Addis Ababa University

College of Business and Economics

MBA Program

Project Managers' Leadership Quality and Project Success in Construction Industry: The Case of Category A Construction Firms in Ethiopia

By Amanuel Haile

Advisor: Mohammed Seid (PhD)

June, 2019

Addis Ababa University

College of Business and Economics

MBA Program

Project Managers' Leadership Quality and Project Success in Construction Industry: The Case of Category A Construction Firms in Ethiopia

By Amanuel Haile

Advisor: Mohammed Seid (PhD)

A Thesis Submitted to Addis Ababa University, College of Business and Economics, Department of Management in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

June, 2019

Addis Ababa, Ethiopia

Declaration

I, the undersigned, declare that this study entitled **"*Project Managers' Leadership Quality and Project Success in Construction Industry: The Case of Category A Construction Firms in Ethiopia*"** is my own work. I have undertaken the research work independently with the guidance and support of my advisor. This study has not been submitted for any degree or postgraduate program in this or any other institutions and that all sources of materials used for the thesis have been duly acknowledged.

Declared by:

Name: Amanuel Haile

Signature: _____

Date: June, 2019

Place: Addis Ababa, Ethiopia

Addis Ababa University

College of Business and Economics

Statement of Certification

This is to certify that the thesis prepared by Amanuel Haile, entitled: ***Project Managers' Leadership Quality and Project Success in Construction Industry : The Case of Category A Construction Firms in Ethiopia"*** was carried out under the supervision of Mohammed Seid (PhD) and submitted in partial fulfillment of the requirements for the Degree of Master of Business Administration in Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Approved by:

Internal Examiner _____ Signature _____ Date _____

External Examiner _____ Signature _____ Date _____

Advisor _____ Signature _____ Date _____

Acknowledgement

In completing this study, I would like to give my foremost gratitude and thankfulness to Almighty God in helping me get through this journey from start to end. I would like next to thank my advisor Dr. Mohammed Seid for his unreserved assistance, insights, and advice. It is with deep gratitude and compassion that I thank my friends for their moral support and advice.

Finally, I would like to thank general managers, project managers and department heads of the construction companies for their positive support and response in collecting the required data of my sample study.

Table of Contents

LIST OF TABLES AND FIGURES

ACRONYMS

EQ - Emotional Competence

MQ-Managerial Competence

IQ- Intellectual Competence

PS-Project Success

LDQ-Leadership Dimensions Questionnaire

PSQ- Project Success Questionnaire

MN- Mean

SD- Standard Deviation

SPSS- Statistical Package for Social Sciences

ANOVA-Analysis of Variances

CLRM- Classical Linear Regression Model

Abstract

The purpose of this study is to examine the relationship between leadership competences of project managers and project success of construction projects undertaken by big construction companies in Ethiopia. The study adopted cross-sectional survey descriptive research with quantitative approach to test the research hypotheses. Using systematic random sampling, a sample of Fourteen (14) category A construction companies that have been implementing construction projects in recent years was selected. Forty two (42) project managers/leaders were obtained as a sample for the study. The result shows that project managers' emotional (EQ) and managerial (MQ) competences of leadership have statistically significant positive relationship with project success. However, no statistically significant relationship was found between project managers' intellectual (IQ) competence and project success. The overall finding of this study suggests that project manager leadership competences play important roles in achieving project success. The study recommends that companies should consider leadership competences when recruiting and assigning project managers for projects.

Key Words: Leadership, Leadership Competences, Project Success, Competence School of Leadership theory

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Leadership is likely to play a more important role in our life. Nowadays it has become a pressing issue for organization, communities and societies. Chief executive officers and managers, who have excellent leadership qualities, contribute to the achievement of an organization's objectives (Robbins and Judge, 2013).The literature on leadership is vast and this has resulted in several definitions. Cole (1996) considered leadership as a dynamic process in which one individual influences others to contribute to achievement of the group goals. Thus, leadership is a social influencingprocess in which the leader seeks active participation of the followers in the attainment of set goals.

One of the most significant trends in the socio economic activities in the world is the increasing amount of projects carried out across different sectors. Within a project set up, it is recognized that the project manager must provide leadership in order to ensure effective planning, coordination and control of project activities through application of appropriate project management knowledge and systems.

Moreover, existing literature acknowledges that an effective project manager should be not only technically qualified but should also have the necessary soft skills such asleadership and people management which are essential in his roles (Muzio, et al., 2007). Muzio, et al., (2007) also noted that 90-95 percent of project issues require soft skills suchas leadership, management, teamwork and communication.

