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Trust and Project Performance: The Effects of Cognitive-Based and Affective-Based Trust on Client-Project Manager Engagements

Michel G. Washington
University of Pennsylvania, mgw7625@aol.com

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Abstract

Trust is a crucial element of information technology client-project manager engagements which can serve to positively or negatively affect the client's perception of project success. This paper attempts to address the effects of cognitive-based and affective-based trust on the information technology client-project manager relationship, specifically as it relates to a client's perception of "good quality" project performance.

A small study was undertaken to test the premise that although both cognitive-based and affective-based trust concepts can affect a client's perception of project performance, affective-based trust is a more dominant force in the client's determination of a positive project outcome. A theoretical foundation was drawn from interpersonal and inter-organizational trust literature. Testing of the proposed theoretical trust framework was conducted by surveying the clients of information technology service organization project managers and measuring client responses to statements concerning cognitive-based trust, affective-based trust, and "good quality" project performance related to the overall client-project manager engagement.

The survey results suggest that in the client-project manager relationship, affective-based trust factors can supersede cognitive-based trust factors in a client's perception of "good quality" project performance.

TRUST AND PROJECT PERFORMANCE:

THE EFFECTS OF COGNITIVE-BASED AND AFFECTIVE-BASED TRUST ON

CLIENT-PROJECT MANAGER ENGAGEMENTS

by

Michel G. Washington

Submitted to the Program of Organizational Dynamics in
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TRUST AND PROJECT PERFORMANCE:

THE EFFECTS OF COGNITIVE-BASED AND AFFECTIVE-BASED TRUST

ON CLIENT-PROJECT MANAGER ENGAGEMENTS

Approved by:

_____
Jean-Marc Choukroun, Ph.D., Advisor

_____
Keith D. Hornbacher, M.B.A., Reader

_____
Janet Hoffman, M.S., Reader

ABSTRACT

Trust is a crucial element of information technology client-project manager engagements which can serve to positively or negatively affect the client's perception of project success. This paper attempts to address the effects of cognitive-based and affective-based trust on the information technology client-project manager relationship, specifically as it relates to a client's perception of "good quality" project performance.

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CHAPTER 1

INTRODUCTION

Background

 While working in the field of project management I became intrigued and curious about a phenomenon that appeared to commonly occur during client-project manager engagements. It seemed to me that in order for a client to deem a project "successful" or of "good quality", the client had to not only have trusted the project manager and believed the project manager did a competent job, the client also needed to have felt an affinity for the project manager. I witnessed how some clients would give rave reviews about a project manager and the project outcome whenever it appeared they liked the project manager and believed that the project manager liked them.

 Every project manager wants to be trusted and viewed as competent enough to deliver a project that a client believes is successful. However, there seems to be another element of trust involved in the client-project manager relationship that extends beyond project management competency, and I wanted to explore that trust aspect. Through research on the subject of trust I learned about two types of interpersonal trust that could have an effect on the client-project manager engagement: cognitive-based and affect-based trust. My thesis paper sought to prove or disprove my contention that if cognitive-based trust exists with a high level affective-based trust in the client-project manager engagement, a client is more apt to believe a project manager delivered "good quality" project performance. More precisely, although both cognitive-based and affective-based trust may be present in the relationship, an elevated affective based trust factor will serve to more positively influence the client's opinion of "good quality" project performance.

Much of the literature on the subject of interpersonal trust suggests there are two primary types of trust: cognitive-based and affective-based. Cognitive-based trust is defined as individual beliefs about reliability, dependability, and competence. Affective-based trust is described as having mutual interpersonal care and concern or emotional bonds. These distinctions are described in the work of Cook and Wall, 1980, who theorized that interpersonal trust in a collaborative undertaking may be placed along two different dimensions: (1) faith in the trustworthy intentions of others, (similar to affective-based trust) and (2) confidence in the ability of others, producing the attributes of capability and reliability, (equivalent to cognitive-based trust).

Applying trust theories and concepts to the client-project manager relationship is important because the element of trust can potentially determine a client's perception of the success or failure of a project. Thus, the trust relationship a project manager develops with a client can positively or negatively affect the client's assessment of the project outcome. Recognizing the relative importance of cognitive-based and affective-based trust can therefore prove to be an invaluable project management skill worthy of cultivating.

The argument has been made that trust is multidimensional, comprised of both cognitive and affective characteristics. Applied to the realm of project management and client engagements, affective-based trust could be construed as the client's belief in the project manager's care and concerns for, or emotional bond to the client, while cognitive-based trust could be interpreted as the client's belief about the project manager's reliability, dependability, and competence. It could be inferred from these definitions that the interpersonal trust relationship between a client and a project manager is an

interaction between both cognitive-based and affective-based trust. Although both cognitive-based trust and affective-based trust might mutually exist in the client-project manager relationship, my previous information technology project management experience leads me to argue that affective-based trust must dominate in order for some clients to perceive they are the recipients of "good quality" project performance. This paper explores the validity of my assertion.

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CHAPTER 2

CHARACTERISTICS, COMPONENTS AND CONDITIONS OF TRUST

Trust plays a key role in client-project manager relationships. Trust is the foundation of the business relationship and the basis for how risks and opportunities are perceived. Trust can often be managed by systematically focusing on client expectations, needs and desires. The greater the level of uncertainty, the greater is the need for trust. Trust therefore can be viewed as a form of collaborative capital (Jost, Dawson and Shaw, 2005) since it is vital in the face of vulnerability and risk to be able to trust another party.

Trust Characteristics

There are two primary characteristics of trust: self-interested and socially-oriented trust. Derived from the work of Lyons and Mehta (1997), these two trust characteristics are linked to relationship management and viewed as necessary elements for the development of trust in the business arena.

Self-interested trust can be defined as a willingness to trust with minimal or no evidence for trust where there exists a mutual advantage to putting trust in another. It can be summarized as being prepared to trust someone until or unless proven otherwise. Self-interested trust is seen as the proverbial "win-win" situation with the intent being, *"What can the other person do for me?"* The risk is usually small, as is the initial reward, yet the possibility of building the client-project manager relationship beyond the initial willingness to trust can potentially increase the reward for each party. This type of trust characteristic is most often present in the relationship between information technology clients and project managers involved in small, short-term project engagements.

Conversely, socially-oriented trust is generated from obligations in a social network of relationships. This trust characteristic spawns from self-interested trust and builds from the one-on-one relationship into a broader context. The mindset is more one of *"What can I do for the other party?"* rather than the self-interested *"What can the other party do for me?* Socially-oriented trust is very fragile partly because it can be lost quickly through opportunism, (Lyons and Mehta 1997), and partly because those engaged in these types of liaisons tend to view the potential relationship value and investment as an asset subject to greater risk than that of self-interested trust. Clients and project managers involved in large, long-term projects and repeat project opportunities tend to provide perfect conditions for the development of socially-oriented trust. In project engagements, much investment of time and effort is required from the client and project manager to transition to and adequately maintain socially-oriented trust.

Given that the triple constraints of time, cost and scope are the minimum requirements for a project manager to meet, (even though these are not always met), it is realistic to assume that clients are looking for value that exceeds their minimum needs. Therefore, meeting client desires can be the source of a more competitive advantage for a project manager. As value is added to the service, a project manager can expect a client to show a willingness to trust them beyond the level of self-interest and towards a more social orientation.

A matrix can be drawn to illustrate the client-project manager dyad, (see Figure 1), as it relates to needs and desires. As relationship value grows for both client and project manager, value for the client and profitability for the project manager can rise as trust grows and increased expectations are met.

Figure 1. Expectations, Trust and Relationship Value
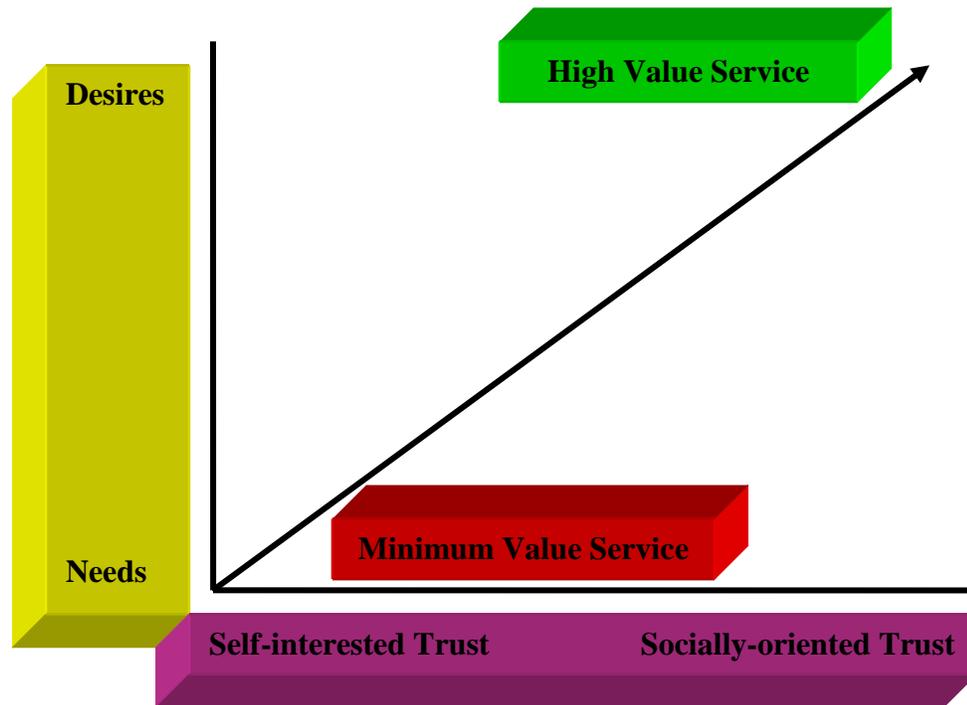
Trust Components

