UNDERSTANDING THE FACTORS THAT AFFECT PROJECT MANAGERS' DEVELOPMENT AND USE OF EMOTIONAL INTELLIGENCE IN MANAGING PROJECT STAKEHOLDERS

by

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Abstract

Project Managers (PMs) have the responsibility for managing projects to a successful conclusion (PMBOK® Guide, 4th ed., 2008). To increase the chances for a successful project outcome, open communications, trust, and judgment should be shared between PMs and their stakeholders (Skulmoski & Hartman, 2010). Emotional intelligence (EI) plays a role in effecting that trust. Goleman, Boyatzis, and McKee (2002, p. 59) suggest that by cultivating trust EI can help one maximize "cooperation, collaboration, and effectiveness." EI can also have a positive impact on the ability to manage project team members (Sunindijo, Hadikusumo, & Ogunlana, 2007; Cherniss, Extein, Goleman & Weissberg, 2006). Research has also shown that putting to use one's emotional intelligence skills can have a positive impact on a PM's career as well (Tucker, Sojka, Barone, & McCarthy, 2000.) As the business landscape continues to change, the demands to improve the chances for a successful project have increased and a changing business landscape is requiring new skills and leadership attributes (Piel, 2008). Since the mid 1990s, researchers have suggested that EI contributes to a PM's chances for a successful project outcome. Therefore, this study focused on understanding how certain factors can serve as obstacles to a PM's development and use of EI. The findings of this study may be used by PMs to change some of the factors that serve as obstacles and, in turn, increase their chances of developing or invoking EI to their benefit.

Dedication

A journey such as this does not occur alone. This study is dedicated to my lifelong friend, partner, study mate, and wife – Jennie. Moving us up the academic ladder has always been a vision of hers, and it has served continually to drive me forward. My hope is that I will return the favor by helping her finish her journey as well. Thank you so very much, Jennie!

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Project failure has always been associated with unplanned and added costs: both direct costs and lost opportunity costs (Standish Group). It was not until the 1990s that the Standish Group, in their *CHAOS Report* (1994), elevated this issue to the attention of the business and financial world. Estimated direct costs for project failure in the 1990s have ranged from $81B United States Dollars (USD) in 1994 (Standish, 1999) to $140 billion USD (Rosemont Management, 2008). Krigsman (2009) and Sessions (2009) gave even more striking estimates of over $6 trillion USD annually. In their article *CHAOS: a recipe for success* (2001), the Standish group further suggests that lost business due to project failure could be in the trillions of dollars. By quantifying costs in terms of completion delays, price overruns, cancellations, and lost business opportunity, the Standish Group and other researchers have communicated the need to consider improving project management practices and draw attention to the skills and competencies that project managers (PMs) need in order to enhance the chances for success. The majority of issues, arising from a lack of skills and competencies, point toward communication.

To increase the chances for a successful project outcome, open communications, trust, and judgment should be shared between a project manager (PM) and his or her stakeholders (Skulmoski & Hartman, 2010). Emotional intelligence (EI) plays a role in effecting that trust. Goleman, Boyatzis, & McKee (2002) suggest that through fostering trust, EI can help one maximize cooperation and collaboration between people and contribute to effectiveness. Invoking one's emotional intelligence skills can enhance the chances for a positive outcome and have a positive impact on a PM's career as well

(Tucker, Sojka, Barone, & McCarthy, 2000). EI can also have a positive impact toward the ability to manage project team members (Cherniss, Extein, Goleman & Weissberg, 2006; Sunindijo, Hadikusumo, & Ogunlana, 2007).

Leadership, and by its association project management, is also affected by communication and more precisely EI. Sunindijo, Hadikusumo, and Ogunlana (2007) suggest that senior managers with a higher degree of EI tend to outperform their contemporaries who have a lower degree of EI. Although positive correlations between EI and effective leadership in areas such as the public sector, academia, and the military have been identified (Cherniss et al., 2006), there may be factors and obstacles preventing PMs from developing or invoking their EI in these and other areas.

While studies have shown that the field of EI is relatively new (Goleman, 1995; Karnaze, 2009), emotions do reveal important, sometimes critical, information about relationships between two or more individuals. Understanding emotions and the management thereof can prove valuable not only in business but also in personal, cultural, and political environments (Cobb & Mayer, 2000). The research community, then, has been challenged with agreeing on not only the validity of EI but also its construct and definitions.

Many researchers have contributed to the development of EI theories, including Thorndike, Wechlser, Maslow, Gardner, Payne, Salovey, Mayer, and Goleman (Cherry, 2010). And while an exact definition of EI has yet to be agreed upon (Karnaze, 2009), one such definition attributed to Mayer, Salovey and Caruso (2004), defines EI as

> The capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to

> access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (p. 197)

The issue of definitions notwithstanding, knowing how one will deal with emotional situations is critical to our understanding of how we react in certain situations (Goleman, 1995; Schneider & Bowen, 2009).

The importance of a developed and effective EI can be seen in the PM's role and responsibility for managing project stakeholders (PMBOK® Guide, 4th ed., (2008). Added to the challenges that PMs face in understanding, developing, and invoking their EI, is identifying and defining the appropriate project stakeholders, any one of which can have a significant impact on a project if emotions are not managed (Chapman & Ward, 2008). While some may consider stakeholders to be a part of a project team, this research was based on a distinction made by the Project Management Body of Knowledge between the team and stakeholder. The PMBOK® Guide, 4th ed., (2008) identifies stakeholders as individuals or groups separate from the immediate project team who may also exert authority or direction over the project, items of scope, and the team members. They can also play a decisive role in determining the outcome of a project (Chapman & Ward, 2008). Within this definition, stakeholders may include customers, users, sponsors, portfolio managers, functional managers, sellers, and business partners (PMBOK® Guide, 4th ed., 2008). This distinction is important as the problem being researched centers on the relationship between the PM and the stakeholder and not the project team. However, while the use of EI is important for PMs in managing their stakeholders, it is not a replacement for the myriad of other soft skills that they should

possess. “Skills such as empathy, influence, creativity, and group facilitation are valuable assets when managing the project team” (PMBOK® Guide, 4th ed., 2008, p. 232).

Proactive management is also important for PMs, as emotions, theirs and those of their stakeholders, can be unstable resulting in decision making that is more reactive than preemptive (Jang, Dick, Wolf, Livesley, & Paris, 2005; Robins, Caspi, & Moffitt, 2002). Watson (1981) posits that if one acts in a reactionary mode, there is a greater risk of minimizing purpose and reducing the chances for achieving a desired outcome. Porter (1962) also suggests that it may, through design, be beneficial to proactively *alter* an emotional relationship. Therefore, PMs would be better served if they are equipped with “multiple skills and abilities” (Leban, 2003, p. 3). Proactively managing stakeholders would help to facilitate a successful project outcome (PMBOK® Guide 4th ed., 2008). Considering that the incorporation of EI skills can enhance the chances for a positive outcome (Tucker, Sojka, Barone, & McCarthy, 2000), overcoming the obstacles that prevent PMs from developing and using their EI can help contribute to that positive outcome.

Contrasting the inherent slowness of the growth of the EI body of knowledge, is the need for PMs to accept the sense of urgencies that surround the need to understand and implement their own EI in their project management activities. Piel (2008) suggests that a changing business landscape is requiring new skills and leadership attributes. As the business landscape continues to change, there are increased pressures on management to accomplish more with less, accept greater responsibility, demonstrate transparency, and adhere to higher ethical standards. PMs face demands for faster and greater productivity in a “less than supportive environment” (Knutson, 2007, p. 1). An urgency

that follows these changes is for the PM to take advantage of EI and integrate EI skills into their toolbox (Tucker et al, 2000). The changing business landscape is a primary source for these demands and subsequent source for emotional issues within a project management structure. However, when demands and needs are not fulfilled, emotions surface (Schneider & Bowen, 2009). Sunindijo, Hadikusumo, and Ogunlana (2007) and Cherniss, Extein, Goleman and Weissberg (2006) have postulated that the benefits of EI have already been determined. Therefore, PMs should understand the types of obstacles that prevent them from developing and invoking their EI and become proactive in removing or circumventing those obstacles.

The opportunities for PMs to take advantage of their EI in a project setting are numerous. For example, as the demand for greater flexibility in business environments increases, it is important to understand how emotions can surface as a result of stakeholder expectations not being met. Moreover, as the PMBOK® Guide 4th ed., (2008) suggests that PMs consider varying from rigor in order to attain a desired outcome, the challenge PMs face is in maintaining a balance between being flexible and maintaining a necessary level of rigor appropriate for their profession. Since satisfaction is an emotion (Reidenbach & McClung, 1999), PMs must manage their own satisfaction as well as that of their stakeholders throughout the entire project lifecycle (PMBOK® Guide 4th ed., 2008). Not meeting their own expectations, then, becomes an opportunity for PMs to take advantage of the benefits EI has to offer in managing their own emotions. Added to the challenges PMs face in managing their own emotions during increased demands on the project are the potential emotions of their stakeholders.

Jensen (2001) suggested that stakeholder theory mandates that PMs manage the interests of *all* stakeholders. Distinguishing between the myriad potential stakeholders becomes an important activity for the PM. By following the stakeholder management strategy of identifying the "level of participation in the project for each identified stakeholder" (PMBOK® Guide 4th ed., 2008, p. 251), the PM can anticipate and incorporate an appropriate level of flexibility. Being proactive and flexible can be as important as "the different claims, rights and expectations of stakeholders can influence an organization's processes and in extreme cases pose a threat to its projects" (Chinyio & Akintoye, 2008, p2). Stakeholders can significantly impact the outcome of the project (Chapman & Ward, 2008) and manifests itself when emotions are triggered as a result of missed expectations and poor communication.

Lewis (2009) suggests that it is critical to know how emotions can impact communications, as effective communication can lead toward effective planning. Accordingly, PMs must also consider stakeholder satisfaction when planning and managing their projects, as "stakeholder satisfaction, product success, business and organization benefit, and team development" are all deemed to be the true measures of success (Geoghegan & Dulewicz, 2008, p. 60). Moreover, stakeholder satisfaction is fostered by planning, building, and maintaining trust between the PM and the stakeholder (Olander & Landin, 2007). By anticipating the impacts of emotions and understanding how to manage those emotions, PMs can foster greater trust and enhance the chances of satisfying their stakeholder's needs.

Finally, there may also be a lack of willingness to embrace EI stemming from one's belief that EI simply does not have value. A PM's attitude may be reflected in his

or her view that EI is nothing more than a willingness to pay attention to others' feelings but not intelligence (Davies & Stankov, 1998). Additionally, confusion as to what EI means in terms of its theoretical construct may also be a factor since "the definition of the concept is constantly changing" and "most definitions are so all-inclusive as to make the concept unintelligible" (Locke, 2005, p. 426).

Background of the Study

While the knowledgebase of the mechanics of project management process continues to grow, new areas of project management competencies also need to grow (Knutson, 2007, Pomfret, 2008; Stefanou, 2002). As each project is unique, (PMBOK® Guide 4th ed., 2008) so too are its PMs and project stakeholders. PMs should understand the myriad of challenges they will face in meeting the needs of both their stakeholders and themselves and identifying the obstacles that can prevent them from so doing.

This study added to previous EI research and literature, which focused primarily on its theory, constructs, benefits, measurements, and importance by studying why PMs might not be able or willing to develop or invoke EI. It focused on certain factors common to PMs, identified in the study as independent variables, to determine if there is a correlation between those factors and the PM's ability or desire to develop or invoke their EI when managing project stakeholders.

While project management spans virtually every industry, the time and cost constraints of this study were limited to surveying PMs in the technical arena only and generalizability was limited. However, this research was meant to provide the foundation for additional research into other factors and other project management arenas with the hopes that the body of knowledge can continue to grow and benefit the PM profession.

Statement of the Problem

Literature reviewed suggested that there are positive correlations between EI and successful leadership and between a PM's EI and a successful project outcome. However, there was scant literature available that identifies the factors that prevent PMs from developing or using their EI. While research into the benefits of EI continues, PMs can benefit from understanding the obstacles they face in developing or invoking that intelligence.

The Standish Group International (2001) suggests that lack of skilled project management continues to be a primary reason for project failure, and studies have shown that the costs associated with those failures are significant (Krigsman, 2008; Krigsman, 2009; Sessions, 2009; Rosemont Management, 2008; Standish Group, 1994). Research shows that stakeholder management is a skill and activity that is critical to project management (Donaldson & Preston, 1995; PMBOK® Guide 4th ed., 2008; Rowlenson & Cheung, 2008). Emotional awareness, both self-awareness and social awareness, can contribute to stronger leadership (Sunindijo, Bonaventura, Hadikusumo, & Ogunlana, 2007) and enhance stakeholder management. EI can enhance a person's awareness, has been regarded as an important contributor to positive outcomes, and can increase the chances for successfully managing emotions during a project management setting (Cherniss, Extein, Goleman & Weissberg, 2006).

Purpose of the Study

The purpose of this study was to determine if certain factors or a combination of factors could be construed as obstacles that would prevent PMs from developing their EI or lessen the frequency of invoking their EI when managing project stakeholders. The

factors considered for this research were years of project management experience, gender, and attitude.

The study also provided the project management body of knowledge with new information into these obstacles and assist PMs in learning how to manage this significant issue. The purpose of this research was to add to the project management body of knowledge by providing a greater understanding of the obstacles that PMs face in developing and using their EI, so PMs and project stakeholders can realize the benefits EI offers within a project setting. This study identified some demographics and underlying factors that might create those obstacles.

Research Questions

The questions that this study attempted to answer are

1. To what extent does education level, gender, or years of project management experience affect a PM's development of EI?
2. To what extent does education level, gender, or years of project management experience affect how frequently a PM invokes EI when managing project stakeholders?
3. Is there a relationship between a PM's attitude toward the effectiveness of EI and their education level, years of project management experience, and gender?

Significance of the Study

Research shows that the cost of failed IT projects is significant and range from an estimate of 140 billion USD (Rosemont Management, 2008) to over 6 trillion USD annually (Krigsman, 2009; Sessions, 2009). The Standish Group International (2001) suggests that a lack of skilled project management continues to be a primary reason for

project failure and understanding the obstacles that prevent PMs from developing these skills may help reverse this trend.

While the project management body of knowledge is fairly robust in terms of the tools, processes, procedures, lessons learned, and examples, it continues to grow. However, while PMs might recognize that a tool, skill, or intelligence has value in a project management setting it does not guarantee that they will or can use it to their advantage.

This research added both to the current literature on EI and to the project management body of knowledge by drawing attention to the obstacles PMs face in developing and invoking their own EI. It also provided the framework for additional research into areas of project management competencies that still need to grow (Stefanou, 2002; Knutson, 2007, Pomfret, 2008).

Definition of Terms

The following definitions were meant to provide clarity in how these words and phrases were used both in this study and as used throughout this document.

Attitude is identified as a PM's feeling about the value of EI in managing one's own emotions and in managing stakeholder emotions. A PM's attitude *level* is identified then through the PM's response to survey questions Q7 and Q8.

Emotion intelligence is " a subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer 1990, pp. 185-211).

Institutional Review Board (IRB), the purpose of the IRB review and approval process is to ensure ethical treatment and protection of human research participants and/or their records.

Project Management Institute (PMI), a not for profit professional association whose "primary goal is to advance the practice, science and profession of project management throughout the world" (PMI.org, 2010, Web Page).

PMBOK® Guide 4th ed., the acronym for the Project Management Body of Knowledge Guide 4th edition. It is also "the recognized standard for the project management profession" and "foundational reference" for the PMI professional development and certification programs (PMBOK® Guide 4th ed., 2008, p. 3).

