provide two or more examples of project management technical skills. Ted was the only project manager who did not support the proposition. He had his PMP certification, but the average technical rating was 2.92, 1.08 below the required number and only one peer out of five was able to identify two examples. (See Table 34.)

In the area of communication skills, three of the project managers supported the proposition and two of the project managers did not support the proposition. Support was defined as an average peer rating of above 4.0 and at least one example in each of the three areas of communication (verbal, written, and listening skills). Jason and Ted's peers were able to cite examples in all three communication areas but the overall average of the peer rating was less than 4.0, so they did not support the proposition. Since two of the project managers did not support the proposition, the 80% was not met. (See Table 33.)

Emotional intelligence support was defined as the project manager meeting two of the three measures – a raw EI score of 80 or above, a peer rating of 4+, or two examples

from each peer. The four that supported the proposition met the criteria in all three areas. Case 5 (Ted) did not meet the criteria for any of the three sub-scales. Three of the project managers got an overall score of 86 on the online profile. One was higher with 91 and one was lower with 71. With four of the project managers meeting the criteria, the 80% rate was achieved. (See Table 33.)

In determining if the proposition was supported overall, 80% of the cases needed to meet the criteria. The proposition is not supported due to two of the project managers not meeting the criteria for communication skills. (See Table 34.)

Chapter Five: Discussion

This chapter provides an overview of the (a) main findings that provided support to the empirical indicators and the researcher's proposition that were tested in this study; (b) limitations to the findings of this study; (c) future research opportunities; (d) implications for organizations; and (e) key learnings from the study.

Main Findings

The researcher's proposition that the combination of technical project management skills, communication skills, and emotional intelligence are needed for a project manager to be successful was not supported overall. The proposition was supported in two of the areas (technical project management skills and emotional intelligence). The area of communication skills did not meet the 80% target, primarily because communication skills were divided into three areas – verbal, written, and listening – and because two of the project managers did not support the proposition. Their ratings were less than 4.0 in one or more areas. The project manager (Jason) missed the 4.0 rating required by .13. The project manager's peers could not think of an example of his written communication skills and one peer cited that he thought the method was "under-utilized" and that he liked to have things "in writing." The project manager's verbal skills were cited as his preferred way of communicating.

If Ted had exhibited skill in one of the areas, that could have been considered evidence that he was a successful project manager, but since his peers were so critical in all the areas, it appears the opinion of Ted's peers differed significantly from that of his manager who had identified him as an exemplar.

The following section provides support for the empirical indicators that were tested as well as additional explanation. Empirical indicators include project management technical skills, communication skills, and emotional intelligence.

Project management technical skills. Four out of five project managers supported the theory. The only person who did not was Ted. Ted's lack of technical project management skills supports the theory that the combination of the three areas (technical project management skills, communication skills, and emotional intelligence) lead to a project manager's success.

Some of the peers had trouble identifying actions the project managers took to resolve budget issues. Budget was seen as "cash out of pocket," money spent on materials, consultants, outsourced work, etc. While those items are budget items, people's time is also considered to be a budget item. Lewis (2007) stated that budget can include labor, capital equipment, outside services, and materials. In two of the organizations used in this study, people's time was not tracked to a specific project. One of those organizations (represented in two cases) was in the beginning stages of implementing a process to track time. If this process had already been in place, peers may have been able to identify more examples of actions that the project managers took to resolve issues. The other factor that came up in terms of budget is that the project manager dealt with the budget issues with individuals or with senior leadership. If the issue did not involve the whole team the topic was not addressed at a project meeting with the peers present.

Communication. This was the area that caused the proposition not to be supported since only 60% of the cases supported the proposition. The cases of Jason and Ted did not support the theory. If mode had been used instead of overall average to

support the theory, Jason would have supported the theory for the rating of the peers, but he still did not have an example from one peer. The mode for Jason would be 4 for verbal, written, and listening skills.

The preferred mode of communication varied across project managers; some compensated with one style if another area was not a strength. For example, the project manager may choose to have more frequent stand up meetings if verbal communication is a strength and employ less use of email if written communication is a weakness. Jason's verbal communication skills were seen as being high or very high by his peers, yet lower scores on his written and listening skills dropped his average below the 4.0 average that was needed for support. Since the study parameters required an average rating of 4 out of 5 for each area – verbal, written, listening communication skills – and an example in each area, this did not allow for a strength in one area to compensate for a weakness in another area.

All of the project managers discussed the importance of talking to people one on one to resolve issues that were specific to their part of the project. This is a helpful practice since all of the team members are not "sitting through meetings" with agenda items that do not pertain to their part in the project. Four of the project managers talked about just "stopping by someone's cube and asking them how they were doing" as a regular practice they employed.

Another area of communication the study addressed was the formality of the project manager's communication. Project managers need to use a combination of formal and informal communication strategies (Schwalbe, 2009). The mix of informal and formal communication varied with the organization's practices and culture. The project

manager from the smallest organization had less formal communication mechanisms in place. He used more "white board" conversations and pictures of the white board were sent out after the meeting. In the larger organizations, the informal mechanisms were used, but project managers also had to do more frequent presentations and reports to various management levels.