The components of trust are attitudes and beliefs based upon the relationship between expectations and confidence. Expectations occur in two forms: faith and hope. Faith is viewed as the "unseen" capability of the other party to perform. Hope is formed through the "seen" capability of the other party to perform. The components of trust therefore focus upon dynamics that can change attitudes and beliefs. Facilitating change at this level is fundamental for inducing and enhancing the client-project manager trust relationship on an interpersonal basis.

Because trust operates at different levels, understanding both the interpersonal dynamics and the organizational dynamics of a client relationship is important to

effectively manage the client interface. Displaying an understanding of the client's business goals, combined with perhaps sharing common interests and utilizing an empathetic business approach, can provide the chemistry needed to begin to build trust.

<u>Trust Conditions</u>

A client needs the conditions of trust to be in place in order to develop confidence in a project manager. "Confidence embodies evidence that is measurable." (Edkins and Smyth, 2006, pg. 87). However, a project manager's competence may not always be the catalyst for establishing and maintaining a condition of trust. Conditions of trust support components of trust and provide evidence to encourage socially-oriented trust. The conditions of trust translate attributes and attitudes into behavior patterns that combine to create an atmosphere of trust.

Attitudes, beliefs and behavior patterns provide the operational basis for trust as depicted in Figure 2. If a project manager encourages and facilitates behavior patterns in line with the conditions of trust, generally speaking, an appropriate basis of trust can be created. Behavior in itself will not create trust, but when coupled with other components of trust such as attitudes and beliefs, trust can manifest itself and the framework for trust can more fully develop.

Figure 2. Model of Trust Development

Attitudes and Beliefs

Behavior Patterns

Components of Trust

Conditions of Trust

Characteristics of Trust
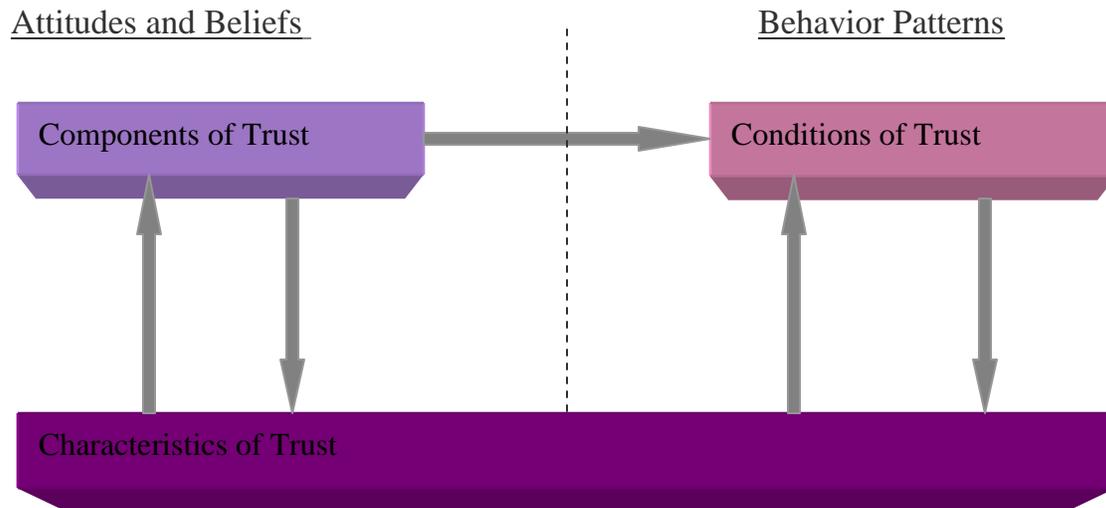
Trust, therefore, implies a willingness to be vulnerable towards another party or circumstance, (Mayer et al, 1995). Trust is very often intangible in form and mostly intuitively sensed. It can be an attitude as a noun, (Flores and Solomon, 1998), and a disposition in the form of a verb, (Fukuyama, 1995), which is formed into a belief that informs action. Trust is a belief that those on whom we depend will meet our expectations of them. In summary, the concept of trust is defined in terms of disposition and attitude, expressed as beliefs through behavior.

CHAPTER 3

INTERPERSONAL TRUST: COGNITIVE–BASED vs. AFFECTIVE–BASED

Morrow Jr., Hansen and Pearson (2004) argue that both cognitive processes and affective influences play important roles in the development of trust in interpersonal exchanges. Cognitive-based trust and affective-based trust are not necessarily independent of one another; neither are they mutually exclusive, since both types of trust are likely to be present at some level in every occurrence of a trust relationship. However, task-oriented, cognition-based trust and relationship-oriented, affect-based trust play different roles in interpersonal exchanges.

Cognitive-based trust is built on perceptions and self-interest as it pertains to performance and accomplishments through direct dealings with a partner. The basis of cognitive-based trust is cognitive reasoning (McAllister 1995).   For example, if a client is thoroughly impressed with a project manager's professional and educational training, experience and past role performance, the client could tend to develop a cognitive-based trust relationship with the project manager. In comparison, affective-based trust is based upon an emotional bond that often tends to go beyond a business or professional relationship or prior knowledge of performance. The emotional ties that bond individuals in a performance-related situation provide the basis for affective-based trust. An example of affective-based trust in a client-project manager relationship is a client who believes that a project manager, whom he/she personally likes and who consistently exhibits personal care and concern for them throughout the life of a project, is a skilled and trustworthy project manager capable of delivering a "good quality" work product. Both

affective-based trust and cognitive-based trust represent developing forms of interpersonal trust as outlined in Figure 3 below.

Figure 3. Cognitive-based and Affective-based Interpersonal Trust Paradigm
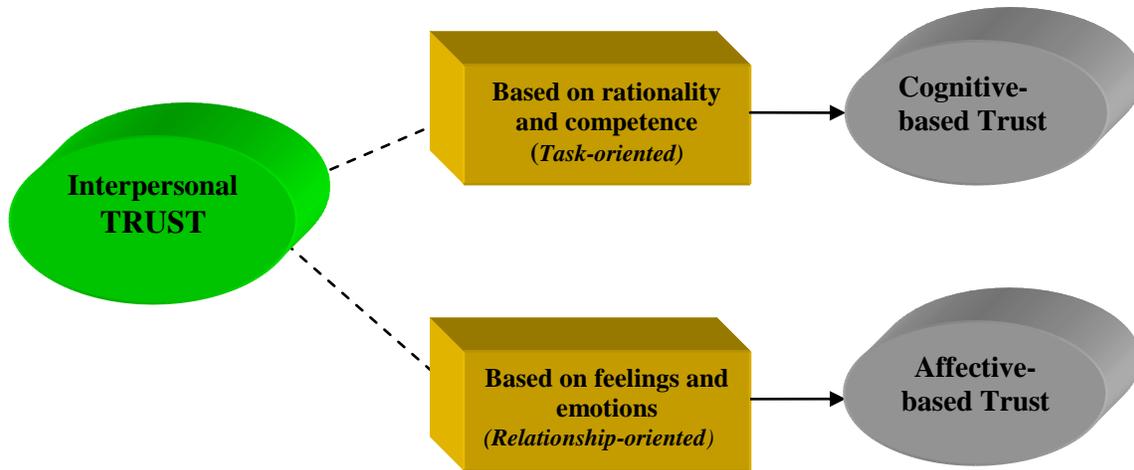
Cognitive-based Trust

Cognitive trust occurs when a person makes a conscious decision to trust based upon the best knowledge he or she has (McAllister, 1995). When relationships are based upon cognitive trust, individuals choose to trust based on evidence of trustworthiness (i.e.: everything seems in proper order or the other party appears to possess the required capabilities). Thus, cognitive-based trust tends to be high when "Repeated interactions allow parties to come to know, understand, and predict the routines and processes of the interaction." (Hite, 2005, pg. 140). Cognitive trust is often developed based on the proven reliability of an individual, (Lewis and Weigert, 1985; McAllister, 1995). In a client-project manager relationship, a project manager's ability to consistently deliver is a basis for building cognitive trust.