PMP, one who is awarded the title of Project Management Professional by the PMI.

Project, "a temporary endeavor undertaken to create a unique product, service, or result" (PMBOK® Guide 4th ed., 2008, p. 5). The project is usually bounded by certain limitations such as cost and specific functions and/or benefits.

Project failure, projects that fail to meet expected value within an agreed cost limitation and/or period of time (Tichy & Bascom, 2008).

Project management body of knowledge is the universal body of knowledge created by the aggregation of all individual bodies of knowledge. As referenced in this research document, this is not the same as the Project Management Body of Knowledge, expressed in upper and lower case text that is sanctioned by the PMI and referenced within their PMBOK® Guide (2008).

Project Manager is the person who has the responsibility, accountability, and authority to manage the project constraints such as cost, schedule, resources, etc., while managing toward specific project objectives (PMBOK® Guide 4th ed., 2008, p3; Mullaly, 2003).

Project success, meeting the expectations and criteria for success as defined by all legitimate stakeholders. "The success is measured by product and project quality, timeliness, budget compliance, and degree of customer satisfaction" (PMBOK® Guide 4th ed., 2008, p. 9).

Stress, within the context of this research, stress refers to the result of stimuli that affects a person's ability to "make sense out of his or her own environment" and the reactions and various intervening processes that result in potential adverse impacts to a person's decision making process (Burt, 1997, p27).

Stakeholder, those "who have a vested interest in the project and may exert influence over the project and its deliverables" (Antonioni, 2009, p. 19) and who are not considered to be part of the immediate project team (PMBOK® Guide 4th ed., 2008).

Stakeholder theory, "managers should make decisions so as to take account of the interests of all stakeholders in a firm" (Jensen, 2001, p. 2).

Transactional leadership, leadership/management style that focuses on the short term tasks and gives employees little control over their work.

Assumptions and Limitations

The following assumptions have been made for this research

1. There will be a sufficient number of participants responding to the survey in order to meet a confidence level of 95%.
2. PMs have a general understanding of EI prior to their taking of the survey. EI will be defined as an introduction to the survey questionnaire and made available to the participants to read prior to taking the survey.

The following limitations have been made for this research

1. Participation level might not be reached and, therefore, might not support a 95% target confidence level. If there is a significant departure from the number of targeted participants from the number of actual participants, the researcher will adjust the confidence level. In addition to the participant limitations stated above, there is also a limit to the number of participants due to their willingness to participate (Jin, 2010; Koch & Emrey, 2001).
2. Time constraints prevent this researcher from considering participants from other fields and, therefore, will consider only those from the IS project management domain. This may limit the accuracy of the generalizability.
3. Time constraints also limit data collection. This limit is a 15 day period in which the participants can answer the survey. This may impact generalizability.
4. Time constraints limit the list of variables to be studied to those identified. This will not allow for more detailed levels of each variable or the addition of other variables into the study. Although the variables listed in the survey instrument, which was reviewed and approved by the IRB, included education level, it was decided that this variable would have a negative impact on the reliability of the survey instrument and, therefore, was not considered for the study.

The researcher chose to limit the independent variables to the following

- Years of project management experience
- Gender
- Attitude toward the value of EI in managing one's own emotions
- Attitude toward the value of EI in managing the emotions of others

The researcher chose to limit the dependent variables to the following

- Frequency of using/invoking EI
- Level of a PM's EI development

Nature of the Study

The quantitative methodology was chosen for this to determine the extent to which certain variables are related to a PM's development and use of EI.

The rationale for using quantitative approach was three-fold. First, it facilitates the development of a more concise list of potential factors from which to base the data collection and analyses efforts. By omitting open-ended questions and interviews, which are common to a qualitative approach, the list of potential factors could be reduced. Second, the quantitative approach helps mitigate the chances for bias that is more prominent in a qualitative research approach. Data collection is straightforward and omits the need for a personal interview or record information collected from the sample population. Third, the quantitative approach lends well to collecting and analyzing data within the time and cost constraints of this research.

Organization of the Remainder of the Study

The following areas of study are covered in chapters two through five. Chapter 2 focuses on the literature reviewed and is grouped in a way as to address the primary areas upon which the study was based. This includes seminal authors' writings and research on

the theory, constructs, and value of EI and leadership and relates those to the sense of urgency that PMs face considering the changing business landscape. Chapter 3 identifies the research questions, variables being studied, hypotheses to be tested, and the population sample. Chapter 4 identifies the results of the data analyses as they relate to the research questions and the support or non-support of the hypotheses. A summary of the findings and conclusions of the study are captured in Chapter 5 as are recommendations for future research.

CHAPTER 2. LITERATURE REVIEW

Overview

The research community has contributed myriad articles and writings on the theories of Emotional Intelligence (EI), but only scant literature exists on the obstacles that project managers (PMs) face in developing or invoking their EI. This literature review provides a basis for understanding the constructs and theories of EI, the issues the research community has experienced in defining EI, the contrasting views of proponents and opponents of EI, and the benefit of a project manager's (PM) EI to the stakeholder community. Literature from those who advocate for the development of EI has been contrasted with those who, for one reason or another, oppose EI, its benefits, or its ability to be measured or learned. Since PMs can be influenced by what they read or hear regarding differing opinions that researchers and practitioners take on EI, a review of the literature was performed in order to determine if these differences could impact a PM's attitude toward developing or invoking their own EI.

The literature review also identified the sense of urgency that PMs face in developing and invoking their EI, as is inferred by the changing business landscape. It considers the impact of failed projects in terms of its costs, lost business opportunities, ethical issues, and the law. This review is important in order to better understand how any one of these can be deemed significant enough to require investigation into the obstacles PMs face in developing their EI.

Finally, the literature review indicates an affinity by seminal thinkers and practitioners toward espousing EI as it can benefit PMs. However, due to the scant writings on the obstacles that can prevent PMs from taking advantage of EI, it appears

that the benefits of EI might not be realized. The project management body of knowledge will benefit from additional research into this area.

EI Concepts, Constructs, and Measurement

EI is a relatively new theory (Mayer, Caruso, & Salovey, 2000), and a review of literature suggests that the vast majority of knowledge gained on the subject of EI has only occurred within the past two decades. While initial concepts of EI have been credited as far back as during the days of Socrates (Chopra & Kanji, 2010), the first constructs of EI appear to be credited to Mayer and Salovey in 1990. Since then, other constructs continue to be developed and EI, as a new discipline, will continue to evolve through research and hypothesis testing similar to the way IQ did during its evolution (Goleman & Weissberg, 2006; Service & Fekula, 2008). However, experiential exercises relating to the constructs of EI are scarce (Ferris, 2009). As a result, trying to settle on a single defining of EI continues to be an elusive activity for many researchers. The problem with creating a unified definition of EI is that the changing and added constructs have yet to be agreed upon (Davies, Stankov, & Roberts, 1998; Van Rooy, Whitman, & Viswesvaran, 2010).

The knowledge of EI continues to grow and its acceptance as a viable intelligence also continues to grow. Its popularity can be seen in its apparent correlation to success and, more specifically, success of the business executive (Goleman, 1998; Service & Fekula, 2008). EI also influences other areas of the workplace including leadership (Service & Fekula), team building, and global communication (Chopra, & Kanji, 2010; Subhashini, 2008). Goleman (1995) suggested that EI, on average, contributes more than

80 percent toward a person's success. However, while research toward the value of EI in the workplace continues, so does research into its measurement.

Several tools have been designed with the purpose of measuring ones EI and, as a result, are adding to the controversy over the decisions of which measurement tools are valid. Controversy notwithstanding, Muyia (2009) suggests that proponents of EI argue that the differences in the designs of the tools are reflective of the purposes for which they intended. The purposes include performance tests, self-report inventories, and observer ratings. Three commonly used EI measurement tools are MSCEIT, Emotional Competence Inventory (ECI), and Bar-On Emotional Quotient Inventory (EQ-i), which was recognized in 1997. These tools are summarized by Muyia as follows

1. MSCEIT – an ability test in which the person being tested performs a number of tasks designed to test various dimensions of EI. This has been updated to MSCEIT v2 – which measures the four branches of the Mayer and Salovey EI ability model
2. The ECI – designed to assess an individual's emotional competencies and positive behavior, and
3. Bar-On's EQ-I – used to examine the relationship between EI and a range of organization outcomes.

Contrasting Opinions, Definitions, and Attitude Toward EI

It is important to recognize that advocates of EI position EI as a leadership quality or trait (Chopraa & Kanji, 2010) but equally important to consider the arguments of the opponents of that premise. Although there exists a general acceptance of the EI constructs within the academic community, there are those who criticize its validity and warn of the issues that accompany a cart blanche acceptance of its usefulness. Locke (2005) suggests that the emotion part of EI is far too complicated a concept to be arbitrarily labeled as an

integral leadership quality. Research also suggests that there are instances where being overly sympathetic or empathetic can interfere with decision making (Hicks & Dess, 2008).

Literature also suggests that another reason why there is much disagreement on the validity of EI is because the field is still evolving (Goleman, 1995; Karnaze, 2009). Moreover, there are differing cultural and geographic perspectives on EI in addition to a lack of empirical evidence of applied EI (Gohm, 2004). However, there are positions that support the evidence of the value of EI. There is a "growing base documenting the positive effects of school-based EI programming on students' healthy development and academic performance" (Cherniss, Extein, Goleman, & Weissberg, 2006, p243). However, there are differing reasons for its acceptance as well. Cobb and Mayer (2000) posit that the reason EI became attractive and alluring was because the public was seeking to adopt the thought of something else, other than IQ, being a determinant success factor.

Another contributing factor in the debate over whether EI is viable and valuable is the myriad definitions in use today. Differing positions and opinions can be found on the Internet, in articles, books, academic and research databases, new research, and in workshops (Waterhouse, 2006). As a result of its exploding growth and interest, the EI community has yet to agree its definition, purpose, benefit, or even validity (Locke, 2005; Waterhouse, 2006). Although a single definition of EI continues to elude researchers and practitioners (Gohm, 2004), one generally accepted thought is that EI spans both the individual and their relationships. EI that relates to the individual can be deemed as intrapersonal intelligence while being intelligent in identifying the thoughts and feelings

of, and between, others can be deemed as intrapersonal intelligence (Palethorpe, 2006). This distinction has specific importance when understanding why PMs need to manage both the emotions of themselves and their stakeholders.

Despite the challenges with agreeing on its definition, its relative infancy does not make EI improbable or invalid. One of the challenges with a relatively young theory is that sensationalism plays an influential role where it should not. Proving or disproving a theory within a relatively new environment warrants prudence (Cobb & Mayer, 2000). In addition, because it is in its early stages of development, it is undergoing continued assessment and rigorous hypothesis testing. The result of which will eventually lead to more robust evidence for its validity (Cherniss, Extein, Goleman, & Weissberg, 2006).

Attitudes about EI are changing. A PM's attitude toward the validity of EI and its value in helping him or her manage emotions in a project management setting is impacted by the position the research community takes on the efficacy of EI. While PMs may understand the value of traditional project management *tools* in helping them manage their projects, EI, as a type of intelligence, may be more difficult to grasp than more traditional management tools. Locke (2005) suggest that one reason for this difficulty may be due to intelligence being a capacity to grasp an abstraction rather than actually using one's mind to work or manipulate the abstraction toward solution. The words *emotional intelligence* can then become so abstract to a point that it becomes difficult for a person to derive meaning (Kousta, Vigliocco, Vinson, Andrews, and Del Campo, 2010).

While many researchers contend that EI contributes toward one's ability to manage project team members (Cherniss, Extein, Goleman & Weissberg, 2006;

Sunindijo, Hadikusumo, & Ogunlana, 2007), other researchers have elected to compare it to IQ (Cobb & Mayer, 2000; Mayer, Caruso, & Salovey 2000). An example of this debate is where Cobb and Mayer (2000) and Hicks and Dess (2008) suggest that EI is probably the best predictor of a person's success in life. Conversely, Mayer, Caruso, and Salovey (2000) take an opposite view and contend that there is no real evidence to support that EI is any more of a predictor of that nature than a person's IQ. The above contradiction, then, tends to impact the ability or willingness of one to assign true application value to EI.

Another area of EI contradiction is centered in the testing of one's EI. While there exists a general belief that EI is valuable, measuring that EI level is, at best, no different than those used to test other intelligences (Davies, Stankov & Roberts, 1998). Since the tools are varied and the construct is still elusive, Mayer, Salovey, and Caruso (2004) posit that the ability of EI to be measured is still debatable.

Proponents of EI. The belief that EI is an object or phenomenon that can be turned into something tangible, in terms of how it can be shaped and managed, is an ongoing study (Landen, 2002). However, Cherniss et al. (2006) argue that while there may be a lack of unity in defining, positioning, and valuing EI, there is substantial and growing evidence that EI does have merit both individually and in business. From an organizational perspective, EI is also thought of as being a valuable commodity when considering the recruitment and hiring of employees. From a PM's perspective, it could translate to the activities of staffing the project team (Ashkanasy, Härtel & Daus, 2002). Value is also proposed by Cherniss et al. (2006) in that the empirical evidence pointing to predictive validity of EI has been obtained in several studies both in the workplace and

academic arenas. Another position of advocacy of EI can be seen from Palethorpe's (2006) comment suggesting that we will become more effectual at managing ourselves and others if we become more aware of ourselves and others.

There is a correlation between EI and communication, and Lewis (2009) suggests that it is critical to know how emotions can impact communications, and how EI can impact the sending of right messages to the right stakeholders. However, it is equally important to note that emotions can also become obstacles that result in a lack of communication, and this lack of communication can lead to project failure (PMBOK® Guide 4th ed., 2008). The inverse is also true in that "individuals and organizations who understand the emotional and diverse nuances of communication also should be more efficient in quickly satisfying customers' and constituencies' consequences" (Ashkanasy, Härtel & Daus, 2002, p329). Therefore, any skill that PMs can add to their arsenal of management tools and communication skills would be advantageous since the application of those skills is vital in managing a project (PMBOK® Guide 4th ed., 2008).

Regarding the issues surrounding EI and the research community's lack of adherence to only one definition, Mayer, Salovey, and Caruso (2004) posit that it is rare that any scientific research begins without having issues concerning definitions. They further suggest that the research, as it continues, will eventually lead toward more uniform agreement of definitions and, thus, greater acceptance. A review of the literature also suggest that putting a rush on creating a final definition for EI, in a field as complex as intelligence, will most likely not occur soon. However, there seems to be a greater tendency towards acceptance of the slight disparities of definitions, construct, and value of EI between proponents than between opponents.

Opponents of EI. As the field of EI continues to grow and mature, the challenges to the claims of EI also grow. PMs must be aware of the sources for these challenges, as they can affect their own attitude toward accepting EI as viable and, therefore, would impact the desire or ability to overcome obstacles to developing or using their own EI. One such example of these challenges is the Davies, Stankov and Roberts (1998) argument that the questionnaires in use today to test EI are not sufficiently different than those used to test other personality traits and this causes issues with dependability and reliability. Another is the actual use of the term intelligence to habits or skills as may be the case of EI (Locke, 2005). Moreover, issues concerning the adequacy and efficacy of testing EI are challenged by both proponents and opponents alike. An example of this can be seen in the research done by Mayer, Salovey, and Caruso (2004) where answers to EI test questions have must first be agreed upon within the expert community in order to enhance validity of the study.

