A CRITICAL SUCCESS FACTORS FRAMEWORK THAT INCLUDES LEADERSHIP COMPETENCIES FOR SUCCESSFUL DELIVERY OF PROJECTS

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ABSTRACT

Critical success factors are common in projects today as a means of assessing projects (Nixon, Harrington and Parker, 2011). Critical success factors as covered in project management literature surprisingly does not usually mention the project manager's leadership competence as a success factor for projects (Turner and Muller, 2005). Researchers over the years have developed several critical success factor frameworks to access projects, but none of the frameworks to date include leadership competencies of the project manager as a critical success factor, nor are they used as a tool to help project managers achieve success.

This study extends the work of researchers who have created a number of critical success factor frameworks (Koutsikouri, Austin and Dainty, 2008; Belassi & Tukel, 2006; Spalek, 2005; Westerveld, 2003; Cooke-Davies, 2002; Pinto and Slevin, 1989; DeWit, 1988; Morris and Hough, 1987; Lock, 1984; Baker, Murphy, and Fisher, 1983; Cleland and King, 1983; Martin, 1979; Westerveld, 2003) by including leadership competencies as a critical success factor, and by extending the use of the framework as a tool to help project managers achieve success. The unit of study for this research is the IT project managers. Quantitative and qualitative research was utilized to test the updated critical success factor criterion. The updated framework is not intended to be used as an evaluation tool to determine project success, but as a tool for project managers to help achieve success.

Key findings include: (1) There are significant differences between project manager success, project management success, and project success (2) Charismatic leadership and people-oriented/relations-oriented leadership have negative connotations associated with them. Charismatic leaders are viewed as not having follow-through. People-oriented/relations-oriented leadership are viewed as biased and ineffective do to the subjectivity of the decisions made, and actions taken that are heavily influenced by favourable relationships.

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I would like to thank the administrative staff, and all who have contributed directly or indirectly to the compilation of this research study.

DECLARATION

I declare that the research contained in this thesis was conducted by me. No portions or content of this work has been previously submitted or used at any other University or other Institute of higher learning for the award of a degree or any other qualification.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Chapter one will present the rationale and justification for conducting this research. It will explain what the leadership competency criterion are for project managers that are considered impactful to project success. The following paragraphs will detail the statement of the problem, the background of the research, the research questions, the aims and objectives, the scope of the research, the conceptual framework, and the research uniqueness and contribution to the industry.

1.2 Statement of the Problem

According to Creswell (2003), a research problem or a statement of a problem is an issue with matters that need to be addressed. Creswell (2007) also highlighted that the objectives in establishing a research problem are to provide a build-up for a case and the rationale to study a related issue. This research agrees with Creswell's views as it endeavours to put forward the concepts, and expand the research audience's awareness and knowledge in the area of project critical success factors.

Projects have increasingly become a common way of how organizations deliver strategic and tactical initiatives. In the race to create business value, organizations have turned to utilizing project management to help them move to positions of competitive advantages. Delivering successful projects is extremely crucial across all industries because of the operational

efficiencies and strategic advantages they deliver; they are the engines that drive innovations from idea to commercialization.

Projects are often rated as successful because they have met their time and schedule constraints. The use of on-time and on-budget as characteristics to measure success is utilized because they are the easiest to quantify (Pinto and Slevin, 1988). In addition, these types of measures support the early definitions of project management (time, cost, and scope – otherwise known as the "iron triangle") (Atkinson, 1999).

Critical success factors are common in projects today as a means of assessing projects (Nixon, Harrington and Parker, 2011). Project management literature has established that the actions, attributes, and activities of a project manager can have significant impact on the outcome of a project (Hagan and Park, 2013). However, critical success factors as covered in project management literature surprisingly does not usually mention the project manager's leadership competence as a success factor for projects (Turner and Muller, 2005).

While leadership has long been recognized as a success factor at the organizational level, it was not until recently that this concept was adopted in the realm of project management (Dvir, *et al.*, 2006; Turner and Muller, 2005, 2006).

Muller and Turner (2010) conducted a study to identify the leadership profiles of successful project managers of different types of projects. Muller and Turner (2007) believed that if different leadership styles are appropriate in organizational change projects, then it should be expect to be the same for other types of projects. Pinto and Slevin (1988) documented ten most important factors for project success, regardless of project type. This was in accordance

with project management at that point in time. However, it did not include the project manager's competence or fit to the project (Muller and Turner, 2010).

This study extends the work of researchers who have already created a number of critical success factor frameworks (Koutsikouri, Austin and Dainty, 2008; Belassi & Tukel, 2006; Spalek, 2005; Westerveld, 2003; Cooke-Davies, 2002; Pinto and Slevin, 1989; DeWit, 1988; Morris and Hough, 1987; Lock, 1984; Baker, Murphy, and Fisher, 1983; Cleland and King, 1983; Martin, 1979; Westerveld, 2003) by including leadership competencies as a critical success factor and by extending the use of the framework as a tool to help project managers achieve success.

1.3 A Review of Research Needs in the Area of Leadership Competences as a Project Success Factor

General management theorists believe that effective leadership is a key factor for organizational success. In addition, general management research has made the correlation between a manager's leadership style and competence as a key to successful performance in business. Leadership is viewed as a critical success factor for organizations in general management literature. The tactical and strategic management of organizations is dependent on good leadership for their success.

Cooke-Davies (2002) contributed what is considered to be one of the most significant pieces of work from the past decade when they differentiated between project success and project management success. Project success related to the achievement of planned business results via the project outcome (new product or service), and project management success related to the achievement of the triple constraints (time, cost, quality, and/or other define goals set for project management). The success criteria identified did not include or even take into

consideration the project manager's competence (Muller and Turner 2010). The correlations between success and project manager's leadership competencies using the LDQ and a composite measure of project success were identified by Muller and Turner (2007). The LDQ stands for Leadership Development Questionnaire, which is a questionnaire used to profile the following competences of project managers of successful projects: intellectual competences, managerial competences, and emotional competences.

The link between success criteria, critical success factors, and project types was examined by Westerveld (2003). The success criteria he developed included project results (time, cost, and quality), client appreciation, project team members, users, contracting partners, and stakeholders. Wateridge (1998) recommended that project manager's identify important success criteria first and then identify critical success factors what will help them deliver the success criteria.

Slevin and Pinto (1986, P. 57) stated, "The project manager needs to know what factors are critical to successful project implementation." Their research listed ten critical success factors, but leadership was not on the list. Dulewicz and Higgs (2005) believe that project managers who have an understanding of leadership are more likely to lead the project to success.

In the achievement of successful project outcomes, project management always involves effective leadership (Nixon, Harrington and Parker, 2011). Muller and Turner (2010) stated, "Project success is not a fixed target." The changing understanding of what constitutes project success was reviewed by Jugdev and Muller (2005). The project manager's performance are ignored when identifying project success factors (Nixon, Harrington and

Parker, 2011). Most project managers view their job as successfully completed when they finish the project on time, within budget and to specification (Malach-Pines, Dvir, and Sadeh, 2008).

Turner and Muller (2005) called for more research into the project manager's leadership style when identifying project success factors. According to Tuner and Muller (2005, p. 59), "the literature has largely ignored the impact of the project manager and his/her leadership style and competence, on project success." However, there is evidence that a project manager can impact the success of a project. According to Thite (1999) there is a positive impact on the overall outcome of a project when the project manager is able to switch effectively between the transformational and transactional leadership style effectively. In addition, Kaissi (2005) discovered that the project manager's use of rational persuasion style was related to a positive project outcome.

There is a need in the project management industry to examine the current project success criteria framework utilized and to establish leadership competences of a project manager within such a framework. Understanding this is important because of its bearings on the future direction of project management execution, training and education.

1.4 Research Questions

The research questions are:

1. Should leadership competencies be added to the critical success factors framework for projects?

2. Does understanding the interrelationship of critical success factors help increase the likelihood of delivering successful projects?

1.5 Research Aims and Objectives

The researcher's overall aim for this study is to extend the current critical success factors framework used for projects to include the project manager's leadership competencies as a critical success factor.

The objectives of this study are:

1. Conduct a literature review on the theories and schools of thought on leadership, especially with regard to project leadership.

2. Identify the critical leadership competencies required for projects success.

3. Conduct a survey to identify the current practice and thinking in project professionals regarding critical success factors, including leadership competencies related to project success.

4. Analyse the critical success factors and leadership competencies related to project success as practiced by project professionals.

5. Develop a preliminary critical success factor framework to help project professionals achieve successful projects.

6. Obtain feedback on the preliminary framework and finalize the framework.

7. Develop recommendations to help project professionals apply the framework to improve the delivery of successful projects.

1.6 Research Scope and Delimitation

This PhD research strives to extend the current critical success factors framework used in the industry for projects to include the project manager's leadership competencies as a critical success factor. Effective leadership factors in organizations have shown that an appropriate leadership style can lead to better performance (Turner and Muller, 2005). Therefore, including leadership competencies of project managers as a part of the critical success factors framework will be examined in this study.

This research is confined to the following delimitations:

1. This research primary focuses on developing a new critical success framework that includes the project manager's leadership competencies as one of the critical success factors for projects

2. This research is based in and on projects executed in the United States. Therefore, this research uses references from the Project Management Institute since it is the only non-profit organization prominently recognized by all project managers' practicing in the United States. However, research findings may benefit members of the international community of projects.
3. The leadership competency baselines presented in this research are only reflective and take into consideration leadership competency baselines published in research studies that directly relates to critical success factors, and not general competency baselines associated with non-profit organizations such as the Project Management Institute, the International Project Management Association, and the Association for Project Management.

1.7 Research Unit of Study

According to Bryman the single most important element in social research is to identify the research unit of analysis. The major entity that is being analysed in a research paper is the unit of analysis. Therefore, the unit of analysis is the "what" or "who" is being studied. There are several units of analysis that are commonly used in social research. Commonly used units of analysis in social research are: individuals, groups, organizations, social artifacts, and social interactions (Bryman, 2008). Individuals are the most commonly used unit of analysis as researchers describe and or explain social groups and behaviors

The IT project manager is the unit of study for this research paper. A nested approach is utilized for this unit of study. On one level this research is studying IT project managers' who are involved in a leadership role embedded that into the project context. In addition, there are instances that the research study relates to the organization. Primarily the unit of study are the IT project managers' who are embedded within projects, and the projects are commissioned by the organizations.

1.8 Proposed Research Approach

This research will be conducted in the following seven phases:

Phase 1: Analyze the literature identified in the research proposal: Leadership theories and schools of thought on leadership, especially with regard to project leadership.

Phase 2: Identify the success factors and criteria for projects, especially the leadership competency factors.

Phase 3: Build and conduct a web-based questionnaire.

Phase 4: Develop a preliminary framework based on data analysis and findings from the web-based questionnaire survey and literature review.

Phase 5: Develop the discussion guide and conduct focus group discussions.

Phase 6: Finalize the framework based on data analysis and findings from the focus group discussions.

Phase 7: Write and edit the final research paper.

1.9 Contribution Research Knowledge and the Project Management Practice

1.9.1 Contribution Research Knowledge

This study will contribute to the existing body of literature on critical success factors for projects by creating a critical success factor framework that includes a project manager's leadership competencies as a critical success factor. This will benefit both project practitioners and project-oriented organizations.

To date, there are no specific critical success factor frameworks for projects that include the project manager's leadership competencies. There are gaps to be studied in the current critical success factor frameworks for projects utilized by the industry professionals of project managers.

The key contribution of this study is to extend the work of researchers who have already created a number of critical success factor frameworks (Koutsikouri, Austin and Dainty, 2008; Belassi & Tukel, 2006; Spalek, 2005; Westerveld, 2003; Cooke-Davies, 2002; Pinto and Slevin, 1989; DeWit, 1988; Morris and Hough, 1987; Lock, 1984; Baker, Murphy, and Fisher, 1983; Cleland and King, 1983; Martin, 1979; Westerveld, 2003) by going beyond the established critical success factors to include leadership competencies as a critical success factor.

Understating the leadership factors that contributes to project success is important. Dulewicz and Higgs (2005) believe that project managers who have an understanding of leadership are more likely to lead the project to success. Slevin and Pinto (1986, P. 57) state, *"The project*

manager needs to know what factors are critical to successful project implementation." However, their research listed ten critical success factors, but leadership was not on the list.

Turner and Muller (2005) called for more research into the project manager's leadership style when identifying project success factors. According to Tuner and Muller (2005, p. 59), "*the literature has largely ignored the impact of the project manager and his/her leadership style and competence, on project success."*

The research produced from this study is expected to add to the existing body of knowledge related to project critical success factors. This research will be beneficial to all project stakeholders. This study will make the following three significant contributions to research in this field:

1. This study will extend previous research on critical success factor frameworks by going beyond the established critical success factors to include leadership competencies.

2. This study will draw together previous research on which leadership competencies is the most suitable to use in order to achieve project success. In addition to extending previous studies on critical success factors, this study will take a comprehensive approach to studying leadership as it relates to the project environment, project team, project manager, and project sponsors. The current body of knowledge has not included leadership competencies as a part of its critical success factor framework. To address this gap, this study will develop a critical success factor framework that includes leadership competencies as a critical success factor.

3. The findings and expected outcomes in the form of an updated critical success factor framework that can be used by project professionals and organizations to help achieve project delivery success.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This literature review seeks to locate research and documentary materials pertaining to leadership, and project success factors in order to analyze the evolving concepts and theories. Critically reviewing the literature will require examination into theories on leadership, project management, project critical success factors, and project manager's leadership competencies.

The decision of which materials to include are based on a clear project leadership and project success factors criterion.

2.2 Definitions of Leadership

Defining leadership is essential to the establishment of a working definition for this research because as Stogdill notes *"there are almost as many definitions of leadership as there are persons who have attempted to define the concept"* (1974: p. 7). There are 221 definitions of leadership in 587 publications (Rost, 1993). Peter Drucker (1996), in *The Leader of the Future*, summed up leadership, as *"The only definition of a leader is someone who has followers."*

Warren Bennis defined leadership as follows: *"Leadership is a function of knowing yourself, having a vision that is well communicated, building trust among colleagues, and taking*

effective action to realize your own leadership potential." Hersey & Blanchard. in *Management of Organizational Behavior* defined leadership as, *"…the process of influencing the activities of an individual or a group in efforts toward goal achievement in a given situation"* (1988: p. 86). John Maxwell in *The 21 Irrefutable Laws of Leadership* summed up his definition of leadership as *"leadership is influence - nothing more, nothing less."*

In addition, there have been 65 systems identified for classifying definitions of leadership (Fleishman, Mumford, et al, 1991). According to Bass (2008: p. 15), *"The definitions most commonly used tend to concentrate on the leader as a person, on the behavior of the leader, on the effects of the leader, and on the interaction process between the leader and the led."* Northouse (2007: p. 3) stated, *"Despite the multitude of ways in which leadership has been conceptualized, the following components can be identified as central to the phenomenon: (a) leadership is a process, (b) leadership involves influence, (c) leadership occurs in a group context, and (d) leadership involves goal attainment."* Based upon the components stated above, Northouse (2007: p. 3) definition is as follows: *"Leadership is a process whereby an individual influences a group of individuals to achieve a common goal."* Northouse (2007) focused on process as the key word in his definition of leadership because he did not want traits or characteristics to limit and/or restrict anyone wanting to become a leader. His definition emphasizes that it is a transactional event between the leader and follower(s), thus making leadership available to everyone.

This research study will use the following definition of leadership that takes into consideration essential aspects of several of its predecessors: Leadership is mastering the properties and processes required to influence individuals to achieve a specific goal.

Using the word properties in the definition of leadership emphasizes it as a set of qualities and characteristics attributed to those perceived to successfully influence followers (Jago,

1982). When defining leadership in this manner, it becomes available to individuals who invest the time and effort it takes into learning, developing, and improving their leadership abilities, skills, and techniques. Leadership requires influence; therefore, influence is quintessential in order for leaders to affect followers. Leadership involves attention to goals because leaders are responsible for directing and moving individuals towards achieving specific goals/tasks.

The development of more and better leaders is critical for the progression, growth, and success of any organization. This is evident in the fact that early principles of leadership go back nearly as far as the beginning of civilization, which shaped it leaders as much as it was shaped by them (Bass, 2008). Documented principles of leadership can be traced back to Egypt in the *Instruction of Ptahhotep* (2300 B.C.E), and Chinese classics written by Confucius and Lao-Tzu in the sixth century B.C.E are filled with advice to leaders about their responsibilities, and how they should conduct themselves.

2.3 Leadership Theories

Leadership has been examined and studied more than other aspect of human behavior according to Dulewicz and Higgs (2005). The study of leadership has roots that can be traced back to Greek heroes, Egyptian rulers, Chinese warlords, and biblical patriarchs. As a result, there are many different schools of thought on leadership.

Leadership literature contains a myriad of theories that reveal an evolving series of different schools of thought. In this section, the most prominent theories of leadership will be introduced.

2.3.1 Great Man Theories

Great man theories assume that nature has a greater role in the emergence of a particular leader than nurturing does (Bass, 2008). Therefore, statements such as "He was born as leader," emphasizes the inherent nature of a leader. Until the 20th century, the majority of social scientist believed in the importance of health, physique, and energy as contributing factors to leadership.

The great-man theory of leadership was influenced by Galton's (1869) study of the hereditary traits of great men. Many early theorists believed that history is shaped by the leadership of great men. Wiggam (1931) believed that the survival of the fittest people and the aristocratic offspring they produced differed from the biology of the lower classes. Therefore, theorists attempted to explain leadership on the basis of innate qualities. It was believed that through this approach, those individuals with critical leadership qualities could be identified and placed into leadership positions. The great-man theory promoted how failing organizations could be turned around by businessmen like Warren Buffet or Lee Iacocca.

2.3.2 Trait Theories

Trait theories arose from the great-man theory as a way of explaining key personality and character traits of successful leaders. Leaders were seen as different from non-leaders due to the various attributes and identified personality traits (Bass, 2008). The following theorists all explained leadership in terms of the trait theory: Kohs and Irle (1920), L.L. Bernard (1926), Bingham (1927), Tead (1929), Page (1935), and Kilbourne (1935).

Up until the 1940's it was believed that through this method leadership traits could be isolated and that people with these traits could be placed into leadership positions. These theorists based leadership on individual attributes. According to Bird (1940), there are 79 relevant leadership traits. The dilemma with the trait approach is that after years of research, it became evident that there was no consistent traits that all leaders possessed. Some leaders might have displayed key traits, but the absence of them did not mean that the individual was not a leader. Despite the inconsistency with the results of various trait studies certain traits did appear more frequently than others, such as technical skills, friendliness, social skills, emotional control, intelligence, and charisma.

Stogdill (1948) did not buy into the trait theory because he concluded that both the person and situation must be included to explain the emergence of leadership. However, Stogdill did identify leadership traits and skills he thought were critical for a leader to posses as listed in table 1 below.

Table 1: Leadership Skills and Traits (Stogdill, 1974)	
Skills	**Traits**
• Adaptable to situations	• Clever (intelligent)
• Alert to social environment	• Conceptually skilled
• Assertive	• Creative
• Cooperative	• Diplomatic and tactful
• Decisive	• Fluent in speaking
• Dependable	• Knowledgeable about group tasks
• Dominant (desire to influence others)	• Organized (administrative ability)
• Energetic (high activity level)	• Persuasive
• Persistent	• Socially skilled
• Self-confident	
• Tolerant of stress	
• Willing to assume responsibility	

Zaccaro (2007) criticized the trait theories because of the following:

- It only focuses on a small set of individual attributes; it fails to consider patterns of multiple attributes.
- It does not distinguish between those leaders attributes that are fixed and cannot be learned over time.
- It does not identify attributes that are shaped by situational influences.
- It does not take into consideration how leader attributes account for the behavioral diversity necessary for effective leadership.

2.3.3 Behavioural Theories

The central focus of behavioural theory is on what a leader actually does rather than on the traits they have. The concept is to capture different patterns of behaviour and categorize them into styles of leadership. This theory became popular during the 1960's after Douglas McGregor published his book *The Human Side of Enterprise.* McGregor influenced behavioural theories with his work because of the emphases it had on human relationships in correlation to output and performance.

2.3.4 McGregor's Theory X and Theory Y

McGregor's thesis on Theory X and Theory Y managers made a tremendous impact on leadership strategies. His theory demonstrated that leadership strategies are influenced by a leader's assumption about human nature. McGregor's work was based on Maslow's hierarchy of needs by grouping Theory X into the lower order of needs and placing Theory Y into the higher order of needs. Table 2 below summarizes McGregor's two contrasting sets of assumptions.

Table 2: Theory X and Theory Y Mangers	
Theory X mangers believe that:	**Theory Y managers believe that:**
• The average human being has an inherent dislike of work and will avoid it if possible. • Because of this human characteristic, most people must be coerced, controlled, directed, or threatened with punishment to get them to put forth adequate effort to achieve organizational objectives. • The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition and wants security above all else	• The expenditure of physical and mental effort in work is as natural as play or rest, and the average human being, under proper conditions, learns not only to accept but to seek responsibility. • People will exercise self-direction and self-control to achieve objectives to which they are committed. • The capacity to exercise a relatively high level of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population, and the intellectual potentialities of the average human being are only partially utilized under the conditions of modern industrial life.

Table 2: Theory X and Theory Y Mangers (McGregor, 1960)

In summary, Theory X assumes that people are passive and resistant to organizational needs, and any attempts to direct them to perform (Bass, 2008). Theory Y assumes that people want to perform, and the organizational conditions can be arranged to help them achieve their goals and the organizational objectives at the same time.

2.3.5 Blake and Mouton's Managerial Grid

Blake and Mouton (1964, 1965) created the managerial grid to conceptualized leadership. The managerial grid represents the concern for people by one axis of the two dimensional grid, and on the other axis the concern for production was represented. Leaders were rated on the grid by how high or low on the axis they ranked. The leaders that rated high (on the team management sector of the axis) were said to develop followers who are committed to their work, and have a common purpose in alignment with the organization. The correlation between trust and respect for the leader emerges as well in the ranking.

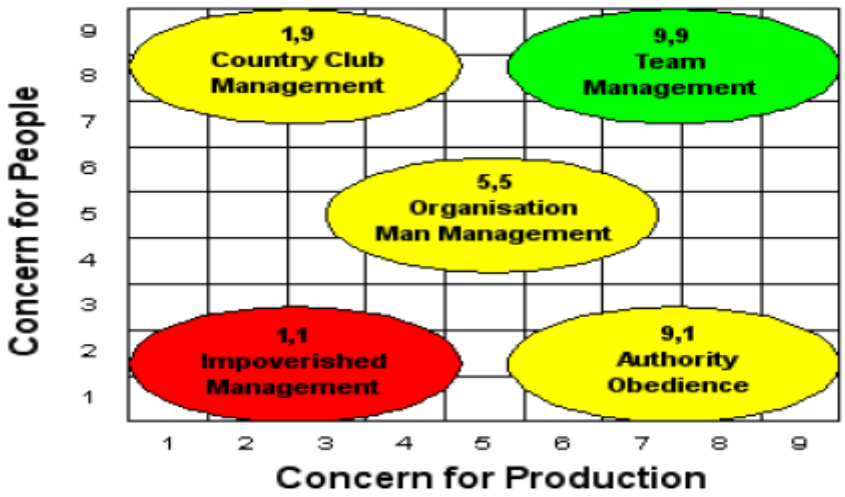


Figure 1: The Blake Mouton Managerial Grid (Blake & Mouton, 1964)

A theory called Performance-Maintenance (PM) developed by Misumi and Peterson (1985) is similar to Blake and Mouton's concern for performance and production (Bass, 2008). The greatest performance occurred when both the P and M were on the high side of the axis.

2.3.6 Situational and Contingency theories

Situational and contingency theories evolved as a response to the trait theory of leadership. Many theorists argued that notable historical events were more than the result of the intervention of great men. It was stated by Herbert Spencer (1884) that the events or times produced the leader and not the other way around. This theory implies that there are no universal theories of leadership because different situations call for different characteristics. Therefore, a single optimal trait or characteristics profile for a leader does not exist. What makes an effective leader depends on the situation the leader is faced with.

Situational and contingency theories follow a similar pattern:

- The characteristics of a leader are accessed.
- The situation in terms of key contingency variables is evaluated.
- The leader and the situation are attempted to be matched.

2.3.7 Path-Goal Theory

The path-goal theory was developed by Robert House (1971). The central theme to his theory is that the leader must help the followers find the path to their goals and assist them in the process. The situation dictated which behaviour the leader would use to accomplish the path-goal purpose. According to House and Dessler (1974), the two notable situational aspects are based on the competencies of followers, and how structured the task was. There are four leadership behaviors identified by the path-goal theory: directive leaders, supportive leaders, participative leaders, and achievement-oriented leaders. These leadership behaviors are matched to the appropriate environmental and subordinate contingency factors: environmental factors (task structure, formal authority system, and work group), and subordinate factors (focus of control, experience, and perceived ability). The leadership behaviors are considered fluid in the path-goal model and leaders can adopt any of the four behaviors based on the situation.

2.3.8 Fiedler's Contingency Model

During the 1970s and 1980s Fiedler's contingency theory dominated much of the research on leadership. The theory is based on the belief that the leader's effectiveness is dependent on what Fred Fiedler called situational contingency. The central concept of the theory is that there is no ideal leader or best way to lead because the situation will indicate the style the leader must follow. The solution is dependent on the factors that contribute to the situation the leaders find themselves in.

Fiedler's theory took into consideration the following three situations that could define the condition of a task for the leader:

1. Leader member relations: How well do the leaders and subordinates get along?

2. Task structure: Is the task at hand highly structured, fairly structured, or somewhat structured?

3. Position power: How much authority does the leader have?

The Fiedler's contingency theory defines two types of leader. The first type of leader will develop good-relationships with the group (*relationship-orientated*) in order to accomplish a task (Fiedler, 1967). The second type of leader will forego developing relationships to get things accomplished and only be concerned with achieving the task itself (*task-oriented*) (Fiedler, 1967). Both types of leadership orientations can be successful if it fits the situation.

Task oriented leaders do well in situations with the following scenarios:

- Good leader-member relations, structured tasks, and position power that is either weak or strong.

- Unstructured tasks with strong position power.

- Leader member relations are moderate to poor, and tasks are unstructured

Relationship oriented leaders perform best in all other situations. The leaders faced what Fiedler called environmental variables, which were either favourable or unfavourable. Task

orientated leaders operated best in either favourable or unfavourable, but relationship orientated leaders perform best in situations with intermediate favourability.

2.3.9 Hersey and Blanchard Model of Leadership

Hersey and Blanchard's situational leadership theory suggests that the leader's style of behaviors should be matched to the subordinate's level of maturity (Bass, 2008). Maturity is defined as the subordinates' experience, motivation, and capacity to accept responsibility. The appropriate leadership style to use in a situation is determined by the maturity level of the subordinate.

This theory proposes four leadership-styles and four levels of follower-development:

- Directing: Leader provides precise instructions. This style would be used with a low follower readiness level.

- Coaching: Leader helps build motivation and confidence and encourages two-way communication. This style would be used with moderate follower readiness level.

- Supporting: Leaders and followers share decision making. This style would be used with moderate follower readiness level.

- Delegating: Followers are ready and competent to take on responsibility to achieve an assigned task. This style would be used with high follower readiness level.

2.3.10 Adair's Action-Centered Leadership Model

John Adair's action-centered leadership model is based on situational elements that call for different approaches by the leader based on their environment. The model is represented by a three circle diagram, which highlights the three leadership responsibilities: accomplishing the task, managing the team, and managing the individual. The leadership challenge is to manage all the circle sectors.

To successfully achieve the three leadership responsibilities listed above, Adair (1973) stated that they can be achieved through the following actions referred to as leadership functions:

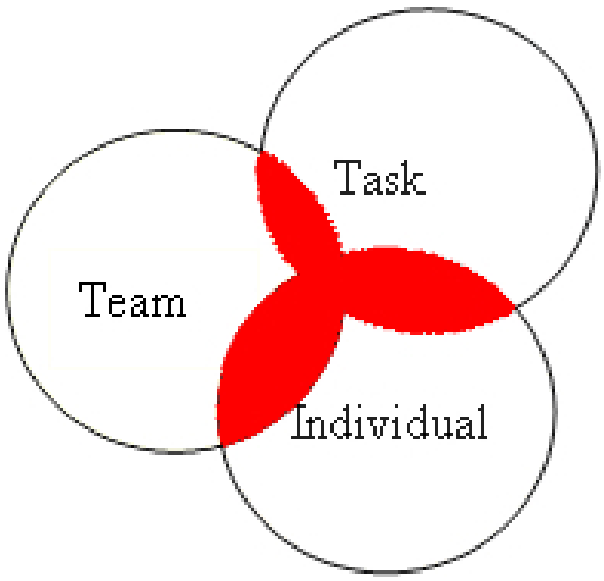


Figure 2: Three Circle Diagram (Adair, 1973)

Defining all tasks so that goals and objectives are SMART *(Specific, Measurable, Achievable, Realistic and Time-Constrained)* (Adair, 1973).

- Planning – defining tasks, establishing objectives, re-planning as needed, allocating work and resources, and establishing standards.

- Controlling – implementation of good control systems, ensuring progress is made on rate of work, adjusting controls as required.

- Supporting – Team building, facilitating communications, encourage individual contributions and maintain discipline.

- Informing – communications plan which includes: regular status meetings, clarifying tasks and plans, and establishing a feedback loop.

- Evaluating – Evaluate prior to and after the execution of work performed. This may include performance evaluation, training needs of individuals, and reviewing lessons.

Adair's theory was a departure from the trait theories because he believed that leadership can be taught through effectively applying his model. Some theorists have criticised his model as being to simple and outdated.

2.3.11 Tannenbaum-Schmidt Continuum of Behaviour

A continuum of leadership behaviour was developed by Robert Tannenbaum and Warren Schmidt (1973) to describe a range of behavioural patterns available to a manager. The actions of a leader on the left-side of the continuum are characterized by a high degree of control while the right describes a manager who delegates authority. Tannenbaum and Schmidt felt that a leader should be flexible and adapt his style to the situation instead of

trying to choose one style to practice. The model shows the relationship among the levels of freedom that a manager chooses to give, and the level of authority used.