Emotional intelligence. This topic engaged a lot of passion from the project managers and their peers. The interviewees answered the questions about project management technical skills and communication skills with fairly standard answers; there was not a lot of energy to their responses. Emotional intelligence spurred energy and excitement in their voices, something that might be seen as unusual with a highly technical audience. The exception to this was Ted's peers; their emotional responses began with the lack of project management technical skills and continued all the way through to the end of the interview and were demonstrated by signs of either frustration energy or resignation energy. One finding of note is that women project managers significantly under rated themselves on communication skills (.81 and .86 lower). On the other ratings the women were within .1 or underrated themselves as well.

Other project manager success factors. At the end of interview, the researcher asked if there were other factors besides project management technical skills, communication skills, and emotional intelligence that were needed for a project manager to be successful. Of the 23 people interviewed (project managers and their peers), 15 people said that technical skills (engineering/quality) were needed. They said the project manager had to have some sense of the work that needed to be completed and the implications of actions that were needed. Another reason cited for the need to have

technical skills was the credibility it brought to the relationship with the customer and the technical team members. The peers did not need the project manager to be a guru or an expert in the technical area, but rather he or she had to have a core set of knowledge related to the field and/or product. The need for technical skills might be different in some other industry such as government, insurance or retail. Figure 2 shows what the model would look like if technical skills were added to the proposition.

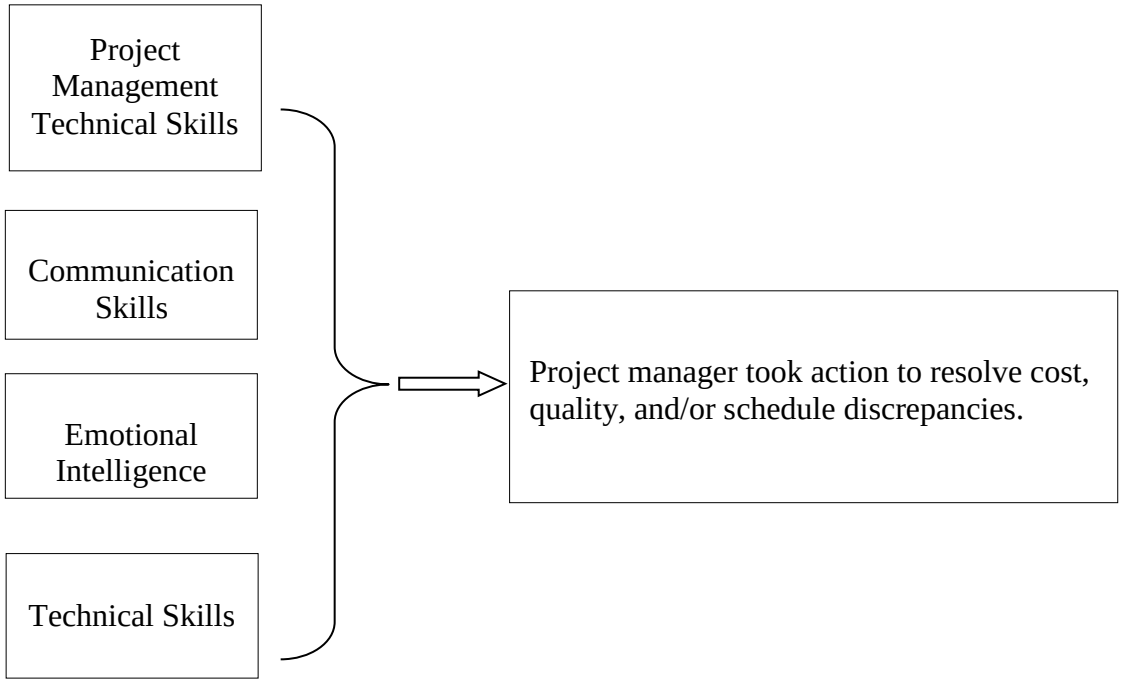


Figure 2. The researcher's revised proposition.

Some emotional intelligence factors mentioned included the ability to build trust with the team, humility, being flexible, being able to play "the political game," being able to read other people, adapting to the situation, and change resiliency. Schwalbe (2009) also cited the importance of the ability to nurture relationships, effective change management, and flexibility.

The combination of these three elements in the proposition (project management technical skills, communication skills, and emotional intelligence) is new to the field. Much research had been completed on the technical project management skills as referenced in chapter two. Kerzner's (2006) research revealed that project managers will focus on project-driven enterprises, where the project manager has profit-and-loss responsibilities and where project management is a recognized profession. That was found to be somewhat true in this research study. While peers representing organizations in this study noted that their organizations did not give the project managers complete profit-and-loss-responsibilities, they frequently noted that the organizations recognized project management as a profession.

Jugdev and Müller (2005) defined four conditions that are necessary for a successful project:

- agreement with stakeholders about the success criteria, not only before but also during a project;
- a collaborative relationship between the project owner/sponsor and the project manager;
- the empowerment of the project manager to deal with unforeseen situations;
- the interest taken by the project owner/sponsor in the performance of the project.

All of these were mentioned by the peers during the interviews as being important and examples were cited to answer the questions. Many of the examples were in the areas of communication and emotional intelligence.