Another source of concern that fuels opponents of EI is in the area related to emotional dissonance. In fundamental terms, emotional dissonance occurs when a person "fakes in bad faith" (Abraham, 1998, HTML web p. 1). Being told that EI can contribute to success appears to make sense yet the individual who is confronted with the prospects of having to manage their own feelings and emotions e.g., a customer service representative, in spite of the emotions being exhibited by others, is often a dichotomy. This is an area common to PMs, especially where they must concede to stakeholder emotions while abandoning their own (Cherniss et al., 2006; Palethorpe, 2006).

Serving as additional fodder for opponents of EI is the belief that emotional labor or hiding one's feelings counteracts the ability to fully espouse EI. Opponents of EI,

therefore, argue that this action has been known to cause aversive physiological and psychological consequences (Ashkanasy, Härtel & Daus, 2002). Again, this becomes an obstacle for PMs when developing or taking advantage of their EI. Abraham (2000) elaborates on this and refers to this as emotional dissonance, whereby there is a conflict between emotions that one experiences and those that they express. A situation where this can occur is when the preference of the organization conflict with the true feelings of the individual (Abraham). An example of this can be seen in a typical customer service role where a customer expects that the feelings and attitudes of the service representative are helpful, friendly, and supportive regardless of the feelings they, the service employees, are experiencing (Abraham). The battle appears to be more in an understanding of how to cope with this situation rather than fighting it. One suggested way to circumvent the need to hiding one's feelings against one's wishes is by "listen[ing] to understand, not agree" (Watkins, 2009, HTML p. 1). Feigning sincere empathy, then, can become detrimental to the relationship between a PM and their stakeholders.

Research also suggests that the value of EI should not be considered in a vacuum but rather against other factors as well. These include an assessment of one's own EI, the relationship between EI and traditional abilities, and EI as it relates to personality types. While the consideration of these factors do not distract necessarily from the value of EI they can add to the complexities of establishing an EI construct (Davies, Stankov & Roberts 1998).

Debates over who should be responsible for fostering the development of EI continues as well and, as such, fosters disagreements in the research community over whether organizations can be an effective contributors to this process (Lindebaum, 2009).

Although not opponents of EI, Farh, Myeong-Gu, and Tesluk (2012) suggest that not all components of EI should be considered equal in value. That is, merely having EI does not help one if they do not perceive a need for responding emotionally. If someone does not display, outwardly or inwardly, emotional concern over an issue then one cannot call upon that EI to act upon the situation in an effective or efficient manner. The value and attention given to "emotional perception ability" (Farh et al. p. 890) becomes yet another potential area for disagreement between the research community over how to *package* the EI concept for a more uniform level of acceptance.

Adding to the dilemma of which components of EI are more important than others is the fact that seminal authors have also provided differences in the naming of EI. While Kornacki (2010) does not infer that Bar-On's use of the term emotional-social intelligence versus the more term classic emotional intelligence is necessarily an issue it does, the fact that this communicates at least two EI titles might present an issue. This has the potential for yet another layer of confusion, disagreement, and perhaps even rejection of the EI concept.

Finally, while PMs may value the methodology that they bring to a project engagement, their stakeholders may not always be supportive of that value if it does not meet their needs (Schneider & Bowen, 2009).

Defining EI

Notwithstanding the forgoing issues, the task of establishing a unified definition of EI also fuels the debate between opponents and proponents. One generally accepted definition of EI is "a person's abilities effectively to identify and to perceive emotion (in self and others), as well as possession of the skills to understand and to manage those

emotions successfully" (Ashkanasy, & Daus, 2005, p. 449). Another example of a popular definition of EI, from Mayer, Salovey and Caruso (2004), is

> The capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (p. 197)

A third definition, which is considered for the purpose of this study, is "a subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer 1990, pp. 185-211).

Although psychologists and philosophers have yet to come to an agreement on the exact definition of Emotional Intelligence (Karnaze, 2009), a general definition based on a subset of social intelligence is "the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions" (Wagner, 2009, p. 1).

Definitions of EI are also dependent upon the researchers' penchant for aligning EI with social intelligence or personality. Both of which impact the definition and measurement of EI (Davies et al.,1998). A more loosely labeled definition suggested by Chopraa and Kanji (2010) suggests that EI is an interconnection between feeling and thinking, as feeling about thinking and thinking about feeling. Moreover, while agreement between researchers on a single definition is still elusive, definitions from the same researchers also change. Salovey and Mayer (2000, p. 189) have generally defined

EI as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions." In comparison to Salovey and Mayer, Abraham (2000, p. 169) defined EI as "the set of skills that contribute to the accurate self–appraisal of emotion as well as the detection of emotional cues in others and the use of feelings to motivate and achieve in one's life." As definitions continue to evolve, Mayer, Salovey and Caruso (2004) have since redefined EI as

> The capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (p. 197)

As stated above authors represent EI somewhat differently in terms of even their own previous definitions. This may be a result of the need to align EI with a knowledge and understanding of its two core components, emotion and intelligence. Previously, however, Mayer et al., (2000) stated that EI

> Refers to an ability to recognize the meanings of emotion and their relationships, and to reason and problem-solve on the basis of them. EI is involved in the capacity to perceive emotions, assimilate emotion-related feelings, understand the information of those emotions, and manage them (p. 267).

The ability to recognize physical signs, for example, body language of an emotional trigger, is a critical step in learning how to read and control emotions (Ebersole, 2009; Goleman, 1995). There may be other factors such as one's formal EI

training, years of experience, gender, attitude, and organization policies can each serve as obstacles that a PM faces in developing and invoking his or her EI. Contrasting the manifestations of emotions through body language are the non-physical aspects of EI that support the goal of achieving desired objectives, awareness and management. In the context of this research, awareness includes "awareness and management of one's own emotions and awareness and management of others' emotions" (Cherniss, Extein, Goleman & Weissberg, 2006, p. 240). While awareness and management both are important, the focus of this study is on the *obstacles* that could impede the PM from effectively managing this process.

EI and Leadership

It is believed that "in the corporate world a person is recruited on the basis of his IQ, but is retained and promoted on the grounds of his or her EQ" (Lall, 2009, p. 117). In fact, "the development of emotional intelligence helps us to capitalize on our intellectual attitudes" (Iuscu, Neagu & Neagu, 2012, p. 216). Sunindijo, Bonaventura, Hadikusumo, and Ogunlana (2007) also postulate that EI is more important than intelligence quotient (IQ) when it comes to determining a positive project outcome. Studies of outstanding performers in hundreds of organizations show that about two-thirds of the abilities that set apart star performers from the rest are based on emotional intelligence (Goleman, 1998).

Literature seems to suggest that there is more support, than not, that EI does have value (Cherniss, Extein, Goleman, & Weissberg, 2006), especially in a leadership role (Sayeed & Shanker, 2009; Service & Fekula, 2008). There is also a significant positive correlation between a PM's leadership competencies and a project's success and

"leadership dimensions that are directly linked to successful projects should be the focus of project manager training," as they can have a measureable impact on project success (Geoghegan & Dulewicz, 2008, p. 65).

EI is regarded as a critical component of leadership and, as such, should to be capitalized on (Tessema, 2010). While EI can be realized in the increased chances of successfully managing emotions during a project (Cherniss et al., 2006), the converse is also true. Unmanaged emotions can contribute to project failure, and project failure can be related to increased costs (Krigsman, 2009). Good team leadership is the responsibility of the PM (PMBOK® Guide 4th ed., 2008, p. 232). "A PM must understand what drives people and must be able to enlist their self-interests in pursuit of the project's goals and objectives" (Leban, 2003, p. 4).

Project management, as a discipline, is global and it is growing (Davis, 2011), and Chopraa and Kanji (2010) suggest that the reach of EI and its value in leadership and human development are also global. As leaders, PMs must provide levels of leadership that encapsulate not only the hard skills of project management, tools, processes, and procedures but also the leadership skills of persuasion, negotiation, and EI (Anantatmula, 2010; Tessema, 2010; PMBOK® Guide 4th ed., 2008).

There is a correlation between the relationship of EI and the PM's interpersonal competencies (Davis, 2011), and interpersonal competencies can significantly impact communication issues especially within a global project community. They can translate into emotional reaction rather than logical action (Tone, Skitmore, & Wong, 2009). The PM's EI, therefore, can contribute toward effective leadership and relationship management. Both, of which, can aid significantly toward effective stakeholder

management. PMs must provide leadership that encapsulates not only the hard skills of project management but also the leadership skills of persuasion, negotiation, and EI (Anantatmula, 2010; PMBOK® Guide 4th ed., 2008; Tessema, 2010). EI has been a particularly important contributor to the leadership role as it impacts, among others, communication and teamwork and, as a result, contributes toward positive project outcomes (Clarke, 2010).

Leadership embraces effective communication and EI is considered integral to "effective and collaborative management" (Lall, 2009, p. 129). Strong communication is also a foundation upon which the relationships are forged and the skills of EI can enhance communication. This is especially true in a leadership role during a crisis when emotions run high (Loomis, 2008).

PMs are often charged with the responsibility for managing diverse teams and stakeholders but without being given the requisite authority to do so. As a result, they are challenged with leading and managing project teams and stakeholders as effectively as possible.

Emotions reveal important and sometimes critical information about relationships between two or more individuals and understanding emotions and the management thereof can prove valuable not only in business but also in personal, cultural, and political environments (Cobb & Mayer, 2000).

Strong leadership also provides an opportunity to enhance relationships especially with key stakeholders and colleagues within one's organization (Service & Fekula, 2008). This is particularly important when PMs, as leaders, must accomplish short-term

objectives and when they are trying to influence key stakeholders, senior management, or just staying ahead of power struggles (Hicks & Dess, 2008).

Studies also suggest that leaders can be more impactful if they display certain emotions (Damen, Van Knippenberg, & Van Knippenberg, 2008.) Having the ability to recognize when and how emotions are displayed can be beneficial when building relationships with others (Service & Fekula, 2008). Considering the "four-branch ability model" (Mayer, Salovey, & Caruso 2004, p. 199), one can see how EI can benefit a leader in determining when to consider displays of their emotions. These four branches are identified as (a) perceive emotion, (b) use emotion to facilitate thought, (c) understand emotions, and (d) manage emotion. Identified sequentially in hierarchical manner, perception through management, knowledge of the ability model allows the PM to better plan for displaying their emotions.

Relationship building is critical to successful project leadership and relationship awareness supports that goal (Anderson, 2010; Service & Fekula, 2008). Porter (1962) posits that it may be more beneficial to take a preemptive approach to the relationship issue by altering the emotional relationship instead. The four branch ability model of Mayer, Salovey, and Caruso (2004) of perceive, use, understand, and manage may support this approach.

From the perspective of leadership, EI also becomes critical in helping to solve complex and, at times, unpopular tasks. It helps us cope with feedback that we may have previously considered accusatory as opposed to constructive (Iuscu, Neagu, C., & Neagu, L. 2012). Service and Fekula, (2008, p. 28) suggest that strengthening one's own EI can help "regulate a range of emotions like outburst and kindness, expressiveness and

detachment, and love and hate." In fact, a leader who does not understand their own emotions or those of others has less of a chance in succeeding than their counterparts. Emotional maturity, then, becomes the desired outcome (Service & Fekula, 2008).

The importance of EI, both professionally and personally, has been suggested by Abraham (2006) in his writings comparing and contrasting the differences in some business areas between accounting and general business professionals. He suggests that it is incumbent upon the academic arena to help students transition from having just a general understanding of the theories of EI into practical applications of EI in order to become "well-rounded individuals, and hence worthy employees, effective managers and dynamic leaders" (Abraham, 2006, p. 10).

Literature also suggests that the further up the leadership ladder one climbs, the more important EI becomes (Dulewicz & Higgs, 2003). Groups become more effective when the team is comprised of individuals who are emotionally intelligent. Leaders with strong EI are thought to be the catalysts for the team creating by their ability to establish a "tone and helps to create the group's emotional reality" (Goleman, Boyatzis, & McKee 2002, p. 56). Great leaders are awake, aware, and attuned to themselves, to others, and to the world around them. They "commit to their beliefs, stand strong in their values, and live full, passionate lives" (McKee & Boatzis, 2006, p. 36) and are emotionally intelligent. Farh, Myeong-Gu, and Tesluk (2012) suggest that EI creates better teamwork, contributes toward a more positive outcome, and affects an individual's job performance. By virtue of their roles and responsibilities many PMs are, in fact, leaders and are responsible for providing that "good team leadership" (PMBOK Guide, 2008, p. 232).

Changing Business Landscape

A review of the literature suggests that there are significant increases in stress and emotions caused by paradigm shifts in management, especially during times of cost cutting and downsizing (Burt, 1997). The paradigm shift is being caused by public outcry for accountability, challenges to compete openly and ethically, and the pressures to do more with less. The reason for this attention is a result of several drivers not the least of which is cost. Research shows that the cost of failed IT projects is significant and range from an estimate of 140 billion USD (Rosemont Management, 2008) to over 6 trillion USD annually (Krigsman, 2009). Sessions (2009) suggest that mitigating the chances for project failure would help reduce costs. Each of these contribute to the stresses and emotions present in the project organizations today.

As business environments change, PMs face demands for faster and greater productivity in a "less than supportive environment" (Knutson, 2007, p. 1). Organizational or tactical change, or lack thereof, can trigger emotions. Smollan and Sayers (2009) postulate that the changes and demands on one's environment can trigger both positive and negative emotions. These demands may cause emotions to surface but PMs may not always have the opportunity, ability, or desire to manage those emotions. A PM's requirement to comply with new or changing demands can affect how they interact with stakeholders in supporting those demands.

An example of this can be seen in stakeholder demands on PMs to lesson or abandon sound methodology or accurate tracking in order to meet their needs of containing costs (Employees choosing work over perks, 2004; Rose, 2002; Smith, Kestel, & Robinson, 2001). The changing business landscape is a primary source for these

demands and subsequent source for emotional issues within a project management structure. When demands are not met and needs not fulfilled, emotions surface (Schneider & Bowen, 2009).

Changes come from a variety of other directives including those mandated by legislation and compliance, shifts in corporate culture, increased accountability, increased competition, economic downturns, cost cutting, and changes in financial and accounting practices (Smith, Kestel, & Robinson, 2001; Paslidis, 2008). Increased public awareness is also a major contributor to the sense of urgency to change and has a ripple effect on the stresses and emotions between the PM and stakeholder. The stress drives change, the change impacts accountability, and the accountability impacts decision making (Paslidis, 2008).

There is also increased visibility into financial tracking and reporting of projects, and this is an area where PMs are often held responsible for the accurate reporting of the costs of a project (PMBOK® Guide 4th ed., 2008). One example of changes in financial tracking that can impact a PM or stakeholder is that of reporting pro forma earnings that are not computed according to generally accepted accounting principles (Shleifer, 2004). Although the public is already aware of the need for enforcement of ethical practices, legislation brings it to the forefront and with greater awareness and this adds to a sense of urgency that it be addressed (Gadenne, Kennedy & McKeiver, 2009). PMs can experience emotional dissonance when meeting stakeholder demands to adjust the project numbers while simultaneously demonstrating a PMI mandate of having "distinguishing characteristics of a practicing professional" (PMBOK® Guide 4th ed., 2008, p. 359).