Construction investment projects will need more leadership role as they are large-scale, diversified, influenced by the external environment, involvelong construction process and a large number of separate and closely correlated work groups. Since construction products and services affect the long-term socio-economic development of developing countries, the successful implementation of such projects hasimplication for each country and people. So in construction industry, effective project leadership is more pressing issue. Moreover, some argue that effective leadership is one of the main answers to the problems of the construction industry, especially for project issues in developing countries.

One of the key issues in project management is the criteria to be fulfilled in order to achieve project success. However, as noted by several researchers, there is no consensus on project success criteria that can be used across various projects (Khan, et al., 2014). This is in part due to the fact that different stakeholders perceive project success in a different way and a project that seems successful to the client may be unsuccessful venture for contractors, end users or other stakeholders (Toor & Ogunlana, 2010; Jugdev & Muller, 2005; Cookie-Davies, 2002). A review of existing literature shows a number of project success evaluation models are in use with the most commonly used model being the "Iron Triangle" or"Golden Triangle" in which project success is evaluated based on completion of the project within time, cost and quality (Atkinson, 1999). However, most researchers (Lim& Mohamed, 1999; Shenhar, 2001) have criticized the use of iron triangle criteria due to its simplicity in evaluating projectsuccess and have proposed inclusion of other aspects such as key stakeholders'satisfaction and future benefits to the organization and customers.

Leadership and project success have remained an interesting topic of various researchers.Several studies have been done internationally that show there is positive relationship between leadership competences and project success (Muller &Turner,2005;Geoghegan & Dulewicz, 2008;Munns and Bjeirmi, 1996; Khan et al., 2014; Liphadzia et al., 2015; Trivellasa & Drimoussis, 2013;Damayantiet al., 2018).For companies undergoing projects, leadership competence is required and is one of the project success factors, such that the project manager should exercise to lead the project team to project success (Dulewicz and Higgs, 2005 and Partington, 2007).

In Ethiopia, one of the major economic activities is the construction sector contributing to the socioeconomic development of the country.But poor project performance has been a national problem in this sector. It is also important to note that out of the construction project management community the project manager has full responsibility for the project management and its success or failure.

No research has been done on the link between leadership competences and project successin Ethiopian construction industry.Hence, this paper investigates the relationship between project managers'leadership competences and project successin category A construction firms in Ethiopia.

1.2 Statement of the Problem

The construction industry needs good leadership than arguably any other industry for its proper management and performance.Many reasons support this view and it is obvious due to the nature of the construction projects (Hillebrandt, 2000).

The essence of construction management is about responsibility what happens in a construction project and hence project leaders are responsible for all that. This does not mean that the project leader should or could do every activity associated with the project; but it does mean that he has the ultimate responsibility for the project.

Good leadership is vital in this industry because construction projects are large and technically complex and they involve a combination of specialized skills. Likewise, construction team members are not only large but are also multidisciplinary.Leadership is considered to be good if it is designed to accomplish the goal or mission of an organization through project team leading and project time managing, within budget, to high quality and with customer's satisfaction (Jarad, 2012).Since construction and project managers in the construction industry are responsible for the productivity of the project team members, they should maintain cohesion, motivate and inspire the team members within the project. Here leadership can be an aggregate of the project leader's self-related cognitive information, personality traits, the underlying motives and his understanding of operating situational variables (Toor and Ofori, 2008).

In our country, the construction industry project occupies greater share out of many types of projects that are carried out throughout the country.Various construction projects such as buildings, roads, dams, bridges and other infrastructures are being carried out which are the major economic activities. Such projects involve big investment, long duration, are complex, with diversified tasks,involving many stakeholders and are influenced by external environment factors. The successful completion of such projects will definitely contribute to the long term socio economic development of the country.

Even though due importance and emphasis are given to the construction projects, most of the projects are experiencing poor performances especially time and cost overruns which have become the norm rather than an exception. Consequently, there has been increased number of litigations, wastage of resources, negative reputation of contractors and professionals involved in unsuccessful projects. The main reason for construction project time and cost overruns can be

attributed to poor project management and leadership. Munns and Bjeirmi (1996) stressed that the success or failure of project management is greatly dependent on the project leader.

The above problems call for new research whether the project manager leadership competences are related with project success or failure, since there is some knowledge gap due to the fact that similar researches have not been done and attention was not given by relevant project management community whether project managers' leadership competences matter for project success in construction industry in our country.

Therefore, this study will examine the relationship between project managers' leadership competences and project success in construction projects that have been undertaken recently by category A construction firms in Ethiopia.

1.3 Research Questions

After completion of this research the questions which will be answered include the following

1. Do project manager's leadership competences have relationship with project success?
2. To what extent are project manager's leadership competences related to project success in the Ethiopian construction industry?
3. Which project manager's leadership competence is more related to project success?