Cognitive-based trust is linked to the task-oriented side of work versus the relationship-oriented side. According to Yang, Mossholder and Peng (2009), cognitive trust has a more natural connection with task-oriented aspects of work. It is established over numerous situations and is based on the aggregation of these occurrences which then establishes a reputation.

Morrow Jr., Hansen and Pearson, (2004, pg. 53) argue that with cognitive-based trust, "One party assesses the trustworthiness of another party by weighing the evidence embedded in both the attributes of the transaction and the characteristics of the other party(s) to the transaction." Therefore, each client-project manager interaction presents an opportunity for cognitive-based trust to be either heightened or eliminated.

Affective-based Trust

Affective-based trust is the confidence one places in another on the basis of feelings generated by the level of care and concern the person demonstrates; it is more emotional than rational. With affect-based trust, people trust because of their positive feelings for the person in question. Those optimistic feelings are what would prompt one to accept vulnerability. Simply put, affective-based trust can be described as trusting someone because you like them. It is often characterized by feelings of security and perceived relationship strength. Reputation also influences affective-based trust, but affective-based trust is decidedly more confined to personal experiences with someone than cognitive-based trust. The essence of affective-based trust is reliance on a partner based on emotions.

Close and intimate personal relationships are developed through frequent and face-to-face interactions. Through these types of interactions individuals develop affective-based trust with one another which can also promote social ties. As a client participates in the ongoing project delivery process and spends increasing time with a project manager, he/she may begin to view them as a friend rather than purely a service deliverer/provider. According to literature on customer participation, customers are not placid receivers of services but rather co-producers of the service and co-makers of expressed emotions." (Johnson and Grayson, 2005). Over time, positive client experiences with a project manager can result in the client developing an affective-based trust relationship with the project manager. Since affective trust centers more on personal ties, a client's close working relationship with a project manager can create those closer bonds which in turn can produce greater assurance in and enjoyment of interactions with the project manager. As emotional connections deepen, a client's trust in a project manager may go beyond that which can be justified by available knowledge. Emotion-driven affective-based trust can make a client less objective in their assessment of the project manager and the overall project performance. In affective-based trust the relationship between individuals is built upon the genuine care and concern that the two parties have developed for each other. Johnson and Grayson (2005) assert, "The essence of affective trust is reliance on a partner, based on emotions." However, per McAllister (1995) in order for affective-based trust to exist, some form of cognitive-based trust must first be present.

CHAPTER 4

THE DYNAMICS OF THE INFORMATION TECHNOLOGY CLIENT-PROJECT

MANAGER ENGAGEMENT

Information Technology Project Structure

The generic information technology project structure referenced in this chapter will focus on a team assembled for a mid-sized system implementation effort for which a client hires an IT professional services company to develop and deploy a software application. The team would in all likelihood consist of the following team members: Client Project Sponsor, Professional Services Information Technology Project Manager, (possibly reporting to a Professional Services Project or Portfolio Management Office - PMO), Client/User Team Lead, Professional Services Application Development Lead and Client Technical Lead. Additional team members would work with each of the aforementioned project team leads, (subject matter experts, business analysts, etc). Larger information technology system development projects may have more team members engaged while smaller projects of this kind might require no team leads and employ only subject matter experts representing each of the areas listed above. The basic information technology project structure for a mid-sized system development effort is illustrated in Figure 4.

Figure 4. Generic IT System Development Project Structure


```
                    ┌──────────────────────────────┐
                    │ Professional Services Project│
   ┌──────────┐     │ Management Office (PMO)       │
   │ CLIENT   │     └──────────────────────────────┘
   │ PROJECT  │     ┌──────────────────────────────┐
   │ SPONSOR  │     │ PROFESSIONAL SERVICES         │
   └──────────┘     │ IT PROJECT MANAGER            │
                    └──────────────────────────────┘
```

Client/User Team Lead

*PS Application Development Team Lead

Client Technical Team Lead

Client/User Team

- Requirements Definition
- Business Analysis
- Business Process Redesign
- Change Management
- Business Design
- Acceptance Testing
- Application Training

*PS Application Development Team

- Application Analysis & Design
- Custom Application Development
- Prototyping
- Application Testing
- Integration Testing

Technical Team

- Hardware, Network, Security Environment
- Operating System
- Database Management
- Data Migration
- Backup and Recovery
- Performance Testing
- Production/Operations

*PS = Professional Services

Project Roles and Responsibilities

For the purposes of this paper I will concentrate solely on describing the roles and responsibilities of the client project sponsor and the information technology professional services project manager. Other project team roles will not be discussed, since my study specifically focuses on client perceptions of project quality as viewed by the client project sponsor. With the project manager-client engagement, trust is tested and developed through a series of reoccurring personal encounters. Throughout the duration

of a project, both the client and the project manager are presented with opportunities to

build and sustain trust in the course of performing their respective roles.

Client Project Sponsor Responsibilities

Generally speaking, all projects should have a sponsor (or sponsors), particularly

information technology projects. The project sponsor is someone who sees the need for

change and has the authority to make that change occur. Without a sponsor, a project

may never come to fruition. A project manager must be sure to be aware of who their

project sponsor is and ensure that the designated client sponsor has the authority to

propose the project and the commitment to make it succeed. Client sponsors should have

enough authority and influence to undertake the project and bring about the proposed

information technology change that will affect their organization. For example, a new

technology solution may not succeed if it is only sponsored by an operational business

unit and does not have the support of the information technology department. Ideally, a

project will have executive level sponsorship as an executive leader often has the power

to get things accomplished. A good client project sponsor should have already created a

clear definition of the project that is to be undertaken and should have a comprehensible

view of what is required to make the project successful. Theoretically, a project should

be clearly defined before the project manager accepts personal responsibility for its

success. Some of the most important client project sponsor responsibilities are listed in

Table 1.

Table 1. General Client Project Responsibilities

Key Client Project Sponsor Responsibilities
Create the project vision and define the business need
Communicate the project's purpose and goals
Determine what benefit(s) will be achieved and what value will be generated by the project
Establish a delivery timeframe
Secure project resources
Provide strong leadership, advocacy and commitment
Act as a visible and vocal project champion and primary decision-maker
Assist in navigating the organizational environment
Remove roadblocks by serving as point of escalation
Determine when the project is truly completed or whether further action is required
Deliver overall project stewardship

Information Technology Project Manager Responsibilities

In general, a project manager must be capable of effectively interacting with people. The project manager's role involves leadership, negotiation and team building skills. A successful project manager also needs to be prepared to resolve conflict and to demonstrate excellent communication skills.

Although every project usually has some degree of uncertainty, (a project's objectives, budget, timeline, and resources seldom can be determined accurately from the start), information technology projects are especially predisposed to this predicament.   In reality, technology is always changing and as technology evolves so must project plans and project strategies. An information technology project manager must be able to handle uncertainty and do his or her best to diminish its impact during the project.

Technology commonly has a lifespan of approximately eighteen months before an "upgrade" or new and improved technology is released and this could have a profound effect on long-term information technology projects. An information technology project manager must always keep informed and up-to-date on technology changes so they can notify their client sponsor of how these changes could potentially impact their project. For example, a project manager would be expected to create documentation outlining what additional features the new technology could provide and its impact on the project scope, time and budget, (also possibly quality) if implemented.

An information technology project manager is responsible for not only keeping the sponsor informed, but also offering their professional opinion and guidance regarding critical technology decisions that could affect the project. In such instances, it becomes crucial for a client to believe they can trust their project manager. An example of a typical, waterfall system development life cycle (also known as the SDLC) is represented in Figure 5 and several fundamental information technology project manager responsibilities are outlined in Table 2.