In the area of communication, there was some research on project management communication, however there was much more research available on managerial communication which is not seen by this researcher as the same thing. Project managers need to communicate project information such as objectives, budget, schedule, score outcomes, and business benefits; provide the appropriate detail in a timely manner and manage the frequency (PMI Pulse, 2013). This was all supported by this study, not only by the exemplars but also by Ted's peers who were frustrated with his lack of communication skills. Research was not found that specifically delineated communication skills as verbal, written, and listening skills so this combination and breakdown of communication skills as including all three is also new.

Emotional intelligence is a field that is relatively new compared to the depth of research related to project management technical skills. Clarke (2010) and Davis (2011) have both researched emotional intelligence and project managers. Clarke's (2010) research focused on emotional intelligence and its relationship to transformational leadership and key project management competencies. Clarke's five hypotheses covered competence in teamwork, communication, attentiveness, conflict management, and transformational leadership. He found that the project manager's ability to use emotions to facilitate cooperative team behaviors, his or her attentiveness to building strong relationships, responsiveness in addressing concerns, and a positive attitude all led to team success. This study supported Clarke's (2010) findings in terms of reinforcing the project manager's ability to facilitate team collaboration, build strong relationships, and respond to team member's concerns, as being important to a project manager's success.

Davis (2011) investigated the impact of the project managers' emotional intelligence on his or her interpersonal competence. Davis' goal was to not only add to the knowledge of EI and build the case for training and developing project managers in emotional intelligence, but also to provide evidence of the importance of interpersonal competence for project managers. This study also supports the need for project managers to grow their emotional intelligence.

Limitations

This study was conducted solely in engineering/manufacturing organizations with three of the five study participants coming from three organizations. Two of the organizations were medical device organizations. Results may have been different in service, retail, or financial industries.

The researcher asked organization leaders for exemplar project managers. This researcher found that, simply because someone of authority identified the project managers as successful did not necessarily mean they were successful. Rather it was a single opinion of success not framed in the larger definition of project manager success that encompasses quality of output, ability to work with a team, project management technical skills, and other traits of project management success. One of the project managers (Ted) was seen as not being successful by any of his peers. Webster's dictionary defines an exemplar as an admired person or thing that is considered an example that deserves to be copied. Since Ted was identified as an exemplar by his manager but not by his peers, the definition of what is an exemplar is limiting.

Peers were asked to think of an example of the project manager exemplifying a particular behavior. If they could not think of an example they would tend to give them a

rating of 3 or lower. If the participants had the questions before the interview they may have had more time to think of examples. The study also did not allow for a project manager to have a strength in one area of communication that might compensate for a non-preference or weakness in another area. For example, Jason was strong in verbal communication skills, but his written and listening communication skills were not above the 4.0 rating required.

In this researcher's twenty plus years of experience working with technical staff, she has found them to be more critical than people in other fields. The peers said things like, "one time she…. so I will give her a 3," "that's the area where I'll give her a five," "I'll give a 3 for that, it probably happened once or twice in 50 situations." "I don't think anyone is perfect, everyone can improve, but she's really good, so that's a 4."

Future Research Opportunities

There are several opportunities for future research related to this topic. The organization type, size, and virtualness of the team would provide different perspectives. This study was completed in engineering/manufacturing organizations. Would the same result have occurred in retail, insurance, not for profit, or in a government entity? The sizes of the organization in this study varied from small, medium, to large. Would the same results have occurred in a specific size organization? Another line of research to explore would be to study if the communication patterns varied in different-size organizations. Along this line, another research opportunity would be to see if virtual teams considered different types of communication to be more important (written over oral) than others or if emotional intelligence was valued more or less.

Another aspect of research would be to include technical skills. Technical skills would be the skill sets of the industry being studied. For example, the project manager would have engineering expertise if the project involves engineering or marketing expertise if the project was a marketing project. Since 15 out of 23 people identified this as something they considered to be important in the open-ended question at the end of the interview, more study is warranted.

In this study the two females were more critical of their communication skills than their peers. Since there were only two females in this study, this would be another area for future research would be to examine if females overly critical of themselves in all areas or only in the area of communication.

Averages across the sub-areas were used to prove support for the proposition. Jason did not support the proposition due to his average being 3.87 instead of 4.0. Perhaps using mode instead of averages would have been helpful. Four out of five of his peers considered him competent, but since the fifth person gave him a three, he dropped below the 4:00 that was needed. A future study could consider mode and/or averages to determine the project manager's competency.

Exemplars in this study were identified by the organization's leadership. As was discovered with Ted, his leadership considered him to be an exemplar but none of his peers did. This researcher suggests that further studies on project manager success expand on the definition of success by asking pointed questions of leaders and peers about quality of project deliverables, ability to work with a team, outcome-based project management, and more. Peer identification is not adequate since the project manager may

be well liked by his or her peers but not work well with leadership or accomplish the results set forth for the project.

Implications for Organization Development

Research on the factors that make project managers successful may provide organizations with data that will allow them to identify and develop the characteristics that will increase the organization's capacity for executing projects efficiently and effectively. Individuals and organizations tend to focus on a project manager's technical skills; this research provides evidence that communication skills and emotional intelligence were equally valued by team members.

Training and ongoing development in all three areas is important. All three of the areas researched in this study can be developed if project managers want to increase their capacity and competence. How they choose to develop those skills would vary by industry, the organization, and the learner. This study did not directly research development of these areas, but there was evidence in the literature to suggest that these areas are able to be developed.