1.4 Objective of the Study

The main objective of this paper is to examine the relationship between project manager's leadership competences and project success in construction projects in Category A construction firms in Ethiopia. The study is to find that whether the project success is influenced by leadership competences.

To realize it, three specific objectives are set:

1. To examine the relationship between project manager's leadership competences and project success.
2. To evaluate the extent of relationshipof project manager's leadership competences with project success
3. To identify which project manager's leadership competence is more related with project success.

1.5 Significance of the Study

Nowadays, project management is becoming increasingly important in organizations and plays an important role in the socioeconomic development of our country. Project success can be attributed to many factors, including the leadership competence of the project manager. Good leadership is vital key to the successful project performance of any firm or business.

Research into whether there is relationship between project manager's leadership competences and project success is of utmost importance. Thus, the results of this study will be useful to various relevant stakeholders and will make recommendations.

After completion of this research, the results will be important

- To show that there is definite relationship between project manager's leadership competences and project success in terms of time, cost, quality and stakeholders' satisfaction.
- To show which leadership competences is more related with project success.
- Its implication will be for construction companies to consider leadership competences when assessing, recruiting and allocating project managers
- To create awareness for project management community towards the importance of project managers' leadership competences for project success.

1.6 Scope of the Study

The scope of the research is limited to examining the relationship between project manager's leadership competences and project success in construction projects. Due to resource limitations, the study was focused in Addis Ababa area in which fourteen category A (big) construction companies were selected randomly out of 38 currently operating firms and which were undergoing projects in the last five years.

1.7 Organization of the Study

This research is organized into five chapters.

Chapter 1. Presents the introduction part of the study and explains the background and research problem of the study. It also addresses the research questions to be answered, the research objectives to be achieved, the significance and the scope of the study.

Chapter 2.Focuses on the review of various related literatures such as journals, articles and books etc. Also it explains the theoretical perspective and related empirical studies

on which the research is based in order to enable to formulate the conceptual framework and hypotheses of the research.

Chapter 3.Describes how the research is carried out in terms of research design, sample and sampling procedures, methods of data collection and data analysis.

Chapter 4.Documents the results of the data analyses and discussions

Chapter 5.Concludes the overall findings of the study and provides recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In recent years, competition has become increasingly intense between organizations, which results in higher organizational requirements to look for increased efficiency, profitability, lower operational cost, better product quality and increased market share. As a result of this, the leadership competences of managers and leaders are found to be important.Managers and leaders who have excellent leadership competences are always beneficial for the organizations and projects.This chapter examines both theoretical and empirical literatures on the importance of leadership and their relationship with project success.

2.2 Concepts and Definition of Leadership

The literature on leadership is vast and this has resulted in several definitions.There is no single accepted definition of leadership. It is a contested topic. According to Partington (2007) and Robbins and judge (2013), leadership is the ability to influence the activities of a group of followers in their efforts to achieve goals. Pedler, Burgoyne & Boydell (2010) suggest that leadership is a performance art in doing things meaning it is not only defined by any set of personal qualities and competences but also by what actually do things when we face with challenges.

According to Macdonald, Burke & Stewart (2006), leadership of any organization must influence and make sure that its employees contribute to the effort to achieve the goals within the laws and policies of the organization.Durbin (2002) claims that what makes leadership different from traditional management is the ability to achieve organizational goals by creating confidence and support among the people. (Hersey and Blanchard, 1982) viewed leadership as a consistent set of behaviors that a leader or manager applies when working with and through people. Here the important element is the set of behaviors that the leader should exercise to lead the people.

From the above discussions, thus, leadership is a social influencing process in which the leader seeks active participation of the followers for the achievement of the set goals of an organization. Moreover, these literatures acknowledge that an effective leader must not only be technically qualified which is the hard skill but must also possess the requisite soft skills such as leadership and people management which are essential in leading the organization.

2.3 Schools of Leadership Theory

There have been several major schools of thought or approaches to the study of leadership. Several authors present this development as stages of Schools of Leadership.Six of the most significant of these may be labeled as follows (Dulewicz & Higgs, 2003; Turner and Muller, 2005; Partington, 2007).

The Trait School of Leadership theory was wildly popular in the 1930 to 1940s. The idea behind the trait school of leadership research and theory is that effective leaders share common inherent personal qualities and characteristics. This school suggests that good leaders display certain traits which they are born with, not made. It focuses on three main areas of the traits of effective leaders.1) Capabilities which are technical knowhow and communication skill 2) Personalities which are self-confidence and emotional variables and 3) Physical traits that include size and appearance (Partington, 2007).

The Behavioral School of Leadership theory was popular in the 1940s to 1960s. Unlike the trait school, which assumes leaders are born not made, the basis of this school is that leadership behavior can be learned.This school assumes that effective leaders display given behaviors or styles, which can be developed and are not necessarily present at birth (Partington, 2007).