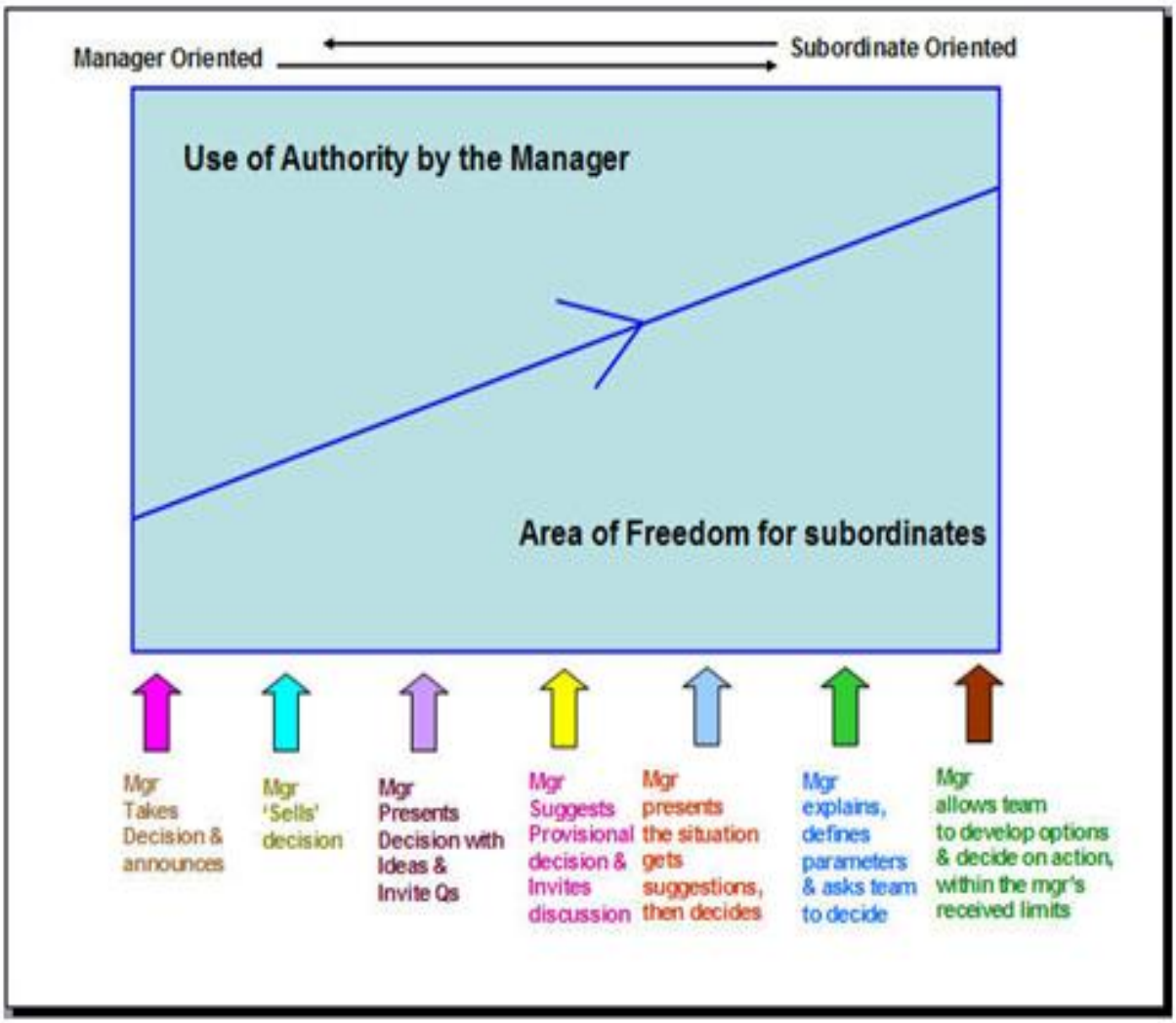


Figure 3: Continuum of Leader Behavior (Tannenbaum-Schmidt 1973)

As displayed in the above diagram, the level of delegation takes any one of the seven levels as illustrated by the arrows. As the team develops and matures the area of freedom increases for the subordinate and the need for leadership intervention decreases.

2.3.12 Visionary or Charismatic Theories

Charisma was first introduced into the social sciences by Max Weber (1924/1947) when he used it to described leaders who were perceived to have extraordinary abilities. Charismatic leaders are characterized by having the following attributes: highly expressive, emotionally appealing, articulate, self-confident, determined, active, energetic, and have a positive effect on their followers.

2.3.13 Transactional and Transformational Leadership

Eric Berne was the first theorist to analyse the relationship between a group and its leadership in terms of transactional analysis. However, James MacGregor Burns (1978) first formalized transformational leadership as a theory. Transformational leaders were said to have the ability to motivate followers to go beyond their own-self interests for the good of the group. Burns stated, *"transforming leadership is a relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents."* Bass (1990) developed models for transformational and transactional leadership based upon factors he identified.

The transactional leadership model emphasizes contingent rewards and manages by exception. In addition, transactional leadership is said emphasizes Barnard's cognitive roles and Aristotle's logos. Transformational leadership exhibits charisma, develops a vision, emphasis trust and respect, provides inspiration, gives consideration to individuals, and provides followers with intellectual stimulation. Transformational leadership is said to highlight Barnard's cathartic roles, and Aristotle's pathos and ethos. Based on his research,

Bass developed the most widely adopted leadership questionnaire called the Multifactor Leadership Questionnaire (MLQ) to test transactional, transformational, and non-transactional (laissez-faire) leadership.

Bass's found that charisma was the largest contributing factor in transformational leadership. However, transformational leadership also correlated with other empirical factors such as inspirational leadership, intellectual stimulation, and individualized consideration. These factors were empirically confirmed by Avolio, Bass, Jung (1999). Bass modified Burn's conceptualization of leadership as either transformational or transactional by proposing that transformational leadership improved the effects of transactional leadership on the efforts, satisfaction, and effectiveness of followers (Bass, 2008).

Tichy and Devanna (1986) built on the transformational leadership work of Burns and Bass by describing a hybrid nature. They believed that transformational leadership is not due to charisma and that it is a behavioural process capable of being learned.

Bass and Avolio (1988) stated that transformational leadership is closer to the type of leader people have in mind and is more likely to provide a role model people want to identify. In essence, transformational leadership is about being a developer of people and builder of teams.

Transformational leaders according to Bass and Avolio are associated with five transformational styles listed in the table 3 below.

Transformational Leadership Styles and Behaviors (Bass and Avolio, 1994)

Transformational Style	Leader Behaviour
1. Idealized Behaviours: Living one's ideals	• Talk about their most important values and beliefs. • Specify the importance of having a strong sense of purpose. • Consider the moral and ethical consequences of decisions. • Champion exciting new possibilities. • Talk about the importance of trusting each other.
2. Inspirational Motivation: Inspiring Others	• Talk optimistically about the future. • Talk enthusiastically about what needs to be accomplished. • Articulate a compelling vision of the future. • Express confidence that goals will be achieved. • Provide an exciting image of what is essential to consider. • Take a stand on controversial issues.
3. Intellectual Stimulation: Stimulating Others	• Re-examine critical assumptions to questions. • Seek different perspectives when solving problems. • Get others to look at problems from many different angles. • Suggest new ways of looking at how to complete assignments. • Encourage non-traditional thinking to deal with traditional problems. • Encourage rethinking those ideas which have never been questioned before.
4. Individualized Consideration: Coaching and Development	• Spend time teaching and coaching. • Treat others as individuals rather than just as members of the group. • Consider individuals as having different needs, abilities, and aspirations from others. • Help others to develop their strengths. • Listen attentively to others' concerns. • Promote self-development.
5. Idealized Attributes: Respect, trust, and faith	• Instill pride in others for being associated with them. • Go beyond their self-interests for the good of the group. • Act in ways that build others' respect. • Display a sense of power and competence. • Make personal sacrifices for others' benefit. • Reassure others that obstacles will be overcome.

Table 3: Transformational Leadership Styles and Behaviors (Bass and Avolio, 1994)

2.3.14 Emotional Intelligence School

Emotional Intelligence (EI) describes the leader's ability, capacity, and skill to manage their emotions. Early studies can be traced back to Darwin's work on the importance of emotional expression for survival. Since the 1920s, there has been a growing acknowledgement by theorist of the importance of emotions impacting work outcomes, but the concept did not gain popularity until 1995 when Daniel Goleman published his best seller *Emotional Intelligence: Why It Can Matter More Than IQ.*

Goleman, Boyatzis, and McKee (2002) outlined the following constructs of emotional intelligence:

1. Self-awareness: emotional self-awareness, accurate self-awareness, and self-confidence.
2. Self-management: emotional self-control, adaptability, achievement, initiative.
3. Social awareness: empathy, organizational awareness, and service.
4. Relationship management: inspirational, influential, building bonds, teamwork, and conflict management.

In addition to the above constructs, Goleman, Boyatzis, and McKee (2002) outlined six leadership styles:

1. Visionary
2. Coaching
3. Affinitive

4. Democratic
5. Pacesetting
6. Commanding

Goleman, Boyatzis, and McKee believed that the first four leadership styles contribute to better team performance while the last two styles need to be used appropriately because they can foster dissonance.

2.3.15 Competency Theory

In the 1990s person-centered models initially referred to as "management models" of performance were developed which later evolved to the development of leadership competency models. Competency models attempted to identify fundamental knowledge, skills, and ability (KSA) dimensions that would help target individuals who could be effective in leadership positions (Hollenbeck, McCall, and Silzer, 2006). Competency models can provide clear guidance on behaviors that are thought of as related to leadership effectiveness. In addition, they provide a powerful educational tool to individuals trying to learn how to become more effective leader by:

- Providing a summary of the experience of successful leaders.
- Listing effective and successful leader behaviors and attributes.
- Providing a tool to help individuals learn how to develop and apply the competencies.
- Providing an outline of the leadership framework that can be used to understand and develop leadership.

Competency theories appear to be similar to trait theories. However, competency theories state that competencies can be learned, and leaders can be made. Whereas, the trait theorists suggest that one is born a leader.

Theorists such as Kets de Vries and Florent-Treacy (2002), Marshall (1991), and Zaccaro et. Al (2001) has identified up to four types of competencies: cognitive, behavioural, emotional, and motivational. Dulewicz and Higgs (2003) have identified three types of competencies: intellectual (IQ), managerial skill (MQ), and emotional (EQ). Their competency research shows that IQ accounts for 27% of leadership performance, MQ accounts for 16% of leadership performance, and EQ accounts for 36% of leadership performance.

2.4 Leadership Theories Synthesis and Summary

The literature review took into account two main avenues pertaining to leadership. The two main avenues are leadership theories and leadership competencies.

On the topic of leadership, there are the classical schools of thought, human behaviorist, contingency views, situational views, transformational views, and emotional intelligence views. It is fair to say that much of this research work in grounded in the emotional intelligence view. The main leadership authorities this research has taken into account are as follows, as well as the years they span:

- Galton, 1869 (Great Man Theories)
- Stogkill, 1974 (Leadership Skills Traits)
- McGregor, 1960 (Behavior Theories)
- Fiedler 1970 (Contingency Theories)
- Hersey and Blanchard 1977 (Situational Theories)
- Burns 1978 (Transformational Leadership)
- Goleman 1995 (Emotional Intelligence)

The schools of thought on competencies attempted to identify fundamental knowledge, skills, and abilities that could help individuals become effective leaders. The importance of competency theories is that they can be learned. The main competency authorities that this research has taken into account are as follows, as well as the years they span:

- Hollenbeck, Mcall, Slizer 2006 *(Identified fundamental knowledge, skills, and abilities)*
- Vries and Tracey 2002, Marshall 1991, Zaccaro 2001 (Identified four types of competencies *(cognitive, behavioral, emotional, and motivational)*
- Dulewicz and Higgs 2004 *(Identified 3 types of competencies, (a) Intellectual, (b) managerial, (c) emotional)*

2.5 Project Management

The concept of project management is relatively modern, starting in 1953. In those 40 years project, management was mainly used by the U.S. Department of Defense, aerospace organizations, and the construction industry (Kerzner 2009). However, today the concept is being applied to diverse industry sectors such as banking, information technology, hospitals, accounting, pharmaceuticals, and advertising.

The dynamic rate of change in the marketplace due to the advancement of technology has created a strain on the existing management structure utilized by organizations. The traditional management structure is highly bureaucratic and cannot respond to the dynamic environment. Therefore, the traditional structure of management has been replaced by project management because of its organic nature that lends itself to respond quickly to the needs of an organization.

What is project management? According to Turner (1993) the answer to the question is that it is the process by which a project is completed. However, to fully understand the concept of project management the definition of a project is required. The Project Management Body of Knowledge (PMBOK®) Guide, 4th Edition states, *"A project is a temporary endeavour undertaken to create a unique product or service."*

Kerzner (2009) provides an all-inclusive definition of a project. Kerzner (2009) states that a project is considered to be comprised of activities and tasks that:

1. Have a finite duration (defined start and end dates).
2. Have specific objectives to be accomplished within certain requirements.
3. Usually brings about beneficial change or added value.
4. Utilize and connect resources.
5. Are multifunctional because they cross several functional departments within an organization.

According to Atkinson (1999), early definitions of project management emphasised a focus on the iron triangle (which is time, cost and scope). Frame (1987, p. 5) states *"Project Management entails carrying out a project as effectively as possible in respect to the constraints of time, money, (and the resources it buys) and specifications."* Luckey and Phillips (2006, p. 10) describe project management as, *"... centers on the serious business of getting work done on time and within budget while meeting customer expectations. Effective project management is about accomplishment, leadership, and owning the project scope."*

Turner (1999, p. 4) writes, *"Project management is about managing people to deliver results, not managing work."*

The above definitions do not provide a clear picture of what project management actually is as a discipline for this study to utilize. However, the following definition provided by Kerzner (1982, p 3) is a comprehensive definition of project management which this study will use. *"Project Management is the planning, organizing, directing, and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives. Furthermore, project management utilizes the systems approach to management by having functional personnel (the vertical hierarchy) assigned to a specific project (the horizontal hierarchy)."*

2.5.1 Project Managers Role

The project manager can be a full-time professional or a temporary role an individual is assigned to perform. Depending on the structure of the organization, its culture, and what the projects goals are, the project manager's role could be a highly defined or informal (done by whomever, and whenever required). The project manager's job is not easy because they may have increasing responsibility but very little authority. To help fulfil the research goals and objectives of this study it is necessary to define the role of a project manager, and establish a working definition that this study will use.

Berkun (2005, p. 8) describes the project managers role as "...*Leading the team in figuring out what the project is (planning, scheduling, and requirements gathering), shepherding the project through design and development work (communication, decision making, and mid-game strategy), and driving the project through to completion (leadership, crisis*

management, and end-game strategy." According to Berkun (2005) the presence of a dedicated project manager is crucial because it prevents dysfunction. Berkun states that a project manager's primary job is to organize and shepherd the overall effort because individual biases and interests of the team can derail the direction of a project.

Kerzner (2009, p. 12) writes *"The project manager is responsible for coordinating and integrating activities across multiple, functional lines. The integrating activities performed by the manager include: integrating the activities necessary to develop the project plan, integrating the activities necessary to execute the plan, and integrating the activities necessary to make changes to the plan."* Kerzner states that the integrative responsibilities shown in figure 4 below is where the project manager must convert the inputs into outputs.

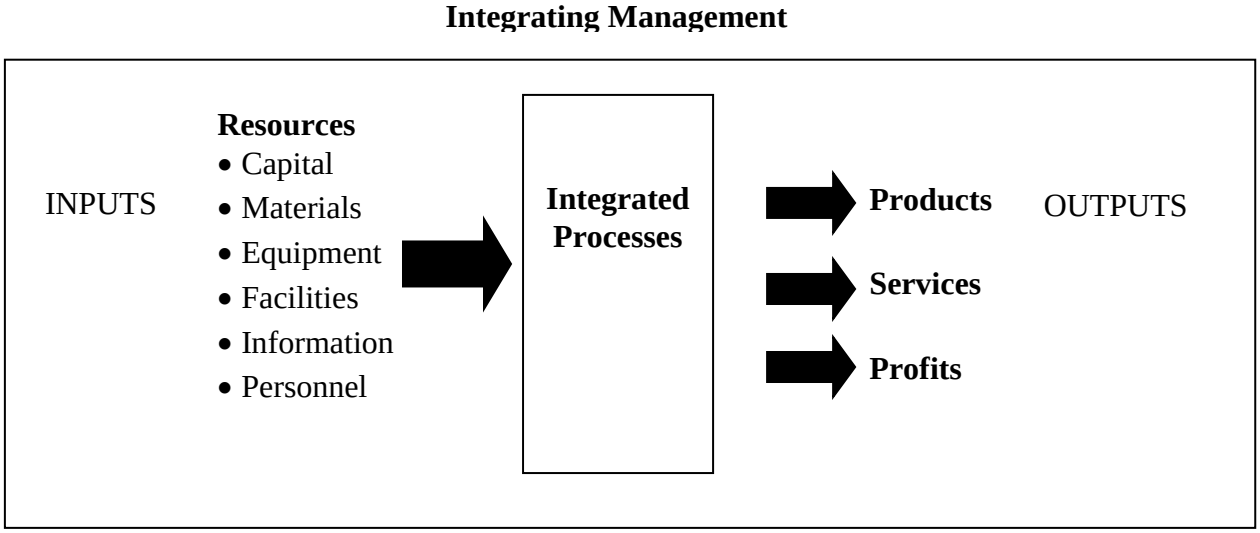


Figure 4: Integrative Responsibilities, Kerzner (2009)

Frame (1987) states that the responsibilities of a project manager are to get the job done on time, within budget and according to specifications. Frame (1987, p. 71) goes on to say "*Of course, project managers' responsibilities go beyond this. They are also responsible for developing the staff, serving as intermediary between upper management and the project staff, and conveying lessons learned to the organization."*

2.6 Critical Project Success Factors

Critical success factors are common in projects today as a means of assessing projects (Nixon, Harrington and Parker, 2011). Kerzner (2009) writes, *"Project managers are often selected or not selected because of their leadership styles."* Views on project success have evolved over the years from definitions that were limited to meeting on-time and on-budget measurements, to broader and holistic definitions.

The link between success criteria, critical success factors, and project types was examined by Westerveld (2003). The success criteria he developed included project results (time, cost, and quality), client appreciation, project team members, users, contracting partners, and stakeholders. Wateridge (1988) recommended that critical success criteria be identified first by project managers and then identify success factors what will help them deliver those criteria.

Cooke-Davies (2002) contributed what is considered to be one of the most significant pieces of work from the past decade when he differentiated between project success and project management success. Project success related to the achievement of planned business results via the project outcome (new product or service), and project management success related to the achievement of the triple constraints (time, cost, quality, and/or other define goals set for project management). The success criteria identified did not include or even take into consideration the project manager's competence Muller and Turner (2010). The correlations between success and project manager's leadership competencies using the LDQ and a composite measure of project success were identified by Muller and Turner (2007).

Kendra and Taplin (2004) created a model of success factors and grouped them into four categories: micro-social, macro-social, micro-technical and macro-technical. Their study identified the leadership behaviour and attributes of a project manager as a success factor in their micro-social model.

Many authors have also suggested in their research that:

1. The success of a project manager is related to their competence.
2. Each stage of the project life cycle requires different leadership styles.
3. Multi-cultural projects require specific leadership styles.
4. Creating an effective working environment for the project team is the responsibly of the project manager as a leader.
5. Project managers are said to have a task oriented leadership style.
6. The project manager's leadership style has a direct impact on their perception of project success.

Kerzner (2009) suggests that the prerequisite for program success is the project manager's ability to lead the project team within unstructured environments. Richard Hodgetts conducted a survey to determine what leadership techniques are best.

The following are the results from his survey (Hodgetts, 1968, p. 211-291):

- Leadership techniques on human relations

- "The project manager must make all the team members feel that their efforts are important and have a direct effect on the outcome of the program."
- "The project manager must educate the team concerning what is to be done and how important its role is."
- "Provide credit to project participants."
- "Project members must be given recognition and prestige of appointment."
- "Make the team members feel and believe that they play a vital part in the success (or failure) of the project."
- "By working extremely close with the team once can win a project loyalty while to a large extent minimize the frequency of authority-gap problems."
- "Great motivation can be created just by knowing the people in a personal sense."
- "An important technique in overcoming the authority-gap is to be understanding as much as possible the needs of individuals with whom you are dealing with and over whom you have no direct authority."

- Formal authority leadership techniques
  - "Point out how great the loss will be if cooperation is not forthcoming."
  - "Put all authority in functional statements."

- "Apply pressure beginning with a tactful approach and minimum application warranted by the situation and then increasing it."
- "Threaten to precipitate high-level intervention and do it if necessary."
- "Convince the members that what is good for the company is good for them."
- "Place authority on full-time assigned people in the operating division to get the necessity work done."
- "Maintain control over expenditures."
- "Utilize implicit threat of going to general management for resolution."
- "It is most important that the team members recognize that the project manager has the charter to direct the project."

The first to suggest that different leadership styles are needed at the different stages of the project life cycle was Frame (1987). Hersey and Blanchard (1988) are believed by many project theorists to have developed the best model for analyzing leadership in the project environment. This model is known as the Situational Leadership Model. The concept of the model is to match one of the four basic leadership styles to the readiness *(job related experience, willingness to accept responsibility, and desire to achieve)* of the follower.

The emotional intelligence of the project manager was found to have an impact on their perception of project success. Lee-Kelley et al. (2003) attempted to find out whether or not the project manager's leadership style influenced their perception of project success, and what project management knowledge area was most critical to project success. Lee-Kelley

et. al. (2003, p. 590) stated, *"There is a significant relationship between the leader's perception of project success and his or her personality and contingent experiences. Thus, the inner confidence and self-belief from personal knowledge and experience are likely to play an important role in a manager's ability to deliver a project successfully."*

Rees, Turner, and Tampoe (1996) identified that effective project managers have above-average intelligence and good problem-solving skills. According to Pinto and Trailer (1998) the characteristics of an effective project manager are credibility, flexible management style, effective communication, creative problem solving, and tolerance for ambiguity. Crawford believed that the success of a project and the competence of the project manager are interrelated, and the project manager is a factor for delivering successful projects.

Research regarding project manager's leadership competencies and whether or not they can be linked to project success was conducted by Geoghegan and Dulewicz (2008). They used two research questionnaires on 52 project managers and project clients from financial organizations in the United Kingdom. Geoghegan and Dulewicz research was not entirely conclusive, but they did find certain leadership dimensions demonstrated a positive relationship with certain project success variables.

Project success factors as covered in project management literature surprisingly does not usually mention the project manager's leadership competence as a success factor for projects (Turner and Muller, 2005). While leadership has long been recognized as a success factor at the organizational level, it was not until recently that this concept was adopted in the realm of project management (Dvir, *et al.*, 2006; Turner and Muller, 2005, 2006).

CHAPTER 3

USAGE OF CRITICAL PROJECT SUCCESS FACTORS

3.1 Elements that Fuelled the Awareness of Projects Success Factors in Projects

The early studies in project management focused on the reasons for project failure rather than project success (Belassi and Tukel, 1996). However, there are many factors outside the control of management which could determine the success or failure of a project (Belassi and Tukel, 1996), and in literature these are referred to as critical success factors. The study of critical success factors (CSFs) has contributed to a more comprehensive understanding of project success and failure across many industry sectors (Koutsikouri, Austin, and Dainty 2008).

Research has broadened the scope of project management and what knowledge is needed to manage projects more effectively (Morris 2006; APM BOK, 2006). The knowledge and associated information flow from research in this field are essential to assist managers in directing their organization to successful long-term existence and growth (Koutsikouri, Austin, and Dainty 2008). The understanding of project success has undergone significant changes over the years. According to Jugdev and Muller (2005) the definitions of project success have evolved over four time periods, starting in the 1960's to the 21st Century.

3.1.1 Constructs of Project Success Between 1960-1970

During the 1960s and 1970s project success was narrowly defined. According to Turner and Muller (2005), the focus of project success was on implementation, measuring time, cost, and functional improvements.

With the theoretical nature of literature and the lack of empirical research early studies on project success quantified it in terms of time, cost and scope because it was straightforward and easy to utilize (Jugdev and Muller, 2005). This practice supported the use of the iron triangle as the foundation of defining project success (Atkinson, 1999; Cooke-Davies, 2001; Hartman, 2000).

During the 1970s, a small upward trend to include stakeholder satisfaction as a variable in measuring project success was gaining momentum. This means that defining upfront measures during the start of a project is required, but it assumes that project managers know how to define the needs of the clients (Shenhar, Levy, and Dvir, 1997). In addition, research during this period emphasized the use of efficiency measures and the technical system (hard skills) instead of the behavior (soft skill) or interpersonal systems (Munns and Bjeirmi, 1996)

3.1.2 Constructs of Project Success Between 1980-1990

The 1980s and 1990s have shown a broadening of measurement from simply time, budget, and scope to stakeholder satisfaction, product success, and business benefit (Atkinson, 1999; Baccarini, 1999). DeWit (1988) indicates that project success involves broader objectives from the viewpoint of stakeholders throughout the life of the project. A study conducted in

the information technology industry in 1998 by Wateridge noted the importance of the taking into account stakeholders input on success.

The development of critical success factor (CSF) lists was very prominent during this period because many authors produced these lists of success factors (Turner and Muller 2005). Kerzner (1987, p. 32) stated that CSFs are the "elements required to create an environment where projects are managed consistently with excellence."

Bounds (1998) listed requirements for successful projects: staff training, education, dedicated resources, good tools, strong leadership, strong management, concurrent development of the team. The CSF for projects by Clarke (1999) included communication, setting clear objectives and scope, using work breakdown structures, and keeping the project plan up-to-date.

Baker, et al (1988), Morris (1988), and Pinto and Slevin (1988) identified the following as project success factors: planning, performance, schedule on budget, commercial success, termination efficiency, and client satisfaction. Studies focused on the importance of stakeholder satisfaction as a project success indicator. Munns and Bjeirmi (1996) found that users are more demanding when it comes to satisfaction criteria (which is one facet of quality assurance) than project completion criteria.

A study conducted by Pinto and Slevin (1988) identified ten project success factors as described in the table 4 below.

Success Factor	Description
1. Project Mission	Clearly defined goals and direction
2. Top Management Support	Resources, authority and power for implementation.
3. Schedule and Plans	Detailed specification of implementation
4. Client Consultation	Communication with and consultation of all stakeholders.
5. Personnel	Recruitment, selection and training of competent personnel.
6. Technical Tasks	Ability of the required technology and expertise.
7. Client Acceptance	Selling of the final product to the end users.
8. Monitoring and feedback	Timely and comprehensive control.
9. Communication	Provision of timely data to key players.
10. Troubleshooting	Ability to handle unexpected problems.

Table 4: Project Success Factors (Pinto and Slevin, 1988;Turner and Buller, 2005)

Different success factors and failure factors at successive stages of the project management life cycle was identified by Morris (1988). Project pitfalls in the way a project is started, planned, organized and controlled where identified by Andersen, Grude, and Haug (1987). Interestingly enough, Cooke-Davies's (2001) research found project management to be a success factor but not the project manager. Morris (1988) did identify leadership as a critical success factor. Turner (1999) created the Seven Forces Model that categorized seven areas with five corresponding success factors (displayed below).

1. Definition: Objectives, scope, technology, design, resourcing.
2. Systems: Planning, control, reporting, quality, risk.
3. People: Leadership, management, teamwork, influence,
4. Attitudes: Commitment, motivation, support, right the first time, shared vision.

5. Sponsorship: Benefit, finance, value, schedule, urgency.
6. Organization: Roles, resources, type, contract, strategy.
7. Context: Political, economic, social, environment, legal.

Several useful critical success factors were identified and described during the 1980s - 1990s, but the studies conducted by various researchers' did not integrate the concepts into a cohesive manner. Pinto and Prescott (1990) stated that the literate of the mid-1980s listed success factors using single case studies and anecdotes. However, the critical success factor lists developed during this period contributed to the development of integrated frameworks.

3.1.3 Constructs of Project Success Between 1990 -2000

Frameworks for critical success factors dominated project management studies conducted during the 1990s - 2000s. According to Kerzner (1987) and Lester (1998) the literature addressed the idea that success was dependent on the stakeholder, and it involved interactions between the internal organization and client organization.

Morris and Hough (1987) were considered pioneers because they developed a comprehensive framework based on eight case studies that analyzed the preconditions of project success. Based on their case studies they group project success as follows:

1. Project Functionality: Are the projects financial and technical requirements meet?

2. Project Management: Were the budget, schedule and specifications meet on the project?

3. Contractors' Commercial Performance: Were there commercial benefit for contractors and did they benefit from it?

4. Project Termination: If applicable, the decision to cancel a project was made reasonability and efficiently.

In addition, Morris and Hough developed the following elements for depicting project success in their comprehensive framework: attitudes, project definition, external factors, finance, contract strategy, schedule, communications, human qualities, and resources management.

Freeman and Beale (1992) listed their criteria for measuring success as technical performance, execution efficiency, customer satisfaction, manufacturability, business performance, and personal growth. Cleland and Ireland (2002) introduced the concept that success be viewed from the degree to which project performance was attained (time, cost, and scope), and the impact the project made to the organization's strategic mission. Kerzner (1987) stated that the span of CSFs be broadened to include projects, project management, the project organization, senior management, and the environment.

Kerzner's Critical Success Factors include:

- Organizational understanding of project management.
- Executive commitment to projects and project management.
- Organizational adaptability.
- Project manager selection process and criteria.
- Project manager leadership style.
- Project manager commitment to planning and control.

Pinto and Covin (1989) found that during the course of the project life cycle, some CSFs varied in relative importance, and certain CSFs were common to all project types. An empirical study conducted by Shenhar et al. (1997) based on a multidimensional, multi-observational framework identified four universal success (project efficiency, client impact, business success, and strategic potential).

Belasis and Tukel (1996) created categories for CSFs to allow for a classification system that enabled readers to examine their interrelationships. The study's four categories are factors related to the: project, project manager and project team, organization, and external environment. Their study demonstrated how CSFs are different in each industry and how top management support is crucial to project success.

During the 1990s to 2000s considerable work was achieved in conceptualizing project success. Frameworks were developed on the premise that success is dependent on the stakeholders and that it requires interaction with the client. Additionally, CSFs evolved into dimensions taking into consideration the product being developed, staff growth and development, the client, benefits to the organization, senior management, and the environment.

3.1.4 Constructs of Project Success in the 21st Century

Progress has been made over the last forty years on the topic of understanding project success. According to Jugdev and Muller (2005) we now understand that project success is more than having authority, a common mission, top down support and measuring success based on schedule, budget, and scope criteria.