Hiring for project management technical skills alone or for simply the possession of one's PMP certification is not a good practice. Interviewers in organizations may be able to find better project managers by using behavioral interviewing practices to verify project managers have demonstrated communication (verbal, written, and listening) skills and emotional intelligence, in addition to technical project management skills.

Conclusion

Many project management experts agree that project management technical skills are important. And many will say that communication skills are important. And an equal

number of people will say that emotional intelligence is important in leaders. But, as the dearth of research in this area reveals, it is a new concept to introduce the equal importance of these three factors (project management technical and communication skills and emotional intelligence) in terms of project manager success. Emotional intelligence, especially, is seen in terms of successful leaders but this researcher was not able to find research on emotional intelligence as a factor when combined with the other two for this specific audience.

While the proposition was not technically supported, there was ample evidence to support the benefit of the combination of the three elements (project management technical skills, communication skills, and emotional intelligence) as key skill sets for people who work in the field of project management. Even the non-exemplar's lack of skills in these areas supported the need for all three areas.

Because project managers face unique challenges in their work, the combination of the three elements was critical. Project managers need to be technically competent in their field to gain credibility and to do the project planning itself. They communicate with a wide range of stakeholders so they need verbal, written, and listening skills. Emotional intelligence (self-awareness, self-management, social awareness, and relationship management) is important in terms of the project manager's approachability, facilitation of the work progress, and ability to meet the needs of the project stakeholders.

References

Adams, S. L., & Anantatmula, V. (2010). Social and behavioral influences on team process. *Project Management Journal, 41*(4), 89-98.

Ammeter, A. P., & Dukerich, J. M. (2002). Leadership, team building, and team member characteristics in high performance project teams. *Engineering Management Journal*, *14*(4), 3-10.

Anderson, E. S., Grude, K. V., Haag, T., & Turner, J. R. (1987). *Goal directed project management*. London: Kogan Page/Coopers & Lybrand.

Atkinson, R. (1999). Project management: Cost, time and quality, two best guesses and a phenomenon, it's time to accept other success criteria. *International Journal of Project Management*, *17*, 337-342.

Anderson, B., Klakegg, O. J., Magnussen, O. M., Walker, D. H., & Williams, T. (2012). Identifying and acting on early warning signs in complex projects. *Project Management Journal, 43,* 37-53.

Baccarini, D. (1999). The logical framework method for determining critical success/failure factors in projects. *International Journal of Project Management*, *14*, 141-151.

Bradberry, T., & Greaves, J. (2005b). *The emotional intelligence quickbook: Everything you need to know to put your EQ to work.* New York: Fireside.

Bradberry, T., & Greaves, J. (2007). *Emotional intelligence appraisal Me edition*. San Diego, CA: TalentSmart.

Bradberry, T., & Greaves, J. (2007). *Emotional intelligence appraisal multi-rater edition*. San Diego, CA: TalentSmart.

Bradberry, T., & Greaves, J. (2011). *Emotional intelligence appraisal technical manual*. San Diego, CA: TalentSmart. Retrieved from https://www.talentsmart.com/media/uploads/pdfs/Technical_Manual_2011.pdf

Brill, J. M., Bishop, M. J., & Walker, A. E. (2006). The competencies and characteristics required of an effective project manager: A Web-based Delphi study. *Educational Technology, Research and Development, 54*(2), 115-140.

Bucero, A. (2006). Listen and learn. *PM Network, 20*(7), 20-21.

Buhler, P. M. (2011). Professional polish: A key to the development of today's workforce. *Supervision, 72*(7), 5-7.

Clarke, N. (2010). Emotional intelligence and its relationship to transformational leadership and key project manager competencies. *Project Management Journal, 41*(2), 5-20.

Davis, S. A. (2011). Investigating the impact of project managers' emotional intelligence on their interpersonal competence. *Project Management Journal, 42*(4), 37-57.

DiVincenzo, T. (2006). Project managers stay in charge and out in front. *Occupational Outlook Quarterly,* 19-25. Retrieved from http://wwwbls.gov.opub/ooq/2006/summer/art03.pdf

Dubin, R. (1978). *Theory building* (Revised ed.). New York: The Free Press.

Frame, J. D. (1999). *Building project management competence.* San Francisco: Jossey-Bass Publishers.

Fuimano, J. (2004). Raise your emotional intelligence. *Nursing Management, 35*(7), 10-12.

Geoghegan, L., & Dulewicz, V. (2008). Do project managers' leadership competencies contribute to project success? *Project Management Journal, 39*(4), 58-67.

Gibson, C. B., & Cohen, S. G. (2003). *Virtual teams that work: Creating conditions for virtual team effectiveness.* San Francisco: Jossey-Bass.

Grashina, M. N., & Newell, M. W. (2004). *The project management question and answer book*. New York: AMACOM.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Goleman, D. (1998a). What makes a leader? *Harvard Business Review*, 93-102.

Goleman, D. (1998b). *Working with emotional intelligence*. New York: Bantam Books.

Goleman, D. (2000). Intelligent leadership. *Executive Excellence, 3,* 17.

Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston: Harvard Business School Press.

Heerkens, G.R. (2002), *Project management*. New York: McGraw-Hill.

Henderson, L. S. (2004).Encoding and decoding communication competencies in project management – An exploratory study. *International Journal of Project Management, 22,* 469-476.