The Contingency School of Leadership suggests that what makes an effective leader would depend on the situation.This theory was concerned with the appropriateness of different leadership styles in different situations by matching the personal characteristics of a leader to the leadership situation (Partington, 2007).

The Visionary School of Leadership theory remained popular from the 1980s to 1990s onward which articulated that effective business leaders develop their organizations towards change.This school classifies leadership into transactional and transformational leadership styles where transactional leaders emphasize tasks, goals and performance through explicit and implicit contracts between leader and followers whereas transformational leaders emphasize the development of visions, presence of charisma, respect and trust between leader and the followers (Bryman,1996).

The Emotional Intelligence School of Leadership emerged shortly before the year 2000. This school underlies emotional capabilities are more important for leadership by emphasizing the leader's self and followers' emotions for better self-management and interaction between the leader and followers (Daniel Goleman, 1996).

Most recently the **Competence School of Leadership** emerged, which encompasses all the above schools. The focus of leadership research has nowadays shifted towards understanding the leadership competences of leaders (Partington, 2007).This school identifies 15 leadership competences which are grouped into three dimensions namely Emotional (EQ, comprising seven sub dimensions), Managerial (MQ, comprising five sub dimensions) and Intellectual (IQ, comprising three sub dimensions) (Dulewicz and Higgs,2005).

2.4 Project Manager's Leadership Competences

According to Boyatzis (1982) competence is a fundamental behavior or character of a person that results in effectiveness or efficiency at work. Crawford (2007) describes leadership competence as a combination of knowhow (ability to work), knowledge (qualification) and core personality traits (motives, traits and attitudes) that can contribute to perform a task or job effectively.

Most schools of leadership regard leadership competence as a combination of individual characteristics and competence aspects. In other words, it is a combination of skills and knowledge, such as empowerment and achievement, along with personal characteristics such as intuitions that make a leader (Hogan, 2002).

Thus from the above discussions,leadership competences can be any individual's traits, motives, attitudes or values, self-awareness, knowledge, skills, behavior or awareness that can be used to perform a task or job effectively and efficiently.

Nowadays the project manager's role has changed from directing or managing to leading and therefore, a project manager needs to have requisite leadership competences and skills (Ahmed and Azmi, 2014). Project management studies have highlighted the significance of project manager's leadership competences in achieving project success and therefore, different researchers have identified a number of leadership competences required for a project manager (Geoghegan & Dulewicz, 2008 and Crawford, 2003). Accordingly, leadership competences in project management literature have been classified into three main categories including emotional competences (EQ), managerial competences (MQ) and intellectual competences (IQ) (Turner and Muller, 2005).

2.4.1 The Emotional Competence (EQ)

The cluster of emotional competences addresses the interpersonal and social dimensions of leadership based on the book of *Emotional Intelligence* by Daniel Goleman (1996). The emotional intelligence in particular refers to a person's ability to perceive, identify and manage

his or her emotions as well as understanding and regulating those of others. Emotionally intelligent leaders drive the emotions of those they lead by creating resonance between the leader and those being led (Daniel Goleman, 1996). Thus the emotional intelligence perspective with its focus on the ability to read, understand and manage oneself and one's relationships with others reflects the thinking underlying the emotional competences cluster (Dulewicz and Higgs, 2005).According to (Trivellas and Drimoussis , 2013) successful project managers have higher levels of emotional intelligence as compared to their counterparts.The cluster of Emotional Competences is shown in table 1.

Table 1 Cluster of Emotional Competences

Motivation	Have drive and energy to achieve clear results and impact. Balance short- and long-term goals to achieve demanding goals in the face of rejection or questioning
Interpersonal Sensitivity	Listen, become aware and recognize the needs, perceptions, the reactions and inputs of others in arriving at decisions and proposing solutions to problems and challenges. Achieve the commitment of others to decisions and action
Conscientiousness	Have clear commitment to a course of action in the face of challenges and matches 'words and deeds' in encouraging others to support the chosen direction. Show personal commitment and an ethical behavior to a difficult business issue or problem
Influence	Persuade others to change views based on an understanding of their position and willingness by providing a rationale for the change
Self -Awareness	Become aware of one's own feelings and emotions and their impacts in a work environment and manage and control them
Emotional Resilience	Perform consistently under various situations under pressure and adapting one's behaviors accordingly. Balance the needs of the situation and task with the needs and concerns of the people involved in the work
Intuitiveness	Give clear decisions and implementing them by using rational and emotional or intuitive perceptions of key issues and implications when provided with incomplete or ambiguous information

Source: (Dulewicz and Higgs, 2005, pp. 112).