Other factors resulting from a changed business landscape that are contributing to the sense of urgency for PMs to develop and invoke their EI include customer demands, investor pressure, pressure from communities and special interest groups, and growing economic uncertainty (Hopkins et al, 2009). Each of the above changes in the business landscape can impact the demands that stakeholders impose on PMs causing the PM to possibly alter their management approach, project management methodology, or processes. The pressure to remain competitive often times leads to an increase in unethical and even illegal behavior. Increased pressure on profit margins, more complex sales processes, and constantly changing business markets have fueled corporate fiascos of organizations. Companies such as HP, Tyco, Enron, WorldCom, Rite Aid, Waste Management, Ernst and Young, PriceWaterhouse Coopers, Morgan Stanley, Adelphia, Deloitte and Touche, and others are examples of organizations (Duska, 2004) that "lacked a true culture of ethical compliance" (Godson, 2006, p. 42). Not only are those who drive disdainful and unethical actions affected but also are the employees and shareholders of the company. Shleifer (2004) suggests that some people may not be immune from this type of poor leadership behavior. Since PMs are usually the one person held accountable to project sponsors and stakeholders for the management of a project, they too can be adversely impacted by poor or unethical leadership practice

Economic downturn has also resulted in significant changes to the way companies do business. This is evident in terms of the labor force, management accountability, and changing accounting policies (Employees choosing work, 2004; Rose, 2002; Smith, Kestel, & Robinson, 2001). Companies within the high tech arena and IT project management sector are realizing that traditional ways of accounting for and controlling

costs require different approaches that, in turn, mandate new forms of accountability (Neumann, Gerlach, Moldauer, Finch, & Olson, 2004). New approaches to costing can be seen in models such as activity based costing (ABC) where the goal is to improve "profitability, productivity, and performance" (Schiff & Schiff, 2009, p. 37).

While some non–reporting of work activity is self-driven by the individual's perceived need for job security, other non-reporting activity are caused by management interference that leads to changes in scope without corresponding changes in budgets, i.e. deliberate deceit (Andersen, 2009). For example, in some cases management and stakeholders track labor costs directly while others purposefully try to track those same costs as overhead. This practice leads to a misrepresentation of direct and material costs, blurs the true picture of the cost of the project, and simultaneously and inappropriately inflates overhead costs (Neumann et al, 2004). If a PM does not meet a stakeholder's need to record this activity in a certain way, it can result in emotions that PMs must address in order to prevent any interference with the project. Attempts to get more productivity out of an employee without additional costs may be attractive from a profitability standpoint, but it does have consequences. The PMBOK® Guide (2008) underscores the need for accuracy in terms of the PM's ability to manage the project team and provide an accurate assessment of performance and actual amount of work performed by resources against specific tasks (PMBOK® Guide 4th ed., 2008; Microsoft Project, 2007). PMs need to be able to identify and overcome any obstacles that may prevent them from managing the emotions that arise when stakeholders' demands to record costs certain, unethical ways are not met.

As stated previously, research shows that the cost of failed IT projects is significant. Sessions (2009) suggest that mitigating the chances for project failure would help reduce costs. Project costs are generally grouped as indirect and direct. Indirect costs include "any cost not directly identified with a single, final cost objective, but rather identified with two or more final cost objectives or an intermediate cost objective" (Norfleet, 2007, p. EST.12.2). Indirect costs can include labor overhead, fringe benefits, and office expenses. Direct costs can include property, plant, equipment (Oleson, 2004), and labor expenses that are directly related to the support of the project. Tang, Aoieong, & Ahmed (2004) suggest that another project cost factor to consider is process or quality. Process costs are affected by either conforming to or not conforming to expected outcomes. The attitude one has toward quality, then, can be impacted by emotions that trigger as a result of high-pressure demands against his or her schedule (Tang, Aoieong, & Ahmed, 2004). Prior to identifying factors that could prevent a PM from developing or invoking EI, it is important to determine the extent to which a need exists. The sense of urgency for PMs to embrace EI as valuable in managing their stakeholders is evident in the literature reviewed around the changing business landscape.

The value of adopting new project management skills and more formal and accepted processes is evident in the rapid growth in one of the largest bodies of knowledge in project management community, the Project Management Institute (PMI) (Davis, 2011). While this increase alone does not signify a need for, or trend toward, the development of EI it does infer the need to address concerns over personal and professional development in that business and project community. The PMI has also endorsed the importance of interpersonal skills development as part of a PM's

foundational knowledge and expertise and as part of the human resource management activity (PMBOK, 2008).

Stakeholders

As part of the stakeholder management activity PMs must consider not only their relationship between themselves and their stakeholders but also the relationship between stakeholders (Rowlinson & Cheung, 2008). To better support that activity, PMs must possess the requisite skills and intelligences to enable the building of trust between themselves and their stakeholders (Landale, 2006; PMBOK, 2008). EI is identified as one of intelligences that can assist in building trust. Therefore, PMs, therefore, can benefit from developing and invoking their EI (Tucker, Sojka, Barone, & McCarthy, 2000).

EI has grown in popularity and acceptance and provides the PM with insight into new ways of effectively managing and developing the project team and relating to stakeholders (Cherniss, Extein, Goleman & Weissberg, 2006; Sunindijo, Hadikusumo, & Ogunlana, 2007). It cultivates the ability to solve problems (Mayer, Caruso, & Salovey, 2000) and becomes important as PMs are challenged with creating effective project teams and encouraging collaborative problem solving (PMBOK® Guide 4th ed., 2008). Since certain competencies can aid in the building of alliances with business partners and stakeholders (Knutson, 2007), PMs must be aware of how to develop and use those competencies; EI included, can be become impeded. Overcoming those impediments, then, can enhance the chances for successfully building alliances. PMs also need to be proactive in planning how, when, and if they will manage their stakeholders (Goldenberg, Matheson & Mantler, 2006).

PMs are also challenged with managing change throughout a project and, as such, need to be flexible in that effort (PMBOK® Guide 4th ed., 2008). Balancing a degree of flexibility against the emotional demands, both theirs and their stakeholders', can pose a challenge (PMBOK® Guide 4th ed., 2008). An inflexible, rigorous approach may not allow for the management of emotions triggered as a result of one's needs not being met.

People who are emotionally intelligent are in control of their emotions and have an awareness of others' emotions. Mayer et al., (2004) suggest that people with high emotional management are more likely to have greater level of positive social interactions than those of their contemporaries. However, there may be factors that influence whether PMs invoke their EI in managing stakeholders.

PMs should also avoid falling prey to uncontrolled emotions. This is a critical step in learning how to control emotions, and understanding how we deal with emotional situations is critical in our understanding of how we will react in certain situations (Goleman, 1995; Schneider & Bowen, 2009). For example, when confronted with stressful situations or duress, some people will have emotional outbursts while others will try to mitigate or ignore the situation denying their feelings the opportunity to act irrationally (Goleman, 1995; Goldenberg, Matheson & Mantler, 2006). PMs need to understand the value of EI in terms of addressing both of the above situations and that which can prevent them developing and using their EI.

PMs need to understand how emotions are triggered in order to proactively decide whether they can or want to manage them. For example, some organizations mandate the strict adherence to process and procedures causing PMs to assume an autocratic role and merely focus on results through controlled decision making (Humphrey, 2005). In such

instances, the PM may not invoke specific soft skills or take advantage of their EI when dealing with their stakeholder but, instead, elect to ignore any emotions and simply drive the project forward (Lamude & Scudder, 1995). However, PMs should recognize that this type of constraint translates into an obstacle in terms of their ability or desire to utilize their EI based on the constraints of the organization (Goldenberg, Matheson & Mantler, 2006). This is important since the way we react to someone else's uncontrolled emotions can determine how others perceive us as individuals and as professionals (The Proper Approach, 1995).

In addition to understanding how emotions are triggered, PMs need to understand when emotions are triggered. With changes in the organization, such as start-up, growth, maturity, and decline stakeholders might manifest their emotions in different ways and at different times (Jawahar and Mclaughlin (2001). With an understanding of how these organizational changes might affect stakeholders' emotions, PMs can be better prepared to proactively manage those emotions. The caveat to emotional empathy, however, is that PMs must not impart valueless "lip service" to stakeholders when their concerns arise but rather true empathy toward understanding their needs (Agle et al. 2008, p. 182).

Uncontrolled emotions, however, are not necessarily exclusive to our stakeholders. "Self–awareness" (Goleman, 1995, p. 46) becomes a requisite attribute for PMs in order to identify when and how emotions could surface if their own needs are not met (Schneider & Bowen, 2009). They must also be cognizant of the things that can prevent them from managing their own emotions and, subsequently, meeting their own needs. Scarcities in opportunity, ability, or desire to develop or invoke their EI can become obstacles that prevent PMs from effectively manage their stakeholders.

Obstacles can be self-imposed through mental and behavioral disengagement where a PM might simply choose to ignore the emotions of his or her stakeholders (Goldenberg, Matheson & Mantler, 2006). Although PMs can exercise the option of ignoring their stakeholder's emotions, they should take a proactive position in managing all project resources, including their stakeholders (PMBOK® Guide 4th ed., 2008). As there is a need for PMs to manage the relationship between themselves and their stakeholders (PMBOK® Guide 4th ed., 2008), it is important for PMs to recognize that avoiding or denying emotions can be an obstacle toward that goal (Goldenberg, Matheson & Mantler, 2006).

PMs are continually challenged with learning new ways to manage stakeholder involvement (Chapman & Ward, 2008; PMBOK® Guide 4th ed., 2008, Karlsen, 2002). This is important as stakeholders are almost always present within a project and may come in many degrees of power, influence, trust, interest, and interference (Rowlinson & Cheung, 2008; PMBOK® Guide 4th ed., 2008; Antonioni, 2009). Stakeholder trust in the PM is also important, as the PM's commitment and integrity are vital in demonstrating authentic empathy toward stakeholder concerns (Landale, 2006).

Building a relationship with the appropriate stakeholders is tantamount to successfully managing them and forging a relationship early in the process around openness, trustworthiness, cooperation, and mutual respect, and being informative is a critical success factor (Rowlinson & Cheung, 2008). Stakeholders may "have a vested interest in the project and may exert influence over the project and its deliverables" (Antonioni, 2009, p. 19). Therefore, it is also important to note that, because there are varying or comparative degrees of influence with stakeholders, identifying them is both

an ongoing and challenging process for the PM to identify stakeholder's possession of "power, legitimacy, and urgency" (Brammer & Millington, 2004, p. 1414; Pajunen, 2006; PMBOK® Guide 4th ed., 2008, p24). Their list of stakeholders needs to be as succinct as possible.

Once stakeholders have been identified, ranking them in terms of their levels of influence is a required activity, as managing to every possible stakeholder is probably not a viable option. Balancing the interests of differing stakeholders within the project goals and framework, then, becomes a PM responsibility and so does agreeing with the stakeholders on defining "what done looks like" (Antonioni, 2009, p. 20), (PMBOK® Guide 4th ed., 2008). Therefore, it is essential that the PM limits his or her list of stakeholders to those who are most influential in order to reduce the potential number of obstacles in managing their emotions.

PMs must analyze and manage the stakeholder needs and do so within the limitations of the project (Olander & Landin, 2007). This becomes much more complicated when two people, e.g., PM and Stakeholder, fail to understand the stresses or behavioral conditions and circumstances that each possess. Merely knowing that stresses and emotions exist does not guarantee they will be understood, and without that understanding, problem resolution becomes difficult if not impossible (Spier, 1971). Conflicts, between the PM and the stakeholder, may also arise out of fears and anxieties that each possess and that each bring into a project engagement (Colman & Buckley, 2005). Establishing an effective two-way feedback mechanism ensures that there is agreement between the stakeholder's perceptions of what is happening and what the PM

believes is happening. Overcoming obstacles to managing the emotions that arise out of these situations when communication breaks down is critical (Boe, 2009).

Differing personalities also play a role in the relationships established between PMs and their stakeholders. Research to determine participants' Meyers-Briggs (MBTI) personality type has been conducted to support this view. The results of the studies indicate that certain MBTI types have preferences that support project leadership. Some MBTI types that suggested the greatest support for project leadership include ISTJ, INFJ, INTJ, ENTP, ESTJ, ENFJ, and ENTJ, with INTJ, ESTJ, and ENTJ (Gehring, 2007). As a result, a source of conflict can be over who has or thinks they have control of the project (Wideman, 2002). Where the desire to maintain control of a project is high and that desire is held by both the PM and the stakeholder, there is an increase potential for conflict. When emotions surface because of those conflicts, obstacles to managing them can also surface. By recognizing how competing desires to have control of a project can cause emotions to surface, the PM will be in a better position to plan for and overcome any obstacles to managing them (Wideman).

By understanding how stakeholders can influence a project's outcome, PMs can position themselves to more proactively manage those relationships. A relationship that is built on stakeholder trust in the PM is important, as the PM's commitment and integrity are vital in demonstrating authentic empathy toward stakeholder concerns (Landale, 2006). The outcome of that trust can be seen in a reduction in the need for the PM and stakeholder to continually monitor one another and a reduced need for the stakeholder to feel he or she must be in control. The outcome of that relationship management is reduced tensions and emotions (Rowlinson, & Cheung, 2008). A reduction in the need to

continually monitor one another is an efficiency that will support a PM when managing several influential stakeholders.

Literature Review Summary

The literature review reveals how the major areas of project management, leadership, and stakeholders might be related to EI and that there is a sense of urgency for PMs to develop and use their EI.

Literature suggests that changes to the business landscape have arisen from many fronts including competition, legislation, and public outcry. These fronts have served as new drivers for businesses to change how they conduct themselves in several areas including project management. Pressures to do more with less have translated into PMs considering doing nothing more than the tasks at hand. In some cases, this translates into ignoring stakeholder emotions and, as such, becomes counterproductive. However, literature also suggests that counter to ignoring the emotional aspects of stakeholders are the benefit to the business in enhancing the chances for successful project outcomes. This comes through the myriad studies on the cost of project failure and the need to continue to improve the chances for project success. Developing the requisite skills and intelligences of the project management team contribute toward this more positive goal. To that end, businesses have been forced to make changes in how they approach many of their activities including project management. As a result, more attention is being paid to addressing stakeholder involvement, emotions, and the management thereof. This increased attention has endorsed a need for PMs to develop the requisite skills and intelligences to more effectively and efficiently manage their own emotions as well as those of their stakeholders.

A review of the debates in research over the constructs, definitions, and benefits of EI, was also important as it provided an understanding of how these debates could serve as obstacles to PMs developing or invoking their own EI. While it is clear that the number of articles that supported EI as a valuable attribute vastly outnumbered those who, in one form or another, opposed it. However, literature also suggests that while the research community includes those who oppose the theories of EI, its efficacy, constructs, measurement, or varied definitions their views can create a barrier toward accepting EI as a benefit. Instead of taking a proactive view toward EI one might be more inclined to adopting a *wait-and-see* attitude until the research communities can agree on what EI is and, more importantly, whether EI can enhance their ability to manage project stakeholders. While the debates continue, PMs continue to have a need to enhance their chances for a successful project outcome.

Literature also suggests that EI does have significant value from a leadership perspective. Advocates of EI continue to research its validity and application in the workplace and continue to develop tools for measuring it in a manner that can translate into the potential for success. The benefits of EI in a leadership role, then, are transitioned to a PM's management role. In many instances a PM is seen as both a leader and a manager and the implications of not taking advantage of the benefit that EI can offer in both of these roles is manifest in efficiency and effective issues and, quite possibly, reduced chances for a successful project outcome.

Improvements made to a PM's ability to manage stakeholders can contribute toward a successful project outcome and that has significant implications in the project management body of knowledge.

From a leadership perspective, it is important for PMs to assume a proactive position in managing emotions, both theirs and their stakeholders, since maintaining control over the management of the project should remain with the PM. Understanding how and when emotions are triggered, as well as by which particular stakeholder, is important. Understanding which stakeholders to focus on managing is equally important as PMs often have the arduous task of meeting one stakeholder's needs over another. Balancing the emotions of key stakeholders against those of the PM is also important and presents a challenge. Therefore, developing the requisite skills to do enable this balancing ability is important.