Figure 5. Common Waterfall System Development Life Cycle (SDLC) Model
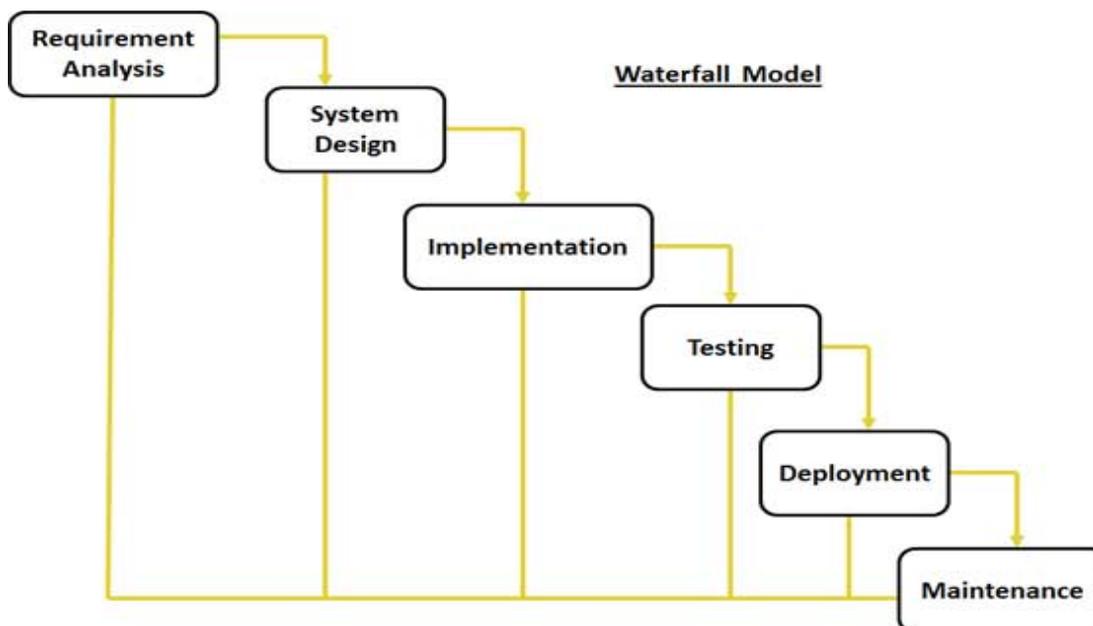
Source: http://www.tutorialspoint.com/sdlc/sdlc_waterfall_model.htm

Table 2. General IT Project Manager Responsibilities

Key Information Technology Project Manager Responsibilities
Manage: project scope, communications, timeline, budget and costs, project resources, risks, procurement and contracting, quality, change control, and stakeholder expectations
Consult and collaborate with client on technology solution decisions
Manage both the project and the system development lifecycle (SDLC)
Create project plan, schedule, status reports and other documentation
Resolve issues and track action items
Ensure project tasks are completed
Deliver high-quality results that meet client's expectations and satisfaction
Take day-to-day responsibility for the project team deliverables
Bear full accountability and responsibility for the project's success or failure
Secure acceptance and approval of deliverables from the project sponsor and stakeholders

CHAPTER 5

SURVEY METHODOLOGY AND DATA COLLECTION

<u>Sample Selection</u>

To test my hypothesis that for some information technology project management clients, affective-based trust supersedes cognitive-based trust and serves as the basis for the client's perception of "good quality" project performance, I obtained client contact information from IT service organization project managers and received the project manager's permission to send survey questionnaires to their clients. The IT project managers were asked to provide information for client engagements completed within the last two years to ensure that the client's perceptions were still relatively fresh in their minds.

<u>Sample Descriptions: The Project Managers and their Clients</u>

I asked project managers from four information technology service organizations to participate in this research by providing me with client contact information for the survey. As outlined in Table 3, two of the information technology service organizations are located in Philadelphia, Pennsylvania; one is in San Jose, California; and one is in Charlotte, North Carolina. The professional services organizations vary in size and all of the organizations provide information technology solutions to different types of industries and companies. The projects that were managed varied in scope and duration. The services the information technology organizations provide include system application development, database migrations, infrastructure build-outs, and co-location hosting I was formerly employed as an information technology project manager at three of the

service organizations and I am a colleague of each of the project managers who work at the four companies.)

Table 3. Demographic Data for IT Service Providers

IT Service Provider Demographic Data	
Geographic Location of IT Service Organizations	Approximate Size of IT Service Organization (number of employees)
Philadelphia, PA	750
Philadelphia, PA	1,300
San Jose, CA	58
Charlotte, NC	220

The typical client-project manager relationship examined in this study involved an information technology service organization project manager and a client project sponsor who worked together on a project ranging from seven weeks to twenty-two months. The project managers of the two information technology service organizations located in Philadelphia provide their services mainly to the clients of large hospitals and higher-education institutions in the city and surrounding suburbs. The information technology company of the third project manager is located in San Jose, California and works mostly with Human Resources departments of small and mid-sized organizations. The fourth project manager works for an information technology company in North Carolina which serves various-sized financial industry clients.

Sample Population

I asked each of the four project managers referenced above to supply me with the email addresses of at least six of their clients for whom they had completed projects

within the last two years. I promised the project managers neither their names nor their company names would be published in my paper. When I emailed the clients, (see Appendix A), I told each of them they would have anonymity should they decide to participate and that I would not publish either their email addresses or their company names in this paper.

Of the twenty-four clients chosen by the information technology project managers to participate in the survey, twelve clients are located in Philadelphia and the surrounding suburbs; eight clients are located in West Coast and Midwestern states; and four are located in the Southeast region of the United States. The clients surveyed were identified by the project managers as the individuals who either served as the client organization's project sponsor. Each client was contacted by their respective project manager prior to me sending out any email communications requesting their participation. I was informed by the project managers that each of the twenty-four clients agreed to participate in the survey; however, only eighteen responded by the survey closing date of December 31, 2012. No additional responses have been received to date.

Sampling Procedures

I sent each of the twenty-four clients an email explaining that I was a graduate student conducting a research study and included a link to an online survey that took approximately ten to fifteen minutes to complete. I used "Survey Monkey," a fairly common online/web-based survey tool (www.surveymonkey.com). The survey participants were given the timeframe of three weeks to complete the questionnaire. At the beginning of the survey, I asked open-ended questions for the purposes of collecting demographic data (see Table 4) such as geographic location, industry, size of company,

client-defined project scale (small, medium, large), and project duration (respondents were instructed to use weeks or months). The main survey was comprised of closed-ended statements requiring the participants to choose from predetermined responses.

Table 4. Client Demographic Data

Client / Respondent Demographic Data				
Geographic Location of Respondent	Industry (Client-defined)	Approximate Size of Organization (number of employees)	Project Scale (Client-defined)	Project Duration (Weeks or Months)
1. Philadelphia, PA	Healthcare	Over 4,000	Large	22 months
2. Philadelphia, PA	Higher Education	Over 3,000	Large	16 months
3. Campbell , CA	Human Resources	589	Small	15 weeks
4. San Jose, CA	Human Capital (self-described)	345	Small	10 weeks
5. Charlotte, NC	Finance	Over 2,600	Large	18 months
6. King of Prussia, PA	Clinical	1,140	Medium	9 months
7. Nashville, TN	Banking	762	Small	3 months
8. Raleigh-Durham, NC	Finance	214	Small	2 months
9. Malvern, PA	Dialysis	215 (Malvern location only)	Large	15 months
10. Eagleville, PA	Clinical	80	Large	16 months
11. Southampton, PA	Healthcare	268	Medium	7 months
12. Wynnewood, PA	Hospital	Over 1,000	Small	5 weeks
13. Valley Forge, PA	Healthcare	106	Medium	8 months
14.. Mountain View, CA	Labor Contractor	17	Small	7 weeks
15. San Francisco, CA	Human Resources	28	Small	2 months
16. Chicago, IL	Finance	Over 400	Medium	6 months
17. Philadelphia, PA	Education	Over 500	Medium	5 moths
18. Springhouse, PA	Clinical Research	Over 800	Large	12 months

A "Likert-items" format with an even number of statement responses (four) was used for the survey. "Likert-item" response options are commonly used when one is attempting to determine respondents' attitudes or feelings about a given subject. An even choice of options was used to force participants to give a response. I did not use an odd number (or fifth choice) that would allow a "neutral" option, as I did not wish to give the respondents the ability to avoid giving a response. The survey respondents were asked to

rate the survey statements on a scale from 1-4, with 1 = strongly disagree; 2 = disagree; 3

= agree; 4 = strongly agree. (See Appendix B for screenshots of survey items and results).

CHAPTER 6

SURVEY QUESTIONNAIRE

<u>Survey Development</u>

For this study, cognitive-based trust, affective-based trust and "good quality" project performance were assessed utilizing modified survey items originally developed by Daniel J. McAllister, PhD. In 1995, Dr. McAllister conducted a fairly large study, (194 managers and professionals), entitled "Affect- and Cognition –Based Trust as Foundations for Interpersonal Cooperation in Organizations". The McAllister study sought to address the nature and function of relationships of interpersonal trust among managers and professionals in organizations; the factors influencing the development of trust; and the implications of trust for behavior and role performance. This landmark study not only measured a variety of interpersonal trust variables but was the first to measure cognitive and affective-based trust factors. A review of the McAllister survey indicates that the cognitive-based trust items reflect thoughts of competence, while the affective-based trust items fall into the emotional or goodwill realm and the performance-based survey items measure worker's views on co-worker's performance within an organizational structure.

McAllister created eleven survey items designed to assess levels of affective-based and cognitive-based trust and five items to measure role performance. Respondents were asked to rank their responses on a scale from 1 (strongly disagree) to 7 (strongly agree). These McAllister survey items are listed in Tables, 5, 6 and 7 below.

Table 5. Five McAllister Affect-based Trust Survey Items

	McAllister Affect-based Trust Items
1.	We have a sharing relationship. We can both freely share our ideas, feelings, and hopes.
2.	I can talk freely to this individual about difficulties I am having at work and know that (s)he will want to listen.
3.	We would both feel a sense of loss if one of us was transferred and we could no longer work together.
4.	If I shared my problems with this person, I know (s)he would respond constructively and caringly.
5.	I would have to say that we have both made considerable emotional investments in our working relationship.