2.4.2 The Managerial Leadership Competence (MQ)

Managerial competences of a project manager play a crucial role in projects and these require a project leader to be able to provide consistent motivation and encouragement to his or her team.The managerial leadership competence resembles the most traditional application of management, which is planning, coordinating, guiding and controlling people for the effective achievement of objectives.The cluster of managerial competences is shown in table 2.

Table 2 Cluster of Managerial Competences

Managing Resource	Plan, organize and coordinate all resources efficiently and effectively. Set clear objectives, long-term goals and prepare action plans. Monitor and evaluate staff's work on a regular basis effectively, give sensitive and honest feedback to the staff
Engaging Communication	Have communication style that is appealing to engage others and win back their support. This style is tailored to the audience interests and is focused and clearly conveys instructions and vision to the staff. The communication style is approachable and accessible to inspire staff and audiences
Empowering	Give and encourage staff autonomy to take on personally challenging and demanding tasks, solve problems, produce innovative ideas and proposals develop a broad vision, forward positive critics and a broad perspective and challenge the existing practices, assumptions and policies
Developing	Believe others to have potential and encourage them to take and do on ever more-demanding tasks and roles. Ensure adequate support for direct reports by the staff. Identify new tasks and roles and hence allocate resources to develop staff's competences and coach them todevelop themselves and contribute effectively. Believe critical feedback & challenge are important
Achieving	Become willing to make decisions in the presence of significant risk to gain an advantage. Make decisions that are core business issues that have likely impact on success. Select and exploit opportunities that bring about greatest benefits to the organization and its performance. Have unwavering determination to achieve objectives and implement decisions

Source: (Dulewicz and Higgs, 2005, pp. 112).

2.4.3 The Intellectual Leadership Competence (IQ)

The intellectual competences refer to intelligence, ability of understanding the work, performing problem solving and cognitive activities such as connecting and applying relevant concepts, systematic thinking and recognizing patterns (Lee, J., Park and Lee, H., 2013 and Turner and Muller, 2005).Intelligence generally refers to the mental abilities for handling of and reasoning about information. Intelligence has always been perceived as a trait of successful leaders.To inspire people, bring about ideas and solve problems creatively, leaders need to be mentally sharp (Durbin,2002).The need for cognitive capabilities arises from the need of leaders to acquire process and analyze a large amount of information, then judge upon the results of the analyses and develop a creative vision and a strategy to implement this vision.So it is more important to put intelligent individuals in management positions (Durbin, 2002).The cluster of intellectual competences is shown in table 3.

Table 3 Cluster of Intellectual Competences

Strategic Perspective	See the wider issues and broader implications. Explore a wide range of relationships among stakeholders and balance short and long-term considerations
Vision and Imagination	Be imaginative and innovative in all aspects of work. Establish sound priorities for future work. Set clear vision of the future direction of the organization's business goals. Anticipate the impact of changes on one's vision that reflects the implementation issues and business realities
Critical Analysis and Judgment	Perform critical analysis of facts, identify advantages and disadvantages and understand the shortcomings and impacts of ideas, proposals and assumptions. Make sound judgment and decisions based on reasonable assumptions and factual information

Source: (Dulewicz and Higgs, 2005, pp. 111).

2.5 Project

What is a project? According to a Guide to the Project Management Body of Knowledge (PMBOK, 2013, pp.3), *"*a project is a temporary endeavor undertaken to create a unique product, service, or result.*"*

Wysocki & McGary (2003, pp.3) define a project as "a sequence of unique, complex, and connected activities having one goal or purpose that must be completed by a specific time, within budget and according to the specifications". Munns & Bjeirmi (1996) considered a project as a temporary organization to achieve a specific objective, which involves a series of activities and tasks which consume resources.

Projects can be considered as a set of activities that must be completed in accordance to specific objectives which involve the utilization of a company's resources (Bakar et al., 2011).

Therefore, a project is an activity that uses its own resources to deliver a product, service or other results within the constraints of time.

2.6 Project Management

Project needs good management and leadership in order to achieve its objectives by utilizing the resources efficiently and effectively.There are many definitions of project management, but all express the same concept. According to a Guide to the Project Management Body of Knowledge (PMBOK , 2013, pp.5), project management is the application of knowledge, skills, tools and techniques to project activities to meet the project requirements and it is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling and closing.

Kerzner (2013, pp.4) defines project management as "the planning, organizing, directing, controlling of company resources for a relatively short period that has been established to complete specific objectives and goals."

Project management is the process of controlling the achievement of project objectives. In addition, controlling and management is directly associated with the operational efficiency of the organization (Munns & Bjeirmi, 1996).