EI measurement is also under the scrutiny of the research community, and debate in this area continues as well. The current body of literature suggests that this field of study and measuring is still growing. Not only is there a disagreement in the research community over which instruments, processes, procedures, or approaches are appropriate for measuring EI but that the measurement of EI itself, is a questionable activity.

The research communities, proponents and opponents alike, agree that this field of study and its potential value is still unfolding. The suggestions made by Mayer, Salovey, and Caruso (2004) seem timely. They posit that research will eventually lead toward more uniform agreement of definitions, testing, and acceptance of EI. Literature reviewed seems to indicate, overwhelmingly that PMs could benefit from developing and invoking their EI now rather than taking a wait and see approach.

However, what appears missing from the available literature was research on the factors that prevented PMs from developing or invoking their EI. While the majority of study has been focused on the benefits of EI and of the agreements and disagreements

between the research communities, there seems to be a gap in research on the factors and obstacles preventing PMs from developing and invoking their EI. This research is meant to decrease that gap in the EI literature.

CHAPTER 3. METHODOLOGY

Restatement of the Problem

Project Managers (PMs) may be facing obstacles toward developing and invoking their own emotional intelligence (EI). This, in turn, can prevent them from taking advantage of the benefits EI has to offer when managing stakeholders.

The research and analysis determined the extent to which there is a correlation between these obstacles, the independent variables, and a PM's development of EI and the frequency of invoking EI, the dependent variables. This study was designed in order to answer the following questions:

1. To what extent does education level, gender, or years of project management experience affect a PM's development of EI?
2. To what extent does education level, gender, or years of project management experience affect how frequently a PM invokes EI when managing project stakeholders?
3. Is there a relationship between a PM's attitude toward the effectiveness of EI and their education level, years of project management experience, and gender?

The goal of this study was to provide an analysis of the factors that may be influencing a PM's development of his or her EI and their frequency of invoking EI in a project setting. The quantitative approach to this study was selected as it lends well in minimizing biases and provides an easy method for soliciting and collecting data. While there has been little seminal research done to date on the topic of this study, there have been significant studies on EI and its benefit to PMs. As a consequence of the literature reviewed, this researcher assumed the position that EI does have value and is especially useful in a project management setting.

In order to draw meaningful conclusions on the data collected and, hence, inferences about the population, inferential statistics have been performed. Since there is more than one dependent variable being studied and several independent variables, a few different analyses were done. These included multiple regression analysis, analysis of covariance (ANCOVA), multivariate analysis of variance (MANOVA), and Descriptive statistics.

Research Design

The research utilized a quantitative approach to its design incorporating a series of questions developed by the researcher. These questions, which became the survey instrument, were both field and pilot tested prior to implementation. Design and approach to the pilot study preceded the actual survey with the approval of the IRB.

The design incorporated simple random sampling of participants using an on-line survey tool. Participant responses were collected automatically and without intervention from the researcher. These responses, which served as the data for analyses, were imported into a statistical software application to determine the extent to which certain independent variables are correlated to the dependent variables, development and use of EI. The variables are as follows

Independent Variables

- Education level (initially considered but subsequently removed)
- Years of project management experience
- Gender
- Attitude toward the value of EI in managing one's own emotions
- Attitude toward the value of EI in managing the emotions of others

Dependent Variables

- Frequency of using/invoking EI
- Level of a PM's EI development

An analysis of the data follows in order to determine the extent to which the independent and dependent variables are related and so that a level of generalizability could be determined. The results of the survey, without identifying any participant, have been provided to the PMI and the Community of Practice for their consideration and potential further study.

Hypotheses

The following hypotheses were considered in this study with Hypotheses sets H1 and H3 developed for Research Questions 1 and 2 and Hypotheses sets H2 and H4 being developed for research question 3.

- Ho1 = a PM's education level, years of experience, or gender does not affect how frequently they invoke EI when managing stakeholders
- Ha1 = a PM's education level, years of experience, or gender does affect how frequently they invoke EI when managing stakeholders
- Ho2 = a PM's education level, years of experience, or gender in conjunction with their attitude toward the value of EI in managing emotions does not affect how frequently they invoke EI when managing stakeholders
- Ha2 = a PM's education level, years of experience, or gender in conjunction with their attitude toward the value of EI in managing emotions does affect how frequently they invoke EI when managing stakeholders
- Ho3 = a PM's education level, years of experience, or gender does not affect their level of development of EI
- Ha3 = a PM's education level, years of experience, or gender does affect their level of development of EI

- Ho4 = a PM's education level, years of experience, or gender in conjunction with their attitude toward the value of EI in managing emotions does not affect their level of development of EI
- Ha4 = a PM's education level, years of experience, or gender in conjunction with their attitude toward the value of EI in managing emotions does affect their level of development of EI

Approach

In order to draw meaningful conclusions on the data collected inferential statistics was performed. Since there was more than one dependent variable being studied and several independent variables, a few different analyses were needed. These included multiple regression analysis, analysis of covariance (ANCOVA), multivariate analysis of variance (MANOVA), and Descriptive statistics. These analyses lent well with a non-experimental, quantitative approach.

The reasons for selecting this approach are twofold. First, it lessened the chances for researcher involvement and bias. To help mitigate the chances for interviewer bias, there was to be no additional communication between the researcher and the participants other than that provided by the survey instrument. This was meant to reduce the chances for sending additional but disparate pieces of information to individual participants that could have resulted in additional clarification, alternate wording, or selected guidance. The survey was designed to collect only specific data elements that align with the research questions. These data elements were identified in the survey instrument.

Second, this approach is preferred when there are no control groups, test groups, multiple groups, multiple waves of measurement, or intervention from the researcher (Trochim, 2006). The PMI, IS Community of Practice (IS CoP) organization, through its

appropriate management representative, solicited participation in the study from its full membership body. Once members determined whether they met the minimum criteria for participating, they did so at their own discretion. This helped ensure a random selection of participants for the sample.

Participants were required to complete all of the survey questions. The data elements initially selected for analyses were as follows

- Education level
- Years of project management experience
- Gender
- Attitude toward the value of EI in managing one's own emotions
- Attitude toward the value of EI in managing the emotions of others
- Frequency of using/invoking EI
- Level of a PM's EI development

A one-shot survey format has been selected and developed and was subjected both to a field test and pilot study prior to the implementation of the actual survey.

Rationale for Approach.

The rationale behind using a non-experimental approach was that it lent well where cost and time constraints are imposed on the research. It supported an efficient method of collecting data and allowed for an analysis of the relationship between the independent and dependent variables. "For some research questions -- especially descriptive ones -- is clearly a strong design" (Trochim, 2006, P. HTML).

The survey instrument was designed to collect the key data elements in an efficient manner. This was accomplished by keeping the questions basic and short without the need for entering textual information. As such, it is anticipated that a

participant will require less than 10 minutes completing the survey. The instrument was field tested for readability and comprehension issues prior to its implementation in the pilot or actual study.

This design also lent well in performing inferential statistics. From that, multivariate regression analysis was selected, as it estimates a single regression model against more than one dependent variable. As there were more than one dependent variable being studied and several independent variables, additional analyses had to be performed. These included analysis of covariance (ANCOVA), multivariate analysis of variance (MANOVA), and descriptive statistics. The rational for selecting ANCOVA was that one could evaluate the relationship between one or more independent or predictor variables with one or more dependent variables (Statsoft, 2012). Multivariate regression was chosen since it estimates a single regression model against more than one dependent variable. This aligned with the research questions and identified dependent variables of invoking EI and developing EI. Descriptives analyses provided other useful information such as sample size, mean, minimum, maximum, standard deviation, variance, range, sum, standard error of the mean, and kurtosis and skewness with their standard errors (SPSS 16, 2008).

The analysis also helped determine the extent of the predictive nature of the data and contributed new information to the project management body of knowledge.

Setting

The setting for this study considered PMP certified members of the PMI Information Services Community of Practice (I.S. CoP).

The IS CoP managers agreed to assist this researcher in launching the survey by communicating a message to the IS CoP members regarding the purpose of the survey and a request for their participation. A background of the study had to be presented to the members along with a request to participate in the survey, instructions on how to participate, and an on-line link that directed the participants to the actual survey. The survey was opened to the sample frame for 15 days from the time it was first made available to the IS CoP members. During that time, participants had the opportunity to access the survey at their own convenience. The expected completion time for any participant, once beginning the survey, was less than 10 minutes.

The survey questions supporting this study were designed with the following considerations

- the changing business environment and its impact on PMs and stakeholders
- pressures on the PM to meet stakeholder demands
- the PM's desire and ability to manage emotions; both theirs and their stakeholders'
- obstacles PMs face in developing and invoking their EI

A quantitative approach to this study was chosen because it lends favorably toward

- minimizing the potential for bias in the collection of data
- providing coding and categorizing of the data for quick and easy statistical analysis

Population and Sample

The population under study was the Information Systems Community of Practice (IS CoP). The IS CoP is defined by that organization as "a global community where information systems and information technology professionals come to grow their project management knowledge, share experiences and seek wisdom" (PMI, 2012, p. ABOUT).

Sample data were restricted to individuals who met the following prerequisites

- A Project Management Professional (PMP) certification from the Project Management Institute.
- An individual that is experienced in managing projects within the IS environment.

The IS CoP organization, through its appropriate management representative, solicited participation in the study from its full membership body. Once members determined whether they met the minimum criteria for participating, they proceeded so at their own discretion. The survey instrument did not limit participation by the sample any further once the participant meets the prerequisites above.

Random selection of participants was also made possible due to the ability and willingness of individuals to participate.

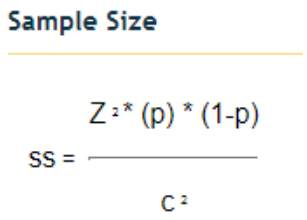
Sampling Procedures

The background of, along with an explanation of the goals of the study, was presented to the IS CoP members along with a request for their participation in the survey. Instructions on how to participate were provided to all those solicited. An on-line link directing the participants to the informed consent and the actual survey was provided as part of the invitation to participate in the study. The survey was opened to the sample

frame for 15 days from the time it first became available to the members. During that time, participants had the opportunity to access the survey at their own convenience.

Sample Size

The sample size considered for this research was based on the sample size calculator leveraged from www.SurveySystems.com (2010) and calculated to be 148. The formula this calculator used is



Where

SS = sample size

Z = Z value for the selected confidence level of 95% = 1.96

p = percentage of the potential members participating = 15%

c = confidence interval = 8

A 95% confidence level is common in academic studies and proved to be adequate for the purposes of this research.

To adequately answer the research questions, the rationale for selecting the sample and establishing this sample size was based on an anticipated level of response of 13% and a confidence level that is adequate (+ or – 2 Std Dev) for identifying the extent to which the independent and dependent variables showed a relation. However, achieving the target sample size was potentially constrained by time and cost limits of this study.

Instrumentation

The data collection instrument was a questionnaire developed by the researcher. The data elements required for analysis was straightforward and made up the design of the survey questions. The researcher, based on his experience in this field, determined these factors to be an adequate starting point for this study. It was anticipated that future research might require the study of other factors as well. The layout was determined to be a simple and adequate form for performing non-experimental design (Trochim, 2006).

As this instrument has not been used in the past, it had to undergo IRB approval. The researcher submitted this instrument to the IRB for review and approval prior to its implementation. The participants were permitted to engage in the survey at times that were suitable to them and within the 15-day time frame.

The instrument was field tested by experts both in the PM and writing community and was pilot studied as well and consisted of five people in each activity.

The decision to develop this instrument for on line use was based on the need to limit the potential for interviewer bias, which has shown to be more common with face-to-face surveys. It was also chosen as a means to facilitating rapid data collection across the sample that is potentially geographically dispersed (Koch & Emrey, 2001).

Content validity was strong because the survey measured the degree to which the questions represented the effect of EI in the project management domain. In this case, the questions asked were all part of the PM's demographic and experience. Moreover, the survey was not meant to be a test. It was a list of questions designed to capture answers specific to a PM's personal situation only and was not meant to test on content designed by a subject matter expert as one might find in a series of test questions.

Reliability was measured using Chronbach's alpha. This was preferred where the questions asked have no right answer. This was also the case in this study where the participants were to be asked to rate the value they place on EI using a five-point Likert scale ranging in some cases from *strongly disagree to strongly agree*.

Construct validity had to be determined by analyzing the extent of the relationship between the independent variables and the dependent variables listed below.

Independent variables

- *Education level*
- *Years of project management experience*
- *Gender*
- *Attitude toward the value of EI in managing one's own emotions*
- *Attitude toward the value of EI in managing the emotions of others*

Dependent variables

- Frequency of using/invoking EI
- Level of a PM's EI development

Data Collection

The data were collected via an on-line survey accessed using the web services from SurveyMonkey™. The results were then downloaded in a file format suitable for import into the chosen statistical software application, SPSS 15. The results were stored on the researcher's computer. To eliminate data entry issues and to maintain the integrity of the data collected during the survey, data had to be imported into the SPSS 20 application as opposed to being manually entered.

A request was made to the PMI I.S. CoP management asking for assistance in communicating the program to the members and to request their consideration to

participate. The members were provided the necessary information and link to the Internet survey site where the participants accessed the survey instructions and the actual survey. This sequence established by the IS CoP was as follows

1. IS CoP management sends a notice to its members announcing the survey and requesting their consideration in participating
2. Members (participants) voluntarily respond to the request by completing an on-line informed consent and completing the survey
3. Researcher downloads completed responses from the Internet host application to the researcher's computer
4. Data is imported into the SPSS 20 statistical analysis application
5. Analysis performed, results captured, and conclusions entered into this study

Results of the analysis were to be sent to the PMI and I.S. CoP for their review and discretionary use in adding it to their body of knowledge.

Although the sample frame was the PMI I.S. CoP members, its membership also contains those who are not project managers and, therefore, did not meet a minimum level of project management experience deemed mandatory for this study. Data collected identified the level of PM experience and the level of response that a participant provides determined whether or not that participant's answers was considered in the analysis. To minimize sampling error, data was collected from all participants. Validation of whether a participant met the minimum criteria in which to participate was determined through a screening of the survey data once it was collected.

To help reduce the chances of bias, the survey was cross-sectional with data from each participant being completed during a one time only attempt. There was no time limit imposed on the participant, but it was anticipated that participants could complete the survey in less than 10 minutes. Partial completion of the survey was not allowed and was

controlled via the web-enabled survey through on screen textural reminders to complete any missing questions. Data collected from participants who successfully completed the survey was stored on the survey website and downloaded at the conclusion of the 15-day survey period.

A completed survey required that a participant submitted an answer to all eight questions. The results of a partially completed survey were not imported into the statistical application thus excluding it from analysis. In an effort to limit the number of incomplete surveys, overall response time was considered when designing the survey. This resulted in a maximum of eight questions while still capturing information deemed by this researcher to be relevant to this study. This design was then validated during the field test. The approach was also selected to permit the ethical consideration for allowing a participant to easily opt out at will prior to completing the survey. Closing the web browser window accomplished this without requiring any additional information being collected from the participant. Due to time constraints imposed on this study, the period in which the survey was made available to participants was 15 calendar days from the time the survey was made accessible to the sample group.

The following section identifies the survey questions, the types of variables, independent and dependent, and the statistical analysis that was performed in the study.