Henderson, L. S. (2008).The impact of project managers' communication competencies: Validation and extension of a research model for virtuality, satisfaction and productivity on project teams. *Project Management Journal, 39*(2), 48-59.

IBM. (2008). *Making change work.* Retrieved from http://www-935.ibm.com/services/us/gbs/bus

Jugdev, K., & Müller, R. (2005). A retrospective look at our evolving understanding of project success. *Project Management Journal, 36*(4), 19-31.

Krahn, J., & Hartment, F. (2006). Effective project leadership: A combination of project manager skills and competencies in context. Paper presented at the biennial meeting of the Project Management Institute Research Conference, Montreal, Canada.

Kerzner, H. (2006). *Project management: A systems approach to planning, scheduling and controlling.* Hoboken, NJ: John Wiley & Sons.

Lewis, J. P. (2007). The p*roject manager's desk reference.* New York: McGraw-Hill.

Llopis, G. (2013, May 20). 6 ways effective listening can make you a better leader. Forbes. Retrieved from http://www.forbes.com/sites/glennllopis/2013/05/20/6-effective-ways-listening-can-make-you-a-better-leader/

Lynham, S. A. (2002). Quantitative research and theory building: Dubin's method. *Advances in Developing Human Resources*, *4*(3), 242-276.

Merriam-Webster Online Dictionary. Retrieved from http://www.merriam-webster.com/dictionary/exemplar

Pinto, M. B., & Pinto, J. K. (1991). Determinants of cross-functional cooperation in the project implementation process. *Project Management Journal*, *22*(2), 13-20.

Pinto, J. K., & Slevin, D. P. (1987). Critical factors in successful project implementation. *IEEE Transactions on Engineering Management*, *34*(1), 22-27.

Project Management Institute. (2011). About us and membership figures. Retrieved from http://www.pim.org/About -us/About-us-what-is-PMI.aspx

Project Management Institute. (2013). PMP handbook. Retrieved from http:// http://www.pmi.org/en/Certification/~/media/PDF/Certifications/pdc_pmphandbook.ashx.

Project Management Institute. (2013). *Project management body of knowledge*. Newtown Square, PA: PMI, Inc.

Project Management Institute. (2013). *Pulse of the professional in-depth report - The high cost of low performance: The essential role of communications.* Newtown Square, PH: PMI, Inc.

Schwalbe, K. (2009). *An introduction to project management*. Boston: Cengage Learning.

Sotiriou, D., & Wittmer, D. (2001). Influence methods of project managers: Perceptions of team members and project managers. *Project Management Journal, 32*(3), 12-20.

Sypher, B. D., Bostrom, R. N., & Seibert, J. H. (1989, Fall). Listening, communication abilities, and success at work. *Journal of Business Communication, 26*, 293-303.

Taylor, J. (2006). *A survival guide for project managers*. New York: AMACOM.

Towers Watson (2011). Change and communication ROI study report. Retrieved from http://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2012/01/2011-2012-Change-and-Communication-ROI-Study-Report

Turner, J. R., & Müller, R. (2005). The project manager's leadership style as a success factor on projects: A literature review. *Project Management Journal, 36*(2), 49-61.

Verma, V. K. (1996), *Human resource skills for the project manager*. Newtown Square, PA: PMI, Inc.

White, D., & Fortune, J. (2002).Current practice in project management – An empirical study. *International Journal of Project Management, 20*, 1-11.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage Publications.

Appendices

Appendix A

Emotional Intelligence Domains and Associated Emotional Intelligence Competencies

	EI Domain	EI Competencies
Personal Competence Capabilities that determine how we manage ourselves	Self-Awareness	• *Emotional self-awareness*: Reading one's own emotions and recognizing their impact; using "gut sense" to guide decisions • *Accurate self-assessment*: Knowing one's strengths and limits • *Self-confidence*: A sound sense of ones' self-worth and capabilities
	Self-Management	• *Emotional self-control*: Keeping disruptive emotions and impulses under control • *Transparency*: Displaying honesty and integrity; trustworthiness • *Adaptability*: Flexibility in adapting to changing situations or overcoming obstacles • *Achievement*: The drive to improve performance to meet inner standards of excellence • *Initiative*: Readiness to act and seize opportunities • *Optimism*: Seeing the upside in events
Social Competence Capabilities that determine how we manage relationships	Social Awareness	• *Empathy*: Sensing others' emotions, understanding their perspective, and taking an active interest in their concerns • *Organizational awareness*: Reading the currents, decision networks, and politics at the organization level • *Service*: Recognizing and meeting follower, client, or customer needs
	Relationship Management	• *Inspirational leadership*: Guiding and motivating with a compelling vision • *Influence*: Wielding a range of tactics for persuasion • *Developing others*: Bolstering others' abilities through feedback and guidance • *Change catalyst*: Initiating, managing, and leading in a new direction • *Conflict management*: Resolving disagreements • *Teamwork and collaboration*: Cooperation and team building

From Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston: Harvard Business School Press. p. 39.

Appendix B

Project Manager Interview Guide

This research is about the combination of three factors that lead to project manager success – project management technical skills, communication skills, and emotional intelligence.

Technical Skills: First I'd like to ask about project management technical skills (time, budget, quality/scope).

1. Rate yourself on a scale of 1-5 on your project management technical skills in terms of your ability to be on time in meeting the project deliverables where 1 is very low and 5 is very high.