Here the management of project is similar to business management but it applies know how, techniques, tools and skills unique to the project in order to achieve its objectives

2.7 Project Success

In the field of project management, there are various meanings that are so frequently discussed about project success and still common agreement is not reached (Pinto & Slevin, 1988a).Generally, the views on project success have evolved over the years from simple definitions that were limited to the implementation phase of the project life cycle to definitions

that reflect an appreciation of success over the entire project and product life cycle (Judgev & Muller, 2005).

Pinto and Slevin (1989) further imply that project success can be described as a complex and often illusive construct, but nonetheless it is of crucial importance to effective project implementation.

For the past decades the iron triangle of time, cost and quality has been applied to measure project success.This means if a project was completed within the constraints of time and budget and achieving the desired level of quality, the project was deemed to be successful. But this definition is narrow, since the concept of project success is still complicated. Unfortunately, there are many projects that satisfy all the three targets and are yet considered failures (Al-Tmeemy et al., 2011 and Chan et al., 2004). So the following alternative definitions for project success are suggested by some authors.

Al-Tmeemy et al. (2011) suggest that the success of a project should be evaluated from the perspective of the organization's short-term and long-term goals. That is whether the project has achieved or not the objectives of the organization.On the other hand, at their article Lim and Mohamed (1999) examined the issue of project success from different perspectives of people looking at the project success. They believe that project success should be assessed from the perspective of the individual owner/user, developer, contractor and the general public. This implies the same project could be a failure for one but it is a success for another individual. This statement also supported by Shenhar et al. (2001) who implied that the success of a project has different meanings for different people depending on the perception of the individual or group. Shenhar et al. (2011) also stated that most of the time what seemed to be a troubled project, with cost and time overruns found to be finally a successful project in terms of business success.For example, in R&D, if developing a product fails to meet the time and cost criteria of the iron triangle (time, cost and quality), but still has high commercial value, the project is a success.On the other end projects that meet any of the above targets can be considered failure. It is obvious that there is a lack of understanding concerning other criteria that may influence project success.

Pinto & Slevin (1988a) have also suggested that project success has two components with the issues of the project itself and the client, the sub issues being time, cost, performance, use, satisfaction and effectiveness.

Kerzner (2013) claimed that another measurement criterion which is the performance of the project was added to the traditional iron triangle. He further characterizes the project success to include time, cost, performance/specification level, scope changes, customer/user acceptance, impact on corporate culture and organizations work flow.

Shenhar et al. (2001) state that a project success is a multi-faceted, multi-dimensional concept one needs to understand the distinctive dimensions involved to measure and assess it.

Turner and Muller (2012) used a model to measure project success intensively. The model consists of 10 (ten) criteria which are 1) end-user satisfaction 2) supplier satisfaction 3) team satisfaction 4) other stakeholders' satisfaction 5) performance in terms of time, cost and quality 6) meeting user requirements 7) achievement of project purpose 8) customer satisfaction 9) reoccurring business and 10) projects' self-defined success criteria. Five of these criteria measure the stakeholders' satisfactions and the remaining measure the objectives of the project.

Bannerman (2014) presents an alternative approach to the definition of project success from different stakeholder perspectives using a framework that enables success to be determined at key milestones at different stages of the project's life. The key milestones relate to the project itself (the processes used and their effectiveness in delivery the project within the major design constraints), the product or main deliverable produced by the project (its fit to specifications and purpose as well as acceptance and use) and the organizational benefits returned from the investment (achievement of business objectives and the generation of strategic value).

Pinto & Slevin (1988a) after sampling over 650 project managers concluded that project success is something much more complex than simply meeting cost, schedule and performance specifications. In fact, client satisfaction with the final result has a great deal to do with the perceived success or failure of projects.

Further Baker, Murphy and Fisher (1988) conclude that a project success is attained when the parties associated with and affected by the project are satisfied in the long run. Good schedule and cost performance are of little importance in the face of a poor performing end product.

Project success today takes stakeholder satisfaction, product success, business and organization benefit and team development as measures of project success (Atkinson, 1999).

So to summarize for the measurement of the project success, at least the following criteria have to be broadly applied in order for the project success to be valid and completely acceptable (Kerzner, 2013).

1. Time-the project has to be completed within the schedule
2. Cost- the project has to be completed within the allocated budget
3. Quality-the project deliverables should satisfy the functional and technical requirements
4. Objective-the project has to achieve its objectives
5. Scope -the project has to complete its scope
6. Internal and external stakeholders have to be satisfied about the progress, the outcome and the benefit of the project.