Data Analysis

In order to draw meaningful conclusions on the data collected and, hence, assumptions about the population, inferential statistics was performed. Since there is more than one dependent variable being studied and several independent variables, other analyses were needed. The different analyses used in this study were:

Multiple regression analysis, allows for simultaneous testing of the impacts of several independent variables against the dependent variables. Also, since the level of impact of one independent variable over another is unknown, a test for significance will also be conducted.

Analysis of covariance (ANCOVA) is a partial correlation analysis to factor out independent variables that are not insignificant.

Multivariate analysis of variance (MANOVA). Since there are multiple dependent variables and several independent variables, a MANOVA analysis will be used to determine to what extent changes in the independent variables have on the dependent variables and whether there are interactions between the dependent variables.

Descriptive statistics will illustrate the basic features of the data in a summary format and include "sample size, mean, minimum, maximum, standard deviation, variance, range, sum, standard error of the mean, and kurtosis and skewness with their standard errors" (SPSS 16, 2008, p. HelpFile).

There are two categories of dependent variables, developing EI and frequency of invoking EI.

Units of Analysis

Of interest to this researcher is the discovery of the relationships between the independent and dependent and variables. For that reason, the units of analysis are the data elements captured from the participants' responses to the survey questions. The following were anticipated as being valid for this study and had to be reliability tested from the pilot study through Chronbach's Alpa analysis prior to their use in the actual study.

The Education level units of analysis were expressed in terms of milestones and were planned to be captured from the survey questions as:

- *no college coursework*
- *some college coursework - but no degree*
- *undergraduate degree*
- *graduate degree*
- *post graduate coursework or degree*

The years of project management units of analysis are durations and captured from the survey questions as

- *up to one year*
- *greater than one but less than two years*
- *greater than two but less than three years*
- *greater than three but less than four years*
- *greater than four years*

The attitude units of analysis are based on Likert scale levels and are captured in the survey questions as

- *strongly disagree*
- *somewhat disagree*
- *neither agree nor disagree*
- *somewhat agree*
- *strongly agree*

For the dependent variables, development of EI, units of analysis are based on amount of study and are captured in the survey questions as

- *none*
- *at least one hour but less than five hours*
- *at least five hours but less than 20 hours*
- *greater than 20 hours*

For the dependent variables, frequency of invoking EI, units of analysis are based on frequency of study and are captured in the survey as

- *never*
- *rarely*
- *sometimes*
- *almost always*
- *always*

Constructs

The constructs of leadership, intelligence, stakeholder management, and project management created the framework for this study. An assumption was made that each of these supported and helped to validate the benefits of EI. The independent and dependent variables were selected based on their close association to these constructs as follows

- Stakeholder management and project management align with the constructs developed by Gehring (2007) and the PMBOK® Guide 4th ed. (2008).
- Attitude and Education align with the constructs of leadership identified or developed by Lazear (2009) and Gehring (2007).
- Years of experience align with the constructs of project management identified or developed by Petter and Randolph (2009).
- Attitude aligns with the constructs of stakeholder and project management identified or developed by Gehring (2007).
- Extent to which EI is being developed aligns with the constructs of leadership identified or developed by Gehring (2007) and PMBOK® Guide 4th ed. (2008).
- Frequency in which EI is invoked aligns with the constructs of stakeholder and project management identified or developed by PMBOK® Guide 4th ed., (2008).

Frequency of Using or Invoking EI

This variable was defined as the rate of occurrence in which PMs invoke their EI when managing both their own emotions and those of their stakeholders. The rate of occurrence was then expressed qualitatively using a Likert scale as

1. *never*
2. *rarely – reactively only when situations demand*
3. *almost always – proactively and on-going*
4. *always*

Education Level (originally considered)

This variable represented the PM's highest level of education and is identified as follows

1. *no college coursework*
2. *some college coursework – but no degree*

3. *attainment of an undergraduate degree*
4. *attainment of a graduate degree*
5. *attainment of post graduate degree*

Years of Project Management Experience

This variable represents the PM's years of experience and is identified as

1. *1 year or less*
2. *2 years or less*
3. *5 years or less*
4. *5 years to 10 years*
5. *greater than 10 years*

Gender

Although it was possible that one or more participants in the survey might have had a desire to challenge the limits of the two choices assigned to this variable, it was not anticipated that this would have statistical significance.

To what extent the PM agrees that EI has value in managing their emotions.

Utilizing a Likert scale to identify its levels, this variable was defined as follows

1. *strongly disagree*
2. *somewhat disagree*
3. *neither agree nor disagree*
4. *somewhat agree*
5. *strongly agree*

To what extent the PM agrees that EI has value in managing the emotions others.

Utilizing a Likert scale to identify its levels, this variable was defined as follows

1. *strongly disagree*
2. *somewhat disagree*

3. *neither agree nor disagree*
4. *somewhat agree*
5. *strongly agree*

Validity and Reliability

To ensure face validity and enable generalizability, the survey instrument underwent a field test of five participants, each of whom had significant experience in their respective field. The field test was implemented to help identify question sequencing problems or wording issues prior to conducting the actual survey. Once feedback was obtained and the survey was edited where necessary, it was deployed as a pilot study.

Since this study involved the use of a newly designed survey instrument, the researcher applied for IRB review and approval prior to its use in the Pilot Study. To confirm instrument validity, the researcher set a minimum Chronbach's Alpha score to be achieved of .70.

Ethical Considerations

Although this research was not meant, nor designed, to effect biomedical or behavioral research, as defined by the Belmont Principle, its general rules for ethical research conduct was applied by this researcher. To that end, the following requirements were considered: informed consent, risk/benefit assessment, and the selection of subjects of research.

Informed Consent

A decision was made by the IRB not require a *signed* informed consent by the participants. The participants' consent was inferred after they read the information and

selected to continue. The participant provided their informed consent by acknowledging that starting the survey via the provided link acted as their consent. This process step satisfied the collection of participants' informed consent and was identified in their Internet protocol (IP) address that is captured in their survey response.

Beneficence

Of ethical interest to this researcher was the desire to minimize potential harm to any participant. This was identified in Part B of the Belmont Principle under the subject of Beneficence. Privacy and confidentiality was ensured as there was to be no method for soliciting or collecting personal information from any participant nor was the information to be tied to a named source. Arbitrary survey participant numbers was assigned to each data collection activity. The benefit of assigning an arbitrary number to each participant was to ensure confidentiality and privacy.

Risk Benefit Assessment

After a thorough review of Part C, section 2, and other sections of the Belmont Report, this researcher did not identify any planned research activity or research design element that would violate conditions or the spirit of the intent of the Belmont Report.

Selection of Subjects

The participants for this study were selected from a pool of existing PM practitioners from the professional PMI organization, the IS CoP. Although it was impossible to determine the degree to which a participant was an autonomous agent or not or whether was with diminished autonomy, this researcher believed that it would not be an issue and would not violate the *Respect for Persons* section of the Belmont Report.

CHAPTER 4. RESULTS

Introduction

The purpose of this study was to determine the extent to which certain independent variables could be construed as obstacles to a project manager's (PM's) ability to develop or invoke their Emotional Intelligence (EI). In this study, the development and frequency invoking of EI are considered to be the dependent variables. In addition, the study examined the extent to which certain combinations of the independent variables impacted the dependent variables.

The results of the data analyses that were used to describe the sample and address the research questions and hypotheses are presented in this chapter. The analyses are divided into four sections. The first section provides a profile of the sample based on descriptives and frequencies of the participants' answers to the survey questions. The second section illustrates the interrelationship between independent and dependent variables using regression analyses and provides the means for evaluating the hypotheses. The last section displays the results of the Ancova analysis and help to answer the research questions.

Description of the Population and Sample

The population considered for this study was the Project Management Institute (PMI) Information Systems Community of Practice (IS CoP). An invitation to participate in the survey was sent to the membership body. The sample was made up of those who elected to participate in the study. The sample size was 1069 IS CoP members who participated via an on line application from the Survey Monkey web site. Surveys that were not completed in full by the participants were not included in the analyses. Survey

results were exported into Microsoft Excel and analyzed using the IBM SPSS 20 software application.

The participants were asked to answer each of the eight survey questions. The results of the survey data collected follows.

Details of the Analyses and Results

From the survey data collected, a descriptive analysis of each participants' answers to survey questions 1 – 8, excluding survey question 6, was captured in Table 1.

Table 1. *Descriptive Statistics*

	N	Mean Statistic	Std. Deviation Statistic
Question 1. How frequently have you invoked EI to manage your own emotions?	1069	3.30	.836
Question 2. How frequently have you invoked EI to manage stakeholder emotions?	1069	3.23	.868
Question 3. Which of the following choices most closely represents how many hours you have spent learning EI theory or principles within the past five years?	1069	2.37	.963
Question 4. Which of the following choices most closely represents the approach you have taken in developing your EI?	1069	2.41	1.110
Question 5. How many years of project management experience do you have – within the past five years?	1069	4.71	.680
Question 7. Which of the following choices most closely represents your feeling about the value of EI in managing your own emotions?	1069	4.26	.807
Question 8. Which of the following choices most closely represents your feeling about the value of EI in managing your stakeholders' emotions	1069	4.22	.787
Valid N	1069		

Questions 1, 2, and 3 represent the dependent variables of the study. The results for Q1 show that the majority, mean of 3.3, sometimes invoked EI when managing their own emotions. The results for Q2 show that the majority, mean of 3.23, sometimes invoked EI when managing stakeholder emotions. The results of Q3 show that the majority, mean of 2.37, spent between 1 and 5 hours studying EI theory or principles.

Questions 4, 5, 7, and 8 represent the independent variables for the study. The results for Q4 represent the PM's method of learning EI. The mean, 2.41, can be interpreted as an activity somewhere between self-directed studies and an assessment of the effectiveness of EI in their own work. Question 5 represents the level of experience a PM has in their field within the past 5 years. The mean, 4.71, suggest the majority of participants are have greater than 4 years' recent experience in their field.

Questions 7 and 8 represent the independent variables associated with attitude. The results are for Q7 and Q8 are similar at 4.26 and 4.22, respectively.

Frequencies. Frequency statistics for all eight questions are captured in Tables 2 through 8.

Participant responses to question 1, *frequency of invoking EI to manage your own emotions*, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Answer choices for the participants *were 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Almost always, 5 = Always*. A summary of those responses is in Table 2.

Table 2. *Frequency–Q1 (Frequency of Invoking EI to Manage your own Emotions)*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	35	3.3	3.3	3.3
	2	109	10.2	10.2	13.5
	3	467	43.7	43.7	57.2
	4	412	38.5	38.5	95.7
	5	46	4.3	4.3	100.0
	Total	1069	100.0	100.0	

With regard to Q1 *frequency of invoking EI to manage one's own emotions*, the majority of answer choices were concentrated in questions 3 (n = 467, 43.7%) and 4 (n = 412, 38.5%). These two answer choices totaled n = 879, 82.2%. Participants' answer choice 1was the smallest (n = 35, 3.3%) while participants' answer choice 5 was almost as small (n = 46, 4.3%). The combination of these two answers represented 7.6% of the total.

Participant responses to Question 2, *frequency of invoking EI to manage stakeholder emotions*, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Answer choices for the participants were *1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Almost always, 5 = Always.* A summary of those responses is in Table 3.

Table 3. *Frequency–Q2 (Frequency of Invoking EI to Manage Stakeholder Emotions)*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	43	4.0	4.0	4.0
	2	128	12.0	12.0	16.0
	3	489	45.7	45.7	61.7
	4	358	33.5	33.5	95.2
	5	51	4.8	4.8	100.0
	Total	1069	100.0	100.0	

With regard to Q1 frequency of invoking EI to manage stakeholder emotions, the majority of answer choices were concentrated in questions 3 (n = 489, 45.7%) and 4 (n = 358, 33.5%). These two answer choices totaled n = 847, 79.2%. Participants' answer choice 1 was the smallest (n = 43, 4.0%) while participants' answer choice 5 was the second smallest (n = 51, 4.8%). The combination of these two answers represented 7.8% of the total.

Participant responses to Question 3, *hours spent learning EI theory or principles within the previous five years*, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Answer choices for the participants were *1 = None, 2 = at least one hour but less than five hours, 3 = at least five hours but less than 20 hours, 4 = greater than 20 hours*. The results of this analysis are captured in Table 4.

Table 4. *Frequency–Q3 (Hours Spent Learning EI Theory or Principles Within the Previous Five Years)*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	222	20.8	20.8	20.8
	2	379	35.5	35.5	56.2
	3	319	29.8	29.8	86.1
	4	149	13.9	13.9	100.0
	Total	1069	100.0	100.0	

The results show the majority of participants selected answer number 2 (n = 379, 35.5%). This represents at less than one hour but less than five hours of study. Answer choice 3 was the next highest (n = 319, 29.8%). These two answer choices amounted to almost two thirds of the participants (n = 698, 65.3%). Participants' answer choice 4 was the smallest (n = 149, 13.9%) while participants' answer choice 1 was the second smallest (n = 222, 20.8%). The combination of these two answers represent almost a third of the participants (n = 371) a little less than a third of the overall total (34.7%). The results also show that the majority of participants spent at least some time learning about EI over the past 5 years (n = 847, 79.2%).

Participant responses to question 5, PM experience within the previous five years, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Answer choices for the participants were *1 = up to one year, 2 = greater than one but less than two years, 3 = greater than two but less than three years, 4 = greater than three but less than four years, 5 = greater than four years*. The results of this analysis can be found in Table 5.

Table 5. *Frequency–Q5 (PM Experience Within the Previous Five Years)*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	.4	.4	.4
	2	20	1.9	1.9	2.2
	3	53	5.0	5.0	7.2
	4	127	11.9	11.9	19.1
	5	865	80.9	80.9	100.0
	Total	1069	100.0	100.0	

The majority of participants indicated that they had at least four years of experience within the past five years (n = 865, 80.9%). The group with the least amount of experience was also the smallest group (n = 4, .4%). Of the remaining three groups, those with greater than one but less than two years were the second smallest (n = 20, 1.9%). The third smallest group were those with greater than two but less than three years (n = 53, 5%). The second largest group was those who had greater than three but less than four years (n = 127,80.9%).

Participants identified their gender in question 6. Table 6 shows how gender was divided in terms of numbers and percentages. Answer choices for the participants were 1 = male, and 2 = female.

Table 6. *Frequency–Q6 (Gender)*

	N	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	736	68.8	68.8	68.8
	2	333	31.2	31.2	100.0
	Total	1069	100.0	100.0	

Approximately 2/3 of the participants male (n = 736, 68.8%) and 1/3 of the participants were females (n = 333, 31.2%).

A PM's attitude toward the value of EI when managing emotions is captured in the participants' responses to survey Q 7 and Q8, which are identified in Tables 7 and 8.

Table 7 reflects the results of the analysis of the responses to Question 7, *a PM's feeling about the value of EI in managing their own emotions.* The answer choices for this question were *1 = Strongly disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, and 5 = Strongly agree*.

Table 7. *Frequency–Q7 (Feeling About the Value of EI in Managing One's Own Emotions)*

	N	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	.8	.8	.8
	2	19	1.8	1.8	2.6
	3	135	12.6	12.6	15.2
	4	433	40.5	40.5	55.8
	5	473	44.2	44.2	100.0
	Total	1069	100.0	100.0	

The results of the analysis showed the majority of participants strongly agreed that EI had some value when managing one's own emotions (n = 473, 44.2%). The second largest group represented those who somewhat agreed with the premise that EI has value (n = 433, 40.5%). The vast majority (n = 906, 84.7%) believed that EI has some value when managing their own emotions.

The next largest group were those who neither agreed with nor disagreed with the value EI had when managing their own emotions (n = 135, 12.6%). When combined, the remaining two participant answer choices, 1 and 2, made up the smallest group (n = 28, 2.6%).