   [(1) Very low; (2) Low; (3) Neutral/Medium; (4) High; (5) Very High.]

   Probe: Can you describe what timeliness in terms of project management means to you?

   Probe: Can you describe, in your own words, actions you took to resolve schedule issues?

2. Rate yourself on a scale of 1-5 on your project management technical skills in terms of your ability to manage a budget for a project where 1 is very low and 5 is very high.

   Probe: Can you describe what budgeting in project management means to you?

   Probe: Can you describe, in your own words, actions you took to resolve budget issues?

3. Rate yourself on a scale of 1-5 on your project management technical skills in terms of your ability to meet the project requirements (deliver a quality project) where 1 is very low and 5 is very high.

    Probe: Can you describe what quality means to you in terms of project management?

    Probe: How do you manage projects to ensure quality requirements are met?

    Probe: Can you describe actions you took to resolve quality issues?

Communication Skills: Next I'd like to ask you about your communication skills including verbal, written, and listening skills.

4. Rate yourself on a scale of 1-5 on your verbal communications skills where 1 is very low and 5 is very high.

    Probe: Can you give me some examples of your verbal communications skills?

5. Rate yourself on a scale of 1-5 on your written communications skills where 1 is very low and 5 is very high.

    Probe: Can you give me some examples of your written skills and how that fits into project management success?

6. Rate yourself on a scale of 1-5 on your listening skills where 1 is very low and 5 is very high.

    Probe: Can you give me some examples of your listening skills?

Emotional Intelligence: Now we're going to talk about the third factor, emotional intelligence. [Questions about four traits]

7. Rate yourself on a scale of 1-5 on your use of self-awareness.

    Probe: Please give examples of self-awareness.

8. Rate yourself on a scale of 1-5 on your use of self-management.

   Probe: Please give examples of self-management.

9. Rate yourself on a scale of 1-5 on your use of social awareness.

   Probe: Please give examples of social awareness.

10. Rate yourself on a scale of 1-5 on your use of relationship management.

    Probe: Please give examples of relationship management.

11. I proposed that success is based on a combination of project management technical skills, communication skills and emotional intelligence. Is there any other trait besides technical skills, communications skills, and emotional intelligence that might be important in a project manager's success?

Appendix C

Project Manager's Peer Interview Guide

This research is about the combination of three factors that lead to project manager success – technical skills, communication skills, and emotional intelligence.

Technical Skills: First I'd like to ask about the project manager's project management technical skills (time, budget, quality/scope).

1. Rate the project manager on a scale of 1-5 on his or her project management technical skills in terms of his or her ability to be on time in meeting the project deliverables where 1 is very low and 5 is very high.

   [(1) Very low; (2) Low; (3) Neutral/Medium; (4) High; (5) Very High.]

   Probe: Can you describe what timeliness in terms of project management means to you?

   Probe: Can you describe actions the project manager took to resolve schedule issues?

2. Rate the project manager on a scale of 1-5 on his or her project management technical skills in terms of his or her ability to manage a budget for a project where 1 is very low and 5 is very high.

   Probe: Can you describe, in your own words, what budgeting in project management means to you?

   Probe: Can you describe actions the project manager took to resolve budget issues?

3. Rate the project manager on a scale of 1-5 on his or her project management technical skills in terms of his or her ability to meet the project requirements (deliver a quality project) where 1 is very low and 5 is very high.
    - Probe: Can you describe what quality means to you in terms of project management?

    How does the project manager manage projects to ensure quality requirements are met?

    Probe: Can you describe actions the project manager took to resolve quality issues?

Communication Skills: Next I'd like to ask you about their communication skills including verbal, written, and listening skills.

4. Rate the project manager on a scale of 1-5 on his or her verbal communications skills where 1 is very low and 5 is very high.

    Probe: Can you give me some examples of his or her verbal communications skills?

5. Rate the project manager on a scale of 1-5 on his or her written communications skills where 1 is very low and 5 is very high.

    Probe: Can you give me some examples of his or her written skills and how that fits into project management success?

6. Rate the project manager on a scale of 1-5 on his or her listening skills where 1 is very low and 5 is very high.

    Probe: Can you give me some examples of his or her listening skills?

Emotional Intelligence: Now we're going to talk about the third factor, emotional intelligence. [Questions about four traits]

7. Rate the project manager on a scale of 1-5 on his or her use of self-awareness.

   Probe: Please give examples of self-awareness.

8. Rate the project manager on a scale of 1-5 on his or her use of self-management

   Probe: Please give examples of self-management.

9. Rate the project manager on a scale of 1-5 on his or her use of social awareness.

   Probe: Please give examples of social awareness.

10. Rate the project manager on a scale of 1-5 on his or her use of relationship management.

    Probe: Please give examples of relationship management.

11. I proposed that success is based on a combination of project management technical skills, communication skills and emotional intelligence. Is there any other trait besides technical skills, communications skills, and emotional intelligence that might be important in a project manager's success?

Appendix D

PMP Certification Information

Project Management Professional (PMP)

PMI's Project Management Professional (PMP)® credential is the most important industry-recognized certification for project managers. Globally recognized and demanded, the PMP® demonstrates that you have the experience, education and competency to lead and direct projects.