Table 4 Summary of Project Success Criteria

S/N	**Project Success Measurement Items**
	Time
1	On schedule completion of the project
	Cost
2	Completion of the project within the allocated budget
	Quality
3	Completion of the scope of all project works
4	Meeting project specifications and outcomes by the time of handover to the client
5	Client/owner use of the outcomes of the project
	Stakeholders' Satisfaction
6	Satisfaction of the project client/owner
7	Satisfaction of the contractor by the outcome of the project
8	Satisfaction of project team members about the process and outcomes of the project

Source: Turner and Muller (2010)

2.8 Project Leadership Competence and Project Success

In addition to its general importance to the business world, leadership is an important success factor for project managers to lead the project successfully.The reason for such importance is that the project manager as a single entity is fully responsible for the management of the whole activities of the project and hence its success is central to the fundamental project management principle (Partington, 2011).

Crawford (2007) points out that the competence of project managers and project successes are closely linked and that the competence of the project manager is a factor to successfully implement the projects. Nowadays the role of the project manager is developing rapidly from the management or direction to essential leadership skills and competences to lead the project.

Project leadership competence is an important element in the success of the project. Accordingly, Atwater and Yammarino (1992) argued that management and leadership symbolize two different concepts. Therefore, for a project manager it is essential to be a good manager along with leadership competences among project competence skills. Many attempts have been made to define leadership, commonly it is referred as establishing a clear vision and transforming that vision into others responsible for achieving that vision while management is a process majorly involved in planning, organizing, leading and controlling (McColl-Kennedy and Anderson, 2002).Project leadership competences can significantly and positively affect the project success as well as organizational success. Researchers have affirmed the belief that project leadership competence is the most influential factor in project success, despite little research has dealt with the issue (Muller and Turner, 2005).

2.9 Empirical Review

2.9.1 Relationship between Leadership Competences and Project Success

In recent years, researchers have investigated the clear link between project manager leadership competences and project success, and shown that leadership competences of the project manager are one of major success factors for project.

Geoghegan and Dulewicz (2008) recognized the relationship between a project manager's leadership competences and project success. In order to demonstrate the relationship between the project manager's competence and the success of the project, they used questionnaires on Leadership Dimensions (LDQ) and on Project Success (PSQ) to collect data from 52 project managers and project sponsors from a financial service company in the United Kingdom.They have found eight distinct leadership competence sub dimensions (IQ size: critical analysis, EQ size: self-awareness, sensitivity, influence, motivation, MQ size: resource management, empowerment, development) are statistically related to the performance of the project, so they have demonstrated a significant relationship between the project manager's competence and the success of the project.

Turner and Muller (2010) examined the leadership competence profiles of successful project managers in different types of projects. They used the Leadership Dimensions Questionnaire (LDQ) to profile the emotional, managerial and intellectual competences (EQ, MQ and IQ respectively) of 400 project managers of successful projects in different project sectors. Their results indicate high significance of one IQ sub-dimension (i.e. critical thinking) and three EQ

sub-dimensions (i.e. influence, motivation and conscientiousness) in predicting project success in all types of projects. They implied the need for project managers to be trained in the soft factors of leadership, particular for their types of projects. Their theoretical implications include the need for more transactional leadership styles in relatively simple projects and more transformational leadership styles in complex projects for project success.

Dulewicz and Higgs (2005) also identified different profiles of leadership competences (EQ, MQ and IQ) in organizational change projects of different complexity all with project success.

Even though a program is a collection of projects, Jingting Shao (2017) examined the relationship between leadership competences of program managers and program success with the moderating effect of program context with a worldwide cross-sectional survey using the Leadership Dimensions Questionnaire (LDQ) and a program context and program success questionnaires.Their findings showed that program managers' IQ and MQ competences have positive relationships with program success and these are positively moderated by program context.

Yang, Yen and Chiang (2012) investigated the relationships of the project leader's competences with job satisfaction and their impact on project performance in Taiwanese police departments. Their results showed that job satisfaction mediates the effects of leadership competence on project performance. Furthermore, they found that the benefits of leadership competences and provide recommendations for improving police project performance.

Trivellas & Drimoussis (2013) examined the relationship between behavioral and managerial competence profiles of project managers and project success in a holistic approach in Greece. In their study the Competing Values Model (CVM) and International Competence Baseline - International Project Management Association (ICB-IPMA) were served as the ground for the operationalization of managerial and behavioral competences, respectively. They have taken fifteen critical behavioral competence elements into account. The research was based on a sample of 97 project managers and they found that the crucial behavioral, managerial and emotional competences as well as the leadership styles contribute most to project success. They conclude the need for project managers to be trained in specific categories of competences.