Recent literature and studies show empirical results that outline the following four conditions required for project success as revealed by Turner (2003, p. 350):

1. *"Success criteria should be agreed on with the stakeholders before the start of the project and repeatedly at configuration review points throughout the project.*

2. *A collaborative working relationship should be maintained between the project owner and project manager, with both viewing the project as a partnership.*

3. *The project manager should be empowered with the flexibility to deal with unforeseen circumstances as they see best and with the owner giving guidance as to how they think the project should be best achieved.*

4. *The project owner should take interest in the performance of the project."*

Although many project theorists present a holistic view of project success, the emerging perspectives for the 21st Century are as follows:

- The organizational understanding that project management is a strategic asset, therefore, a key criterion for project success.

- Project managers must be measured on a greater set of objectives (not just schedule, budget, and scope), and be allowed room to manoeuvre.

- There must be active interest and involvement with the project sponsor/client.

- A greater focus on the project manager's leadership style and competence as contributing factors for project success.

3.2 The Need to Understand Critical Success Factors (CSFs) in Project Management

Despite the abundance of tools and techniques to support the management of projects, managers still struggle to deliver them successfully. It has been argued that mainstream project management methods and techniques are not enough to guarantee improved performance in multi-organizational settings (Thomas 2006; Koutsikouri, Austin, and Dainty 2008).

Cooke-Davies (2002) state that a comprehensive answer to the question of which factors are critical depends on answering three separate questions: What factors lead to project management success?; What factors lead to a successful project?; What factors lead to consistently successful projects? Such statements emphasize the need for a more comprehensive understanding of the pattern of success factors which underline overall project outcomes and success (Cook-Davies, 2004). A review conducted by Fortune and White (2006) demonstrates that there is a lack of consensuses between researchers regarding what factors impact project success. The link between project success and that of the project managers competencies is significant in identifying critical success factors.

3.3 The Potential for Understanding and Using Critical Success Factors (CSFs)

According to Scott-Young & Samson (2004) research has identified that people management drives project success more than technical issues do (Prabhakar, 2008). Regardless of these research findings, only a small body of research exists that examines soft project management skills and competencies as critical success factors (Kloppenborg & Opfer, 2002).

There is high industry agreement to the definition of project success provided by Baker, Murphy, and Fisher (1998), that project success is a matter of perception and that a project will be most likely to be perceived to be an "overall success" if the project meets the technical performance specifications and/or mission to be performed and if there is a high level of satisfaction concerning the project outcome among key stakeholders.

An intensive literature study was conducted by Turner and Muller due to the overall lack of information linking the project manager's performance and his or her leadership style to project success factors (Turner and Muller, 2005). Turner and Muller (2005) offered three potential conclusions to this lack of information in research and project management literatures (Nixon, Harrington, and Parker, 2011):

1. Studies conducted did not include respondent impact.

2. Studies conducted did not actually measure project manager impact, thus were not recorded.

3. Project managers simply have no impact.

As stated by Nixon, Harrington, and Parker (2011), "…the overwhelming view is that leadership performance is significantly important factor in determining project outcome.
Research by Thomas 2006; Koutsikouri, Austin, and Dainty (2008) state that a number of authors have argued that project success and failure can be best understood and dealt with through the use of systems thinking (Bignell and Fortune, 1984; Morris and Hough, 1987; Fortune and Peters, 2005). This type of research places the focus on the correlation of "hard" (e.g. cost, time and to specification; physical resources) and "soft" (e.g. multiple perspectives, communication, emotional intelligence) factors and the wider managerial and social

frameworks within which individuals work in making sense of project outcomes (Thomas 2006; Koutsikouri, Austin, and Dainty 2008).

Fortune and White (2006) research found that the three most cited critical success factors are: (1) the importance of a project receiving support from senior management; (2) having clear and realistic objectives; (3) and producing an efficient plan. 81 percent of the publications include at least one of these three factors, however only 17 out of 63 cite all three settings (Thomas 2006; Koutsikouri, Austin, and Dainty 2008). Lechler (2000) research discovered that performance and success are achieved through people. Therefore, their research draws attention to the role of individuals and their relationship in the project process as a CSF.

3.4 Challenges to Selecting Which Critical Success Factors (CSFs) to Use

Rockart (1979) established CSFs as a means of identifying the essential elements that need to be addressed for organizations to implement change more effectively.

Table 5 below is an example of Rockart's (1979) CSFs, which have been obtained from Microwave Associates.

Table 5: Rockart's CSFs	
Critical Success Factors (CSFs)	**Prime Measures**
Image in financial markets	Price/earnings ratio
Technological reputation with customers	Orders/bid ratio Customer "perception" interview results
Market success	Change in market share (product wise) Growth rates of company markets
Risk recognition in major bids and contracts	Company's years of experience with similar products "New" or "Old" customer
Profit margin on jobs	Prior customer relationship
Company morale	Turnover, absenteeism etc.
Performance to budget on major jobs	Job cost, budgeted/actual ratio

(Thomas 2006; Koutsikouri, Austin, and Dainty, 2008) described CSFs as factors that the manager needs to keep a firm eye on to achieve a successful delivery. The suggestion is that if CSFs are not taken into consideration, problems arising may act as barriers to success (Andersen et al., 2006).

A key question in practice is how to measure project success (Wateridge, 1998). According to the Project Management Institute (PMI) (2008), project success should be defined in the project charter with objectives of the project, but PMI does not provide the definition of project success nor do they provide criteria. To determine which criteria to use for critical success factors is extremely difficult because of the diversity in criteria models.

Table 6 below lists the critical success factors developed in research and tabulated by Belassi & Tukel (2006).

Martin (1979)	**Lock (1984)**	**Cleland and King (1983)**	**Sayles and Chandler (1971)**	**Baker, Murphy and Fisher (1983)**	**Pinto and Slevin (1989)**	**Morris and Hough (1987)**
Define goals	Make project commitments known	Project summary	Project manager's competence	Clear goals	Top management support	Project objectives
Select project organizational philosophy	Project authority from the top	Operational concept	Scheduling	Goal commitment of project team	Client consultation	Technical uncertainty innovation
General management support	Appoint competent project manager	Top management support	Control systems and responsibilities	On-site project manager	Personnel recruitment	Politics
Organize and delegate authority	Set up communications and procedures	Financial support	Monitoring and feedback	Adequate funding to completion	Client acceptance	Community involvement
Select project team	Set up control mechanisms (schedules, etc.)	Logistic requirements	Continuing involvement in the project	Adequate project team capability	Monitoring and feedback	Schedule duration urgency
Allocate sufficient resources	Progress meetings	Facility support		Adequate initial cost estimates	Communication	Financial contract legal problems
Provide for control and information mechanisms		Market intelligence (who is the client)		Accurate initial cost estimates	Trouble-shooting	Implement problems
		Project schedule		Minimum	Characteristics of the project team leader	
Require planning and review		Executive development and training		Start-up difficulties	Power and politics	
		Manpower and organization		Planning and control techniques	Environment events	
		Acquisition		Task (vs. social orientation)	Urgency	
		Information and communication channels		Absence of bureaucracy		
		Project review				

Table 6: Critical Success Factors by Belassi & Tukel (2006)

Project success is a vital project management issue (Crawford, 2002) and the lack of agreement concerning the criteria by which to judge success is an essential issue to the project management industry to resolve. Thomas 2006; Koutsikouri, Austin, and Dainty (2008), "state that there are several success models and frameworks available, but they are not particularly consistent in terms of classifying success factors, which reflects that context matters in understanding drivers of success."

3.5 Summary of Chapter 3

This chapter reviews how critical success factors have been defined over the years. It looks at the various criteria developed by a number of researchers and authors. Identifying and understanding the link between project success and that of the project manager's competencies are significant in the application of critical success factors. As stated by Thomas 2006; Koutsikouri, Austin, and Dainty (2008), "There are several success models and frameworks available, but they are not particularly consistent in terms of classifying success factors, which reflects that context matters in understanding drivers of success."

Challenges and issues exist in utilizing critical success factors on projects. Critical success factors are a complex construct, but knowing what and how to apply them is of crucial importance to project success. There is a need in the project management industry to develop and apply specific and well-defined criteria for critical success factors programs to proactively monitor and deliver project success. Leadership has been the subject of much research in project management literature, it's role in contributing to project success or failure factors continues to provoke debate. The next chapter will provide a discussion on the leadership competencies required for projects success.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

Research is the creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications OECD (2002). This research study will utilize a combination of research methodologies in order to optimize the researcher's opportunity to identify the leadership competencies that should be included in the critical success factor framework.

The fundamental principal of this study is to determine if the theory is an outcome of the research and to explain the philosophical intention.

4.2 Philosophy

The research philosophy adopted contains important assumptions about the way the world is viewed by the researcher. These assumptions will support the research strategy and methods selected as part of the strategy. There are three key ways of thinking about research philosophy: epistemology, ontology, and axiology (Saunders, Lewis and Thornhill, 2007). Each contains significant differences which will influence the research process. An understanding of philosophical issues is extremely important because it helps determine the research approach and strategy.

4.3 Research

Fellows (1997) referred to research methodology as the principles and procedures of the logical thought process which is applied to a scientific investigation. Research according to Bryman (2008) is done in order to answer questions posed by theoretical considerations. Research can be defined as something people undertake in order to find out things, or assemble data in a systematic way to answer questions, or resolve a problem; thereby increasing their knowledge (Saunders, Lewis, Thornhill, 2007).

Saunders, Lewis, and Thornhill (2007) write that there are two phrases important in the above definition: (1) systematic research and (2) to find out things. Ghauri and Gronhaug (2005) state that 'systematic' suggests that research is based on logical relationships and not just beliefs. Therefore, methods used to collect data will require an explanation, results obtained will have to be argued as to why they are meaningful, and any limitations that are associated with the data have to be explained. The phrase 'to find things out' according to Saunders, Lewis, and Thornhill (2007) suggests that there are a multiplicity of possible purposes for the research. Ghauri and Gronhaug (2005) state these may include describing, explaining, understanding, criticizing and analyzing. It also implies that there are specific inquiries and answers to those inquiries.

This study needs to build on the general definition of research to also include the definitions of business and management research. Esterby-Smith et al. (2002) state that the following three things below make business and management a distinctive focus for research:

- The means by which researchers and managers utilize knowledge developed by other disciplines.

- Managers are unlikely to allow researchers access unless a personal or commercial advantage can be gained.

- The requirement for the imposed research to have some practical consequence; meaning it either needs to contain the potential for taking some form of action or take account of the consequences of the findings.

Another aspect of management research is a belief that it should be able to develop ideas and to relate them to practice (Saunders, Lewis, Thornhill, 2007). According to Tranfield and Starkey (1998), research should complete a virtuous circle of theory and practice through which research on managerial practice informs practically derived theory. This essentially becomes a blueprint for managerial practice. Therefore, business and management research needs to connect with both the world of theory and practice.

Gibbons et al.'s (1994) work on the production of knowledge (Mode 1 to Mode 3) ignites the dispute about the nature of management research, and how it can meet the double obstacle of being both theoretically and methodologically accurate, while at the same instance of meeting the world of practice and being of practical relevance (Hodgkinson et a., 2001).

Mode 1 is knowledge creation that emphasizes research questions that are set and solved by purely academic interests. This emphasizes a basic fundamental rather than applied research, where there is little on the utilization of research by practitioners.

It is important to observe that Mode 2 practices are a result for the development from Mode 1. In addition, it also may result in business and management research that did not have obvious benefits commercially and therefore, not pursued.

Mode 3 knowledge production focuses on the current state of the human condition and on the potential of what it might become. This purpose emphases survival and promotes the common good at various levels of social aggregation (Huff and Huff, 2001). This emphasizes the importance of broader issues of human relevance of research.

Despite the Mode selected above, all business and management research projects can be placed on a continuum based on their purpose and context according to Saunders, Lewis, and Thornhill (2007). Refer to figure 5. The continuum on one extreme is research that is done to understand the processes of business and management and their outcomes. This form of research is termed basic, fundamental or pure research. Mode 2 and Mode 3 do not fall into this section of the continuum because they do give consideration to the practical consequences of research. The other side of the continuum is called applied research. This type of research deals with issues that are relevant to managers and are presented in such a way they can understand and act on.

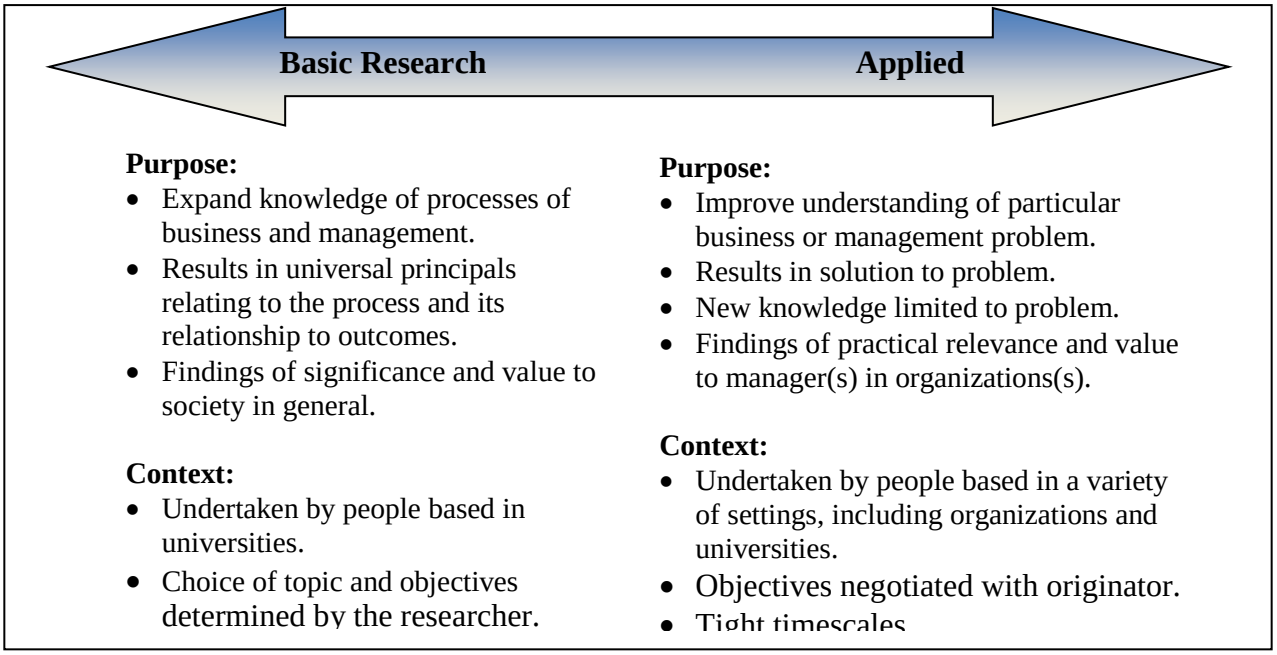


Figure 5: Basic and applied research
Sources: Authors' experience, Easterby-Smith, et al., 2002, Hedrick et al., 1993

The intent of this research is to examine and identify the leadership competencies that should be included in the critical success factor framework that can be used in the industry to help project professionals and organizations deliver successful projects. To accomplish this goal an applied research approach will be utilized as a means to gain better understanding of the current thinking and practices of project professional, and gain more knowledge about the research problem.

The research onion as shown in figure 6 best depicts the research process for this study, and the systemic approach it takes to determine the collection of data required to answers the research questions. The following are the six layers to the research onion:

- The first layer examines research philosophy, and it relates to the development of knowledge. According to Saunders, Lewis and Thornhill (2007), the research philosophy adopted contains important assumptions in the way the researcher views the world. These assumptions will underline the research strategy and the methods selected as part of that strategy.

- The second layer is research approaches, and it is derived from the different research philosophies. Deduction is positivism and induction is considered interpretivism.

- The third layer is research strategies, and its purpose is to enable the researcher to answer research questions and objectives, the extent of existing knowledge, the amount of time and other resources available (Saunders, Lewis and Thornhill, 2007).

- The fourth layer is concerned with choices the researcher has to make concerning whether to utilize the mono method, mixed methods, or multi-method.

- The fifth layer is time horizons, and it refers to the whether or not the researcher's time period will be cross-sectional or longitudinal.

- The sixth layer is techniques and procedures; this is the data collection methods and data analysis employed for this research. The research question informs the researcher's choice of data collection techniques, and analysis procedures to be applied to the study in order to obtain the critical data required to answer questions and fulfil the objectives.

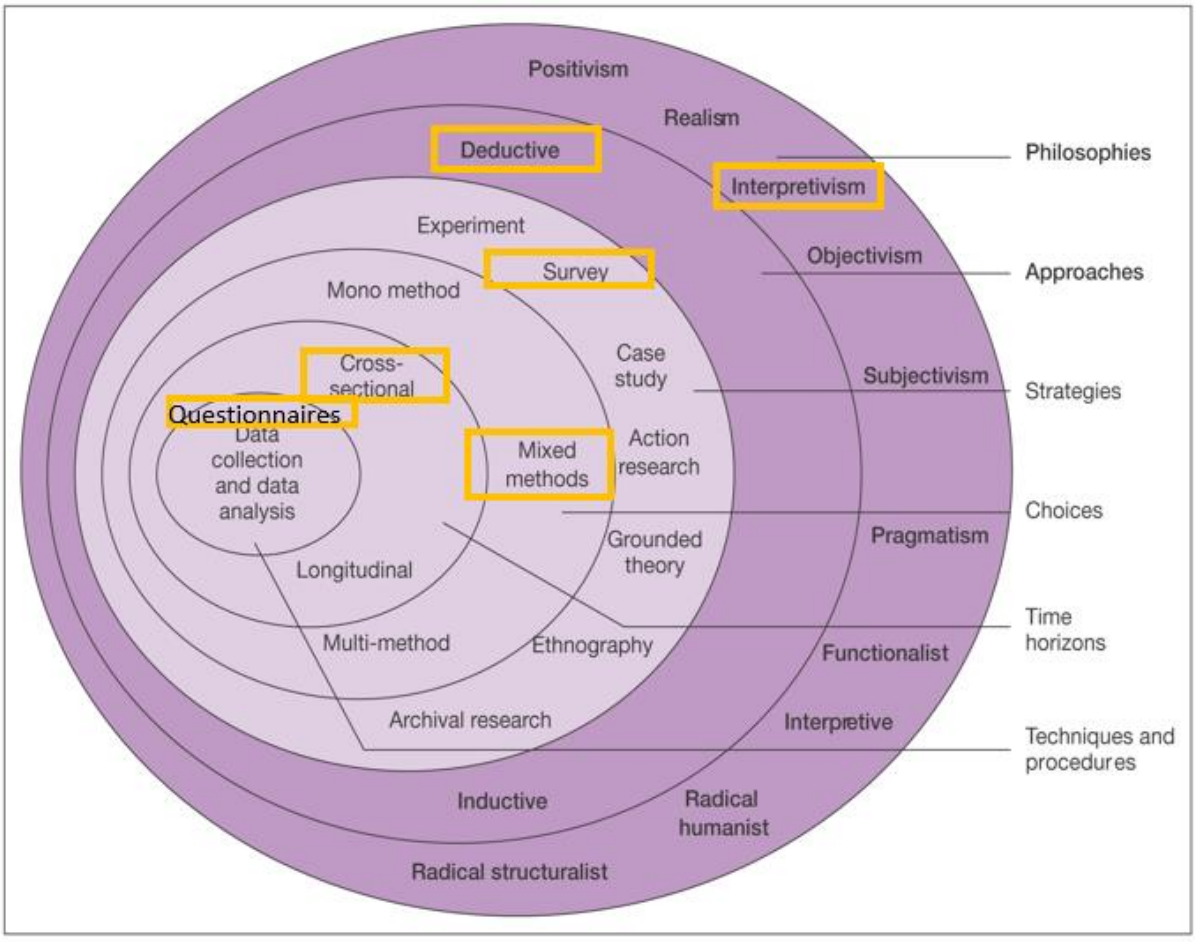


Figure 6: The research 'onion'
Source: © Mark Saunders, Philip Lewis and Adrian Thornhill 2006

4.4 Philosophy

The research philosophy adopted contains important assumptions about the way the world is viewed by the researcher. These assumptions will support the research strategy and methods selected as part of the strategy. There are three key ways of thinking about research philosophy: epistemology, ontology, and axiology (Saunders, Lewis and Thornhill, 2007). Each contains significant differences which will influence the research process. An understanding of philosophical issues is very important because it helps determine the research approach and strategy.

4.5 Research Paradigm

A paradigm provides a conceptual framework for seeing and making sense of the social world. According to Burrell and Morgan (1979, p. 24), *"To be located in a particular paradigm is to view the world in a particular way".* The questions of research methods are of secondary importance to questions of which paradigm is applicable to research according to Guba and Lincoln (1994, p. 105), *"Both qualitative and quantitative methods may be used appropriately with any research paradigm. Questions of method are secondary to questions of paradigm, which we define as the basic belief system or world view that guides the investigation, not only in choices or method but in ontologically and epistemologically fundamental ways.*"

Burrell and Morgan (1979) note that the purposes of paradigms are to:

- Help the researchers clarify their assumptions about their view of the nature of science. This is philosophical, basic beliefs about the world we live in.

- To offer a constructive way of understanding how other researchers approach their work.

- To help researchers plot their own route through their research; to understand where it is possible to go and where they are going.

Burrell and Morgan (1979) offered a categorization of social sciences paradigms that can be used in management and business research to generate new insights into issues. They state that the 4 paradigms help researchers clarify their assumptions about their view of the nature of science and society. The 4 paradigms: Functionalist; interpretive; radical humanist; and radical structuralist. The 4 paradigms correspond to four conceptual dimensions, which are: radical change, regulation, subjectivist, and objectivist. Refer to figure 7 below.

The radical change dimension relates to the judgments made about how an organization should be operated, and recommends ways in which these operations may be conducted in order to make changes to the working order of things. A critical perspective on organizational life is adopted. On the opposite side of this viewpoint is the regulation dimension which tries to explain the way organizational affairs are conducted, and makes recommendations on how to improve within the constructs of the way things are done within the organization.

The objectivism dimension relates to the position that social entities exist in a reality external to the social actors. However, the subjectivism dimension stress that social constructions are created from the actions of social actors.

Functionalist paradigm, which is located on the objectivist and regulatory dimensions, is concerned with a rational explanation of why an organizational problem is occurring and developing a recommendation that fit within the current organizations environment. The functionalist paradigm is the most used in business and management research.

Located in the bottom left corner of the box is the interpretive paradigm. The interpretive paradigm is concerned with the way we as humans justify the world around us. This paradigm focuses on understanding the meanings attached to the organizational life and environment. Interpretivism does not seek to change the order of things; instead it seeks to understand and explain what is happening.

Contained in the top left-hand corner of the box is the radical humanist paradigm. This paradigm makes judgments on how an organization should operate, and makes recommendations on how these operations should be conducted in order to fundamentally change the order of things. It is concerned with changing the status quo.

The radical structuralist paradigm, which is the last of the four paradigms to be discussed, is concern with achieving foundational change based on analysis of organizational phenomena of hierarchy relationships and patterns of conflict.

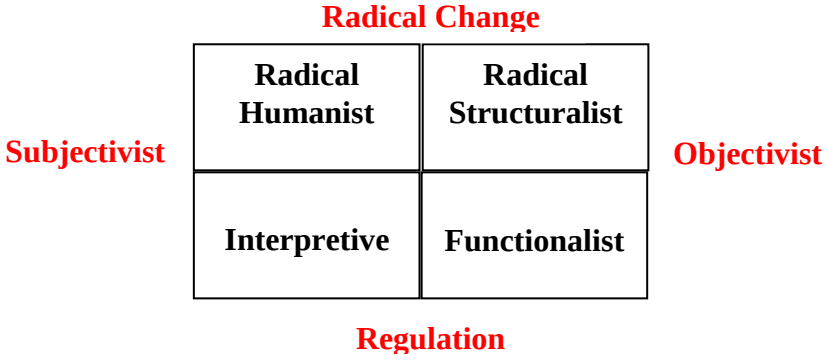


Figure 7: Four paradigms for the analysis of social theory.
Source: Burrell and Morgan (1979, P. 22)

Additionally, research paradigms can be more broadly classified as noted by Saunders, et al, 2003, as either dominant (positivism) or alternative (realism, interpretivism). The use of this broad paradigm classification best suits this research study.

Positivism advocates the importance of imitating the natural sciences and encompasses the following principles:

1. Only phenomena and knowledge that can be confirmed by the senses is considered genuine and can be warranted as knowledge. This is the principal of phenomenalism.

2. The point of theory is to generate hypotheses that can be tested and allow explanations of laws to be reviewed. This is the principal of deductivism.

3. Knowledge is derived by the gathering of facts that provide the foundation for laws.

4. Science should be value free in the way it is conducted. This is the principal of inductivism.

5. The distinction between scientific statement and normative statements are clear, and the true domain of the scientist is the scientific statement.

According to Guba and Lincoln (1994), positivism is the default paradigm for scientific research, and the natural sciences operate within this paradigm. Positivism requires the researcher to work with an observable social reality to produce credible data that lead to an end product of law-like generalizations similar to those produced by the physical/natural scientist (Remenyi et al., 1998).

Yin (1989) states that positivist researchers must detach themselves from the research problem and not interact with the respondents. This research problem requires an in-depth investigation that allows the researcher to interact with all respondents in order to understand the project leadership styles and competences in the United States that lead to success in projects.

Due to the nature of projects, repeating this research under the same circumstances is impossible. The mere definition of projects, undertaken in order to produce something unique within a specific time frame, warrants it impossible to repeating this research under the same circumstances. This contrasts with Lee's (1989) statement about positivism requiring repeatability of studies under exactly the same circumstances.

The position that advocates a strategy that takes into consideration the differences between people and the objects of the natural sciences, and requires the researcher/social scientist to grasp the subjective meaning of social action is interpretivism. There are two intellectual traditions inherent to interpretivism: phenomenology and symbolic interactionism. Phenomenology refers to the way in which humans make sense of the world, and symbolic interactionism refers to the continual process humans are in when interpreting the social world. Some argue that an interpretivist perspective is highly appropriate in the case of business and management research according to Saunders, Lewis, and Thornhill (2007).

This research study considers the interpretive paradigm with the symbolic interactionism approach to be the most appropriate to incorporate. Interpretivism is the necessary research philosophy for this study because it allows the researcher to conduct the research among

people and enables the researcher to view different aspects and viewpoints of reality by interviewing project professionals.

4.5.1 Ontology

Ontology refers to the nature of reality. The central point is whether social realities can and should be considered objective entities that have a reality external to the social actors (objectivism), or whether they can and should be considered social constructions built up from the actions of social actors (constructionism) (Bryman, 2008, p 18). There are two aspects of ontology that are accepted as producing valid knowledge: objectivism and constructionism.

Objectivism implies that external facts are beyond reach or influence when confronted with social phenomena. To illustrate this point, it can be said that an organization is a tangible object with rules and regulations, and it adopts procedures for getting things accomplished. People are appointed to various jobs, and there is a hierarchy in place. There is also a mission statement, goals and objectives, and so on in the organization. Each organization is different from each other but in thinking in these terms an organization has a reality that is external to the social actors/individuals who occupy it.

There is a social order represented in organizations that exert pressure on the social actors to conform to the rules and regulations set forth by the organization. Thus, this makes the organization a constraining force that restrains its members. The organization has an existence that is independent of its social actors, and it implies that the social phenomena used in everyday discourse has an existence that is independent of the actors.

The example of an organization highlights that the social entity in question comes across as being external to the social actors and having its own tangible reality. The organization has the traits of an object and therefore, has an objective reality.

Constructionism challenges the belief that social actors as external realities, and that they have no role in fashioning (Bryman, 2008). Constructivists assert that social phenomena are produced through social interaction, and consequently are in a constant state of revision (Bryman and Bell 2003).

For example, instead of seeing culture as an external reality that keeps people in order, it can be seen as an emergent reality that is in a continuous state of construction and rebuilding. Becker (1982, p. 521), states "people create culture continuously…. No set of cultural understandings… provides a perfectly applicable solution to any problem people have to solve in the course of their day, and they therefore must remake those solutions, adapt their understandings to the new situation in the light of what is different about it."

4.5.2 Epistemology

Epistemology is the branch of philosophy that studies knowledge that is concerned with what is considered acceptable knowledge in a discipline. It attempts to answer the basic question: what distinguishes true knowledge from false knowledge is paramount.

Crotty (1998) states that it is a way of understanding and explaining how we know what we know. Gray (2004) states that it provides a philosophical background for deciding what kinds of knowledge are legitimate and adequate. The underlying epistemological

consideration according to Bryman & Bell (2007) is whether the social world adopts the philosophical stance of the natural scientist.

The epistemological position that advocates the importance of imitating the natural sciences is called positivism. According to Remenyi et. al.(1998), the researcher works by observing social reality and the end product from those observations can be law-like generalizations, just like those produced by the physical and natural scientist. The key aspect here is that the research is performed in a value-free way, and the researcher neither affects nor is affected by the research object.

The position that specifies an account of the nature of scientific inquiry is realism. According to Saunders et. al. (2007), realism considers what the senses show us as reality is truth. Therefore, the existence of objects is independent of the human mind. Realism assumes a scientific approach to the development of knowledge. This assumption guides how data is collected and how data is analyzed.

Interpretivism is the position that advocates a strategy that takes into consideration the differences between people and the objects of the natural sciences, and requires the researcher/social scientist to grasp the subjective meaning of social action. The term social actor is very significant to interpretivism. Essentially, it advocates that studying the social world require a different logic of research procedures that allow for the distinctiveness of humans against objects.

4.6 Research Strategy

Research strategy can be considered a plan on how the researcher will go about answering the research questions and meet the research objectives (Saunders, Lewis, Thornhill: 2007). It is also the research approach taken towards data collection. A research strategy is primarily established on the questions or objectives constructed. The questions selected will guide the researcher's path on the appropriate strategy to be undertaken.

Qualitative research and quantitative research form two distinctive ways on how to conduct social research. According to Naoum (2007), selecting the type of research strategy to utilize depends on the purpose of the study undertaken and the availability of data/information.

The table 7 below outlines the fundamental differences between qualitative research and qualitative research.