Table 6. Six McAllister Cognitive-based Trust Survey Items

	McAllister Cognitive-based trust Items
1.	This person approaches his/her job with professionalism and dedication.
2.	Given this person's track record, I see no reason to doubt his/her competence and preparation for the job.
3.	I can rely on this person not to make my job more difficult by careless work.
4.	Most people, even those who aren't close friends of this individual, trust and respect him/her as a coworker.
5.	Other work associates of mine who must interact with this individual consider him/her to be trustworthy.
6.	If people knew more about this individual and his/her background, they would be more concerned and monitor his/her performance more closely.

Table 7. Five McAllister Work Performance Survey Items

	McAllister Work Performance Items
1.	I find that this person is not the sort of coworker I need to monitor closely.
2.	The quality of the work I receive from this individual is only maintained by my diligent monitoring.
3.	I have sometimes found it necessary to work around this individual in order to get things done the way that I would like them to be done.
4.	I keep close track of my interactions with this individual, taking note of instances where he/she does not keep up her/his end of the bargain.
5.	I help this person with difficult assignments, even when assistance is not directly requested.

<u>Client-Project Manager Engagement Survey Items</u>

The survey created for this paper to measure cognitive-based and affective-based trust variables in client-project manager engagements consisted of seventeen total items. Several reformatted McAllister survey items served as the basis for the design of the survey. Items were specifically tailored to reflect the client-project manger construct. Six of the survey items were designed to evaluate cognitive-based trust, six items measured affective-based trust, and five items were developed to assess a client's perceived project quality.

The original McAllister survey items were not used exactly as designed or in their entirety for this study because those items were created to measure organizational trust, cooperation, and perceived worker performance. Rather, the focus of this paper is on the interpersonal trust relationship between client and project manager, and client perceptions of project quality and not the broader subject of organizational trust associations. The survey items that were sent to information technology clients are listed below in Tables 8, 9 and 10. Respondents were asked to indicate their level of agreement or disagreement with the following statements on a scale from 1-4; with 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree. In an effort to encourage participation in the survey I intentionally did not use the longer McAllister 1-7 scale.

Table 8. Six Client Survey Cognitive-based Trust Items

	Client Cognitive-based Trust Items
1.	I know that if the project manager were contacted by me, he/she would provide immediate and useful information.
2.	I saw no reason to doubt his/her competence for the job.
3.	I felt that the project manager was one of the most competent that I have worked with.
4.	When the project manager promised to get something done, I was confident that he/she would do so.
5.	I could rely on the project manager to not make my job more difficult.
6.	If we were to encounter an obstacle in meeting project goals, I was confident that the project manager would overcome it.

Table 9. Six Client Survey Affective-based Trust Items

	Client Affective-based Trust Survey Items
1.	I believed I could confide in the project manager about my own concerns and needs.
2.	I felt comfortable sharing proprietary information with the project manager.
3.	I could share strategic information about my organization with the project manager without concerns.
4.	I felt comfortable sharing personal feeling and hopes with the project manager.
5.	I believed the project manager made a considerable emotional investment in our working relationship.
6.	I felt a positive bond with the project manager.

Table 10. Five Client Survey Good Quality Project Performance Items

	Client Good Quality Project Performance Items
1.	I know that if the project manager were contacted by my organization successfully fulfilled all client-specified requirements.
2.	I saw no reason to doubt his/her competence for the job.
3.	I felt the project manager was one of the most competent that
4.	The project manager met the client's communication and contact requirements.
5.	The project manager successfully delivered a good quality project.

CHAPTER 7

STATISTICAL ANALYSIS

<u>Survey Results</u>

To analyze the client survey results, Pearson's Correlation Coefficient model was applied with regression analysis using statistical analysis software (SAS) program. The Pearson Correlation Coefficient model is widely used in the sciences as a measure of the degree of linear dependence between two variables. Regression analysis is a statistical method of measuring the link between two or more phenomena.

The statistical analysis of the survey results suggest there was a more notable correlation between the affective-based trust variable and a client's perception of "good quality" project performance compared to the cognitive-based trust variable and perceived "good quality" project performance. Although the cognitive-based trust variable approached significance, the affective-based trust factor was higher. The correlation coefficient determination was .779 for affective-based trust and .626 for cognitive-based trust (see Table 11). Scatter plots and bar charts further demonstrate this relationship with the affective-based trust variable visually displaying a stronger connection to "good quality" project performance, (see Figures 6, 7, 8 and 9).

The correlation between affective-based trust and "good quality" project performance was most notable in the response scores of two of the affective-based trust items and one of the "good quality" project performance items (see Appendices B and C). 64.7% of the client respondents strongly agreed with affective-based trust item number 5: (*I believed the project manager made a considerable emotional investment in our*

working relationship). 61.1% strongly agreed with affective-based trust item number 6:
(I felt a positive bond with the project manager), and 61.1% of respondents strongly
agreed with the "good quality" project item number 5: *(The project manager successfully
delivered a good quality project).* These two "strongly agree" responses are the highest
scores in the survey and illustrate a significant link between the client's feelings of
affective-based trust in the project manager and the client's perception of the delivery of
a "good quality" project.

Of the cognitive-based trust items, number 6: *(If we were to encounter an
obstacle in meeting project goals, I was confident that the project manager would
overcome it),* received the highest "strongly agree" rating with a total of 61.1% (see
Appendix B). This response score demonstrates there is indeed a connection between the
cognitive-based trust variable and a client's perception of a "good quality" project.
However, the association is not as pronounced as that of the affective-based trust variable.

Table 11. Correlations between Affective-based Trust, Cognitive-based Trust and "Good Quality" Project Performance

Correlation between average score across each group of survey statements				
		Affective-based Trust Average	Cognitive-based Trust Average	Good Quality Project Performance Average
affect_avg	Pearson Correlation	1	.502	.779
	Sig. (2-tailed)		.034	.000
	N	18	18	18
cog_avg	Pearson Correlation	.502*	1	.626
	Sig. (2-tailed)	.034		.005
	N	18	18	18
preform_avg	Pearson Correlation	**.779****	**.626****	1
	Sig. (2-tailed)	.000	.005	
	N	18	18	18

Figure 6. Scatter Plot of Good Quality Project Performance and Affective-based Trust Measurements
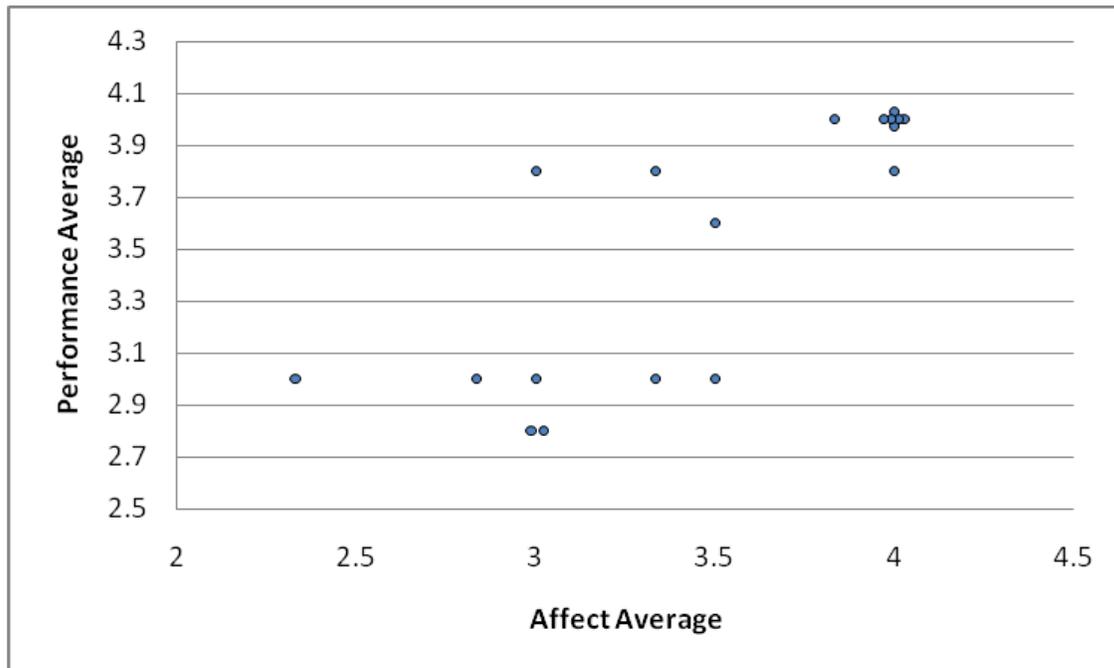