Who should apply?
The PMP recognizes demonstrated competence in leading and directing project teams. If you're an experienced project manager looking to solidify your skills, stand out to employers and maximize your earning potential, the PMP credential is the right choice for you.

PMP Eligibility Overview
To apply for the PMP, you need to have either:

- A secondary degree (high school diploma, associate's degree, or the global equivalent) with at least five years of project management experience, with 7,500 hours leading and directing projects and 35 hours of project management education.
  OR
- A four-year degree (bachelor's degree or the global equivalent) and at least three years of project management experience, with 4,500 hours leading and directing projects and 35 hours of project management education.

This is an overview of the requirements. For complete details regarding the PMP eligibility requirements, please view the PMP Handbook for further details.

The Certified Associate in Project Management (CAPM)® certification is a less rigorous certification that is also available from PMP.

The Certification Process
1. Applicant fills out a detailed application (10 pages)
2. Application is reviewed and approved by PMI.
3. Register for the exam at a qualified testing location.
4. Sit for the exam (200 questions, 4 hours). Exam is composed of Initiation questions 13%, Planning questions 24%, Executing questions 30%, Monitoring & Controlling 25% and Closing 8%.
5. To pass the exam, a score of 67% is needed.

Maintain Your PMP
As part of PMI's Continuing Certification Requirements program, a PMP credential holder needs to earn 60 PDUs per three-year cycle.

Source: Retrieved from http://www.pmi.org/Certification/Project-Management-Professional-PMP.aspx

Appendix E

Participant Consent Form – Project Manager

CONSENT FORM
UNIVERSITY OF ST. THOMAS

The Integration of Three Factors That Lead to a Project Manager's Success

I am conducting a study on the factors that lead project managers to be successful. The factors that lead to a project manager's success have been studied in the past; the uniqueness of this study is the combination of technical skills, communication skills, and emotional intelligence.

I invite you to participate in this research. You were selected as a possible participant because someone you know felt you met the participant criteria I outlined in an e-mail to friends, colleagues, and associates. Briefly the criteria include five years of experience managing projects, have their PMP certification, and have been a project manager on at least five cross-functional projects.

The study is being conducted by Mary Eisele Slack, a doctoral candidate at the University of St. Thomas. Dr. Alla Heorhiadi, University of St. Thomas, OL&D, is the candidate's advisor and dissertation chair for this study.

Background
By exploring the factors that make project managers successful, this study can provide data and insights organizations can draw on to enable their project manager's success. Organizations could use this data to develop project managers in areas in which they are less skilled.

Procedures
If you agree to participate in this study, I will ask you to:

- Participate in an interview to be conducted in person. I estimate the interview will take sixty to ninety minutes.
- Answer questions on three interrelated factors that affect a project manager's success – technical skills, communication skills, and emotional intelligence. Interviews will not be taped but I will be taking notes during the interview.
- Complete an Emotional Intelligence Self Profile.
- Identify three to five team members who worked with you on one or more projects. These individuals will be invited to be interviewed and complete a questionnaire with Likert style questions and an Emotional Intelligence profile about you. To be included in the study at least three people must provide information about you.

Risks and Benefits of Being in the Study
While there are no risks involved (and no financial compensation) in this research project, I have identified several potential benefits to participants. First, participants will most likely gain personal insights in each of the three factors – technical skills, communication skills, and emotional intelligence. Second, when compiled, results of your participation may provide other project managers with insights they may find helpful in their own situations. Third, all research participants will be provided access to the e-learning and multimedia EI skills development and goal tracking feature of the Emotional Intelligences Appraisal Multi-Rater Edition. Finally, results of the study can be used to provide organizations with data that may help them attract and increase the odds of success of their project managers.

The records from this study will be kept private. You will be known only by an ID number. The list of participants with corresponding name will be kept in a locked box for which I have the only key.

Voluntary Nature of the Study
Your participation in this study is entirely voluntary; you can choose to withdraw at any time. If you choose to withdraw any time before or during the interview, data collected about you will not be used in the study.

Contact and Questions
The study will be conducted by Mary Eisele Slack, a doctoral candidate at the University of St. Thomas. If you have any questions, you can reach me at XXX-xxx-xxxx. You may also contact my dissertation chair, Alla Heorhiadi, at 651-962-4457, or the Institutional Review Board at 651-962-5341. You will be given a copy of this form to keep for your records.

Statement of Consent
I have read the above information and my questions have been answered to my satisfaction. I consent to participate in this study.

Signature of Study Participant _____ Date _____

Signature of Researcher _____ Date _____

Appendix F

Participant Consent Form – Peers of the Project Manager

CONSENT FORM
UNIVERSITY OF ST. THOMAS

The Integration of Three Factors That Lead to a Project Manager's Success

I am conducting a study on the factors that lead project managers to be successful. The factors that lead to a project manager's success have been studied in the past; the uniqueness of this study is the combination of technical skills, communication skills, and emotional intelligence.

I invite you to participate in this research. You were selected as a possible participant because you work with one of the project managers that I will be studying. You will be asked to share information about how the project manager interacts with you.

The study is being conducted by Mary Eisele Slack, a doctoral candidate at the University of St. Thomas. Dr. Alla Heorhiadi, University of St. Thomas, OL&D, is the candidate's advisor and dissertation chair for this study.

Background
By exploring the factors that make project managers successful, this study can provide data and insights organizations can draw on to enable their project managers success. Organizations could use this data to develop project managers in areas in which they are less skilled.