Table 7

Fundamental Differences Between Quantitative and Qualitative Research Strategies

	Qualitative	Quantitative
Principal orientation to the role of theory in relation to research	Deductive; testing of theory	Inductive; generation of theory
Epistemological orientation	Natural science model, in particular positivism	Interpretivism
Ontological orientation	Objectivism	Constructionism

Table 7: Fundamental Differences Between Quantitative & Qualitative Research Strategies, Bryman 2008

4.7 Research Design

Research design provides a framework for the collection as well as the analysis of data (Bryman, 2008). It is imperative that an effective and fitting research method is selected. According to Janesick (1994) the research design can be achieved by first identifying the research questions and the related literature essential aspects. The identification of the literature will assist the researcher in clarifying the research aspects, elements, process and with the development of the research questions.

The selection of which research design to use is guided by the research question(s) and objective(s), the researchers existing knowledge, the time frame available, resources available, and the philosophical views (Yin, 2009).

The five different types of research designs are:

- Experimental Design
- Cross Sectional or Survey Design

- Longitudinal Design
- Case Study Design
- Comparative Design

Table 8 below displays the typical forms associated with each combination of research strategy, design, and method.

Table 8: Research Strategy and Design		
Research Design	**Research Strategy**	
	Quantitative	**Qualitative**
Experimental	Typical form. Most researchers using an experimental design employ quantitative comparisons between experimental and control groups with regard to the dependent variable.	No typical form.
Cross Sectional or Survey Design	Typical form. Survey research or structured observation on a sample at a single point in time. Content analysis of questionnaire.	Typical form. Qualitative interviews or focus groups at a single point in time. Qualitative content analysis of a set of documents relating to a single period.
Longitudinal Design	Typical form. Survey research on a sample on more than one occasion, as in the panel and cohort studies. Content analysis of documents relating to different periods.	Typical form. Ethnographic research over a long period, qualitative interviewing on more than one occasion, or qualitative content analysis of documents relating to different time periods.
Case Study	Typical form. Survey research on a single case with a view to revealing important features about its nature.	Typical form. The intensive study by ethnography or qualitative interviewing of a single case, which may be an organization, life, family, or community.
Comparative	Typical form. Survey research in which there is a direct comparison between two or more cases, as in cross-cultural research.	Typical form. Ethnographic or qualitative interview research on two or more cases.

Table 8: Research Strategy and Design (Source: Bryman 2008: p62)

This research study considers the survey design to be the most suitable research design for this study. This will enable the researcher to gain a better insight and understanding to the identified research problems and measure the current situation.

In order to achieve the researcher objectives, the six main components below are used for this study:

1. Conduct Literature Review
2. Create Questionnaire Survey
3. Conduct Survey
4. Construct Framework
5. Conduct focus group discussions to Obtain Framework Feedback
6. Finalize Framework and Develop Recommendations to Help Project Professional Deliver Successful Projects

The research design for this research is depicted in the table below. Table 9 below also displays the relationship between the research components for this study.

Table 9: Research Objectives and Component						
Research Objectives	**Literature Review**	**Create Survey Questionnaire**	**Conduct Survey**	**Create Framework**	**Obtain Feedback on the Framework**	**Finalize Framework & Develop Recommendations**
Note: * = Supportive , ** = Essential						
Objective 1: Conduct a literature review on the theories and schools of thought on leadership, especially with regard to project leadership.	**	**		*		
Objective 2: Identify the critical leadership competencies to be included in the critical success factors framework	**	**	**	*		
Objective 3: Conduct a survey to identify the current practice and thinking in project professionals regarding critical success factors including leadership competencies related to project success.	**	*	**	*		
Objective 4: Analyse the survey results.	*		**	**		
Objective 5: Develop a preliminary critical success factor framework to help project professionals achieve successful projects.	**		**	**	**	
Objective 6: Obtain feedback on the preliminary framework and finalize the framework.	*	*	*	**	**	
Objective 7: Develop recommendations to assist project professionals in applying the framework to help improve the delivery of successful projects.	*	*	*	*	**	**

Table 9: Research Objectives and Components

4.8 Research Methods: Tools and Techniques

Research method is the technique for collecting data (Bryman 2008). Research methods most commonly refer to the tools or technique utilized to gather empirical data or to analyze data. It is the key decision concerning what tools or techniques will be used for collecting data. There are several diverse research methods. Examples of such methods used are sampling, statistical analysis, questionnaires, participant observation, interviewing, case studies, focus groups, and collection and analysis of texts/documents.

4.8.1 Research Techniques

Research techniques and procedures; this is the data collection methods and data analysis employed for this research (Saunders, Lewis and Thornhill, 2007). The research question informs the researcher's choice of data collection techniques, and analysis procedures to be applied to the study in order to obtain the critical data required to answer questions and fulfill the objectives. The following sections will describe the data collection and data analysis techniques to be adopted in this research.

4.8.2 Data Collection Technique

Quantitative and qualitative research form two distinctive ways on how to conduct social research. According to Naoum (2007), selecting the type of research strategy to utilize depends on the purpose of the study undertaken and the availability of data/information.

This study will be utilizing both quantitative and qualitative research methods in gathering the data. The research will benefit from the in-depth analysis yielded by using both methods.

Using these two methods has been identified by Denzin (1978) as triangulation. The research will use the basis of the analysis provided by quantitative methods and qualitative assessments in an attempt to learn why such situations exist.

According to Sekaran (1992) quantitative research methods are credited for their noteworthy attributes of establishing a clear purpose, ensuring testability, reliability, precision, and objectivity. This study will utilize a questionnaire survey as the quantitative collection method because it has been cited to be the most appropriate when the objectives of the research are to establish "what is taking place" Pinsonneault and Kramer (1993). When examining the phenomena of situations or opinions that are happening at the work place, surveys are deemed as the most appropriate data collection method.

This study will also utilize focus group discussions as the qualitative collection method. According to Denzin and Lincoln (1994), the socially constructed nature of reality, the relationship between researcher and the subject matter are stressed with qualitative research. The relevance on focus group discussions as the qualitative method is essential to support the research by clarifying and giving a clearer picture of the results from the quantitative research (surveys conducted).

Table 10a and 10b below provide other way to view the differences between qualitative research and qualitative research.

Table 10a: Differences Between Quantitative and Qualitative Research		
Topic	**Quantitative Research**	**Qualitative Research**
Research Enquiry	**Exploratory, descriptive and explanatory**	**Exploratory, descriptive and explanatory**
Nature of questions and responses	• Who, what, when, where, why, how many • Relatively superficial and rational responses • Measurement, testing and validation	• What, when, where, why • Below the surface and emotional responses • Exploration, understanding, and idea generation
Sampling Approach	• Probability and non-probability methods	• Non-probability methods
Sample Size	• Relatively large	• Relatively small
Data Collection	• Not very flexible • Interviews and observation • Standardized • Structured • More closed questions	• Flexible • Interviews and observation • Less standardized • Less structured • More open-ended and non-directive questions
Data	• Numbers, percentages, means • Less detail or depth • Context poor • High reliability, low validity • Statistical inference possible	• Words, pictures, diagrams • Detailed and in-depth • Context rich • High validity, low reliability • Statistical inference not possible
Cost	• Relatively low cost per respondent • Relatively high project cost	• Relatively high cost per respondent • Relatively low project cost

Table 10a: Differences Between Quantitative and Qualitative Research (Source: McGivern, 2006)

Table 10b: Advantages and disadvantages of quantitative and qualitative research		
Method	**Advantages**	**Disadvantages**
Quantitative	• Provide wide coverage of the range of situations • Fast and economical • Can be of considerable relevance to policy decisions	• Tend to be somehow inflexible and artificial • Not very effective in understanding processes or the significance that people attach to actions • Not very helpful in generating theories • Since they focus on what is or what has been recently, they make it hard for policy makers to infer what changes and actions should take place in the future.
Qualitative	• Data-gathering methods seen more natural than artificial • Ability to look at change processes over time • Ability to understand people's meanings • Ability to adjust to new issues and ideas as they merge • Contribution to theory generation	• Data collection can be tedious and require more resources • Analysis and interpretation of data may be more difficult • It is hard to control the pace, progress and end-points of research process • Policy makers may give low credibility to results

Table 10b: Advantages and disadvantages of quantitative and qualitative research methods (Source: Amaratunga et al., 2002)

4.8.1 Questionnaire Survey

Based on the findings from the literature review conducted, a survey questionnaire was developed and used as a method of data collection. This research selected to use certain key questions from another other proven and recognized survey questionnaire and research conducted by Belassi and Tukel (1996), and Turner and Muller (2005). Belassi and Tukel (1996) created a questionnaire survey to help them develop a new framework for determining critical success/failure factors in projects. Turner and Muller (2005) identified leadership competencies based on their literature review of leadership styles of project managers as success factors on projects.

4.8.2 Questionnaire Pilot Prior to Distribution

It was essential to pilot the questionnaire prior to formal distribution as a means to identify potential ambiguities, missing variables, biases, or other issues. A total of fifteen (15) questionnaires was sent to industry peers for inputs, comments, and to find out if they understood the questions asked.

The questionnaire includes questions related to the project organization and its characteristics, factors associated with project success, and leadership competencies related to project success.

All fifteen (15) questionnaires were returned. Comments and suggestions pertaining to the questionnaire were taken into consideration. Changes were made to the demographic profiles, and ranking information was added based on the pilot's group feedback.

4.8.3 Final Questionnaire

Table 11 below displays the finalized survey questions.

Table 11: Projects Success Factors Questionnaire Survey	
PART	**QUESTIONS**
Section 1	
Please select an answer that is most applicable.	**1. What is your current position title?** Please read the following description carefully and select the position that best matches your current responsibilities. • **Director of Project Management / Director of Project Management Office (PMO):** Responsible for the organization-wide integration of consistent project management methodologies and terminology. May also be responsible for the operations of the organization's Project Management Office. • **Portfolio Manager**: In the extreme case, will be responsible for the management of the entire set of projects undertaken by an organization or division in a manner that optimizes the ROI from these projects and ensures their alignment with the organization's strategic objectives. Particularly in large organizations, a Portfolio Manager may only have responsibility for a subset of the organization's project and their alignment to organizational strategic objectives. While the portfolio of projects may share resources, they may have diverse objectives

	and may be operationally independent of one another. A portfolio Manager may interact with senior managers, executives, and major stakeholders to establish strategic plans and objectives for an organization. May also be responsible for the organization-wide integration of consistent project management methodologies and terminology. • **Program Manager:** Responsible for the coordinated management of multiple related projects, and in many (most) cases, ongoing operations, which are directed toward a common objective. Works with constituent Project Managers (who are responsible to the program manager for the execution of their project and its impact on the program) to monitor cost, schedule, and technical performance of component projects and operations, while working to ensure the ultimate success of the program. Generally responsible for determining and coordinating the sharing of resources among their constituent projects to the overall benefit of the program. Usually responsible for stakeholder management, particularly stakeholders external to the organization. • **Project Manager III:** Under general direction of either a Portfolio Manager or in some cases a Program Manager, oversees high-priority projects, which often require considerable resources and high levels of functional integration. In addition to duties of a Project

	Manager II, takes projects from original concept through final implementation. Interfaces with all areas affected by the project including end users distributor, and vendors. Ensures adherence to quality standards and reviews project deliverables. May communicate with a company executive regarding the status of specific projects. • **Project Manager II:** Under general supervision of either a Portfolio Manager or a Program Manager, oversees multiple projects or one larger project. In addition to duties of Project Manager I, responsible for assembling project team, assigning individual responsibilities, identifying appropriate resources needed, and developing schedule to ensure timely completion of project. May communicate with a Senior Project Manager, Functional Area Manager, or Program Manager regarding status of specific projects. • **Project Manager I:** Under direct supervision of a more senior project manager, a Portfolio Manager, or a Program Manager, oversees a small project or phase(s) of a larger project. Responsibility for all aspects of the project over the entire project life (initiate, plan, execute, control, and close). Must be familiar with system scope and project objectives, as well as the role and function of each team member, to effectively coordinate the activities of the team

	• **<u>Project Management Specialist:</u>** Responsible for a specific area of project management (i.e., scheduling, cost management, risk management, etc.). Supports the Project Manager and his or her associated projects.
Please select an answer that is most applicable.	**2. What is your gender?** • Male • Female
Please select an answer that is most applicable.	**3. What is your age range?** • 20 to 25 • 25 to 30 • 35 to 40 • 45 to 50 • 55 to 60 • 65 and over
Please select an answer that is most applicable.	**4. How many years of project management experience do you have?** • Less than 3 years • 3 to less than 5 years • 5 to less than 10 years • 10 to less than 15 years • 15 to less than 20 years • More than 20 years

Please select an answer that is most applicable.	**5. Highest educational level achieved?** • High School • Bachelors Degree • Masters Degree • Doctorate
Please select an answer that is most applicable.	**6. What industry would most of your projects be classified?** • Construction • Engineering • Information Technology • Manufacturing • Operations • Quality Management • Regulatory Compliance • Research and Development • Supply Chain Management/Logistics • Other
Section 2	**7. Rank the order of importance from 1 to 7 (1 = low, 7= high) the criteria you use to measure your project success. Note: There should be only one selection make for each rank.** • Client satisfaction with project results • Meeting user requirements • Meeting defined project success factors • Meeting project goals and objectives • End user satisfaction • Other stakeholder satisfaction • Project team satisfaction
	8. Rank the order of importance from 1 to 7 (1 = low, 7= high) the factors you considered important in the last project you successfully

	managed. <u>Note: There should be only one selection make for each rank.</u> • The size and the value • Uniqueness of the project activities • Density of the project network (independencies between activities) • Project life-cycle • Urgency • Complexity • Strategic importance
	9. **Select the "Application Area" category that best describes your last project.** • Construction • Engineering • Information Technology • Manufacturing • Operations • Quality Management • Regulatory Compliance • Research and Development • Supply Chain Management/Logistics • Other
	10. Select the "Complexity" category that best describes your last project. • High • Medium • Low
	11. Select the "Strategic Importance" category that best describes your last project. • Mandatory • Repositioning • Renewal

Section 3 .	**12. For "Intellectual Leadership Competencies", rank the order of importance from 1 to 3 (1 = low, 3 = high) you think a Project Manager needs to have in order to deliver successful projects. Note: There should be only one selection make for each rank.** • Critical analysis • Vision & imagination • Strategic perspective
	13. For "Managerial Leadership Competencies", rank the order of importance from 1 to 5 (1 = low, 5 = high) you think a project manager needs to have in order to deliver successful projects. Note: There should be only one selection make for each rank. • Engaging communications • Managing resources • Empowering • Developing • Achieving
	14. For "Emotional Competencies", rank the order of importance from 1 to 7 (1 = low, 7 = high) you think a project manager needs to have in order to deliver successful projects. Note: There should be only one selection make for each rank. • Self-awareness • Emotional resilience • Motivating • Sensitivity • Influence • Intuitiveness • Conscientiousness

	15. Does your organization provide support or training needed to develop your project managers' leadership competencies? • Yes • No
	16. For "Project Team Members Skill Set", rank the order of importance from 1 to 4 (1 = low, 4 = high) you think a team member needs to have in order to help deliver successful projects. <u>Note: There should be only one selection make for each rank.</u> • Technical background • Communication • Trouble shooting • Commitment
	17. From a Project Perspective, what does the Organization need to provide to help projects be successful? Rank the order of importance from 1 to 4 (1 = low, 4 = high). <u>Note: There should be only one selection make for each rank.</u> • Top management support • Project organizational structure • Functional manager's support • Project champion
	18. Select the leadership style that best describes your leadership approach on projects. Below are the definitions for your reference. **A. Laissez-Faire Leadership** - The laissez faire style is sometimes described as a "hands off"

	leadership style because the leader delegates the tasks to their followers while providing little or no direction to the followers. **B. Autocratic Leadership** - A autocratic leader keeps strict, close control over followers by keeping close regulation of policies and procedures given to followers **C. Bureaucratic Leadership** - Bureaucratic style is based on following normative rules, and adhering to lines of authority. **D. Transactional Leadership** – Transactional leaders focus their leadership on motivating followers through a system of rewards/punishments. **E. Situational Leadership -** The fundamental underpinning of the situational leadership theory is that there is no single "best" style of leadership. Effective leadership is task-relevant, and the most successful leaders are those that adapt their leadership style to the maturity ("the capacity to set high but attainable goals, willingness and ability to take responsibility for the task, and relevant education and/or experience of an individual or a group for the task") of the individual or group they are attempting to lead or influence. Effective leadership varies, not only with the person or group that is being influenced, but it also depends on the task, job or function that needs to be accomplished.

	F. Charismatic Leadership - The charismatic leadership style is based on a form of heroism or inspiring acts. A charismatic leader normally has been granted the organizational power to make dramatic changes and extract extraordinary performance levels from its staff**.** **G. Democratic/Participative Leadership –** Consists of the leader sharing the decision-making abilities with group members by promoting the interests of the group members and by practicing social equality. **H. Task-Oriented Leadership** - A behavioral approach in which the leader focuses on the tasks that need to be performed in order to meet certain goals, or to achieve a certain performance standard. **I. People-Oriented/Relations -** Oriented Leadership - Relationship-oriented (or relationship-focused) leadership is a behavioral approach in which the leader focuses on the satisfaction, motivation and the general well-being of the team members. **J. Servant Leadership -** A leadership philosophy in which an individual interacts with others. The leadership style intends to promote the well-being of those around him/her. Servant leadership involves the individual demonstrating the characteristics of empathy, listening, stewardship and commitment to personal growth toward others.

	K. Transformational Leadership - Transformational leadership is a type of leadership style that leads to positive changes in those who follow. Transformational leaders are generally energetic, enthusiastic and passionate. Not only are these leaders concerned and involved in the process; they are also focused on helping every member of the group succeed as well.

4.8.4. Questionnaire Survey Distribution Method

The questionnaire survey was distributed to a population of registered Project Management Professionals (PMP's) in the United States with the Project Management Institute who have in the past agreed to participate in research activities. This survey population allows for the best opportunity to obtain a good response rate.

The main distribution method of the questionnaire surveys is via a web based tool. The questionnaire surveys were sent by email using an online tool called Survey Monkey. The email contained a link for the respondents to clink on in order to access and complete the survey.

4.8.5 Survey Population

The questionnaire survey was distributed to a population of registered Project Management Professionals (PMP's) with the Project Management Institute in the United States who have

in the past agreed to participate in research activities. This survey population allows for the best opportunity to obtain a good response rate.

The participants selected for this survey's email distribution were obtained from the Project Management Institute's 2011 8th Annual Salary Survey. The participants of that survey agreed to participate in future project management related surveys. The list complied contains email addresses of 5,400 Project Management Professionals (PMP's).

4.8.6 Targeted Response Rate

The researcher has selected to use email surveys because they have demonstrated two key advantages over postal surveys in terms of response speed and cost efficiency. Sheehan and McMillan (1999) estimated that, in studies where both mail and e-mail are used to deliver surveys, mail surveys took 11.8 days to return and e-mail surveys were returned in 7.6 days. E-mail provides an easier and more immediate means of response (Flaherty, et al., 1998).

Kim Bartel Sheehan (2006) conducted a researched survey responses, and stated the following findings, "While the number of studies that use e-mail to collect data has been increasing over the past fifteen years, the average response rate to the surveys appears to be decreasing. On average, the 31 studies report a mean response rate of 36.83%. The 1995/6 period showed seven studies using e-mail surveys with an average response rate of about 46%. The 1998/9 period, in contrast, showed thirteen studies using e-mail surveys with an average response rate of about 31%". In the context of the PMI population, the average response is about 1% to 2%. The minimum number of targeted respondents for this research is 1%.

4.8.7 Focus Group Interviews

The research method is a key decision concerning what technique will be used for collecting data. There are several diverse research methods that qualitative research subsumes: participant observation, qualitative interviewing, focus groups, language-based approaches, and collection and analysis of texts/documents.

Interviews are categorized into three types according to Yin (2003) which are: (1) open ended key informant interview *(unstructured),* (2) focused interview *(semi-structured),* and (3) formal survey *(structured).*

Qualitative interviewing can be broken down into two forms, which are semi-structured and unstructured interviews:

- Unstructured interviews can be best compared to a conversation because of the similar characteristics shared. The researcher (interviewer) would ask a single question, and the interviewee is allowed to respond freely, and the researcher only respond to points that appear to be worthy for follow-up.

- Semi-structured interviews involve the researcher (interviewer) having an interview guide to follow, but the interviewee has a great deal of leeway on how to respond. In addition, questions may not be asked in sequence, and the researcher may ask questions that are not in the guide. However, all of the questions are asked of all participants.

Deciding whether to veer towards semi-structured interviews or unstructured interviews is likely to be influenced by the following factors according to Bryman (2008):

- Researchers who are most likely to favour unstructured interviews are concerned that the use of an interview guide will not permit genuine access to the actual views of the participants.

- Researchers who have a fairly clear focus on their research topic and who want more specific issues addressed will help the semi- structured strategy.

- Researchers that are conducting multiple case study research will need some structure for cross-case comparability and will help semi-structured interviewing to achieve this.

This study utilized the qualitative interviewing method for focus group discussions in order to seek feedback and validate the preliminary framework developed based on findings from the literature review and data analyses of the questionnaire survey.

The total sample size of the focus group discussions consisted of 10 respondents who participated in the questionnaire survey. The 10 respondents were selected based on their request and desire to voluntary review and provide feedback on the preliminary framework. The participants were presented a preview of the preliminary framework to provide their feedback and comments to help improve and finalize it. The interviews were conducted in a group session and took at 3.5 hours to complete.

Conducting focus group discussions enabled the study to capture the interviewee's point of view and perspective as it relates to the framework, project leadership competencies, and allowed the researcher to acquire the knowledge and understanding of the complex social phenomena in the project organization. It provided the flexibility as well as an opportunity for respondents to raise important comments and make suggestions on the preliminary framework. In addition, the information from the focus group discussions allowed for triangulation in the data collected from the surveys and literature review. Grix (2001) states that triangulation can assist the research to obtain better, more reliable data, and minimizes the chance of biased findings.

4.8.8 Data Management

The data gathered for the focus group discussions was documented as field notes and recorded on a digital voice recorder to help increase the accuracy of the data collection. Auto recordings were transcribed verbatim and converted into a computer file. The transcriptions were organized and categorized by the framework themes. The voice recordings are treated in the utmost confidential manner and data is anonymized. The goal of this activity is to make the data more manageable and a viable source of evidence.

4.8.9 Interview Questions

As a result of the literature review and questionnaire survey, five key areas have been identified as necessary for the examination and investigation. For these areas, questions have been created and designed to focus the participants on the framework itself in order to get specific feedback needed to finalize it. The five questions identified are:

Question 1: What do you think about including the project manager's leadership competencies as a critical success factor (input) into the critical success factor framework in order to achieve project success?

Question 2: What do you think about including project team factors in the framework as critical success factor (input) into achieving project success?

Question 3: What do you think about including project factors in the framework as critical success factor (input) into achieving project success?

Question 4: What do you think about including organizational factors in the framework as critical success factor (input) into achieving project success?

Question 5: What do you think about including project success criteria in the framework as a means to assess and measure project success?

4.9 Data Analysis and Measurement

Yin (2003) stated that data analysis consists of examining, categorizing, tabulating, testing or otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study. Although there are various ways to analysing data according to Easterby-Smith (1991), the selected methods of analysing data must be consistent with the philosophical and methodological assumptions made in the research design.

Data analysis entails preparing and organizing the data for analysis, then placing the data into themes through a process of coding and condensing the codes, and finally representing the data for discussion in figures and tables (Creswell, 2007). Therefore, content analysis was utilized to analyse the data collected.

Data analysis is "a relatively deducted method of analysis where codes (or constructs) are almost all predetermined and where they are systemically searched for within the data collected," stated Esterby-Smith et al. (1991).

The analyses of data were completed by utilizing SPSS software (Statistical Package for Social Sciences by IBM, version 21). According to Bryman (2008) there are four main types of variables that are generated during the course of research. Below are the four main type's variables:

1. Interval/Ratio Variable are variables where the distances between the categories are identical across the range of categories (Bryman, 2008). It provides the order of data points, and the size of the intervals in-between data points. It provides arithmetical calculations on data collected from respondents in order to determine the means and the standardized deviations of the response on the variables.

2. Ordinal Variables are variables whose categories can be rank ordered, but the distance between the categories are not equal across the range (Bryman, 2008). It provides the rank-order of the respondent or their responses.

3. Nominal Variables are variables that contain categorical data that cannot be rank-ordered because they are defined as only using labels that are for characteristics of description.

4. Dichotomous variables are variables that contain data that have only two categories to select from. These variables are ambiguous as they have only one interval, and can include attributes of the other three types of variables. Bryman (2008) stated that it would be safest to treat them as if they were ordinary nominal variables.

The figure 8 below helps determine how to categorize a variable.

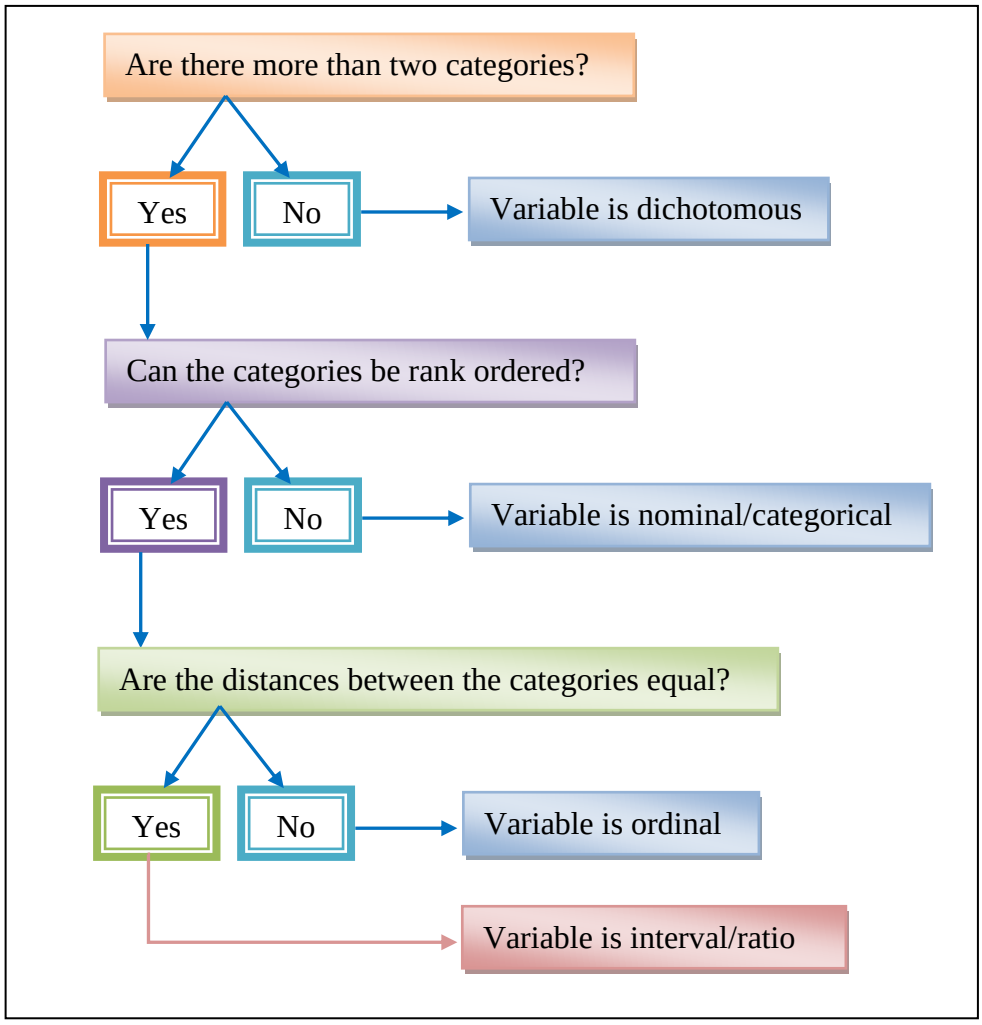


Figure 8: Deciding how to categorize a variable.
Source: Bryman (2008, P. 323)

This research will utilize intervals and nominal data as the variables for measurement. The data will be presented in frequency tables and diagrams (pie and bar charts) for interpretation and understanding.

4.10 Summary of Chapter 4

As the aim of the research study is to examine and identify project success factors and leadership competencies that should be included in the critical success factors framework, both quantitative and qualitative methodologies were selected as most suitable based on the nature of the data and type of respondents.

Questionaries were distributed through an online survey in order to gain maximum awareness and participation among the respondents. Data analysis was conducted to determine what success factors and leadership competencies are being practiced by the respondents (targeted project professionals). The literature review and data analysis provided the research with comprehensive information which was used to develop a preliminary framework to help project professionals achieve project success. The framework was presented as a preview to a group of 10 respondents of the survey in a semi structured interview format to obtain their feedback and comments to help improve and finalize it. The focus group discussions provided the flexibility as well as an opportunity for respondents to raise important comments and suggestions on the preliminary framework. This helped provide cross validation for the preliminary framework.

The analysis of data was completed by utilizing SPSS software (Statistical Package for Social Sciences by IBM, version 21). This research utilized intervals and nominal data as the variables for measurement. The data is presented in frequency tables and diagrams (pie and bar charts) for interpretation and understanding.

CHAPTER 5:
SURVEY RESULTS AND PRELIMINARY FRAMEWORK

5.1 Introduction

In the previous chapter (ch. 4) the research design and methodology for this study was described in detailed and discussed. This objective of this chapter is to provide the findings and results from the survey conducted which achieved research objective 3: conduct a survey to identify the current practice and thinking in project professionals regarding leadership competencies related to project success. A discussion and analysis of the survey results will be presented to achieve research objective 4: analyse the leadership competencies related to project success as practiced by project professionals. In addition, this chapter will present a preliminary framework as a result of the data an analysis and literature review to achieve research objective 5: develop a preliminary framework to help project professionals achieve successful projects.

5.2 The Survey Questionnaire

Conducting the survey was a priority after the literature review; the aim of the survey is to obtain a better understanding of the current thinking and practices of project professionals, and gain more knowledge about the research problem before developing a preliminary framework.

Therefore, certain key survey questions was adopted from two other proven and recognized survey questionnaires and research conducted by Belassi and Tukel (1996), and Turner and Muller (2005).

Belassi and Tukel (1996) created a questionnaire survey to help them develop a new frame work for determining critical success/failure factors in projects. Turner and Muller (2005) identified leadership competencies based on their literature review of leadership styles of project managers as success factors on projects.

The questionnaire survey includes questions related to demographics factors, project organization characteristics, factors associated with project success, and leadership competencies related to project success.