Figure 7. Scatter Plot of Good Quality Project Performance and Cognitive-based Trust Measurements
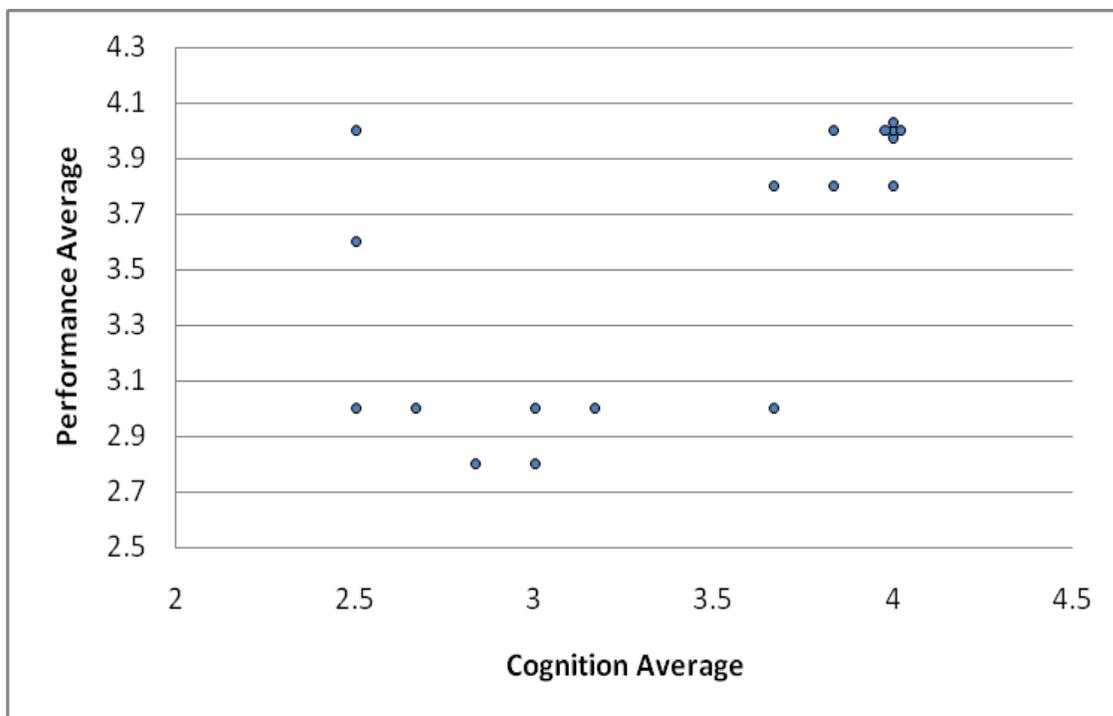
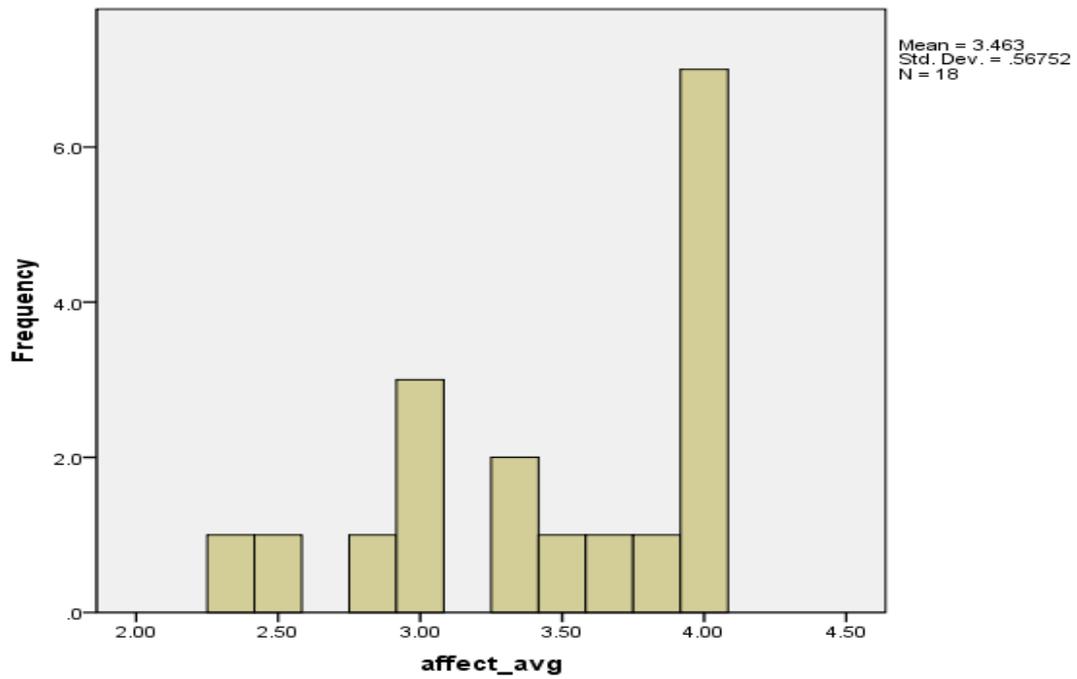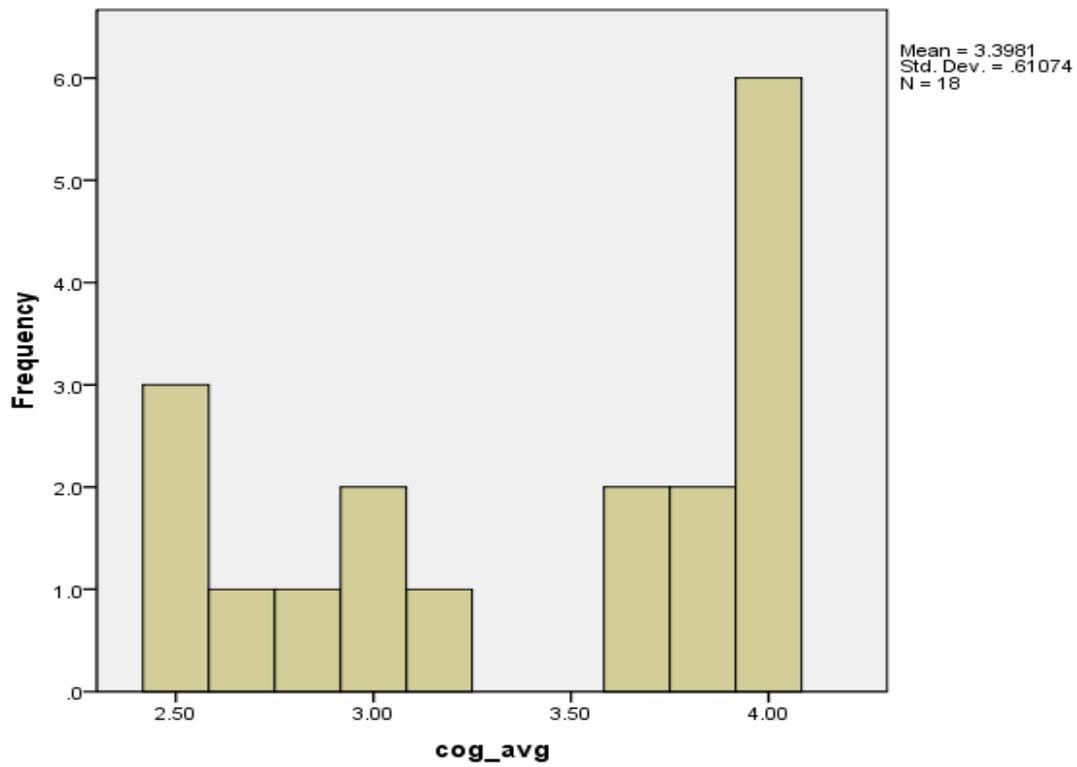Figure 8. Graphical Distribution of Affective-based Trust Measurements

Figure 9. Graphical Distribution of Cognitive-based Trust Measurements

CHAPTER 8

DISCUSSION

Implications of the Survey Results

Why is it important to consider cognitive-based and affective-based trust in a client-project manager relationship? It is significant because these two elements of interpersonal trust have different control levers. According to McAllister (1995), the development of interpersonal affect is based upon cognition, which implies that a certain level of cognitive-based trust is necessary in order to develop affective-based trust. If this is true, then it may explain why the survey results in this study show the cognitive-based trust variable average score lagging only slightly behind the affective-based trust variable average score. The survey results indicate that although a client is most likely to believe a project has been successfully implemented if they have developed an affective-based trust relationship with a project manager, cognitive-based trust in the project manager (believing in the project manager's competence) is also an important factor. Thus, the study results suggest it could be beneficial for a project manager to attempt to develop both a cognitive-based and an affective-based trust relationship with a client. In doing so, a project manager is more likely to be viewed as one who can deliver a "good quality", (i.e.: successful), project.