An analysis of the answers to question is captured in Table 8. This table shows how the participants were divided in terms of agreeing or disagreeing with the statement that EI has value when managing their stakeholder emotions. Answer choices provided for Q8 were *1 = Strongly disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, and 5 = Strongly agree*.

Table 8. *Frequency–Q8 (Feeling About the Value of EI in Managing Your Stakeholders' Emotions)*

	N	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	.7	.7	.7
	2	23	2.2	2.2	2.8
	3	127	11.9	11.9	14.7
	4	478	44.7	44.7	59.4
	5	434	40.6	40.6	100.0
	Total	1069	100.0	100.0	

The results showed the majority of participants somewhat agreed that EI had value when managing their stakeholder emotions (n = 478, 44.7%). The second largest group represented those who strongly agreed with the premise that EI has value (n = 434, 40.6%). The vast majority (n = 912, 85.3%) believed that EI has some value when managing their stakeholders' emotions.

The next largest group were those who neither agreed with nor disagreed with the value EI had when managing their own emotions (n = 127, 11.9%). When combined, the remaining two participant answer choices, selections 1 and 2, made up the smallest group (n = 30, 2.9%).

A similarity can be seen between Tables 8 and 7.

Data in the next group illustrates a side-by-side comparison of the relationship between the independent variables to both dependent variables. The dependent variables are identified as D1 and D2 and are captured in question 1 (Q1), *frequency of invoking EI when managing one's own emotions,* and question 2 (Q2), *frequency of invoking EI when*

managing stakeholder emotions. A One-Way ANOVA analysis was done for each different combination of variables.

Participant responses to Q3 were compared against the answers provided for the dependent variables D1 and D2. The participants were asked to identify the amount of hours they spent learning about the theory and principles of EI over the past five years. Their answer choices were *1 = None, 2 = at least one hour but less than five hours, 3 = at least five hours but less than 20 hours, 4 = greater than 20 hours*. A summary of those responses is in Table 9.

Table 9. *One-Way ANOVA Q1 & Q2 Compared Against Q3 (Hours of Study)*

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Question 1. How frequently have you invoked EI to manage your own emotions	1	222	2.86	1.010	.068	2.72	2.99
	2	379	3.24	.733	.038	3.17	3.31
	3	319	3.47	.657	.037	3.40	3.54
	4	149	3.78	.787	.064	3.65	3.91
	Total	1069	3.30	.836	.026	3.25	3.35
Question 2. How frequently have you invoked EI to manage stakeholder emotions	1	222	2.76	1.018	.068	2.62	2.89
	2	379	3.17	.757	.039	3.09	3.24
	3	319	3.43	.714	.040	3.35	3.50
	4	149	3.68	.840	.069	3.54	3.81
	Total	1069	3.23	.868	.027	3.18	3.28

Regarding dependent variable D1, a majority of participants (n = 468) indicated that they spent between 1 and 20 hours learning about EI. Those spending between 1 and 5 hours made up the larger of the two groups (n = 379), while those indicating they spent between 5 and 20 hours made up the second largest group (n = 319). The smallest group of participants identified a study time of greater than 20 hours (n = 149) while the next smallest group indicated they spent no time studying about EI (n = 222).

The standard deviation (SD) for each of the four groups of answers, were 1.0 or less. The largest SD was seen in the group who answered 1, no time learning about EI, (n = 1.01), while the smallest SD was seen with the group who spent between 5 and 20 hours learning about EI (n = .657)

The standard errors (SE) reported for each mean associated with D1 are relatively low and range between .037 to .068. The SEs for the means associated with D2 were similar and range from .039 to .069.

Participant responses to Q5 were compared against the answers provided for the dependent variables D1 and D2. The participants were asked to identify the years of PM experience within the previous five years. Their answer choices were *1 = up to one year, 2 = greater than one but less than two years, 3 = greater than two but less than three years, 4 = greater than three but less than four years, 5 = greater than four years*. A summary of those responses is in Table 10.

Table 10. *One-Way ANOVA Q1 & Q2 Compared Against Q5 (Years of PM Experience)*

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Question 1. How frequently have you invoked EI to manage your own emotions	1	4	2.50	1.291	.645	.45	4.55
	2	20	3.05	.759	.170	2.69	3.41
	3	53	3.21	.840	.115	2.98	3.44
	4	127	3.20	.800	.071	3.06	3.35
	5	865	3.33	.838	.028	3.28	3.39
	Total	1069	3.30	.836	.026	3.25	3.35
Question 2. How frequently have you invoked EI to manage stakeholder emotions	1	4	2.25	1.258	.629	.25	4.25
	2	20	2.90	.788	.176	2.53	3.27
	3	53	3.19	.942	.129	2.93	3.45
	4	127	3.21	.896	.080	3.06	3.37
	5	865	3.25	.857	.029	3.19	3.30
	Total	1069	3.23	.868	.027	3.18	3.28

The results of this test suggest that the frequency in which a PM invokes EI when managing emotions, both their own and those of their stakeholders, is directly proportional to the years of PM experience. Participants who indicated an experience level of greater than 4 years within the previous five years made up the largest group (n = 865). Participants who indicated an experience level up to 1 year, made up the smallest group (n = 4). The majority of the balance of participants' responses were in the greater than three but less than four years category (n = 127).

The largest standard deviations, 1.291 for Q1, and 1.258 for Q2, were associated with the smallest groups, those who indicated less than 1 year experience. The standard

errors for these same two groups were also larger than the standard errors reported for the other groups The standard error for Q1 was .645 and the standard error for Q2 was .629.

Participant responses to question 6, gender, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Their responses were identified in the survey questions as 1 = male, and 2 – female. A summary of those responses is in Table 11.

Table 11. *One-Way ANOVA Q1 & Q2 Compared Against Q6 (Gender)*

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Question 1. How frequently have you invoked EI to manage your own emotions	1	736	3.23	.826	.030	3.17	3.29
	2	333	3.47	.834	.046	3.38	3.56
	Total	1069	3.30	.836	.026	3.25	3.35
Question 2. How frequently have you invoked EI to manage stakeholder emotions	1	736	3.15	.869	.032	3.09	3.22
	2	333	3.40	.843	.046	3.31	3.49
	Total	1069	3.23	.868	.027	3.18	3.28

The majority of participants who responded were male (n = 736). Females made up the other group (n = 333). The results show that although twice as many males than females responded to the survey, the results of gender impact on the dependent variables were roughly the same. Regarding the dependent variable associated with question 1, the mean score for males was 3.23, while the mean score for females was 3.47.

Regarding the dependent variable associated with question 2, the mean scores were similar. The mean score for males was 3.15, while the mean score for females was 3.40. Standard deviation for males and females were similar with males at .826 and females at .834. Standard errors for both gender groups were also similar.

Participant responses to question 7, which related attitude toward the value EI had in managing one's own emotions, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Their responses were identified in the survey questions as 1 = Strongly Disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Strongly agree. A summary of those responses can be found in Table 12.

Table 12. *One-Way ANOVA Q1 & Q2 Compared Against Q7 (Attitude Toward Value of EI Toward Managing One's Own Emotions)*

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Question 1.	1	9	3.33	1.500	.500	2.18	4.49
How frequently have	2	19	2.68	.885	.203	2.26	3.11
you invoked EI to	3	135	2.47	.921	.079	2.31	2.62
manage your own	4	433	3.18	.677	.033	3.12	3.24
emotions	5	473	3.68	.693	.032	3.62	3.74
	Total	1069	3.30	.836	.026	3.25	3.35
Question 2.	1	9	3.33	1.500	.500	2.18	4.49
How frequently have	2	19	2.53	.905	.208	2.09	2.96
you invoked EI to	3	135	2.63	1.063	.092	2.45	2.81
manage stakeholder	4	433	3.13	.765	.037	3.06	3.20
emotions	5	473	3.52	.751	.035	3.45	3.59
	Total	1069	3.23	.868	.027	3.18	3.28

The results of this test indicate that attitude toward EI and frequency of invoking EI are directly proportional. Those that answered 5, strongly agree, were the largest group (n = 473). The next largest group were those that answered 4, somewhat agree (n = 433). These two groups accounted 84.7% of the total number of participants.

The standard deviation and standard errors for questions 1 and 2, were relatively low. The largest standard deviation in Q1 and Q2 (SD=1.5) was in the participants who answered 1, *Strongly disagree*, while the largest standard error (SE = .5) was noticed in that same group.

Participant responses to question 8, which related attitude toward the value EI had in managing stakeholder emotions, were compared against the answers provided for the dependent variables identified in questions 1 and 2. Their responses were identified in the survey questions as *1 = Strongly Disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Strongly agree*. A summary of those responses appears in Table 12.

Table 13. *One-Way ANOVA Q1 & Q2 Compared Against Q8 (Attitude Toward Value of EI Toward Managing Stakeholder Emotions)*

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Question 1. How frequently have you invoked EI to manage your own emotions	1	7	3.00	1.528	.577	1.59	4.41
	2	23	2.83	.834	.174	2.47	3.19
	3	127	2.52	.991	.088	2.35	2.69
	4	478	3.26	.701	.032	3.20	3.32
	5	434	3.61	.734	.035	3.54	3.68
	Total	1069	3.30	.836	.026	3.25	3.35
Question 2. How frequently have you invoked EI to manage stakeholder emotions	1	7	3.43	1.718	.649	1.84	5.02
	2	23	2.22	.671	.140	1.93	2.51
	3	127	2.40	.928	.082	2.24	2.56
	4	478	3.12	.694	.032	3.06	3.19
	5	434	3.64	.760	.036	3.57	3.71
	Total	1069	3.23	.868	.027	3.18	3.28

As in Table 12, the results in Table 13 appear somewhat similar. The results indicate that attitude toward EI and frequency of invoking EI are directly proportional.

Those that answered 4, somewhat agree, were the largest group (n = 478). The next largest group were those who answered 5, strongly agree (n = 434). These two groups accounted 85.3% of the total number of participants.

The largest standard deviation in Q1 and Q2, SD=1.528 and SD = 1.718 respectively, were participants who answered 1, *Strongly disagree*, while the largest standard errors in Q1 and Q2 were also noticed in that same group (SE=.577 and .649, respectively).

Regression Analyses. The following section captured the results of the regression analyses between the predictor variables and the dependent variables. The results were used to estimate the coefficients of the linear equation, involving more than one independent variable, in order to model the value of both dependent scale variables based on its linear relationship to one or more predictors. These results also helped to evaluate the hypotheses.

The predictor variables for the first model were Q3, Q4, and Q7 and were used against dependent variable D1. A summary of that model can be seen in Table 14.

Table 14. *Dependent Variable Q1 & Predictor Variable Q7*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.516[a]	.266	.264	.717	.266	128.917	3	1065	.000

The R Squared value of this model is .266 while the Adjusted R Square value is similar at .264. The results also show a significant F statistic. This indicates that using the model is most likely better than guessing the mean. However, the Adjusted R Square

value, .264, suggests that only about a fourth of the variation of the mean in Q1 is explained by the three predictor variables, which are Q3, how many hours you have spent learning EI theory or principles within the past five years, Q4, the approach taken by the PM to develop EI, and Q7, feeling about the value of EI in managing one's own emotions.

Data derived from participant answers to Questions 1, 3, 4, and 7 were tested against D1. A comparison between the frequency of invoking ones EI when managing their own emotions is compared considering factors that include Q7, one's feeling toward the value of EI in managing one's own emotions. The results are summarized in Table 15.

Table 15. *Coefficients-Dependent Variable Q1*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.275	.119		10.719	.000
	Question 3. Which of the following choices most closely represents how many hours you have spent learning EI theory or principles within the past five years	.099	.028	.115	3.602	.000
	Question 4. Which of the following choices most closely represents the approach you have taken in developing your EI.	.168	.024	.223	6.924	.000
	Question 7. Which of the following choices most closely represents your feeling about the value of EI in managing your own emotions	.326	.030	.315	10.984	.000

The coefficients for all predictor variables to the dependent variable were small. The coefficient Q3 to D1 is .099, the coefficient for Q4 to D1 is .168, and the coefficient for Q7 to D1 is .326. All Sig values in this test are significant. This results in a rejection of the Null Hypothesis Ho1.

The predictor variables for the second model were Q3, Q4, and Q8 and were used against dependent variable D2. A summary of the model fit can be seen Table 16.

Table 16. *Model Summary. Dependent Variable Q2 & Predictor Variable Q8*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.525	.277	.275	.739	.277	136.084	3	1065	.000

The R Squared value of this model is .277 while the Adjusted R Square value is similar at .275. The results show a significant F statistic which suggests that using the model is most likely better than guessing the mean. However, the Adjusted R Square value, .264, suggests that only about a fourth of the variation of the mean in Q2 is explained by the 3 predictor variables Q3, how many hours you have spent learning EI theory or principles within the past five years, Q4, the approach taken by the PM to develop EI, and Q8, feeling about the value of EI in managing stakeholder emotions.

Data derived from participant answers to Questions 1, 3, 4, and 8 were tested against D2. A comparison between the frequency of invoking ones EI when managing stakeholders is compared considering factors that include Q8, one's feeling toward the value of EI in managing stakeholder emotions. The results are summarized in Table 17.

Table 17. *Coefficients-Dependent Variable Q2*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	.975	.125		7.790	.000
	Question 3. Which of the following choices most closely represents how many hours you have spent learning EI theory or principles within the past five years	.103	.028	.115	3.634	.000
	Question 4. Which of the following choices most closely represents the approach you have taken in developing your EI.	.172	.025	.220	6.928	.000
	Question 8. Which of the following choices most closely represents your feeling about the value of EI in managing your stakeholders' emotions	.378	.031	.343	12.323	.000

The coefficients for all predictor variables to the dependent variable were small. The coefficient Q3 to D2 is .103, the coefficient for Q4 to D2 is .172, and the coefficient for Q8 to D2 is .378. All Sig values in this test are significant. This results in a rejection of the Null Hypothesis Ho2.

A Univariate Analyses of Variance was run to answer Hypotheses H3 and H4. The hypotheses were:

- Ho3 = a PM's education level, years of experience, or gender does not affect their level of development of EI

- Ha3 = a PM's education level, years of experience, or gender does affect their level of development of EI
- Ho4 = a PM's years of experience, or gender in conjunction with their attitude toward the value of EI in managing emotions does not affect their level of development of EI
- Ha4 = a PM's years of experience, or gender in conjunction with their attitude toward the value of EI in managing emotions does affect their level of development of EI

The results of that test are captured in Table 18.

Table 18. *Test of Hypotheses 3 and 4-Impact of Q5, Q6, Q7, and Q8 Against Dependent Variable Q3*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Q5YearsPmExp * Q6Gender	2.910	4	.728	.908	.459
Q5YearsPmExp * Q6Gender * Q7AttitudeSelf * Q8AttitudeStkHldr	1.351	3	.450	.562	.640

The Sig value for the combination of Q5, years of experience, and Q6, gender, is significant at .459. With this combination of variables, we failed to reject the null hypothesis Ho3.

The Sig value for the combination of variables Q5, Q6, Q7, and Q8 were not significant at .640. With this combination of variables, we failed to reject the null hypothesis Ho4.

Alignment of the Analyses to the Research Questions

Analyses contained in the following section addresses the questions asked in the introduction of Chapter 4. The questions asked were:

1. To what extent does gender or years of project management experience affect a PM's development of EI?
2. To what extent does gender, or years of project management experience affect how frequently a PM invokes EI when managing project stakeholders?
3. Is there a relationship between a PM's attitude toward the effectiveness of EI and their gender or years of project management experience?