Procedures
If you agree to participate in this study, I will ask you to:

- Participate in an interview to be conducted in person. I estimate the interview will take thirty to sixty minutes.
- Answer questions on three interrelated factors that affect a project manager's success – technical skills, communication skills, and emotional intelligence. Interviews will not be taped but I will be taking notes during the interview.
- Complete an Emotional Intelligence Peer profile about the project manager.

Risks and Benefits of Being in the Study
While there are no risks involved (and no financial compensation) in this research project, I have identified several potential benefits to participants. First, project managers will most likely gain personal insights in each of the three factors – technical skills, communication skills, and emotional intelligence. Second, when compiled, results of your participation may provide other project managers with insights they may find helpful in their own situations. Finally, results of the study can be used to provide

organizations with data that may help them attract and increase the odds of success of their project managers.

The records from this study will be kept private. You will be known only by an ID number. The list of participants with corresponding name will be kept in a locked box for which I have the only key.

Voluntary Nature of the Study
Your participation in this study is entirely voluntary; you can choose to withdraw at any time. If you choose to withdraw any time before or during the interview, data collected about you will not be used in the study.

Contact and Questions
They study will be conducted by Mary Eisele Slack, a doctoral candidate at the University of St. Thomas. If you have any questions, you can reach me at XXX-xxx-xxxx. You may also contact my dissertation chair, Alla Heorhiadi, at 651-962-4457, or the Institutional Review Board at 651-962-5341. You will be given a copy of this form to keep for your records.

Statement of Consent
I have read the above information and my questions have been answered to my satisfaction. I consent to participate in this study.

Signature of Study Participant _____ Date _____

Signature of Researcher _____ Date _____

Appendix G

Letter of Solicitation

Hello Everyone:
As most of you know, I have completed my coursework for my doctorate degree in Organization Development at the University of St. Thomas. The purpose of this e-mail is to ask for your help finding participants to assess to complete my dissertation. I am conducting a research study on the factors that lead to a project manager's success. I propose that success is due to a combination of three factors: their technical skills, their communication skills, and their emotional intelligence.

Participant Criteria
I am looking for 3-5 project managers who have:

- 5 years of experience managing projects
- Their PMP certification
- Been a project manager on at least five cross-functional projects

The project managers will identify at least three to five people who will be interviewed and questioned about the project manager's technical skills, communication skills, and emotional intelligence; they will also complete the emotional intelligence assessment. The individuals providing feedback to the project managers must have worked with them in the last two years.

The Recruitment Process
Here are the steps I will follow in the recruitment process:

- Provide me with the names and contact information by March 10, 2014 for potential research candidates.
- We will have a discussion to ensure that the candidate meets the research criteria. If you have an existing relationship with the candidate, I may ask you to contact him or her, provide a context for the research study, and let him or her know that I will be calling about their possible participation in the research study.
- I will either email or telephone the candidates to describe the study, indicate how they were recommended for participation in the study, determine their interest, affirm the level of confidentiality, assure them that participation is totally voluntary, and answer any questions they may have.
- If the potential candidate is interested, I will request his or her signature on a consent form.

The study will be conducted during the summer of 2013. The study will include interviewing others who work with the project managers and asking them to complete two surveys about the project manager. The project managers will also complete an emotional intelligence self-assessment and be interviewed. Interviews will not be audiotaped but I will take notes for analysis purposes. Notes will be kept in a locked box for which I have the only key.

Data analysis will be done using a coding system that identifies the participant only by an ID number.

Risks and Benefits of Being in the Study

While there are no risks involved (and no financial compensation) in this research project, I have identified several potential benefits to participants. First, participants might gain personal insights in each of the three factors – technical skills, communication skills, and emotional intelligence. Second, when compiled, results of the project manager's participation may provide other project managers with insights they may find helpful in their own situations. Third, All research participants will be provided access to the e-learning and multimedia EI skills development and goal tracking feature of the Emotional Intelligences Appraisal Multi-Rater Edition. Finally, results of the study can be used to provide organizations with data that may help them attract and increase the odds of success of their project managers.

Thank you, in advance, for your help. Please feel free to contact me if you would like more information about my dissertation or to discuss a potential participant.

Sincerely,

Mary Eisele Slack
XXX-xxx-xxxx
Maryslack@xxx.com

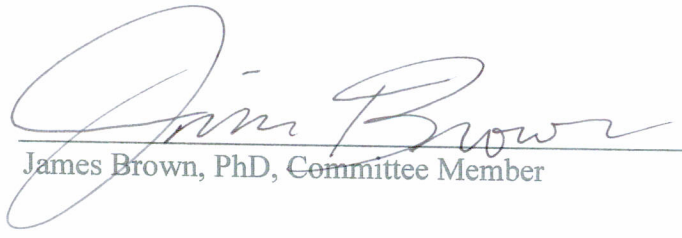
UNIVERSITY OF ST. THOMAS

We certify that we have read this dissertation and approve it as adequate in scope and quality. We found that it is complete and satisfactory in all respects, and that any and all revisions required by the final examining committee have been made.

Dissertation Committee

Alla Heorhiadi, PhD, EdD, Committee Chair

John Conbere, EdD, Committee Member



James Brown, PhD, Committee Member

October 7, 2014