If a project manager works with a client and believes the level of trust is low, it is imperative to diagnose which trust element is affected so that a correct course of action can be determined. If a project manager is dealing with what he/she diagnoses as low cognitive trust, the situation is not necessarily hopeless. By demonstrating reliability, dependability and competence a project manager can change the level of trust between

themselves and the client. On the other hand, if the project manager determines that affective trust is low, these positive attributes will have little effect. Low affective trust is similar to first impressions in that once they are formed they are much harder to change. Affective trust is often best formed through face-to-face encounters and is built over time; therefore it could be highly advantageous for a project manager to spend as much time as possible on-site with a client. Discussing client needs and desires and seeking commonalities can all assist in bolstering the affective trust relationship.

Practical Application for Low-Trust Situations

When a project manager finds themselves in a low-trust situation with a client they may wish to consider the following:

1. Determine which element of trust is affected. If high-quality work has been delivered and the project manager kept all of their promises and valuable advice was provided, but a project manager still does not feel that their client is comfortable collaborating and discussing challenges, it may be a sign of low affective trust.

2. To counteract low affective-based trust a project manager may want to invest more time in getting to know their client on a personal level. One way to establish an emotional bond is to find a common ground or common interests. This might be achieved by engaging the client in common interests such as children, sports teams, and/or career aspirations.

3. If a project manager encounters what they believe is low cognitive-based trust they could try to focus on demonstrating greater reliability, dependability and project management competence.

4. Overall, a project manager can build client trust throughout the engagement by:

   a. Being honest and transparent with mistakes

   b. Handling complaints with empathy and honesty

   c. Avoiding negative surprises

   d. Doing something unexpected or special for the client

Ensuring that one's actions convey unambiguously positive relational signals requires superior communication skills. Six and Sorge (2008) explain that colleagues should meet informally outside of normal work-related requirements to build and establish strong, trusting relationships. Meeting outside of work tends to deepen trust, as each person learns more about the other. Simply stated, project managers can increase the level of affective-based trust with their clients by systematically focusing on the client's emotional needs and by regularly reflecting on the client relationship. Regular reflection can provide the basis for awareness, therefore allowing a project manager to identify affective-based trust weaknesses and concentrate on making improvements in that area. Ideally, a project manger should aspire to establish both cognitive-based and affective-based trust early in the client engagement to foster a productive, collaborative relationship.

<u>Study Limitations</u>

   The results of this study suggest that cognitive-based and affective-based trust are both relevant factors affecting client-perceived project performance with affective-based trust showing a greater effect on client perception than cognitive-based trust. However, the conclusions drawn cannot be overstated, particularly because of the small sample size and limitations of the survey methodology. For example, correlations between project scope, size, duration, or even geographic location were not measured and may or may not have had an effect on study outcomes. Lastly, the effects of gender, race/ethnicity, or age of the client or project manger, and the effects of these elements on affective-based or cognitive-based trust relationships was beyond the scope of this paper and is a research area worthy of further investigation.

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CHAPTER 9

CONCLUSION

The concept of trust is complex and further compounded when delving into the effects of affective vs. cognitive based trust. In the simplest of terms, trust can be understood as the "bottom line" of the client-project manager business relationship, just as profit and loss can be simply understood as the bottom line of a balance sheet. The characteristics, components and conditions of trust operate at different levels and as such, affective-based trust between a client and a project manager can be understood as valuable collaborative capital when a client perceives the project delivery and resulting outcome to be positive. While a project manager may wish to develop affective-based trust, the perceived value of that trust ultimately depends upon the expectations of the client.

One of the next steps for research in this area might be to examine how cognitive-based and affective-based elements of trust between client and project manager can be understood in other more specific contexts such as gender, race/ethnicity or age. Research into these areas could serve to provide insights into creating more effective processes designed to build trust in the client-project manager relationship.

While the existence of cognitive-based trustworthiness is helpful in client-project manager engagements it is the affective-based trust element that appears to encourage clients to view their projects outcomes in a positive light. The presence of affective-based trust in a client-project manager engagement seems to persuade clients to believe their project manager fulfilled their emotional needs and their desire to produce a "good quality" project. As part of human nature, people seem more willing to trust someone

who shows an interest in them and a willingness to listen and share. While a project manager who is adept at demonstrating benevolence, (an affective-based trust characteristic), may be attractive to clients and prospects, it would most likely not be the only selection criteria considered. Competence, (a cognitive-based trust characteristic), would also be a key consideration.

This small study has identified that an elevated degree of affective-based trust between client and project manager can result in a client-perceived "good quality" project. However, cognitive-based trust apparently also plays a considerable and noteworthy role in the client-project manager engagement.

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APPENDIX A

COPY OF EMAIL SENT TO CLIENTS

Hello,

My name is Michel Washington and I am a graduate student in the Organizational Dynamics program at the University of Pennsylvania. To gather research data for my capstone (thesis) paper I am asking the former clients of IT project managers to complete a short, anonymous, online survey. An Information Technology project manager you have worked with in the recent past has provided me with your email address.

I would sincerely appreciate it if you would please participate in this survey. Please click on the link below to access the survey. The survey will no longer be available after December 31, 2012.
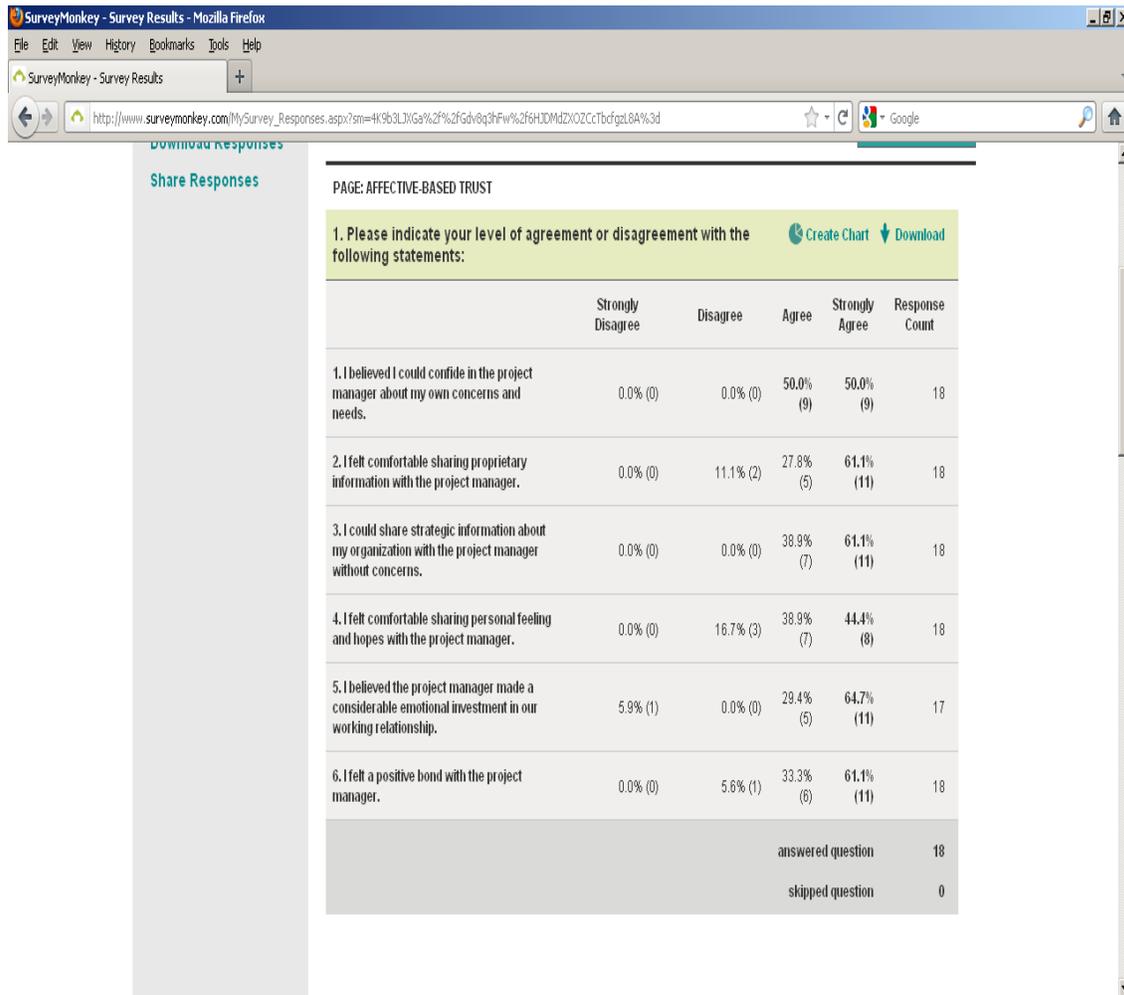
Thank you very much for your time!