5.3 The Survey Results and Findings

The Project Success Factors survey was conducted in the United States of America from June 2012 to July 2012 via email using an online survey tool called Survey Monkey. A total of 5,400 email questionnaire surveys was sent out, and 108 responses was received and analyzed using SPSS software (Statistical Package for Social Sciences by IBM, version 21). The completed and returned questionnaire surveys represent a 1.8% response rate.

The lower than expected response rate could possibility be due to the fact that the survey was sent out during the start of the summer holidays and since work email addresses were used the recipients could have already left on holiday. In an attempt to increase the survey response rate the survey were sent out on 3 separate occasions. In addition, there seemed to

be a high rate of bounced mails because the recipients were no longer employed with the company that the email was associated with. There continues to be a large portion of the population being made redundant from their jobs due to the economy.

Although the response rate could be considered low by some, the overall response rate was adequate and allowed the study to progress to satisfy objectives and address research questions.

5.3.1 Breakdown of the Demographics of Survey Respondents

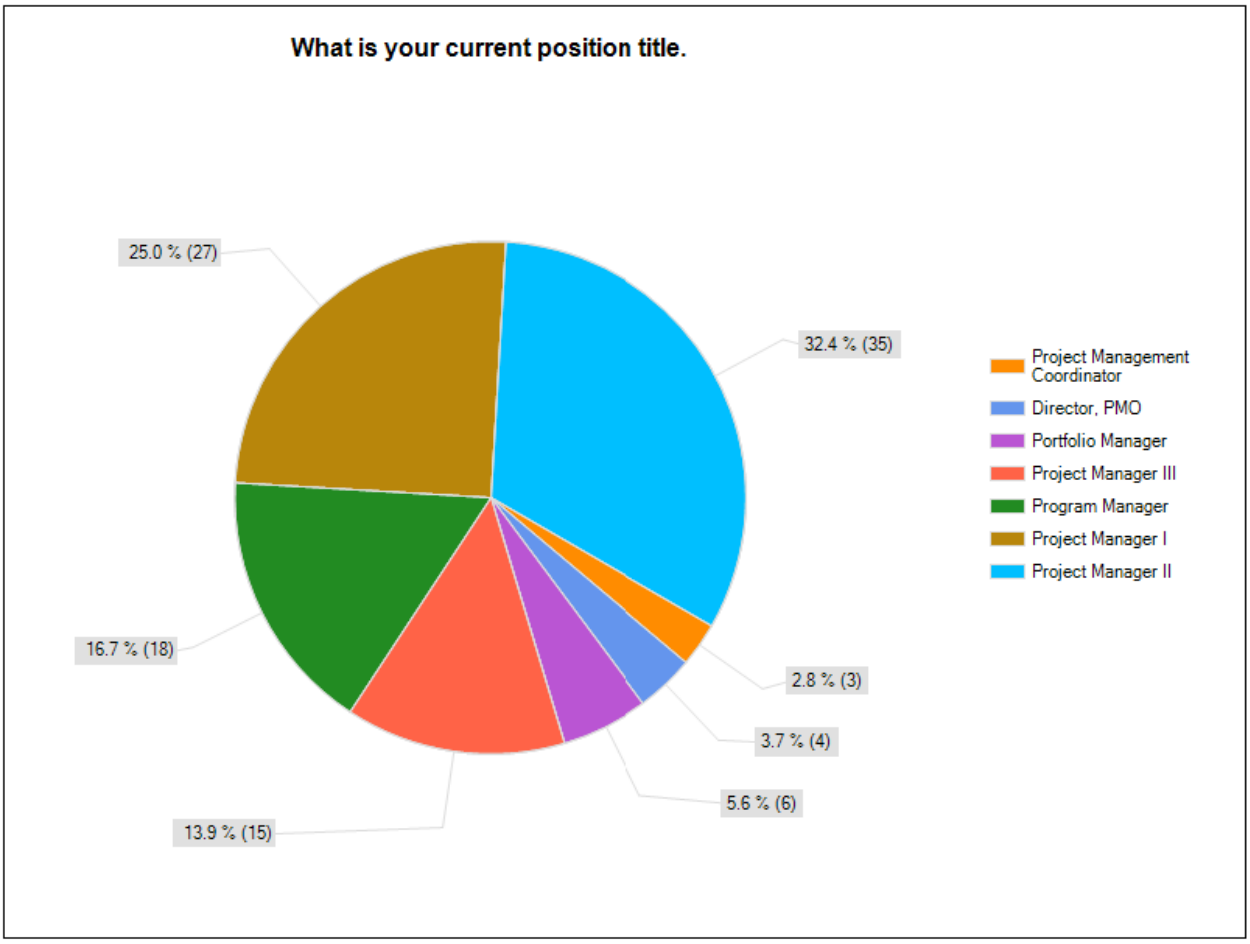
A breakdown of the respondents is as follows:

A. Position Title

The distribution of the responses by the projects professional position title is as follows:

- 32.40% - Project Manager II
- 25.00% - Project Manager I
- 16.70% - Program Manager
- 13.90% - Project Manager III
- 5.60% - Portfolio Manager
- 3.70% - Director, PMO
- 2.80% - Project Management Coordinator

Refer to pie chart 1 below. It shows the relative size of the different position titles and displays the size of each slice relative to the total sample.



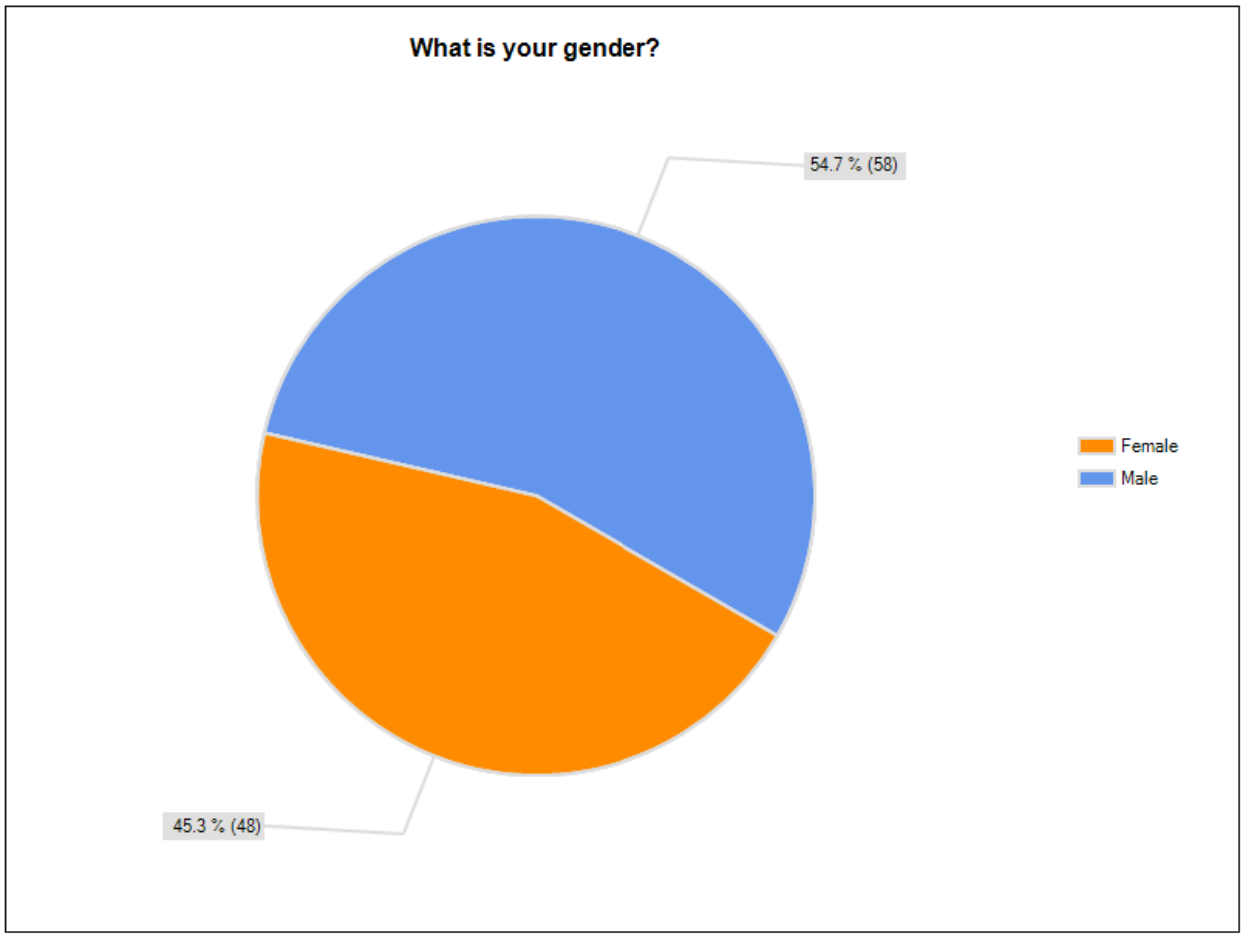
Pie Chart 1: Position Response Statistics

B. Gender Classification

The distribution of the responses by gender is as follows:

- 54.7% - Male
- 45.3% - Female

Refer to pie chart 2 below. It shows the relative size of the gender and displays the size of each slice relative to the total sample.



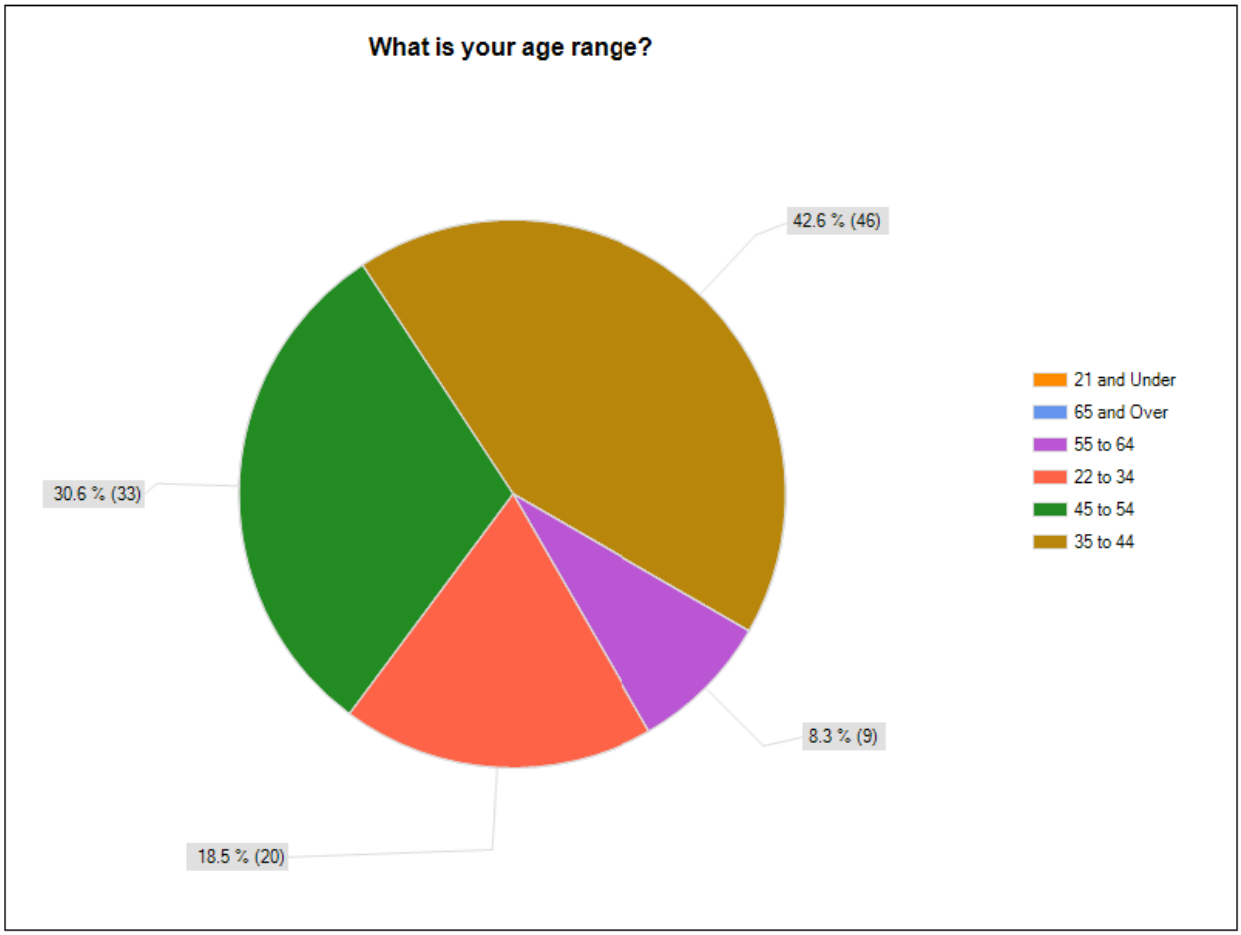
Pie Chart 2: Gender Response Statistics

C. Age Range

The distribution of the responses by age range is as follows:

- 0.00% - 21 and Under
- 18.5% - 22 to 34
- 42.60% - 35 to 44
- 30.60% - 45 to 54
- 8.30% - 55 to 64
- 0.00% - 65 and Over

Refer to pie chart 3 below. It shows the relative size of the age range and displays the size of each slice relative to the total sample.

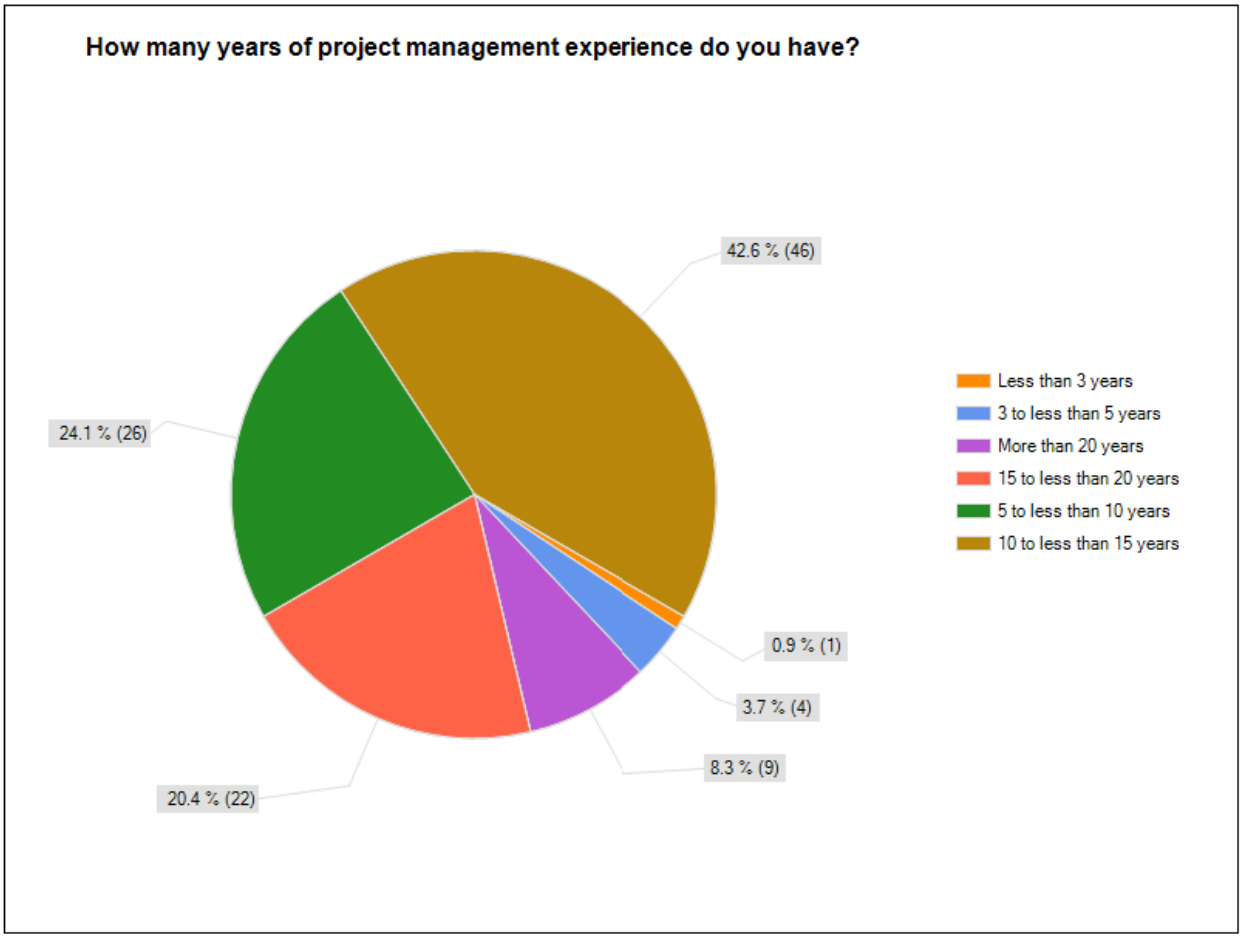


Pie Chart 3: Gender Response Statistics

The distribution of the responses by years of project management experience is as follows:

- 0.90% - Less than 3 years
- 3.70% - 3 to less than 5 years
- 24.10% - 5 to less than 10 years
- 42.60% - 10 to less than 15 years
- 20.40% - 15 to less than 20 years
- 8.30% - More than 20 years

Refer to pie chart 4 below. It shows the relative size of the years of experience and displays the size of each slice relative to the total sample.

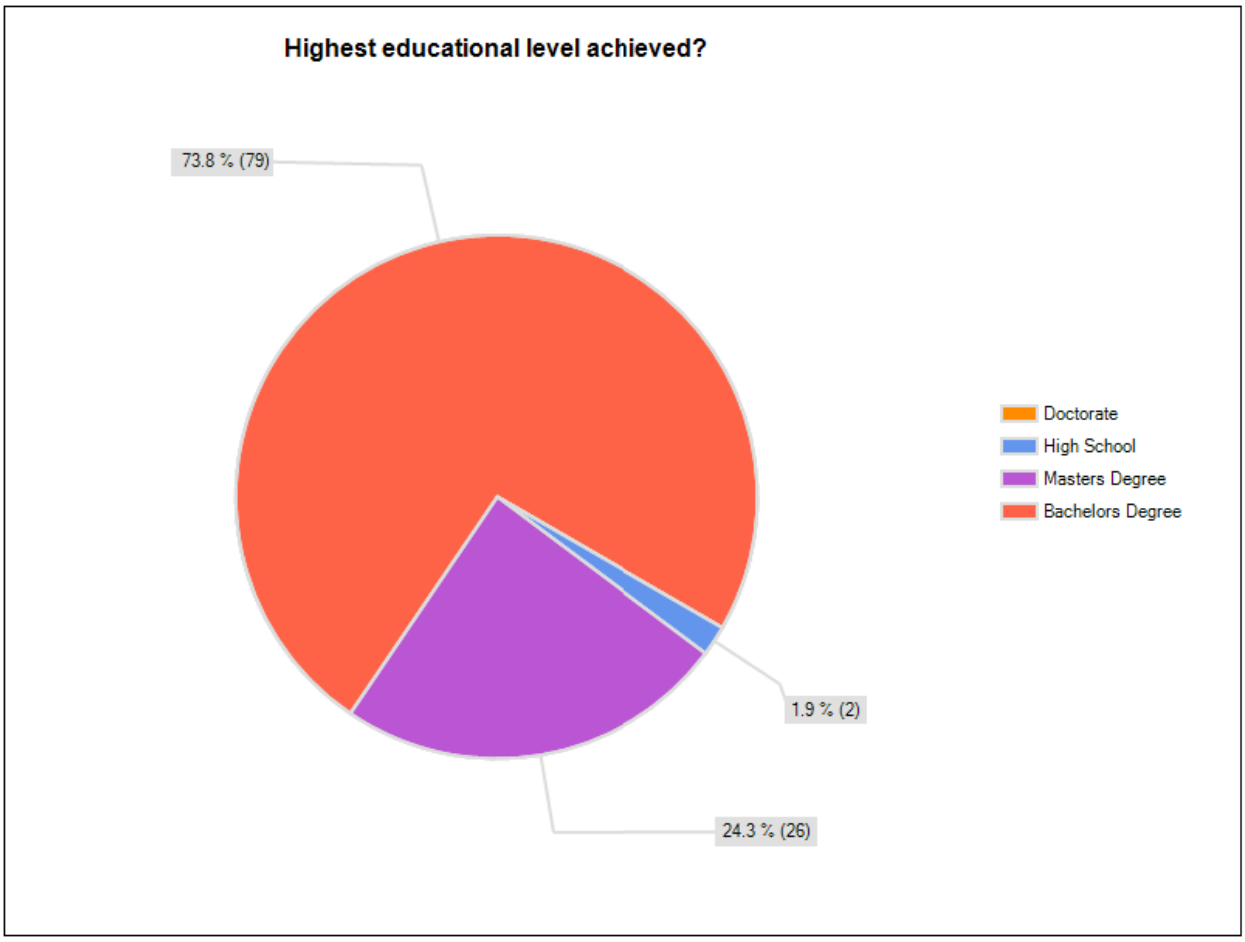


Pie Chart 4: Years of Project Management Experience Statistics

The distribution of the responses by the highest education level achieved is as follows:

- 1.90% - High School
- 73.8% - Bachelors Degree
- 24.3% - Masters Degree
- 00.0% - Doctorate Degree

Refer to pie chart 5 below. It shows the relative size of the highest education level achieved and displays the size of each slice relative to the total sample.



Pie Chart 5: Highest Education Level Achieved Statistics

The distribution of the responses by industry class is as follows:

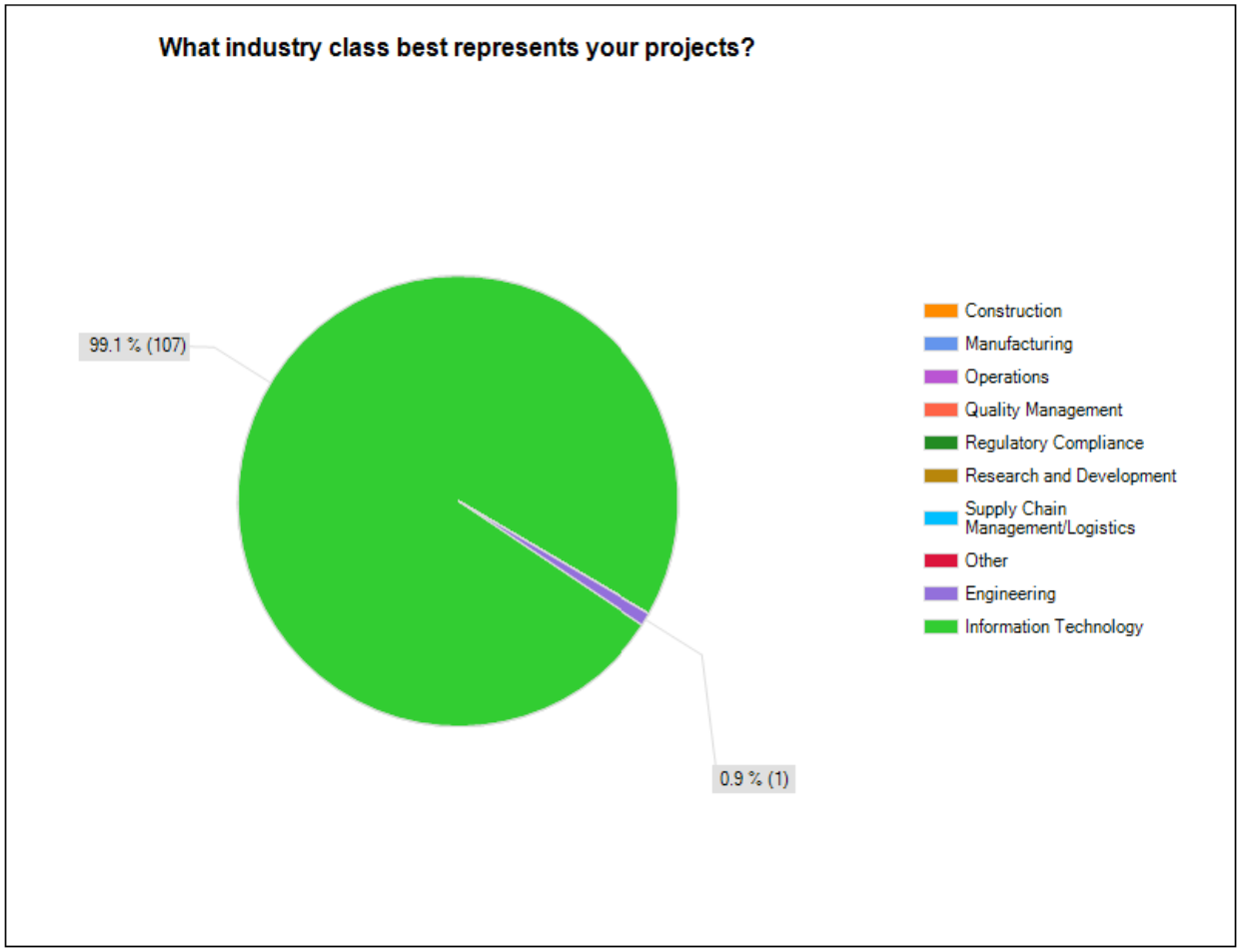
- 00.9% - Engineering
- 99.1% - Information Technology
- 00.0% - Manufacturing
- 00.0% - Operations
- 00.0% - Quality Management
- 00.0% - Regulatory Compliance

- 00.0% - Research and Development
- 00.0% - Supply Chain Management/Logistics
- 00.0% - Other

Refer to pie chart 6 below. It shows the relative size of the different industry classes and displays the size of each slice relative to the total sample.

Is it essential to note that the vast majority of the surveys returned are from respondents who currently are working on projects in the industry class of Information Technology. As a result to these findings, it is necessary to highlight that the purpose of the survey is not to come up with or focus on how specific industry classes think about or practice project success factors, but to focus on how project professionals in general do so.

The framework developed is a result of this research analysis, and it is not designed to be industry specific, but a general framework that can be applied to all projects lead by project professionals.



Pie Chart 6: Industry Class Response Statistics

5.3.2 Breakdown of the Project Factors by Respondents

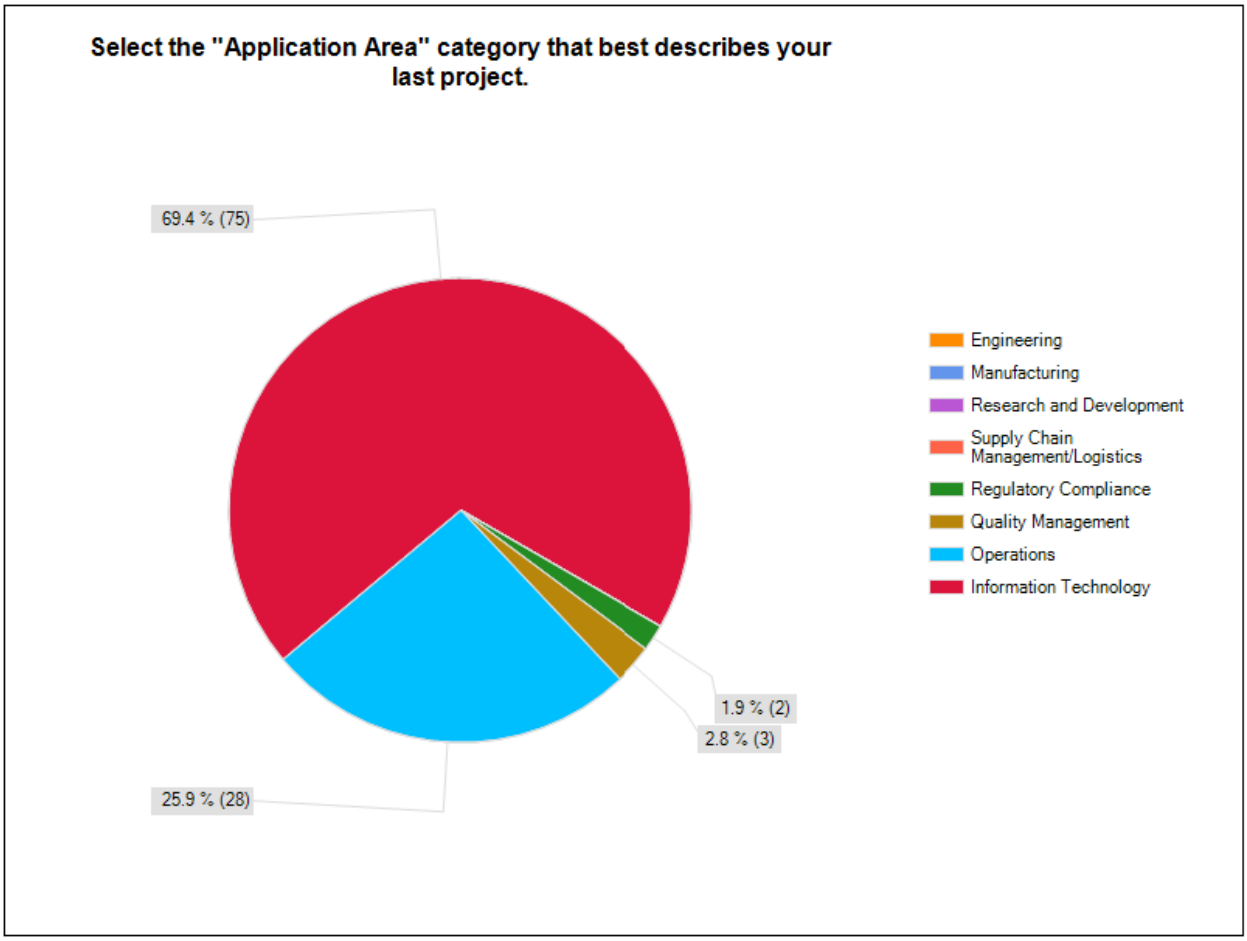
A. Project Application Area

The distribution of the responses by Application Area of the last project managed is as follows:

- 00.0% - Engineering
- 69.40% - Information Technology
- 00.00% - Manufacturing
- 25.90% - Operations
- 2.80% - Quality Management
- 1.90% - Regulatory Compliance

- 00.00% - Research and Development
- 00.00% - Supply Chain Management/Logistics
- 00.00% - Other

Refer to pie chart 7 below. It shows the relative size of the Application Area and displays the size of each slice relative to the total sample.