The results of data collected to answer research question 1, To what extent does gender or years of project management experience affect a PM's development of EI, are summarized in Table 19.

Table 19. *Univariate Analysis of Variance Q5 and Q6 to Q3*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	18.038	9	2.004	2.181	.021
Intercept	351.218	1	351.218	382.258	.000
Q5YearsPmExp	5.976	4	1.494	1.626	.165
Q6Gender	4.866	1	4.866	5.296	.022
Q5YearsPmExp * Q6Gender	3.395	4	.849	.924	.449

The Sig values for Q5 do not seem significant (n = .165). However, the sig value for Q6 do seem significant (.022). The sig value associated with the combination of the

two variables, Q5 and Q6, would have a greater impact on Q3 then when considered individually.

The results of data collected to answer research question 2, To what extent does gender, or years of project management experience affect how frequently a PM invokes EI when managing project stakeholders, are summarized in Table 20.

Table 20. *Ancova Q6 to Q1 & Q2*

		Sum of Squares	df	Mean Square	F	Sig.
Question 1. How frequently have you invoked EI to manage your own emotions	Between Groups	13.562	1	13.562	19.751	.000
	Total	746.193	1068			
Question 2. How frequently have you invoked EI to manage stakeholder emotions	Between Groups	13.859	1	13.859	18.683	.000
	Total	805.390	1068			

The Sig values for this test, against both D1 and D2, are .000. This is below a threshold of .05 set by the researcher and violates an assumption of equal variances between males and females.

The results of data collected to answer research question 3, Is there a relationship between a PM's attitude toward the effectiveness of EI and their gender or years of project management, are captured in Table 21.

Table 21. *Ancova Q6 Against Q7 & Q8*

		Sum of Squares	df	Mean Square	F	Sig.
Question 7. Which of the following choices most closely represents your feeling about the value of EI in managing your own emotions	Between Groups	6.620	1	6.620	10.257	.001
	Total	695.282	1068			
Question 8. Which of the following choices most closely represents your feeling about the value of EI in managing your stakeholders' emotions	Between Groups	5.728	1	5.728	9.311	.002
	Total	662.118	1068			

The Sig values for this test for both Q7 and Q8 are significant. Q7 Sig value is .001 and Q8 Sig value is .002. This is below a threshold of .05 set by the researcher and violates an assumption of equal variances between the means of males and females.

The results of data collected to answer research question 3, Is there a relationship between a PM's attitude toward the effectiveness of EI and their gender or years of project management, is summarized in Table 22.

Table 22. *Ancova Q5 Against Q7 & Q8*

		Sum of Squares	df	Mean Square	F	Sig.
Question 7. Which of the following choices most closely represents your feeling about the value of EI in managing your own emotions	Between Groups	9.801	4	2.450	3.803	.004
	Total	695.282	1068			
Question 8. Which of the following choices most closely represents your feeling about the value of EI in managing your stakeholders' emotions	Between Groups	9.310	4	2.327	3.793	.005
	Total	662.118	1068			

The Sig values for this test for both Q7 and Q8 are significant. Q7 Sig value is .004 and Q8 Sig value is .005. This is below a threshold of .05 set by the researcher and violates an assumption of equal variances between the means of males and females.

Of interest, however, is how the years of experience and its impact on the dependent variables data are dispersed.

The means plot of Q5 to Q7 suggest an anomaly at one point where the mean for Q7 drops at a point between those participants who selected answer 2, greater than one but less than two years, in Q5. The means increase after that point.

Summary

The survey data, collected from 1069 participants, was used to describe the sample, answer the three research questions, and provide the basis for evaluating the four hypotheses that were presented in this chapter.

The results of that analyses suggested that all null hypotheses, considered in this study, be rejected. This, in turn, implied that each independent variable affected the dependent variables of level of development of EI and frequency of invoking EI. There were also some independent variables that, when combined with others, had different levels of impact on the dependent variables. This was true especially when looking at the impacts against the dependent variables associated with the frequency of invoking EI, Q1 and Q2 respectively.

Additionally, when changing the two independent variables associated with attitude, Q7 and Q8, into dependent variables, it was possible to test those two variables against both gender and years of experience, Q6 and Q5 respectively. This provided additional insight into the affects that the dependent variables might also have on one another as well as on the dependent variables of Q1, Q2, and Q3.

CHAPTER 5. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this research was to determine the extent to which certain variables affected a project manager's (PM) development of emotional intelligence (EI) and frequency of invoking that EI in a project management setting. The reason behind this research was twofold. The first was to determine if this research could contribute to the mitigation of project failure and, subsequently, the costs associated with that failure. Although the estimates for project failure continue to be elusive, earlier studies showed that these costs were significant. Estimated direct costs for project failure in the 1990s have ranged from $81B USD in 1994 (Standish, 1999) to $140 billion USD (Rosemont Management, 2008). Krigsman (2009) and Sessions (2009) gave even more striking estimates of over $6 trillion USD annually.

The second reason for conducting this research was to understand how certain factors could limit PMs from taking advantage of the benefit that EI has to offer them in a project management setting. Watson (1981) suggested that if one acts in a reactionary mode, there is a greater risk of minimizing purpose and reducing the chances for achieving a desired outcome. Porter (1962) suggested that, through design, it might be beneficial to proactively alter an emotional relationship. Therefore, PMs would be better served if they were equipped with "multiple skills and abilities" (Leban, 2003, p. 3). Proactively managing stakeholders would help to facilitate a successful project outcome (PMBOK® Guide 4th ed., 2008). Taking into consideration that incorporating EI skills can enhance the chances for a positive outcome (Tucker, Sojka, Barone, & McCarthy,

2000), overcoming obstacles that prevent PMs from developing and using their EI can help contribute to that positive outcome.

Different theories, supportive to this study, were evaluated in the Literature Review section, Chapter 2, of this document. Of primary interest to the researcher were the theories that described the value of EI in a PM role, the sense of urgency to enhance the chances for project success due to the changing business landscape, and the opposing views of the research community toward the validity and efficacy of EI. The relevance of understanding these theories was that it provided me with the answer to the question of *why conduct this research*? Prior to understanding if certain variables could serve as obstacles to a PM developing or invoking EI, it was important to understand whether previous research established a positive correlation between EI and a PM's success. Literature reviewed provided me with examples of the sense of urgency emanating from the changing business landscape and, hence, the challenges PMs might face in addressing those urgencies. Finally, it was important to understand how the research community was divided concerning the efficacy and validity of EI. The majority of research done to date suggests that EI does, indeed, have value to a PM. However, it was equally important to understand how some researchers believed that the opposite was true. By understanding the challenges to the theories of EI validity, I was able to select variables that could be considered as obstacles developing and invoking EI. Moreover, considering the opponents' views of EI, I was also able to identify a variable of specific interest, a PM's attitude toward the value of EI.

Survey questions were developed in order to identify both independent and dependent variables. The independent variables considered for this study included a)

gender, b) years of project management experience, c) the study methods for EI, and d) attitude toward the value of EI. The dependent variables considered for study include frequency of invoking EI when managing one's own emotions, frequency of invoking EI when managing stakeholder emotions and the amount of hours PMs spent developing their EI. Although attitude was considered as an independent variable, I noticed that this variable could be treated as a dependent variable as well. However, frequency of invoking and hours spent developing EI remained the target dependent variables.

Invitation to participate in the survey was sent via email invite to the Project Management Institute (PMI) Information Systems Community of Practice (IS CoP) members and data from the results of that survey were collected from participants who responded. Based on the membership roster provided in the IS CoP web site, at the start of this research, I estimated that the membership size to be approximately 4500 and calculated my sample size based on that number. Although calculations suggested 148 participants were needed, I received responses from 1069 participants. Survey questions can be seen in the survey instrument in Appendix A. Finally, while education was initially targeted as a factor for this study, the Chronbach's Alpha score obtained during the field test suggested the validity of the survey instrument would be strengthened by omitting it from the questions and, therefore, was removed.

As a result of the research design, and certain limitations of the study, a quantitative approach was used. This was made possible through the type of data collected and the method for collecting that data. To determine the relationship between the independent and dependent variables, several statistical analyses were performed on the participants' responses.

Discussion of the Results

The purpose of this research was to determine the extent to which certain variables affect a project manager's (PM) development of emotional intelligence (EI) and frequency of invoking that EI in a project management setting and the analyses provided enabled that determination.

This research was significant because it provided additional information into the project management body of knowledge. PM's can leverage that information in their pursuit of knowledge that could help them more effectively and efficiently manage projects toward a successful conclusion. However, as theories on the values of EI, its testing, and its constructs, continue to develop, research into obstacles that prevent PMs from developing and invoking that EI does not appear to be being addressed.

A quantitative approach was used because it facilitated data collection and analyses, especially where time and cost constraints were present. It also provided an objective review of the data based on the design of the closed ended questions used in the survey.

Overall, the result of this study suggests that every independent variable impacted both a PM's level of development of EI and frequency of invoking that EI when managing both their own emotions and the emotions of their stakeholders. While it was observed that each independent variable had an effect on these dependent variables, it was also discovered that different combinations of those same variables also had an effect. Statistical analyses resulted in rejecting the null hypotheses associated with this study and provided answers to the research questions. This further supported the evidence that the independent variables affected, to some extent, the dependent variables.

Of additional interest to this researcher, was the consideration of the two independent variables embedded in survey questions 7 and 8. These questions were meant to identify a PM's attitude toward the value of EI when managing emotions. While they were not initially considered as dependent variables it became apparent, after analyzing their relationship to other variables, that they could, indeed, be considered as such. This is important as the literature review suggested that the research community is still divided on whether EI has value and whether it is a viable intelligence. The effect of the discord in the research community, then, might very well translate into the attitude a PM espouses toward the value of EI when managing their emotions.

Although the study was limited due to time and cost constraints, it did provide an initial look into the relationship of the chosen independent and dependent variables. However, while the research design identified this initial set of variables, this list is not exhaustive. As EI continues to develop, so too will the public's understanding of its value and validity.

The results of the analyses provided answers to the three research questions. Regarding research Question 1, *to what extent does gender or years of project management experience affect a PM's development of EI,* the results suggested that years of experience had the greatest impact on a PM's level of development of EI. Nevertheless, the extent to which the two variables impacted level of development was much greater when combining the survey answer values of two variables together.

Regarding research question 2, to what extent does gender, or years of project management experience affect how frequently a PM invokes EI when managing project stakeholders, the Sig value results were significant, suggesting that both variables

impacted the dependent variable. While years of experience seemed an obvious contributor, gender did not. The combination of both independent variables, however, had a greater impact than just a single variable, on the dependent variable. Moreover, while the variables associated with questions 7 and 8 were not considered originally as dependent variables, it was interesting to see how these two variables might be impacted due to gender or years of experience. Regarding research question 3, Is there a relationship between a PM's attitude toward the effectiveness of EI and their gender or years of project management experience, both gender and years of experience had an impact on attitude.

Additionally, when looking at other combinations of independent variables, those that had the greatest impact on dependent variables, frequency of invoking EI, were:

- Gender and years of experience
- Gender and one's attitude of EI toward managing stakeholder emotions
- Years of experience and one's attitude of EI toward managing stakeholder emotions
- One's attitude of EI toward managing own emotions and one's attitude of EI toward managing stakeholder emotions
- Gender, Years of experience, and attitude of EI toward stakeholder management
- Gender, one's attitude of EI toward managing own emotions, and one's attitude of EI toward managing stakeholder emotions
- Years of experience, Gender, one's attitude of EI toward managing own emotions, and one's attitude of EI toward managing stakeholder emotions

Finally, the combination of variables that had the greatest impact on invoking EI in a project setting came from Q6 *Gender*, Q7 *feeling toward the value of EI in managing one's own emotions*, and Q8 *feeling toward the value of EI when managing stakeholder emotions*.

Implications of the Study Results

The majority of literature, that was available and reviewed, focused on theories of EI, its testing, and its validity. However, there remains a gap in literature that addresses obstacles of developing and using EI. Therefore, I found it difficult to compare or contrast the findings of this research with those of previous researchers on this topic.

Limitations

It is important to know that this study was limited by different factors. These were, time and cost constraints, duration of the survey polling activity, size and thoroughness of the survey instrument, project management fields surveyed, and the extent of the detailed analyses performed. Some of the problems arising out of the impacts due to these limitations were:

- Potential incomplete analyses of every permeation of the selected independent variables against dependent variables
- A lack of understanding of how other variables might affect development and use of EI
- A reduced level of comfort with generalizing the results of the study

Recommendations for Further Research or Intervention

While this research identified certain variables that could affect one's level of EI development or one's frequency of invoking EI, that list of variables and approach is not complete. The following recommendations are made for future research:

1. Research into other variables that could serve as obstacles to development or use of EI. These could include education level, project duration, and type of organizational structure (e.g., functional, matrix, or projectized).
2. Research into different skills that could enhance the PM's ability to develop or invoke EI.
3. Development of a qualitative research approach into this same study
4. Research into how obstacles affect other PM related development activities.

Summary

Research has shown that project failure is costly (Krigsman 2009; Rosemont Management, 2008; Sessions 2009; Standish, 1999). PMs have many tools at their disposal to help them enhance their chances for a successful project outcome. While theories of EI, and its benefits, continue to develop it is important to note that some factors might very well impede our ability to take advantage of that EI. However, even though the results of this study tend to support that premise, the results should serve as a beginning only. Other areas that were not identified in this research, may also contribute to one's lack of development or use of EI. By understanding how one aligns themself with the variables in this study, one may better understand how to overcome some of these obstacles and take advantage of the benefits of EI.

Finally, while this study may contribute to the project management body of knowledge, it is hoped that additional research will also add to that body of knowledge.

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Appendix A. Survey Questions

Research question for dependent variables	Answer choices
Question 1: How frequently have you invoked EI to manage your own emotions	1 = Never 2 = Rarely 3 = Sometimes 4 = Almost always 5 = Always
Question 2: How frequently have you invoked EI to manage stakeholder emotions	1 = Never 2 = Rarely 3 = Sometimes 4 = Almost always 5 = Always
Question 3: Which of the following choices most closely represents how many hours you have spent learning EI theory or principles within the past five years	1 = None 2 = at least one hour but less than five hours 3 = at least five hours but less than 20 hours 4 = greater than 20 hours
Question 4: Which of the following choices most closely represents the approach you have taken to developing your EI.	1 = None 2 = Additional reading/learning of EI 3 = Assessment of, and changes to, effectiveness of EI in previous occurrences 4 = both 2 and 3 above

Research question for Independent variables	Answer choices
Question 5: Which of the following choices most closely represents your highest level of education	1 = No college coursework 2 = Some college coursework – but no degree 3 = Undergraduate degree 4 = Graduate degree 5 = Post graduate coursework or degree
Question 6: How many years of project management experience do you have – within the past five years	1 = up to one year 2 = greater than one but less than two years 3 = greater than two but less than three years 4 = greater than three but less than four years 5 = greater than four years
Question 7: Your gender	1 = Male 2 = Female
Question 8: Which of the following choices most closely represents your feeling about the value of EI in managing your own emotions	1 = Strongly Disagree 2 = Somewhat disagree 3 = Neither agree nor disagree 4 = Somewhat agree 5 = Strongly agree

Research question for dependent variables	Answer choices
Question 9: Which of the following choices most closely represents your feeling about the value of EI in managing your stakeholders' emotions	1 = Strongly Disagree 2 = Somewhat disagree 3 = Neither agree nor disagree 4 = Somewhat agree 5 = Strongly agree