Survey link: https://www.surveymonkey.com/s/mgwupenncapstone

APPENDIX B

SURVEY ITEMS AND RESPONSES SCREENSHOTS

Exhibit B1. Affective-based Trust Items

Exhibit B2. Cognitive-based Trust Items

PAGE: COGNITIVE-BASED TRUST

2. Please indicate your level of disagreement or agreement with the following statements:

	Strongly Disagree	Disagree	Agree	Strongly Agree	Response Count
1. I know that if the project manager were contacted by my organization, he/she would provide immediate and useful information.	0.0% (0)	5.6% (1)	44.4% (8)	50.0% (9)	18
2. I saw no reason to doubt his/her competence for the job.	0.0% (0)	5.6% (1)	50.0% (9)	44.4% (8)	18
3. I felt that the project manager was one of the most competent that I have worked with.	0.0% (0)	11.1% (2)	33.3% (6)	55.6% (10)	18
4. When the project manager promised to get something done, I was confident that he/she would do so.	0.0% (0)	11.1% (2)	33.3% (6)	55.6% (10)	18
5. I could rely on the project manager to not make my job more difficult.	0.0% (0)	22.2% (4)	33.3% (6)	44.4% (8)	18
6. If we were to encounter an obstacle in meeting project goals, I was confident that the project manager would overcome it.	0.0% (0)	16.7% (3)	22.2% (4)	61.1% (11)	18
				answered question	18
				skipped question	0

Exhibit B3. Good Quality Project Performance Items

PAGE: GOOD QUALITY PROJECT PERFORMANCE

3. Please indicate your level or disagreement or agreement with the following statements: Create Chart Download

	Strongly Disagree	Disagree	Agree	Strongly Agree	Response Count
1. The project manager successfully fulfilled all client-specified requirements.	0.0% (0)	0.0% (0)	44.4% (8)	55.6% (10)	18
2. The project manager engaged in proper project planning, risk identification and mitigation, scheduling, and monitoring of tasks.	0.0% (0)	0.0% (0)	55.6% (10)	44.4% (8)	18
3. The project manager successfully completed all assigned duties.	0.0% (0)	0.0% (0)	38.9% (7)	61.1% (11)	18
4. The project manager met the client's communication and contact requirements.	0.0% (0)	5.6% (1)	38.9% (7)	55.6% (10)	18
5. The project manager successfully delivered a "good quality" project.	0.0% (0)	5.6% (1)	33.3% (6)	61.1% (11)	18
				answered question	18
				skipped question	0

APPENDIX C

BAR CHARTS OF SURVEY RESPONSES

Exhibit C1. Bar Chart of Affective-based Trust Responses

Affective-based Trust Survey Responses

Exhibit C2. Bar Chart of Cognitive-based Trust Responses
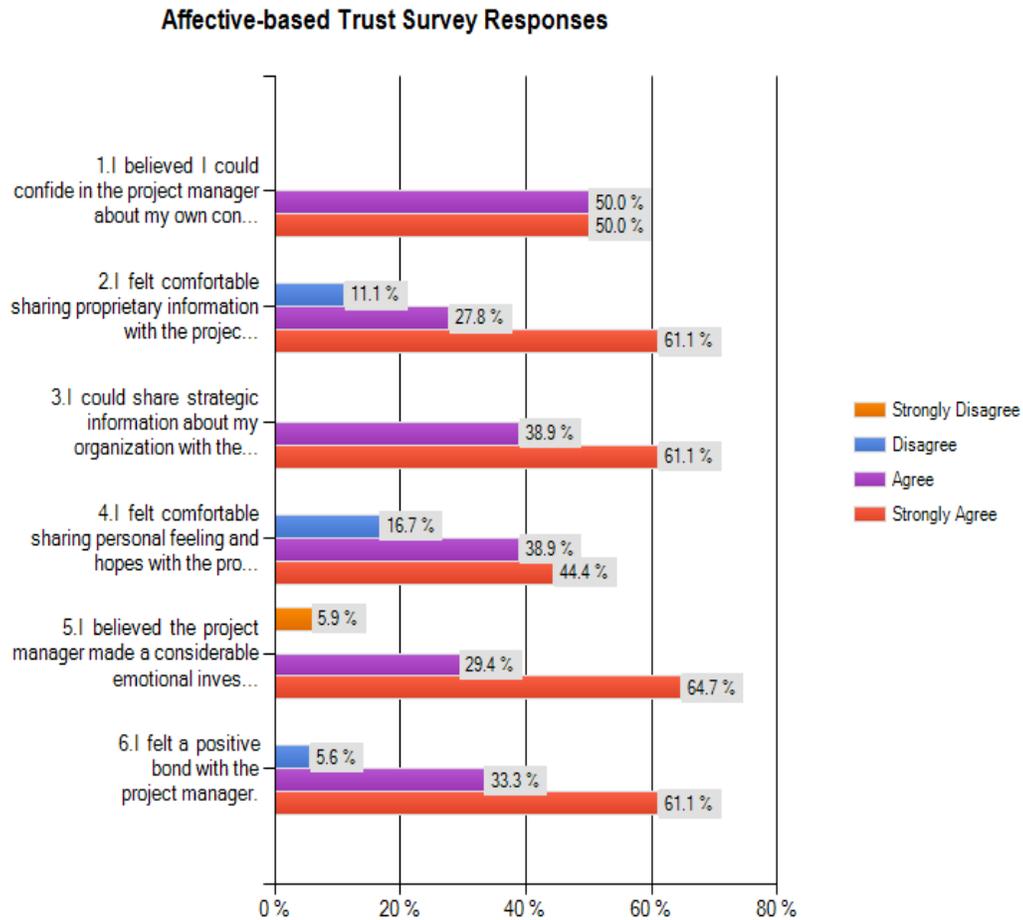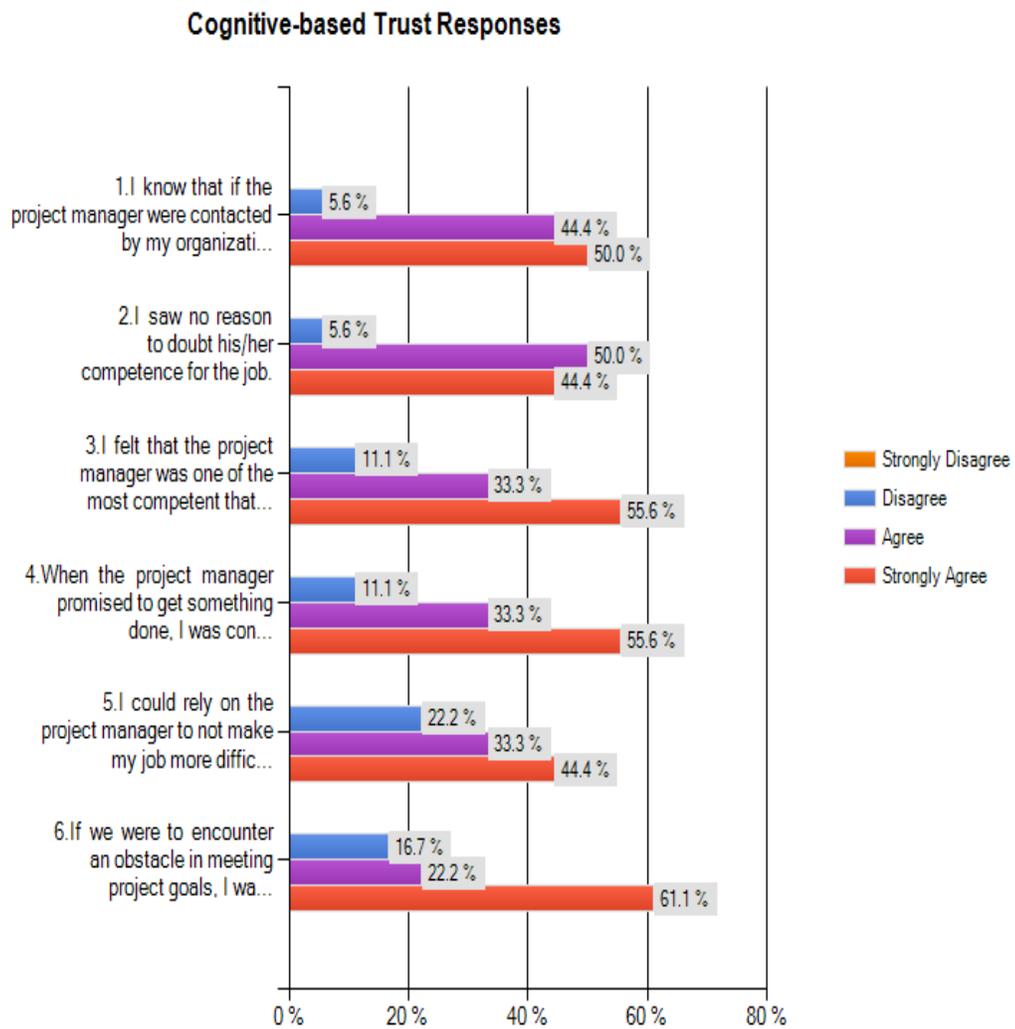
Cognitive-based Trust Responses

Exhibit C3. Bar Chart of Good Quality Project Performance Responses

Good Quality Project Performance Responses