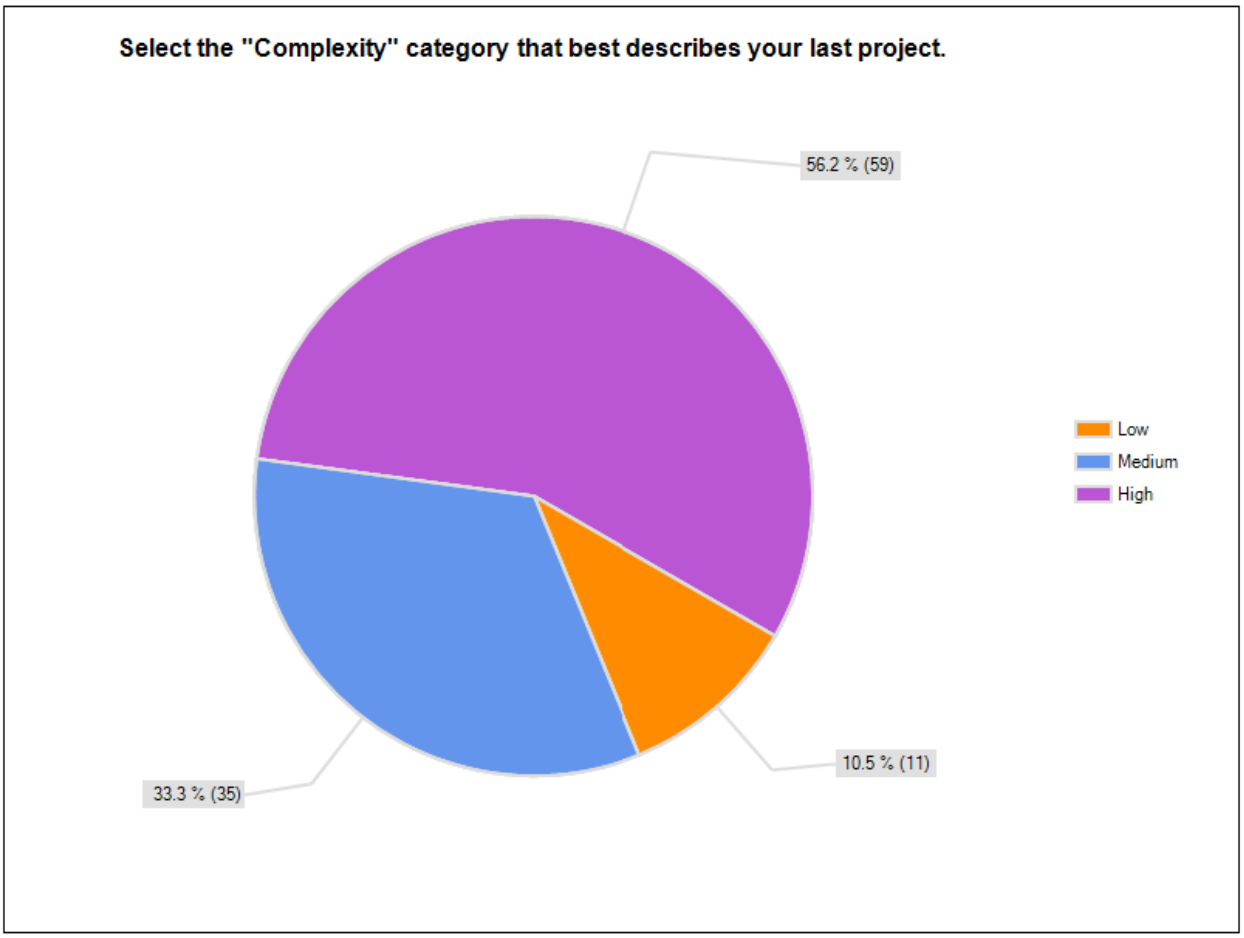
Pie Chart 7: Industry Class Response Statistics

B. Project Complexity

The distribution of the responses by the complexity of the last project managed is as follows:

- 56.20% - High
- 33.30% - Medium
- 10.50% - Low

Refer to pie chart 8 below. It shows the relative size of the project complexity and displays the size of each slice relative to the total sample.



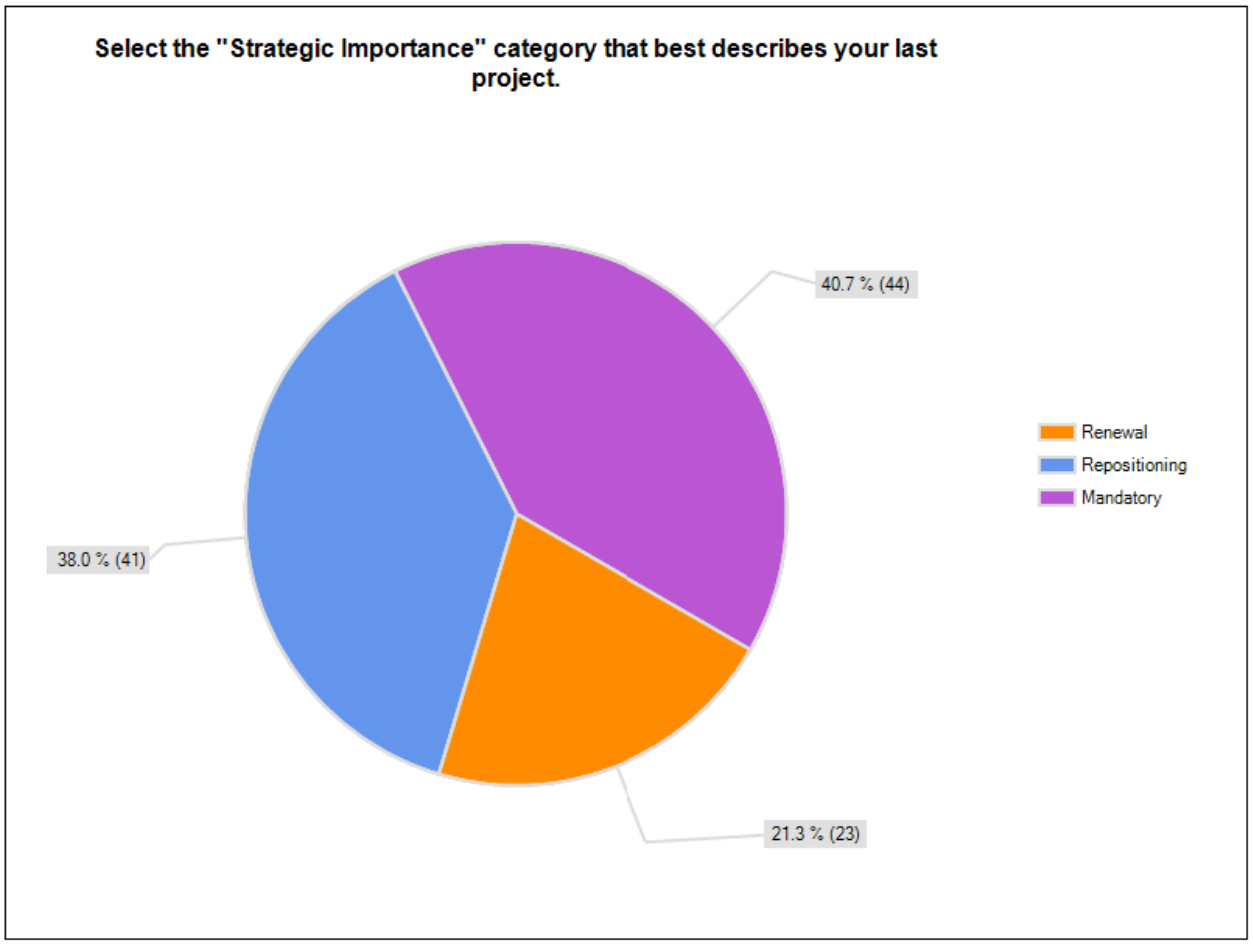
Pie Chart 8: Project Complexity Response Statistics

C. Project Strategic Importance

The distribution of the responses by strategic importance of the last project managed is as follows:

- 40.70% - Mandatory
- 38.00% - Repositioning
- 21.30% - Renewal

Refer to pie chart 9 below. It shows the relative size of the strategic importance and displays the size of each slice relative to the total sample.



Pie Chart 9: Strategic Importance Response Statistics

D. Project Attributes Considered Important Ranked

Below respondents ranked the order of importance of project attributes on the last project they managed:

- Ranked #1 : Urgency
  - 85.70% of the respondents
- Ranked #2: Strategic Importance
  - 46.30% of the respondents
- Ranked #3: Complexity
  - 44.90% of the respondents
- Ranked #4: Interdependencies Between Activities
  - 44.40% of the respondents
- Ranked #5: Uniqueness of Project Activities
  - 43.10% of the respondents
- Ranked #6: The Size and the Value
  - 40.40% of the respondents
- Ranked #7: Project Life-Cycle
  - 39.20% of the respondents

The seven factors show an average means ranging from 6.75 to 1.74, based on the Likert scale where 7 is the highest and 1 is the lowest score (refer to table 12).

Analyzing the feedback on the participating respondents it was discovered that the highest mean score was that of the urgency of a project (6.75). This indicates that respondents placed the most value on this particular project attribute.

Urgency implies that there is an immediate need or requirement to implement a project. The urgency of a project could heavily influence project managers' performance and the activities performed in order to meet the urgency and expectation of all project stakeholders, especially the project client (internal or external to the organization). In most cases, the urgency attribute of a project could become a critical success factor for the project's success.

Project life-cycle has the lowest mean (1.74) among all seven of the project attributes. The project life-cycle is the most fundamental attributes to the management of projects and consists of a sequence of phases through which the project will evolve. The fact that it has the lowest mean indicate that project professionals do not perceive that it is of high importance as compared to the other attributes. It could be that the project life-cycle is deemed not as important when compared to the other attributes because it is the only one that could be the most understood, bought into, and repeatable attribute of a project. Therefore, it can be the one attribute that can be controlled and predictable and does not heavily influence or impact the project managers, project teams, or key stakeholders performance or project success.

Project Attributes Descriptive Statistics			
Project Attributes	**Mean**	**Std. Deviation**	**No. of Respondents**
Urgency	6.7500	.76274	108
Strategic Importance	5.5741	.69985	108
Complexity	5.4393	.72914	108
Independencies Between Activates	3.3611	.81411	108
Uniqueness of Project Activates	2.6574	.88774	108
The Size and Value	2.5741	1.55403	108
Project Life-Cycle	1.7407	.97989	108

Table 12: Project Attributes Descriptive Statistics

5.3.3 Breakdown of the Project Success Criteria by Respondents

A. Order of Importance: How Project Success was Measured

Below respondents racked the order of importance of how project success was measured on the last project they managed:

- Ranked #1 : Project Goals and Objectives
  - 90.70% of the respondents
- Ranked #4: Meeting Defined Project Success Factors
  - 83.20% of the respondents
- Ranked #5: Client satisfaction with project results
  - 76.40% of the respondents
- Ranked #3: Meeting user requirements
  - 60.70% of the respondents
- Ranked #2: End user satisfaction
  - 54.20% of the respondents

- Ranked #6: Other Stakeholder Satisfaction
    - 66.40% of the respondents
- Ranked #7: Project team satisfaction
    - 37.40% of the respondents

The seven factors show an average means ranging from 6.83 to 1.27, based on the Likert scale where 7 is the highest and 1 is the lowest score (refer to table 13).

Analyzing the feedback on the participating respondents it was discovered that the highest mean score was that of project goals and objectives (6.83). This indicates that respondents placed the most value on this particular success measurement factor. Meeting project goals and objectives is concerned about establishing an agreed upon outcome to help everyone in the project team (and other key project stakeholders) to know exactly what's most important and what needs to be achieved.

However, it is surprising that project team satisfaction has the lowest mean (1.25) among all the factors. This could indicate that project professionals do not perceive that it is of high importance of an indicator for project success. In addition, it could be that team satisfaction is something that is rarely raised because the focus of success is on the client and project deliverables.

Success Measurement Descriptive Statistics			
Success Measurement Factors	**Mean**	**Std. Deviation**	**No. of Respondents**
Project Goals and Objectives	6.8318	.59059	108
Meeting Defined Project Success Factors	5.6262	.63726	108
Client satisfaction with project results	5.1776	.92973	108
Meeting User Requirements	4.4112	.68616	108
End User Satisfaction	2.9434	.74104	108
Other Stakeholder Satisfaction	2.1589	.80270	108
Project team satisfaction	1.2510	.85308	108

Table 13: Success Measurement Descriptive Statistics

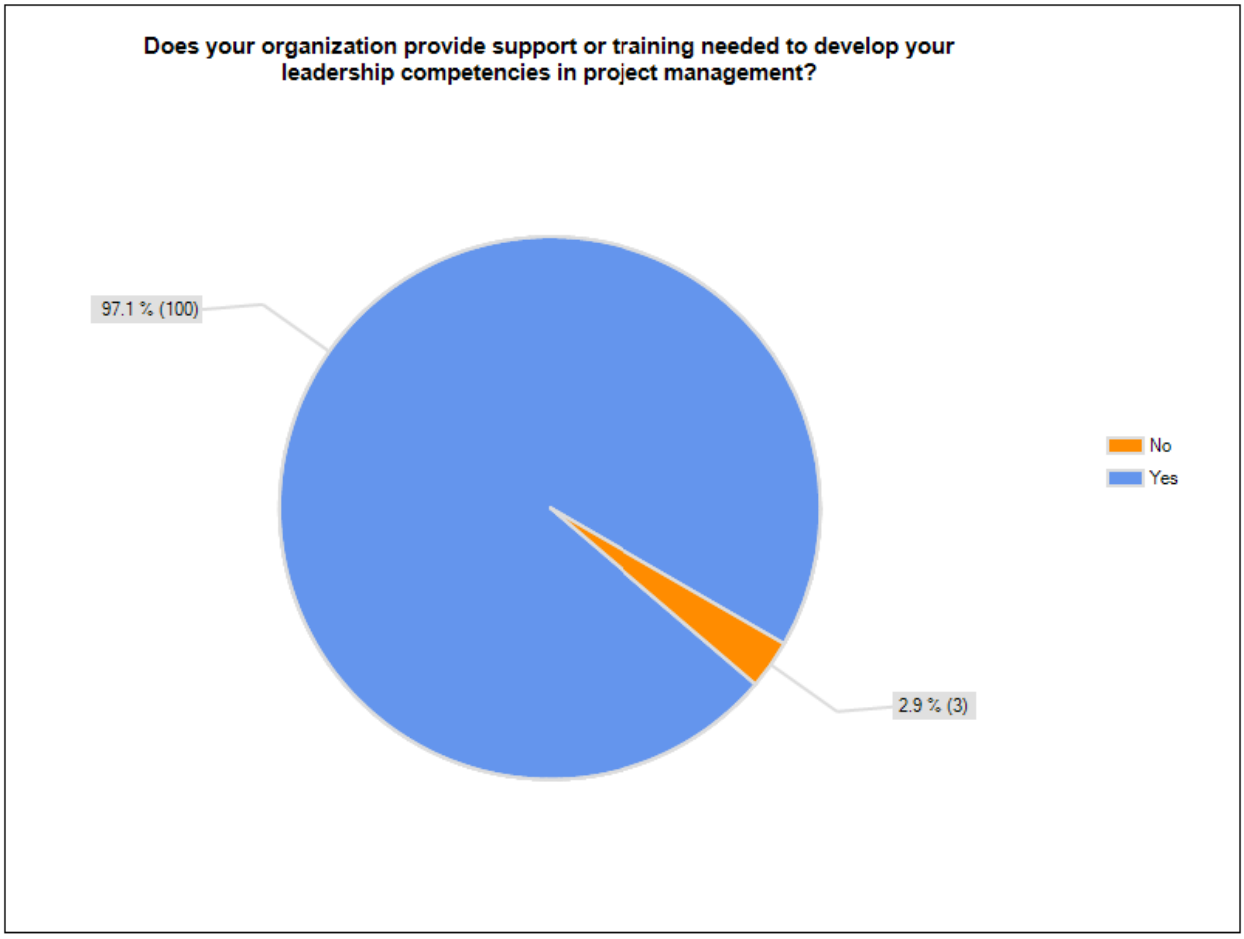
5.3.4 Breakdown of Organizational Factors by Respondents

A. Organizational Support of Training: Develop Leadership Competencies

When respondents were asked if their organization provided support or training to help them develop their leadership competencies in project management 97.1% replied yes. The distribution of the responses is as follows:

- 91.10% - Yes
- 2.90% - No

Refer to pie chart 10 below. It shows the relative size of support/training provided and displays the size of each slice relative to the total sample.



Pie Chart 10: Strategic Importance Response Statistics

B. Order of Importance: Organizational Factors

Below respondents ranked the order of importance of what the organization needs to provide to help projects be successful:

- Ranked #1: Top Management Support
  - 96.10% of the respondents
- Ranked #2: Project Champion
  - 73.80% of the respondents
- Ranked #3: Functional Manager's Support

    - 69.90% of the respondents Ranked
- Ranked #4: Project Organizational Structure
    - 52.20% of the respondents

The four organizational factors show an average means ranging from 3.94 to 1.14, based on the Likert scale where 4 is the highest and 1 is the lowest score (refer to table 14).

Analyzing the feedback on the participating respondents it was discovered that the highest mean score for team member skill set was top management support (3.94).

Top management support being ranked the highest among the respondents indicates that project professionals think it is critical for the project to have top management support. It could be that with top management support in place, the project will inherently have a project champion, functional management support, and project organizational structure in place. In addition, it could also be that respondents have experienced benefits such as better availability of technical resources, more effective issues resolutions, and less internal project constraints by having top management support.

Project organizational structure has the lowest mean (1.14) among the desired four team member skill sets. It could have ranked the lowest by respondents due to the possibility that having a project organizational structure may not be as effective or beneficial if projects do not have top management support along with a project champion and functional management support.

Organizational Factors Descriptive Statistics			
Organizational Factors Needed	**Mean**	**Std. Deviation**	**No. of Respondents**
Top Management Support	3.9417	3.9417	108
Project Champion	2.7282	2.7282	108
Functional Manager's Support	2.2427	2.2427	108
Project Organizational Structure	1.1471	1,1471	108

Table 14: Organizational Factors Descriptive Statistics

5.3.5 Breakdown of Team Members Skill Set by Respondents

A. Order of Importance: Team Members Skill Set

Below respondents ranked the order of importance of what team member's skill set they think are important in order to deliver successful projects:

- Ranked #1: Communication
  - 67.30% of the respondents
- Ranked #2: Technical Background
  - 65.40% of the respondents
- Ranked #3: Trouble Shooting
  - 63.20% of the respondents
- Ranked #4: Commitment
  - 52.80% of the respondents

The team member skill sets show an average means ranging from 3.51 to 1.55, based on the Likert scale where 4 is the highest and 1 is the lowest score (refer to table 15).

Analyzing the feedback on the participating respondents it was discovered that the highest mean score for team member skill set was communication (3.51). Communication being ranked the highest among the respondents indicates that project professionals think it is a critical skill for project team members to possess. Not only has it been said that strong communications skills help build team relationships, but it also helps to ensure the exchange of ideas, discussions on issues resolution solutions, sharing of best practices and lessons learned, and the spirit of trying to deliver project success. The project team member's ability to effectively communicate key items like risks and issues to keep the project manager and other key stakeholders informed is essential to the success of a project.

Commitment has the lowest mean (1.55) among the desired team member skill sets. It could have ranked the lowest by respondents due to the fact that commitment without communication skills, the right technical background, and effective trouble shooting skills are not as valuable because it does not produce a tangible outcome that can be measured.

Team Factors Descriptive Statistics			
Team Factors Needed	**Mean**	**Std. Deviation**	**No. of Respondents**
Communication	3.5140	.74434	108
Technical Background	3.1321	.79373	108
Trouble Shooting	1.8774	.59686	108
Commitment	1.5514	.87128	108

Table 15: Team Factors Descriptive Statistics

5.3.6 Breakdown of Leadership Competencies by Respondents

A. Order of Importance: Intellectual Leadership Competencies

Below respondents ranked the order of importance of what intellectual leadership competencies they think a project manager needs to have in order to deliver successful projects:

- Ranked #1: Critical Analysis and Judgment
  - 89.60% of the respondents
- Ranked #2: Strategic Perspective
  - 69.20% of the respondents
- Ranked #3: Vision and Imagination
  - 67.30% of the respondents

The three intellectual leadership competencies show an average means ranging from 2.84 to 1.33, based on the Likert scale where 3 is the highest and 1 is the lowest score (refer to table 16).

Analyzing the feedback on the participating respondents it was discovered that the highest mean score for the competency of intellectual leadership was critical analysis (2.84). This indicates that respondents placed the most value on this particular competency.

Dulewicz and Higgs (2005) defined critical analysis and judgment as follow: Leader gathers relevant information from a wide range of sources, probing the facts,

identifying advantages and disadvantages. Sound judgments and decisions making, awareness of the impact of any assumptions made. This ability to exercise critical analysis and judgment seems to resonate as a key competency for project managers among survey respondents.

Dulewicz and Higgs (2005) defined vision and imagination as follows: The leader is imaginative and innovative. He or she has a clear vision of the future and foresees the impact of changes on implementation issues and business realities.

Unexpectedly vision and imagination has the lowest mean (1.33) among the three intellectual leadership competencies. This could indicate that project professionals believe that the critical analysis and judgment competency is a much stronger asset to have because with strong critical analysis and judgment skills one naturally would have good vision and imagination skills as well.

Intellectual Leadership Competencies Descriptive Statistics			
Intellectual Leadership Competencies	**Mean**	**Std. Deviation**	**No. of Respondents**
Critical Analysis	2.8491	.47394	108
Strategic Perspective	1.8785	.56151	108
Vision and Imagination	1.3365	.53264	108

Table 16: Intellectual Leadership Competencies Descriptive Statistics

B. Order of Importance: Managerial Leadership Competencies

Below respondents ranked the order of importance of what managerial leadership competencies they think a project manager needs to have in order to deliver successful projects:

- Ranked #1: Engaging Communications
    - 91.60% of the respondents
- Ranked #2: Managing Resources
    - 90.60% of the respondents
- Ranked #3: Achieving
    - 58.50% of the respondents Ranked
- Ranked #4: Developing
    - 50.30% of the respondents
- Ranked #5: Empowering
    - 51.7% of the respondents

The five managerial leadership competencies show an average means ranging from 4.86 to 1.76, based on the Likert scale where 5 is the highest and 1 is the lowest score (refer to table 17).

During the data analysis of feedback on the participating respondents, it was discovered that the highest mean score for the competency of managerial leadership was engaging communications (4.86). This indicates that respondents placed the most value on this competency.

Dulewicz and Higgs (2005) defined engaging communications as follows: the leader engages others and wins their support through communication tailored for each audience. He or she is approachable and accessible. According to the Project Management Institute (PMI) a project manager spends 80% of his or her time communicating to the project team, keeping all stakeholders up-to-date, strategies for ensuring success, and winnings the support of key stakeholders. This could indicate that respondents think engaging communications is a critical skill for project managers to have for project success.

Empowering has the lowest mean (1.70) among the five managerial leadership competencies. Dulewicz and Higgs (2005) defined empowering as follows: the leader gives direct reports autonomy and encourages them to take on challenges, to solve problems and develop their own accountability.

Empowering could have ranked the lowest by respondents due to the nature and constructs of projects in general. Projects are known for having scope definitions, requirements definition, and a strong monitor and control element to them, so the concept of empowerment may not be suitable for most project environments.

Managerial Leadership Competencies Descriptive Statistics			
Managerial Leadership Competencies	**Mean**	**Std. Deviation**	**No. of Respondents**
Engaging Communications	4.8679	.43808	108
Managing Resources	4.0187	.43397	108
Achieving	2.6698	.67219	108
Developing	1.8000	.65633	108
Empowering	1.7664	1.02405	108

Table 17 Managerial Leadership Competencies Descriptive Statistics

C. Order of Importance: Emotional Leadership Competencies

Below respondents ranked the order of importance of what emotional leadership competencies they think a project manager needs to have in order to deliver successful projects:

- Ranked #1: Influence
  - 88.68% 50.94% of the respondents
- Ranked #2: Intuitiveness
  - 71.89% 48.57% of the respondents
- Ranked #3: Conscientiousness
  - 65.94% of the respondents Ranked
- Ranked #4: Self-Awareness
  - 49.06% of the respondents
- Ranked #5: Motivating
  - 48.80% of the respondents
- Ranked #6: Emotional Resilience
  - 48.57% of the respondents
- Ranked #7: Sensitivity
  - 47.17% of the respondents

The seven emotional leadership competencies show an average means ranging from 6.41 to 1.64, based on the Likert scale where 5 is the highest and 1 is the lowest score (refer to table 18).

Analyzing the feedback on the participating respondents it was discovered that the highest mean score for the competency of managerial leadership was influence (4.41). This indicates that respondents placed the most value on this competency.

Dulewicz and Higgs (2005) defined influence as follow: the leader can persuade others to change a viewpoint based on the understanding of their position and the recognition of the need to listen to this perspective and provide a rationale for change.

Influence could be ranked the highest emotional leadership competency among the respondents to do the fact that most project managers are faced with the daily challenges of having to direct team members or other key stakeholders whom they have no direct managerial authority over, and using influence may be the only asset they are able to employ to achieve the project goals and objectives. The project manager's ability to persuade and inform these team members or other key stakeholders is essential to the success of a project.

Sensitivity has the lowest mean (1.64) among the five managerial leadership competencies. Dulewicz and Higgs (2005) defined sensitivity as follows: The leader is aware of, and takes account of, the needs and perceptions of others in arriving at decisions and proposing solutions to problems and challenges.

Sensitivity could have ranked the lowest by respondents due to the nature and constructs of projects in general. This could indicate that project professionals believe that the other six competencies are much stronger abilities to possess

(*influence, intuitiveness, conscientiousness, self-awareness, and motivating)* to do the nature of project work, and if the ability to influence is effectively utilized.

Emotional Leadership Competencies Descriptive Statistics			
Emotional Leadership Competencies	**Mean**	**Std. Deviation**	**No. of Respondents**
Influence	6.4151		108
Intuitiveness	6.3333		108
Conscientiousness	4.4340		108
Self-Awareness	4.4151		108
Motivating	3.2925		108
Emotional Resilience	1.7075		108
Sensitivity	1.6415		108

Table 18: Emotional Leadership Competencies Descriptive Statistics

5.3.7 Breakdown of Leadership Style Used by Respondents

The distribution of the responses by leadership styles used by respondents on projects is as follows:

- 00.00% - Laissez-Faire Leadership
- 00.00% - Autocratic Leadership
- 00.00% - Bureaucratic Leadership
- 00.00% - Transactional Leadership
- 41.67% - Situational Leadership
- 00.00% - Charismatic Leadership
- 2.78% - Democratic/Participative Leadership
- 00.00% - Task-Oriented Leadership
- 00.00% - People-Oriented/Relations-Oriented Leadership
- 00.00% - Servant Leadership

- 55.56% - Transformational Leadership

Refer to pie chart 11 below. It shows the relative size of the strategic importance and displays the size of each slice relative to the total sample.

The respondents were provided with the following leadership definitions in the survey to select from:

A. Laissez-Faire Leadership - The laissez faire style is sometimes described as a "hands off" leadership style because the leader delegates the tasks to their followers while providing little or no direction to the followers.

B. Autocratic Leadership - An autocratic leader keeps strict, close control over followers by keeping close regulation of policies and procedures given to followers.

C. Bureaucratic Leadership - Bureaucratic style is based on following normative rules, and adhering to lines of authority.

D. Transactional Leadership – Transactional leaders focus their leadership on motivating followers through a system of rewards/punishments.

E. Situational Leadership - The fundamental underpinning of the situational leadership theory is that there is no single "best" style of leadership. Effective leadership is task-relevant, and the most successful leaders are those that adapt

their leadership style to the maturity ("the capacity to set high but attainable goals, willingness and ability to take responsibility for the task, and relevant education and/or experience of an individual or a group for the task") of the individual or group they are attempting to lead or influence. Effective leadership varies, not only with the person or group that is being influenced, but it also depends on the task, job or function that needs to be accomplished.

F. Charismatic Leadership - The charismatic leadership style is based on a form of heroism or inspiring acts. A charismatic leader normally has been granted the organizational power to make dramatic changes and extract extraordinary performance levels from its staff.

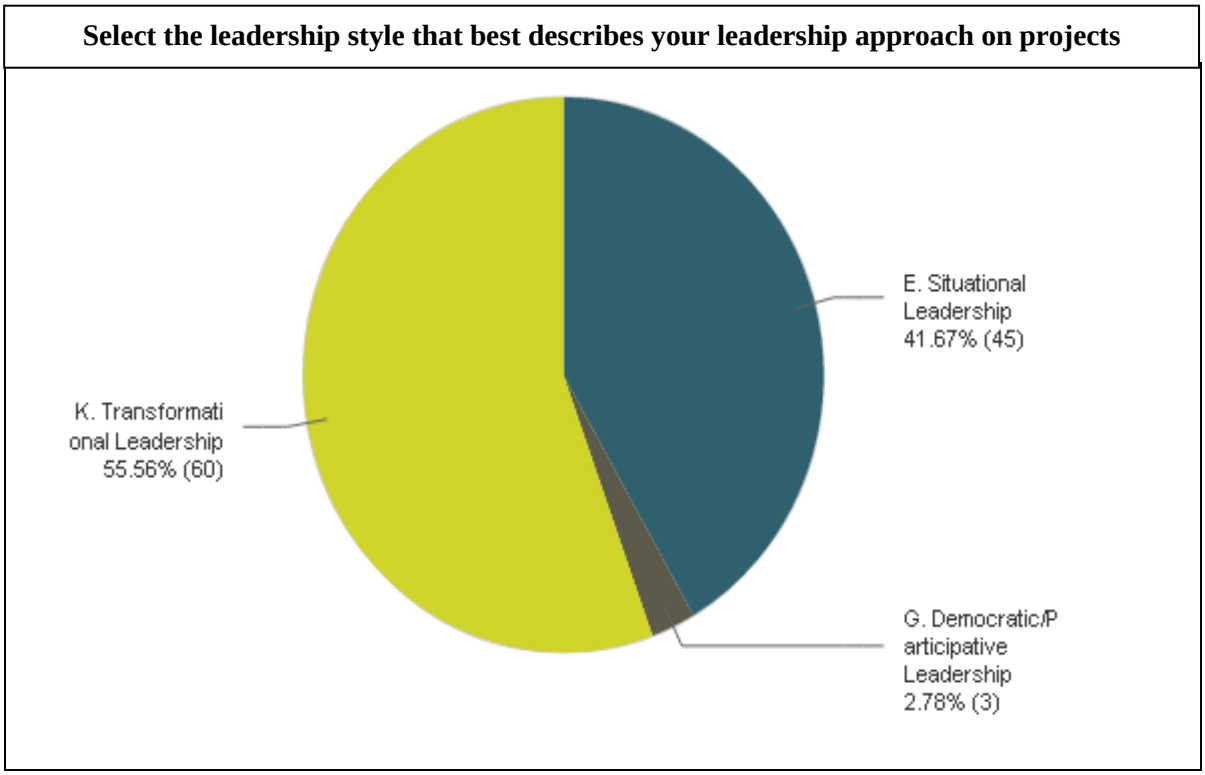
G. Democratic/Participative Leadership – Consists of the leader sharing the decision-making abilities with group members by promoting the interests of the group members and by practicing social equality.

H. Task-Oriented Leadership - A behavioral approach in which the leader focuses on the tasks that need to be performed in order to meet certain goals, or to achieve a certain performance standard.

I. People-Oriented/Relations Oriented Leadership – Is a leadership behavioral approach in which the leader focuses on the satisfaction, motivation and the general well-being of the team members.

J. Servant Leadership - A leadership philosophy in which an individual interacts with others. The leadership style intends to promote the well-being of those around him/her. Servant leadership involves the individual demonstrating the characteristics of empathy, listening, stewardship and commitment to personal growth toward others.

K. Transformational Leadership - Transformational leadership is a type of leadership style that leads to positive changes in those who follow. Transformational leaders are generally energetic, enthusiastic and passionate. Not only are these leaders concerned and involved in the process; they are also focused on helping every member of the group succeed as well.



Pie Chart 11: Leadership Style Response Statistics

5.4 The Preliminary Framework

Based on the literature review and findings from the questionnaire surveys, a preliminary Critical Success Factor (CSF) Framework with leadership competencies has been developed to help project manager's delivery successful projects.

Based on the literature review and findings from the questionnaire surveys a preliminary framework for this research has been developed. The preliminary framework for this research has been developed from the following literature review constructs:

- Leadership competency profiles identified in recent studies on leadership in project by management Geoghegan and Dulewicz (2008), Muller and Turner (2007), Muller and Turner (2009), Young and Dulewicz (2006), Wren and Dulewicz (2005).

- Factors related to the project and the project team were identified in the studies from Crawford et al. (2005) ,Belassi and Tukel (1996), Morris and Hough (1987), Tukel and Rom (1995)

- Project success factors were identified in the studies from Pinto and Slevin (1998) and Turner and Buller (2005).

The preliminary critical success factors (CSFs) framework with leadership competencies has been developed to help project manager's deliver successful projects. The findings from the questionnaire surveys have been grouped into four input factor areas and one output criterion area.

The four input factor areas:

- Project Leadership Competency Factors
- Project Team Factors
- Project Factors
- Organizational Factors

The one output criterion area:

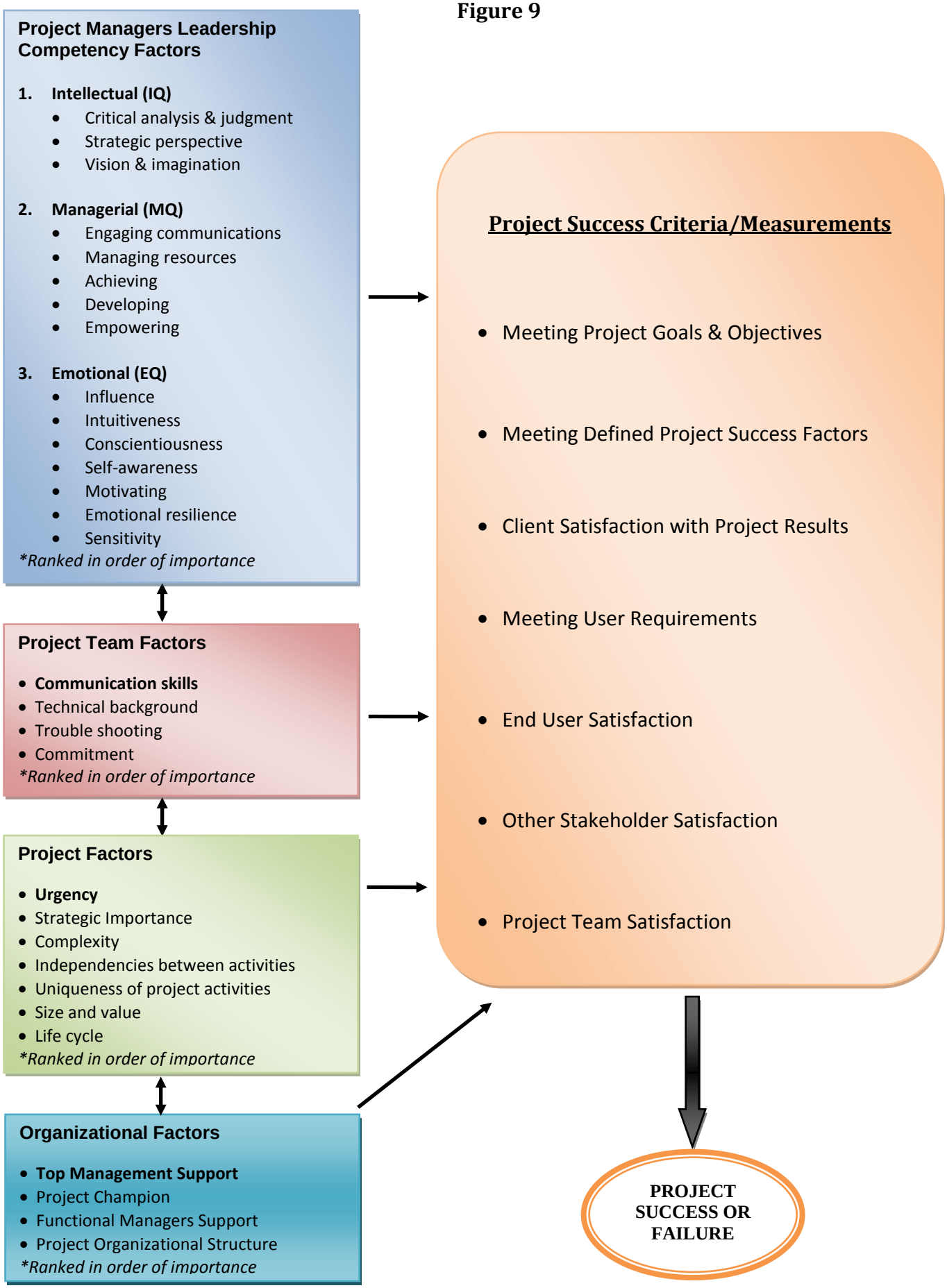
- Project Success Measurement Criteria

The preliminary framework for this research is identified in figure 9 on the next page.

The preliminary framework shows how the factors are interrelated. Meaning the factors influence one another and the combination of several factors from the various groups could impact the success or failure of a project. For example, the urgency of a project could affect or influence the project manager's leadership competence on the project, or challenge the team's technical skill, or even the amount of support received from top management.

Preliminary Critical Success Factor (CSF) Framework with Leadership Competencies to Deliver Project Success

Figure 9



***NOTE: The factors and project success criteria are listed in order of importance.**

This is not meant to be used as an evaluation tool.

5.4.1 Project Managers Leadership Competency Factors

The literature review conducted provides evidence that over the last 80 years, leadership theories have evolved. Leadership theories in the beginning focused on the individual leader and his or her traits, then evolved by taking into consideration the context of the leadership situation, and then shifted its focus again from the observable behavior of personal attributes intellectual exchange and interpersonal relationships. Then according to Muller and Turner (2010) the competence school emerged.

The competence school of leadership encompasses all the earlier schools and stands for a specific combination of knowledge, skills, and personal characteristics per Boyatzis (1982) and Crawford (2003). Dulewicz and Higgs (2005) are representatives from that school of leadership who conducted research to identify 15 leadership dimensions. The 15 leadership dimensions fall under three leadership competences: (1) Intellectual (IQ), (2) Managerial (MQ), and (3) Emotional (EQ).

The preliminary framework suggested is different from other frameworks created on critical success factors for projects, because this framework is including the 15 leadership dimensions as input to project success and not specific activities or tasks for a project manager to perform. Other similar frameworks have specified tangible tasks and or skill sets that a project manager should perform for example ability to trade-off or delegate authority.

The first input factor of the preliminary framework is the project manager's leadership competencies. The framework will utilize the 15 leadership dimensions of leadership which

fall under the three primary leadership competences: (1) Intellectual (IQ), (2) Managerial (MQ), and (3) Emotional (EQ).

Refer to the breakdown below of the 15 leadership dimensions and the three primary leadership competency areas they fall under.

1. **Intellectual (IQ)**
    - Critical analysis & judgment
    - Vision & imagination
    - Strategic perspective
2. **Managerial (MQ)**
    - Engaging communications
    - Managing resources
    - Empowering
    - Developing
    - Achieving
3. **Emotional (EQ)**
    - Self-awareness
    - Emotional resilience
    - Motivation
    - Sensitivity
    - Influence
    - Intuitiveness
    - Conscientiousness

Muller and Turner (2010) summarized a brief description of the fifteen competency dimensions of Dulewicz and Higgs (2005) which will be adopted for this research and framework.

Below are the fifteen competency dimensions summarized by Muller and Turner (2010):

A. Intellectual Leadership Competence:

1) Critical analysis and judgment: the leader gathers relevant information from a wide range of sources, probing the facts, identifying advantages and disadvantages. Sound judgments and decisions making, awareness of the impact of any assumptions made.

2) Vision and imagination: the leader is imaginative and innovative. He or she has a clear vision of the future and foresees the impact of changes on implementation issues and business realities.

3) Strategic perspective: the leader is aware of the wider issues and broader implications. He or she balances short and long-term considerations and identifies opportunities and threats.

B. Managerial Leadership Competence

4) Resource management: the leader organizes resources and co-ordinates them efficiently and effectively. He or she establishes clear objectives and converts long term goals into action plans.

5) Engaging communication: the leader engages others and wins their support through communication tailored for each audience. He or she is approachable and accessible.

6) Empowering: the leader gives direct reports autonomy and encourages them to take on challenges, to solve problems and develop their own accountability.

7) Developing: the leader encourages others to take on ever more-demanding tasks, roles and accountabilities. He or she develops others' competencies and invests time and effort in coaching them.

8) Achieving: the leader shows an unwavering determination to achieve objectives and implement decisions.

C. Emotional Leadership Competence

9) Self-awareness: the leader is aware of his or her own feelings and is able to recognize and control them.

10) Emotional resilience: the leader is able to maintain consistent performance in a range of situations. He or she retains focus on a course of action or the need to obtain certain results in the face of personal challenge or criticism.

11) Intuitiveness: the leader arrives at clear decisions and is able to drive their implementation in the face of incomplete or ambiguous information by using both rational and 'emotional' perceptions.

12) Interpersonal sensitivity: the leader is aware of and takes account of, the needs and perceptions of others in arriving at decisions and proposing solutions to problems and challenges.

13) Influence: the leader can persuade others to change a viewpoint based on the understanding of their position and the recognition of the need to listen to this perspective and provide a rationale for change.

14) Motivation: the leader has the drive and energy to achieve clear results and make an impact.

15) Conscientiousness: the leader displays clear commitment to a course of action in the face of challenge and matches 'words and deeds' in encouraging others to support the chosen direction.

5.4.2 Project Team Factors

A Team member's ability and competence are critical to the success of a project and the contributions made directly impacts the project either positively or negatively. Team members not only affect the project performance, but they can influence all key stakeholders, and impact the client.

Based upon the literature review and data analysis from the returned questionnaires the following project team factors have been identified for inclusion in the framework as input factors, see below:

A. Project Team Factors

1) Technical background
2) Communication Skills
3) Trouble shooting
4) Commitment

5.4.3 Project Factors

The literature review uncovered that project characteristics are important critical success factors to incorporate because they are interrelated to the dimensions of project performance and this influences the performance of the project manager and project team.

The following project factors have been identified for inclusion in the framework:

A. Project Factors

1) Urgency
2) Strategic Importance
3) Complexity
4) Independencies between activities
5) Uniqueness of project activities
6) Size and value
7) Life cycle

5.4.4 Organizational Factors

According to Ruskin and Estes (1986), "*The success of a project is greatly influenced by the organizational environment surrounding it. Some organizational factors enhance a project's chance of success while others threaten it*." The research conduct by Belassi and Tukel (1996) revealed that a projects chance of success can be enhanced by some organizational factors. In addition, they found that whichever criterion is used to determine the success of a project that the organizational factors related to technical aspects of project management are very dominant factors that play a significant role in the outcome of a project.

It seems that whichever criterion is used to measure project success, even if it is quality, the organizational factors related to technical aspects of project management (availability of resources) are still the dominant factors on the list.

The following organizational factors have been identified for inclusion in the framework:

A. Organizational Factors

1) Top Management
2) Project Organizational Structure
3) Uniqueness of project activities
4) Life cycle
5) Urgency

5.4.5 Project Success Criteria

Critical success factors are common in projects today as a means of assessing projects (Nixon, Harrington and Parker, 2011). Views on project success have evolved over the years from definitions that were limited to meeting on-time and on-budget measurements, to broader and holistic definitions. Westerveld (2003) suggested in his research that success criteria include project results.

In response to the findings in the literature review, the following project success criterion have been identified for inclusion in the framework as a means of assessing projects:

A. Project Success Criteria

1) Client Satisfaction with Project Results
2) Meeting User Requirements
3) Meeting Defined Project Success Factors

4) Meeting Project Goals & Objectives
5) End User Satisfaction
6) Other Stakeholder Satisfaction
7) Project Team Satisfaction

5.5 Summary of Chapter 5

This chapter presented data analyses and findings of the questionnaire survey conducted in order to address the research questions and objectives. The goal of the survey analyses was to enable the researcher to gain a better insight and understanding towards project success factors and leadership competencies employed by project professionals in order to deliver successful projects. The identification of these factors is an essential step in the creation of the preliminary critical success factors (CSFs) framework with leadership competencies in line with the literature review.

The preliminary framework has been grouped into four input factor areas and one output criterion area (see below). This framework could help improve project managers in delivering successful projects

The four input factor areas:

- Project Leadership Competency Factors
- Project Team Factors
- Project Factors
- Organizational Factors

The one output criterion area:

- Project Success Measurement Criteria

The findings from the questionnaire surveys and literature review were used to support the design of the interview questions for the second study which represents the focus group discussions on the preliminary framework in order to refine and improve it.

The next chapter will provide analysis and findings of the focus groups discussions conducted on the preliminary framework developed.

CHAPTER 6:

Focus Group Discussion Results

6.1 Introduction

In chapter, (ch 4) the research design and methodology for this study was described in detailed and discussed. Focus group discussions were the qualitative collection method used in order to seek feedback and validate the preliminary framework developed based on findings from the literature review and data analyses of the questionnaire survey.

According to Denzin and Lincoln (1994), the socially constructed nature of reality, the relationship between researcher and the subject matter is stressed with qualitative research. The relevance on focus group discussions as the qualitative method is important to support the research by clarifying and giving a clearer picture of the results from the quantitative research (surveys conducted).

The objective of this chapter is to provide the findings and results from the focus group discussions conducted, which achieved research objective 6: obtain feedback on the preliminary framework and finalize the framework.

A discussion and analysis of the results will be presented to finalize the framework and achieve objective 7: develop recommendations to help project professionals apply the framework to improve the delivery of successful projects.

In addition, this chapter will present the finalized framework as a result of the data an analysis and literature review to achieve research objective 5: develop a preliminary framework to help project professionals achieve successful projects.

6.2 Focus Group Discussions

Focus group discussions were conducted after the quantitative results of the questions were coded and analyzed. The discussions severe as reinforcement and triangulation to determine finalize the preliminary framework developed based on findings from the literature review and data analyses of the questionnaire survey.

The researcher resides in the United States in Southern California and due to travel and budget constraints survey participants were targeted who lived around the same geographic location. An email was sent out to all survey questionnaire respondents inviting them to participate in the focus group discussions. The location and time was included in the invite. Thirteen interested responses were received, but only ten participated in the discussion sessions. It is important to note that since the discussions were conducted during the summer time it was difficult to find more participates.

A total of ten individuals who responded to the survey questionnaires ended up participating in the focus group discussions. The participants positions/titles range from Portfolio Manager to Project Manager I. Table 19 displays the participating designations of the participants.

Organizational Information & Designation of Participants			
	Industry Class	Application Area	Designation of Participants
1	Engineering	Information Technology	Project Manager III
2	Information Technology	Quality	Project Manager II
3	Information Technology	Information Technology	Program Manager
4	Information Technology	Information Technology	Project Manager II
5	Information Technology	Information Technology	Project Manager II
6	Information Technology	Information Technology	Project Manager I
7	Information Technology	Information Technology	Portfolio Manager
8	Information Technology	Operations	Project Manager I
9	Information Technology	Operations	Project Manager II
10	Information Technology	Operations	Project Manager II

Table 19: Organizational Information & Designation of Participants

During the focus group discussions, a few of the opinions and views expressed were more personal than others. Many of the comments were based on past or current experience and were either very constructive or very enthusiastic. Regardless, the opinions and views points are all important contributions to the finalizing of the framework, and needed to be recorded and analyzed.

The discussions were recorded on a digital recorder and transcribed for analyses. In addition, the discussions were documented in writing as the discussions was being conducted.

6.3 Focus Group Discussions Analysis

Responses from the discussions were grouped together by the questions asked in the discussion guide. The discussions guide covered questions based on the preliminary critical success factors (CSFs) framework with leadership competencies. The questions asked in the discussions guide covered the following areas:

1. Feedback on the Framework: The four input factor areas:
    a. Project Leadership Competency Factors
    b. Project Team Factors
    c. Project Factors
    d. Organizational Factors

2. Feedback on the Framework: The one output criterion area:
    a. Project Success Measurement Criteria

3. Feedback on the Framework: Suggestions
    b. Improvement Suggestions

6.3.1 Discussion Responses: Project Leadership Competency Factors

Question 1: What do you think about the framework including the project manager's leadership competency as critical success factor (input) into achieving project success?

Responses: The participants expressed that they have often wondered themselves if others in the project management industry recognized that leading projects in today's competitive environment requires them to be effective leaders for their team, organization, and client.

They stated that they felt that the project industry normally focuses on the tools and techniques of project management and not the individual project manager. As a result, they get the impression that most organizations, clients, and key project stakeholders think with the right project management software system, cookie-cutter methodology, and templates that anyone can deliver a successful project.

All agreed and liked the concept of including the project manager's leadership competencies as a critical success factor. They expressed that being a project manager requires them to draw upon a certain combination of knowledge, past experience, skills, and personal characteristics in order to lead projects. Therefore, they felt that the using the fifteen leadership competencies grouped into three areas very effective.

The participants were surprised to find out that the current critical success factor frameworks and models do not specifically call out the leadership competencies of a project manager as a critical success factor.

They stated that the way the leadership competencies were broken down and categorized seemed very logical and intuitive. The participants felt that if they

did not have the definitions of the leadership competencies in front of them that they still would be able to figure out the definitions on their own. All agreed that in order to deliver a successful project that a project manager should exercise all 15 leadership competencies through-out the life-cycle of a project in varying degrees. However, they stated that depending on the size, type of project, and urgency factor that they may rely on certain competencies more than others. When I pressed the participants to elaborate they stated that for all projects especially high-profile projects would consider critical analysis and judgment key, followed by engaging communications, influence, and managing resources.

They commented that they all do currently exercise all 15 leadership competencies when they are engaged on a project, they just did not know the official leadership terminology or how to classify their actions.

Some mentioned the need for more industry education and marketing of project leadership as important to help increase the success rate of project delivery. They felt that if clients, organization, and key project stakeholders were more subconscious about the leadership competencies required of a project manager in order to achieve success everyone would benefit. More awareness could help project managers be an effective project leaders.

They suggested that ranking the leadership competencies within the framework might be helpful and or beneficial for other project managers.

6.3.2 Discussion Responses: Project Team Factors

Question 2: What do you think about including project team factors in the framework as a critical success factor (input) for achieving project success?

Responses: The participants all agreed that the project team personnel with regard to their skills actively contribute to project success. Great emphasis was given to developing project team personnel with the requisite skills to perform their function on the project in order to help increase project delivery success.

Of the four team factors, the participants felt that communication was the most indispensable for the team members to have. They stated that communications is essential with the project team itself, the organization, and the client. If a team member is not able to effectively communicate status, risks, solutions, or issues for escalation resolution than the effectiveness of the team is diminished. Communication is not only essential within the project team itself, but between the team and the rest of the organization, as well as with the client.

The participants agreed that technical background, trouble shooting skills, and commitment along with communications skills are important factors in contributing to project success. Possessing the four team factors (communications skills, technical background, trouble shooting skills, and commitment) help the project team members perform their specific team responsibilities and tactical actions more effectively, which in turn helps the

project complete successfully. Emphasis was given on how critical the team members skill set is during the implementation phases of a project.

The participants mentioned that if a team member does not have the right still set to strategically or tactically add to the project success that it is up to the project manager leadership abilities to ensure that the team member does not jeopardize the success of the project.

They suggested that ranking the team members within the framework might be helpful and or beneficial for other project managers in helping to educate all project stakeholders. They believe that communications skills and technical skills are the top two ranking team member skills to have in order to help the project execute successfully.

6.3.3 Interviewee Responses: Project Factors

Question 3: What do you think about including project factors in the framework as critical success factors (input) into achieving project success?

Responses: It was interesting to discover that the participants agreed that project factors are an input to project success, but only because it helps the project manager gauge the type of leadership competencies they need to employ, and the strategic and tactical approach they need to take.

This is especially so when the project is categorized as urgent. They all strongly expressed that the performance of a project manager and project team is highly impacted by factors related to the density of the project tasks and the uniqueness of the project activities when the project is urgent.

The participants suggested that the project size and value be removed because based on their years of collective experience the project size and value does not affect the criticality related to success or failure. They felt that there is no notable effect or impact and should therefore be removed from the list of critical success factors.

The participants also suggested that life cycle be removed. They stated that the life cycle is something that can be engineered and controlled; therefore it does not impede on the success of a project. It also has no notable effect or impact and should therefore be removed from the list of critical success factors.

6.3.4 Discussion Responses: Organizational Factors

Question 4: What do you think about including organizational factors in the framework as critical success factor (input) into achieving project success?

Responses: The ten participants eagerly expressed that they felt that the success or failure of a project is significantly influenced by the organizational factors. Having the right organizational factors in place enhances a projects opportunity for success, while the lack of it could threaten failure. As a project manager, they

stated that if the organizational factors were not in their favor or lacking that they would try to counter or compensate for any negative factors present by utilizing their leadership skills (15 leadership competencies).

They commented that project managers have a better opportunity for project success if they understand whether or their organization provides any of the four organizational factors: top management support, project champion, functional manager's support, and project organizational structure.

The participants agreed that top management support is the most important critical organizational factor for project success. If the project has top management support the participants believe that the other organizational factors will fall in line (project champion, functional manager's support, and project organizational structure).

It was expressed that project organizational structure matters more when there is a formalized project management office or program management office. It is important, but in a non-projectized organization it is not as critical.

In general, all participants felt that organizational factors make a world of difference between success and failure. They suggest that educational materials be developed to help all project stakeholders, especially project managers and project sponsors understand the counteractions for adverse impacts and trade-offs when faced with less than favorable organizational factors.

6.3.5 Discussion Responses: Project Success Criteria

Question 5: What do you think about including project success criteria in the framework as critical success factors (input) into achieving project success?

Responses: They participants commented how they like the fact that the project success criteria provided in the framework was objective and tangible compared to others they have seen published in the project management industry that were more holistic, therefore subjective and intangible. They went on to express that they think the project success criteria framework will be a more effective measure to use than the traditional iron triangle criteria of being on time, in scope, and on budget.

The participants realized that different success criteria are currently used on different types of projects, but the participants strongly expressed their opinion that they think the project success criteria in the framework is comprehensive enough to be representative of most all projects types.

By using the six project success criteria in the framework *(client satisfaction with project results, meeting user requirements, meeting defined project success factors, meeting project goals and objectives, end-user satisfaction, and other stakeholder satisfaction)* they felt that the education and communication component of stakeholder management will be more transparent because they can proactively measure what criteria are on target through-out the project lifecycle. They do not have to wait to measure success or failure at the end of the project. They can use the project success criteria as

a weekly, bi-weekly or monthly temperature check, or whenever they produce their project status or update reports to key stakeholders.

The participants think the inclusion of the six project success criteria in the framework is very important because it provides an understanding of how success will be defined and therefore managed. In addition, it facilitates the dialog and defining what success criteria are important, and how to measure them early in the planning phases of a project between the project team, organization, and client.

It was suggested by the participants that the framework would benefit by having supporting training materials to help educate project managers, teams, and the organization on how to optimize the usage of the project success criteria for clients, and ultimately the project

6.4 Summary of Chapter 6

Ten project management professionals reviewed the preliminary critical success factors (CSFs) framework with leadership competencies, and were gathered in a group setting to encourage feedback and discussions. The participants' designation ranges from Project Manager I to Portfolio Manager and all the participants participated in the questionnaire survey. The focus group discussions served as reinforcement and triangulation to determine finalize the preliminary framework developed based on findings from the literature review, and data analyses of the questionnaire survey.

It was discovered during the discussions that implementing the concept of critical success factors successfully on projects has been an ongoing challenge for project managers because most organizations and clients feel comfortable using the traditional iron triangle criteria of being on time, in scope, and on budget. Despite the fact that measuring on time, in scope and on budget is easy to understand and measure, it only offers a flat view of whether or not the project is successful. The participants believe the project success criteria framework will be a more effective and accurate measurement that will present a multi-dimensional view of project success.

Notable suggestions to improve or enhance the framework by participants are as follows:

- Training materials to help educate project managers, teams, and the organization on how to optimize the usage of the framework would help increase adoptability. In particular, framework areas focusing on six project success criteria, organizational factors, and fifteen leadership competencies.

- Ranking the leadership competencies within the framework might be helpful and or beneficial for other project managers.

- The life cycle should be removed under project factors. Participants stated that the life cycle is something that can be engineered and controlled; therefore it does not impede the success of a project. It also has no notable effect or impact and should therefore be removed from the list of critical success factors.

In conclusion, the ten participants who reviewed the preliminary critical success factors (CSFs) framework with leadership competencies, and agreed that it was a tool that could help project professionals improve the delivery of successful projects with or without suggested changes made.

CHAPTER 7:

CRITICAL SUCCESS FRACTORS FRAMEWORK WITH LEADERSHIP COMPETENCIES

7.1 Introduction

As a result of the literature review, survey questionnaire, and discussions the critical success factors framework with leadership competencies for successful project delivery was developed. It was discovered that input factors and project success criteria provided in the framework was objective and tangible compared to other project success criteria frameworks that have been published in the project management industry which seem to be more holistic, therefore subjective and intangible. In addition, this project success criteria framework will provide more effective success measurements to use than the traditional iron triangle criteria of being on time, in scope, and on budget.

This chapter objective is to describe the framework developed from this research study. The framework is developed to help project professionals' deliver successful projects, and be utilized as a tool to help educate project teams, the organization, and clients on the constructs of what it take to deliver a successful project and how to measure project success. The framework and its development stages are described in detailed, followed by a description of the framework factors, and the recommended methodology for implementation.

7.2 Framework Development

The critical success factors (CSFs) framework with leadership competencies developed for this research is based on proven factors that were selected with the aim of helping project professionals' deliver successful projects. The framework takes into consideration several critical success constructs such as leadership competencies, project team factors, project factors, organizational factors, and project success criteria.

The overall framework for this research is developed by building a block of ideas for theories (Grix 2001). The conceptual framework for this PhD research has been developed from the following:

- Leadership competency profiles identified in recent studies on leadership in project by management Geoghegan and Dulewicz (2008), Muller and Turner (2007), Muller and Turner (2009), Young and Dulewicz (2006), Wren and Dulewicz (2005).

- Factors related to the project and the project team were identified in the studies from Crawford et al. (2005), Belassi and Tukel (1996), Morris and Hough (1987), Tukel and Rom (1995).

- Project success factors were identified in the studies from Pinto and Slevin (1998) and Turner and Buller (2005).

- Findings from the questionnaire surveys.

- Feedback and suggestions from the focus group discussions.

7.3 Description and Overall Discussion

To address the research questions and objectives, the framework goal is to help project professionals improve the delivery of successful projects by focusing on the four input factors and one success criteria measurement (see below).

The input factors breakout is as follows:

A. Project Leadership Competency Factors

1. Intellectual (IQ)

- Critical analysis & judgment
- Vision & imagination
- Strategic perspective

2. Managerial (MQ)

- Engaging communications
- Managing resources
- Empowering
- Developing
- Achieving

3. Emotional (EQ)

- Self-awareness
- Emotional resilience
- Motivation
- Sensitivity

- Influence
- Intuitiveness
- Conscientiousness

B. Project Team Factors

- Technical background
- Communication skills
- Trouble shooting
- Commitment

C. Project Factors

- Urgency
- Strategic Importance
- Complexity
- Independencies between activities
- Uniqueness of project activities
- Size and value
- Life cycle

D. Organizational Factors

- Top Management Support
- Project Organizational Structure
- Functional Managers Support
- Project Champion

The output and measurement criteria breakout is as follows:

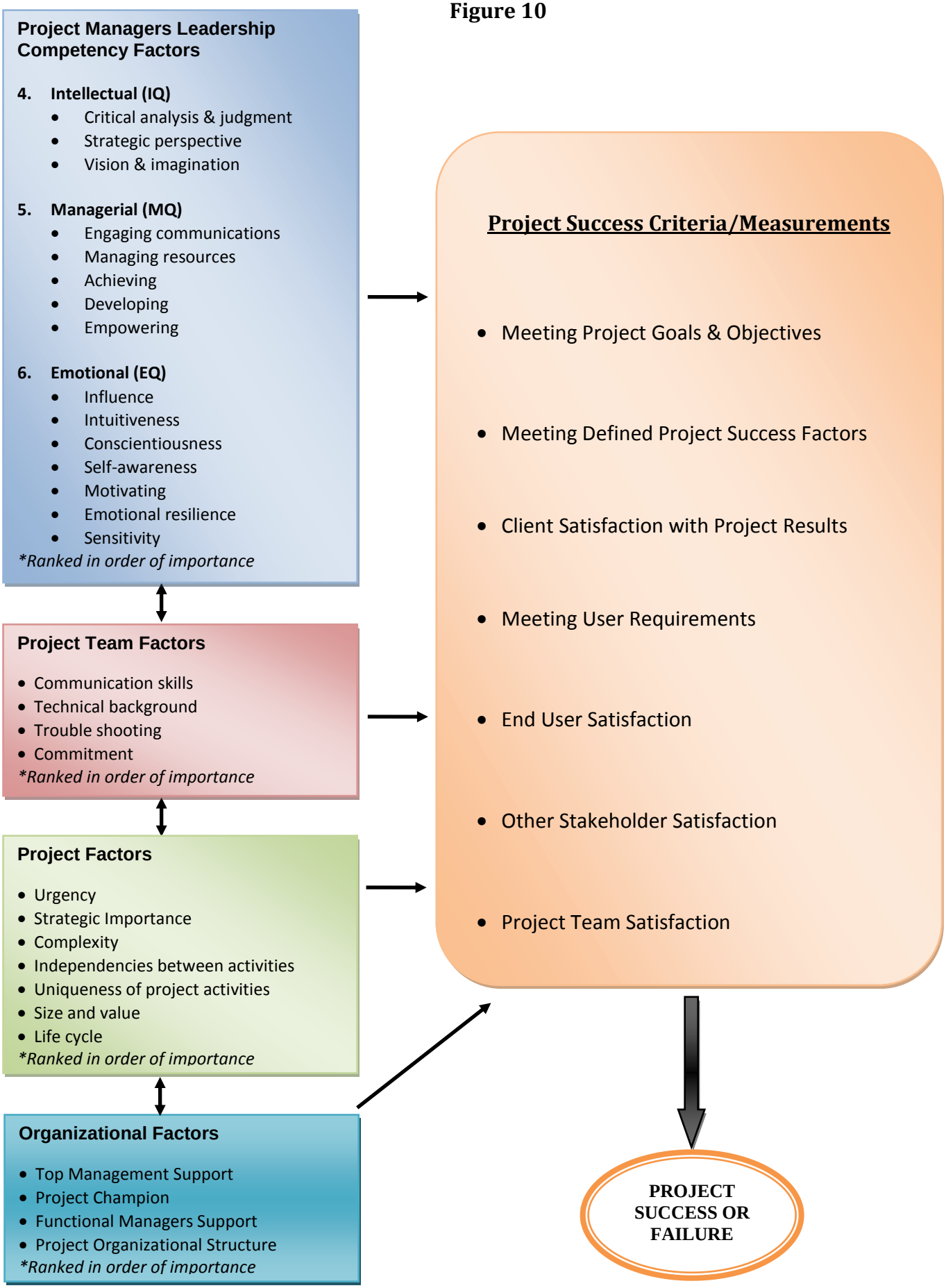
A. Project Success Criteria/Measurements

- Client Satisfaction with Project Results
- Meeting User Requirements
- Meeting Defined Project Success Factors
- Meeting Project Goals & Objectives
- End User Satisfaction
- Other Stakeholder Satisfaction

These factors are critical inputs to achieving project success. To effectively use the framework requires that the right competencies, skills sets, and organizational components are in place, as well as active participation from the project manager, project team, project client, and organization. Otherwise the framework can be utilized as a tool to help educate project teams, the organization, and clients on the constructs of what it takes to deliver successful projects, and how to measure project success. Each element has been developed to present the framework in a more systematic way that demonstrates how the interactions between the factors are critical to achieve project success. In addition, it helps project managers, project teams, and all other stakeholders understand how overlooking a factor could affect whether or not the project outcome is a success or failure. Below is the finalized critical success factors (CSFs) framework with leadership competencies (see figure 10) that will be described in detail in this chapter.

Final Critical Success Factor (CSF) Framework with Leadership Competencies to Deliver Project Success

Figure 10



***NOTE: The factors and project success criteria are listed in order of importance.**

This is not meant to be used as an evaluation tool.

7.4 Project Managers Leadership Competency

Based on the literature review it was discovered that leadership style and competence are seldom identified as critical success factors on projects (Limsila and Ogunlana, 2007 and Muller and Turner, 2005). According to the research conducted by Gharehbaghi and McManus (2003) they concluded, "That effective leadership is essential for every project and leadership behaviour is an important variable having a significant impact on the success of project management." Competence has been defined by Boyatzis (1982) and Crawford, (2003) "As a specific combination of knowledge, skills, and personal characteristics" (Muller and Turner, 2010).

Therefore, this research deems it necessary to include the project manager's leadership competencies in the framework. Leadership competencies can be classified into four types (Dulewicz and Higgs, 2003; Kets de Vries & Florent-Treacy, 2002; Marshall, 1991; Zaccaro et al., 2001): (1) Cognitive, (2) Behavioral, (3) Emotional, (4) Motivational. However, three types of competencies can explain performance (Dulewicz and Higgs (2003):
(1) Intellectual - IA, (2) Managerial Skill – MQ, and (3) Emotional – EQ. In addition, fifteen leadership dimensions have been identified under the three types of competencies that breakdown as follows: seven emotional competencies, three intellectual competencies, five managerial competencies.

In order to deliver a successful project it is suggested that the project manager should exercise all 15 leadership competencies through-out the life-cycle of the project in varying degrees

The framework allows the leadership competencies factors to be used as a guide and tool as follows:

(1) The project manager and project sponsor (owner) first must decide strategically how they want to manage their project and how they want to tactically execute it as well.

(2) Then the project manager must identify the important success criteria/measurements for their projects.

(3) Then the project manager must identify the leadership competency mix *(if not all the leadership competencies)* and other factors *(project team, project factors, and organizational factors)* that will help them deliver the desired criteria/success measurement.

Below are the leadership competencies and their definitions that have been identified as critical success factors (input) needed in order for a project manager to delivery project success. As discussed, the project manager can utilize the below definitions to help him or her identify the leadership competency mix, and other factors that will help them deliver the desired criteria/success measurement.

Note: The definitions have obtained from the research conducted by Muller and Turner (2010).

A. Intellectual Leadership Competence:

1) Critical analysis and judgment: the leader gathers relevant information from a wide range of sources, probing the facts, identifying advantages and disadvantages. Sound judgments and decisions making, awareness of the impact of any assumptions made.

2) Vision and imagination: the leader is imaginative and innovative. He or she has a clear vision of the future and foresees the impact of changes on implementation issues and business realities.

3) Strategic perspective: the leader is aware of the wider issues and broader implications. He or she balances short and long-term considerations and identifies opportunities and threats.

B. Managerial Leadership Competence

4) Resource management: the leader organizes resources and co-ordinates them efficiently and effectively. He or she establishes clear objectives and converts long term goals into action plans.

5) Engaging communication: the leader engages others and wins their support through communication tailored for each audience. He or she is approachable and accessible.

6) Empowering: the leader gives direct reports autonomy and encourages them to take on challenges, to solve problems and develop their own accountability.

7) Developing: the leader encourages others to take on ever more-demanding tasks, roles and accountabilities. He or she develops others' competencies and invests time and effort in coaching them.

8) Achieving: the leader shows an unwavering determination to achieve objectives and implement decisions.

C. Emotional Leadership Competence

9) Self-awareness: the leader is aware of his or her own feelings and is able to recognize and control them.

10) Emotional resilience: the leader is able to maintain consistent performance in a range of situations. He or she retains focus on a course of action or the need to obtain certain results in the face of personal challenge or criticism.

11) Intuitiveness: the leader arrives at clear decisions and is able to drive their implementation in the face of incomplete or ambiguous information by using both rational and emotional perceptions.

12) Interpersonal sensitivity: the leader is aware of and takes account of, the needs and perceptions of others in arriving at decisions and proposing solutions to problems and challenges.

13) Influence: the leader can persuade others to change a viewpoint based on the understanding of their position and the recognition of the need to listen to this perspective and provide a rationale for change.

14) Motivation: the leader has the drive and energy to achieve clear results and make an impact.

15) Conscientiousness: the leader displays clear commitment to a course of action in the face of challenge and matches 'words and deeds' in encouraging others to support the chosen direction.

7.5 Project Team Factors

Critical success factors developed by Martin, 1976; Baker, Murphy, and Fisher, 1983; and Pinto and Slevin, 1989 all included project team related factors because their research findings concluded that a project team member's ability and competence are critical to the success of a project, and the contributions made directly impact the project positively or negatively.

Per a statement made by Pinto and Slevin (1989), "Some current writers on implementations are including the personnel variable in the equation for project team performance and project success." In addition, a contingency model for the implementation process developed by Hammond (1979) included people (team members) knowledge, skills, goals, and personalities as part of assessing the environment of the organization for success.

Team members not only affect the project performance, but they can influence all key stakeholders, and impact the client. To ensure that the project team factors are not overlooked the framework for this research has also included it.

The framework allows the team factors to be used as a guide and tool as follows:

(1) The project manager and project sponsor (client) first must decide strategically how they want to manage the project and how they want to tactically execute it as well.

(2) Then the project manager must identify the important success criteria/measurements for the project.

(3) Then the project manager must identify the critical project team factors and other critical factors *(leadership competency factors, project factors, and organizational factors)* that will help them deliver the desired criteria/success measurement.

Below are the project team factors and their definitions that have been identified as critical success factors needed in order for a project manager to deliver project success. As discussed, the project manager can utilize the below definitions to help them identify the project team mix, and other factors that will help deliver the desired criteria/success measurement.

A. Project Team Factors

1) Technical background – The team member has the necessary skills and technical expertise needed to help contribute to the successful completion of the project.

2) Communication Skills – The team member has the aptitude ability to effectively communicate and provide the necessary exchange of information and data with the project manager, client, and organization concerning all key project tasks, issues, and status.

3) Trouble shooting – The team member has the aptitude to take an active part in the monitoring and troubleshooting of the project throughout the lifecycle in order to increase the quality the project activities and deliverables.

4) Commitment – The team member has the sufficient commitment towards the project goals, objectives, project team, and established success criteria in order to help increase the projects likelihood of success.

7.6 Project Factors

The project manager's performance on the job can be heavily influenced by the project factors. Belassi and Tukel (1996) stated in their research, "project characteristics have long been overlooked in the literature as being critical success factors, whereas they constitute one of the essential dimensions of project performance."

Project managers have to determine the project management tools, methods and approaches they should utilize based on project factors they are dealt. To ensure that project factors are not overlooked the framework for this research has also included it.

The framework allows the project factors to be used as a guide and tool as follows:

(1) The project manager first must decide strategically how they want to manage the project and how they want to tactically execute it as well.

(2) Then the project manager must identify the important success criteria/measurements for the project.

(3) Then the project manager must identify the critical project factors and determine whether or not there are any additional challenges that they may need to mitigate, and determine how they can effectively leverage the other critical factors *(leadership competency factors, project team factors, and organizational factors)* to help them deliver the desired criteria/success measurement.

Below are the project factors and their definitions that have been identified as critical success factors that a project manager needs to understand and navigate in order to deliver project success.

A. Project Factors

1) Complexity – In general it is when a project consists of many varied interrelated constructs that make it unpredictable and dynamic. In general, it is an accepted set of dimensions that it represents project complexity such as schedule, cost, team size, urgency, risk, and external constraints and dependencies

2) Size & Value – Involves determining the relative size of a project effort and the benefits (value) it offers. Below are the approaches to help determine project size and value:

   i. Sizing can be determined by factors such as:

      - Total financial resources available
      - Number of team members involved
      - Number and size of deliverables to be produced
      - Complexity of deliverables to be produced
      - Timeframes involved in delivery
      - How the project will help meet the customer's needs

   ii. Value can be determined by factors such as:

      - Operational savings
      - Improved customer satisfaction
      - Increased revenue and market share
      - Improved employee satisfaction

3) Interdependencies between activities - The relationship in which each project task or activity is mutually dependent on others.

4) Uniqueness of project activities – Represents activities that are not considered standard activities a project has, which makes is more difficult for project managers to plan, schedule, and monitor their projects.

5) Urgency – The project is of pressing importance and must be implemented within as soon as possible time frame, or a pre-defined schedule that is aggressive due to its condition of being urgent.

6) Strategic Importance - Highly important to an intended organizational or client objective, or essential in relation to the organizations plan of action.

7.7 Organizational Factors

Ruskin and Estes (1986) stated "The success of a project is greatly influenced by the organizational environment surrounding it. Some organizational factors enhance a project's chance of success, while others threaten it." Their researched provided evidence that a project manager is able to improve their project changes of success if they understood how the organizational factors affect their projects, and how to characterize the organizational factors that can help them and those that can act against the project. In a research conducted by Young and Jordan (2008), they were able to prove that top management support is not simply one of the many critical success factors, but the critical success factor.

Based on the research evidence found during the literature review, a project manager is able to improve their project changes of success if they understood how the organizational factors affect their projects, and how to characterize the organizational factors that can help them and those that can act against the project.

Project managers have to determine the project management tools, methods, and approaches they should utilize based on the organizational factors that they are dealt. Therefore, it is essential that the framework has the organizational factors included in it.

The framework allows the organizational factors to be used as a guide and tool as follows:

1) The project manager first must decide strategically how they want to manage the project and how they want to tactically execute it as well.

2) Then the project manager must identify the critical success criteria/measurements for the projects.

3) Then the project manager must identify the critical project factors and determine whether or not there are any additional challenges that they may need to mitigate, and determine how they can effectively leverage the other critical factors *(leadership competency factors, project team factors, and organizational factors)* to help them deliver the desired criteria/success measurement.

Below are the organizational factors and their definitions that have been identified as critical success factors that a project manager needs to understand and navigate in order to deliver project success.

A. Organizational Factors

1) Top Management Support – Provides the project manager with authority, direction, support, and access to resources.

2) Project Organization Structure – The organizational structure that the project manager delivers projects in. The organizational structure is normally classified as weak/functional matrix, balanced/functional matrix, or strong/project matrix.

3) Project Champion – An individual helps the project manager and project team understand and achieve the project objectives, which are specified by the client and/or top management. They help legitimizes the project's goals and objectives, keeps abreast of key project activities, and who could also be the ultimate decision-maker for the project.

4) Functional Managers – A manager who has management authority over an organizational department or business unit.

7.8 Project Success Criteria/Measurements

A project that is professed as a success by a project manager, team members, or the organization might be perceived as a failure by the client. Project success is not a fixed target. Jugdev and Muller (2005) reviewed the changing understanding of what constitutes project success. In the 1980s, there was a heavy focus on the use of the correct tools and techniques. Wateridge (1995) did suggest that in deciding how to manage their projects, project managers should first identify the critical success criteria for their projects, and then identify success factors that will help them deliver those criteria, and then choose tools and techniques associated with those factors.

Lim and Mohamed (1999) pointed out in their research that there is doubt more times than, not on what and who ultimately determines project success. More importantly they defined

the definition between criteria/criterion and factor as follows: (1) Criteria/criterion equals the set of principles or standards by which judgment is made, and (2) Factor(s) are the inputs or influences that contribute to the end result.

Project managers have to work with the project sponsor/client to determine how to define project success. Therefore, it is essential that the framework has the project success criteria to help define and determine whether or not a project is successful.

The framework allows the project success criteria to be used as a guide and tool as follows:

1) The project manager first must decide strategically how they want to manage the project and how they want to tactically execute it.

2) Then the project manager (along with the project sponsor/client) must identify the critical success criteria/measurements for the projects.

3) Then the project manager must identify the critical factors *(leadership competency factors, project team factors, project factors, and organizational factors)* and determine how they can effectively leverage them in order to deliver the desired project success criteria.

Below are the project success criteria. However, definitions have been excluded because it is between the project manager and project sponsor/client to define and determine them as they are specific to the project itself and cannot be generalized.

A. Project Success Criteria

1) Client Satisfaction with Project Results
2) Meeting User Requirements
3) Meeting Defined Project Success Factors
4) Meeting Project Goals & Objectives
5) End User Satisfaction
6) Other Stakeholder Satisfaction

7.9 Summary of Chapter 7

Chapter seven aimed to present a description of the constructs of the developed framework for critical success factors that include leadership competences to deliver project success. Historically, leadership competences have been discussed as a potential critical success factor but never identified and included into a critical success factors framework. Therefore, it is important to note that this is the first time leadership competencies have been included into a critical success factors framework.

Clarification was provided on the development stages of the framework and how it was designed. A breakdown of the framework constructs was then presented to highlight the interrelationship between the factors and success criteria. The description of the framework elements, factor definitions, and guidance on how to utilize both the factors and success criteria was provided in order to optimize the project manager's opportunity of delivering successful projects.

CHAPTER 8:
CONCULSION AND RECOMMENDATIONS

8.1 Introduction

In the previous two chapters (ch. 6 and ch. 7) the research results, findings, and discussion analysis were detailed and described. This chapter aims to: (1) discuss the key findings, (2) identify the contributions to knowledge, (3) address research limitations, (4) discuss future research potentials, and (5) provide research conclusions. This chapter will also describe the critical success factors that include leadership competences, and how they can help improve the successful delivery of a project, thus achieving the research aim and objectives to deliver project success.

8.2 Summary of Research

Projects over the last twenty years have become an increasingly common way of work. In the race to create business value, organizations have turned to utilizing project management to help them move to positions of competitive advantages. Delivering successful projects is extremely important across all industries because of the operational efficiencies and strategic advantages they deliver; they are the engines that drive innovations from idea to commercialization.

Critical success factors are common in projects today as a means of assessing projects (Nixon, Harrington and Parker, 2011). Project success factors as covered in project management literature surprisingly do not usually mention the project manager's leadership

competence as a success factor for projects (Turner and Muller, 2005). While leadership has long been recognized as a success factor at the organizational level, it was not until recently that this concept was recognized in the realm of project management (Dvir, *et al.,* 2006); Turner and Muller, 2005, 2006). Consequently, the literature review revealed that leadership competences has been discussed as a potential critical success factors, but never specifically identified and included into a critical success factors (CSFs) framework.

To address the research objectives and questions, an investigation of the critical success factors that include leadership competences to help deliver a successful project was conducted by reviewing the most relevant literature pertaining to both leadership in general and project leadership. The findings of the literature review were also supported by the quantitative and qualitative study conducted.

A number of critical success factor frameworks have been reviewed in the literature that provide project professionals and organizations with the tools on how to determine and analyze critical success factors, and how to respond to these factors in order to help deliver successful projects (Koutsikouri, Austin and Dainty, 2008; (Belassi & Tukel, 2006; Spalek, 2005; Pinto and Slevin, 1989; DeWit, 1988; Morris and Hough, 1987; Lock, 1984; Baker, Murphy, and Fisher, 1983; Cleland and King, 1983; Martin, 1979). However, the frameworks are limited and do not include leadership competencies as a factor. To decrease the limitations in the current critical success factors framework used in today's industry, this research study presented a critical success factors framework to help project managers deliver successful projects which integrates leadership competencies into it.

The framework contributes to the industry by identifying the leadership competencies gaps and best critical success factors that could influence how a project manager successfully delivers a project. The framework takes into consideration several critical success constructs, such as leadership competencies project team factors, project factors, organizational factors and project success criteria. Taking into account these factors and criteria will provide project professionals with the effective guidance and understating that contribute to achieving both project success and project management success.

The development of this framework was an evolutionary progression that went through the following process:

1. Questionnaires were distributed through an online survey in order to gain maximum awareness and participation among the respondents.

2. Data analysis was conducted to understand what success factors and leadership competencies are valued practiced by the respondents (targeted project professionals).

3. The literature review and data analysis provided the research with comprehensive information, which was used to develop a preliminary framework to help project professionals achieve project success.

4. The framework was presented as a preview to a group of 10 respondents of the survey in a focus group discussion format to obtain their feedback and comments to help improve and finalize it.

5. The focus group discussions provided the flexibility, as well as an opportunity for respondents to raise important comments, suggestions on the preliminary framework. This helped provide cross validation in order to finalize the framework.

Following the completion of the focus group discussions, an analysis of the results and findings were applied to produce the finalized framework, conclusion, and recommendations for this study.

8.3 Key Findings and Contributions

Understanding the key findings and contributions of this research is paramount in order to measure the level of achievement of the research aims and objectives. The achievement of the research aims is based on the investigation of critical success factors and criteria that have the potential to significantly impact the project delivery success rate. This research's ability to understand the related constructs in delivering projects successfully was based on identifying what inputs have been known and used to make projects successful from the literature. The in-depth review of the related literature help tremendously to conclude what factors and criteria effectively contributed to project success, these provided the foundation for establishing the five elements of the research framework supported by the questionnaire survey and focus group discussions.

Even though delivering successful projects is a result of how the project manager is able to effectively manage and juggle the interrelationships and dependencies of the critical success factors, the outcomes from the literature review and quantitative and qualitative study demonstrate understanding how to utilize the critical success factors identified in the framework can help achieve a higher project delivery success rate.

As a result of this research study examination and investigation, achieving the research aims has contributed to the existing body of literature on critical success factors for projects by including leadership competencies of project managers as a critical success factor into a

framework. Historically, leadership competences have been discussed as a potential critical success factors but never identified and included into a critical success factors framework

Identifying and adding leadership competencies of project managers as a critical success factor into the framework achieved the proposed research questions. In addition, the research has contributed to the theory by addressing the research problem through the examination of related research and studies to support the development of the research framework. Synthesising the related research and studies conducted with outcomes from the questionnaire surveys enabled the researcher to develop an initial framework to examine the key factors that contribute to project delivery success. The findings and outcomes of the literature review and questionnaire surveys were the main sources and tool for adjusting, modifying, and finalizing the framework. Finally, this research study has recognized several implications and recommendations as a result of it.

By examining the leadership competencies of project managers as a critical success factor to projects success, this study has contributed to the existing body of literature on critical success factors for projects, and benefit both project practitioners and project-oriented organizations.

8.3.1 Contributions to Knowledge

As illustrated throughout the research, the success factors identified did not include or even take into consideration the project manager's competence Muller and Turner (2010). Slevin and Pinto (1986, P. 57) stated, "The project manager needs to know what factors are critical to successful project implementation." Consequently, to date there are no specific critical

success factor framework for project delivery success that includes the project manager's leadership competencies.

This research helped fill the gaps by creating a framework that includes the leadership competencies of project managers as a critical success factor for project delivery success. Therefore, this study contributed to the existing body of literature on critical success factors for projects, and benefits both project practitioners and organizations who utilize projects.

Addressing the lack of research on including the project manager's leadership competencies on the list of critical success factors is the key contribution of this study. Although several past research studies have been conducted on critical success factors for projects, none of these studies actually added the project manager's leadership competencies to their critical success factors list or framework for project success. The framework created as a result if this research also contributes to and supports what Wateridge (1998) recommended in this study. Wateridge (1998) recommended that critical success criteria be identified first by project managers and then identify success factors what will help them deliver those criteria.

This study had made the following three key contributions to research in this field and the project management industry:

1. This study extended previous research on critical success factors by examining, identifying, refining, and categorizing which factors are critical to successful project implementation and delivery. This information will help project professionals understand on a high-level the requirements and constructs of the inputs to achieving project success, and therefore help increase the project delivery success rate.

2. This study drew together previous research on which leadership competencies is the most suitable to use in order to achieve project success. In addition to extending previous research on critical success factors this study identified and categorized which leadership competencies need to be included that can help increase the rate of project delivery success for project professionals

3. The current body of knowledge provides only a list of critical success factors and in some cases provides a framework incorporating the list of critical success factors identified into them. However, the lists and frameworks of critical success factors provided by other studies do not provide, identify, or integrate the project success criteria into them. The framework developed for this study takes into account how the factors and criteria are interrelated. Meaning the factors influence one another and the combination of several factors could impact the overall project criteria which is used to measure success or failure of a project.

   This study most importantly provides the means to help project professionals and organizations to identify the inputs or influences that contribute to the project's end result (known as factors), and identify the set of principles or standards by which judgment is made on whether or not the project was a success or failure (known as criteria/criterion)

8.3.2 Key Findings of the Research

The main conclusions and findings of the research are as follows:

1. It was more dominant in the past to rate projects as successful because they have met their time and schedule constraints. Projects use the measures of on time and on budget to characterize success because they are the easiest to quantify. However, project success criteria are used more commonly in projects today as a means of assessing whether or not a project is a success or failure.

2. The study of critical success factors (CSFs) has tremendously helped to contribute to a more comprehensive and in-depth understanding of what factors influences project success and failure across many industry sectors.

3. To help increase the likelihood of project delivery success, project managers during the project planning stage should first (a) identify the critical success criteria for their projects, and (b) then identify success factors that will help them deliver those criteria, and (c) then choose tools and techniques associated with those factors.

4. There is a significant difference between project manager success, project management success, and project success that must be understood. Project manager success is related to the successful realization of project management success and project success archived by the leadership efforts of the project manager. Project management success is related to the achievement of the triple constraints (time, cost,

quality, or other define goals set for project management), and project success is related to the realization of the planned criteria established.

5. Historically leadership competences have been discussed as a potential critical success factor but never identified and included into a critical success factors framework. However, the literature review discovered that many studies do acknowledge that effective leadership and leadership behaviour is essential for every project, and is deemed a key variable to the success or failure of a project.

6. Charismatic leadership and people-oriented/relations-oriented leadership was found to have negative connotations associated with them. This was uncovered during the focus group discussions, and evident in the respondents of the survey questionnaire. Leaders who are considered charismatic are viewed as not having follow through on actions promised. Charismatic leaders are associated with charming individuals who do not contribute any real value. People-oriented/relations-oriented leadership are viewed as biased and ineffective do to the subjectivity of the decisions made, and actions taken that are heavily influenced by favourable relationships. People and relations oriented leaders are bound by relationship, which is viewed to make it difficult for them to make objective based decisions that is relationship free.

7. To incorporate and take advantage of the best components from past research efforts, the critical success factors framework include on a high-level the following constructs:

    A. The four input factor areas:

        - Project Leadership Competency Factors

- Project Team Factors
- Project Factors
- Organizational Factors

B. The one output criterion area:

- Project Success Measurement Criteria

8. To incorporate and take advantage of the best components from past research efforts the critical success factors framework is broken down as follows:

The input factors breakout is as follows:

A. Project Leadership Competency Factors

1. Intellectual (IQ)

- Critical analysis & judgment
- Vision & imagination
- Strategic perspective

2. Managerial (MQ)

- Engaging communications
- Managing resources
- Empowering
- Developing
- Achieving

3. Emotional (EQ)

- Self-awareness
- Emotional resilience
- Motivation
- Sensitivity
- Influence
- Intuitiveness
- Conscientiousness

B. Project Team Factors

- Technical background
- Communication skills
- Trouble shooting
- Commitment

C. Project Factors

- Urgency
- Strategic Importance
- Complexity
- Independencies between activities
- Uniqueness of project activities
- Size and value
- Life cycle

D. Organizational Factors

- Top Management Support

- Project Organizational Structure
- Functional Managers Support
- Project Champion

The output and measurement criteria breakout is as follows:

A. Project Success Criteria/Measurements

- Client Satisfaction with Project Results
- Meeting User Requirements
- Meeting Defined Project Success Factors
- Meeting Project Goals & Objectives
- End User Satisfaction
- Other Stakeholder Satisfaction

9. The potential barriers to implement the framework successfully was found to be related to several factors such as:

A. The project industry normally focuses on the tools and techniques of project management, and not the individual project manager. As a result, organizations, clients, and key project stakeholders may get the impression that with the right project management software system, cookie-cutter methodology, and templates that anyone could deliver a successful project.

B. A great deal of industry education and marketing of project leadership and it's interrelationship to project delivery success is needed to help clients, organizations, and key project stakeholders be more subconscious about the

leadership competencies required in order to achieve success would benefit all parties.

C. Organizational factors such as top management support significantly impacts the outcome of a project. Having the right organizational factors in place enhances a projects opportunity for success, while the lack of it could threaten failure. If the organizational factors are not in favor of utilizing the framework it would make it very difficult for a project to successfully implement and benefit from it.

D. If the project manager or team member does not have the right skill set needed for the project, then it will be a challenge for them to strategically or tactically implement and execute the framework.

8.4 Limitations of the Research

Although the research has achieved its aims and objectives there were a few unavoidable limitations identified. This research was conducted on a small size of the population who responded to the questionnaire survey. The sample size that did respond was all from the same industry (information technology throughout the United States). To generalize the results for a larger group, the study should have gotten more participants to respond by using different email listings from other recognized Project Management Institute affiliates. As a consequence of the small size of the population who responded to the questionnaire survey, it impacted the focus group discussions sample size. Due to travel and budget constraints, potential focus group discussion participants were targeted based on their geographic location and proximity to the researcher. In addition, it is important to note that since the discussions were conducted during the summer time it was difficult to find more participates.

Gathering and collecting the research data, findings, and outcomes was accomplished by applying different approaches (quantitative survey and qualitative discussions) to help achieve a degree of validity to support other future research in this area. The research data and findings depended greatly on the clarity, transparency, and insights of the participants answers. Therefore, it was important to evaluate and measure the effectiveness of the data and information provided in order to increase the standing and strengthen of the research.

8.5 Recommendations for Future Research

The findings from the literature review, surveys conducted, and focus group discussions all confirm that leadership competence should be identified as a critical success factor on projects, and therefore should be added to the critical success factors framework. Today more and more project managers are more cognisant that their leadership competencies and performance are impacted by the project team factors, project factors, and organizational factors, and the cause-effect relationship among them. Project professionals need to further understand and analyse the cause-effect relationships between the factors in order to be able to be proactive in identifying and eliminating those that have a less than positive effect on their overall performance and outcome of the project.

As a result of the research findings it is expected to see additional future research concentrating on a broader sample group representing different industries and geographic locations worldwide concentrating on the cause-effective relationship between all the critical factors especially leadership competencies and its impact on meeting the criteria established.

Future research is required to further validate the updated critical success criterion and delineate the leadership approach that best delivers project success. In addition, future research has the opportunity to validate leadership competencies that are used in the updated framework against those adopted by the International Project Management Association, and the Association for Project Management.

8.6 Conclusions

The purpose and aim of this chapter are to present and summarize the key outcomes and conclusions of this research study, the contributions, the limitations, and the suggestions for future research direction. The research aimed to address whether or not leadership competencies should be added to the critical success factors framework in order to help project professionals increase the chances of delivering successful projects, and to develop a new critical success factors framework that includes leadership competencies. The ultimate goal was to make project professionals and other key project stakeholders aware and understand how effectively utilizing the new critical success factors framework could help increase the likelihood of delivering successful projects

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