Damayanti, Hartono and Wijaya (2018) carried out a meta-analysis study of different researches based on the relationship between project managers' leadership competences and project success within the context of project type and region. They concluded that leadership competences have

a positive relationship with project success. They also showed that the positive effect of leadership competences on project success depends on the type of leadership, project and the territory of the region where the project is being run. Further they implied the types of leadership in most construction projects that support project success are transformational leaders, managers with managerial intelligence (MQ) and leaders with emotional intelligence (EQ). They also recommend for non-construction projects, leaders with emotional intelligence (EQ) for project success.

Khan, Long and Iqbal (2014) reviewed the positive impact of leadership competence on project success based on the data collected from the published articles from well-known databases. Their study was aimed to explore how leadership competence is important for the project success. They concluded that project leadership competences are similar to competences of leadership in general management.

Santana, Marzagao and Carvalho (2016) studied the behavioral competences of Six Sigma project leaders and related those competences with projects performance using a survey based research on 191 project leaders in 225 Six Sigma projects in Brazil, Chile and Colombia. Their article showed that project success depends on competences of the project leader, innovation and direction and indicated that there is positive relationship between behavioral competences of project leader and project performance.

2.10 Conceptual Framework

Based on the overall review of related literatures and empirical study, the following conceptual model was developed for this specific study. As explained in the literature review, the project managers' leadership competences have relationships with project success.Therefore leadership competences such as Emotional Competence (EQ), Managerial Competence (MQ) and Intellectual Competence (IQ) have been taken as independent variables while the Project Success has been taken as dependent variable. Hence the following conceptual framework is formulated.

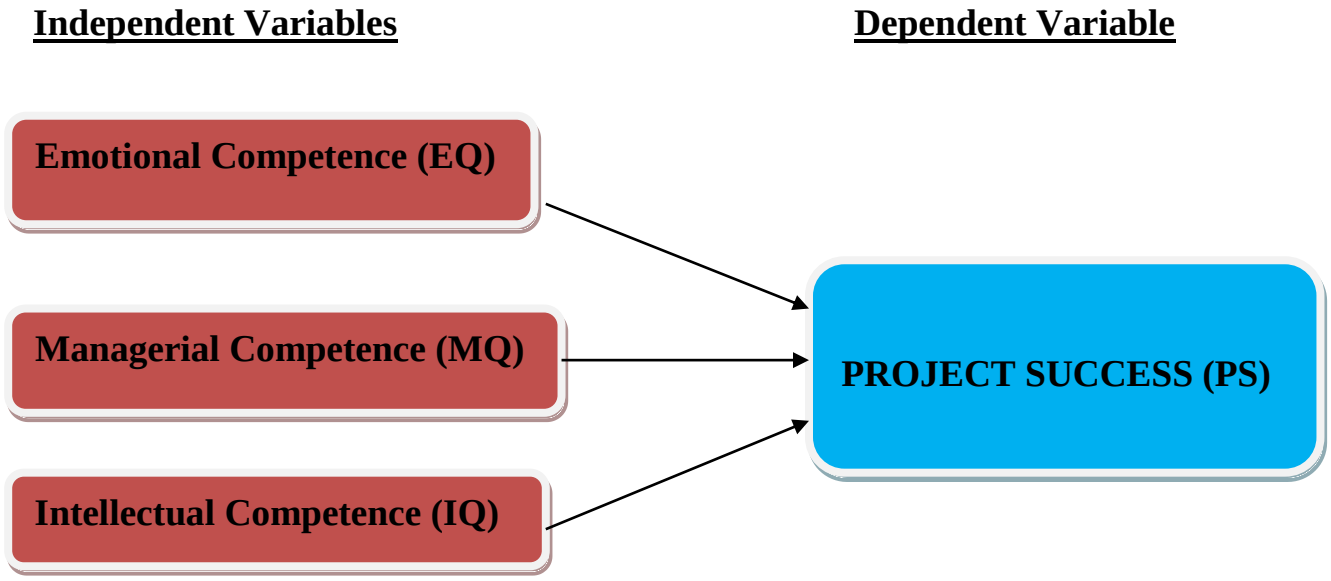


Figure1. Conceptual Framework. Developed from Muller & Turner, (2010)

2.11 Research Hypotheses

The following null hypotheses are developed based on the research objectives and the conceptual framework.

H1. There is no relationship between project manager's emotional competence (EQ) and project success

H2. There is no relationship between project manager's managerial competence (MQ) and project success

H3. There is no relationship between project manager's intellectual competence (IQ) and project success

H4.The joint effect of the leadership competences (EQ + MQ + IQ) on project success is not significant

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter briefly discusses the research design and methodology used in this study. It explains the research approach, research design, data sources, sampling techniques and sample size, data collection methods and instruments, data analysis methods and ethical considerations of the research.

3.2 Research Approach

Quantitative research approach is a study involving collection and analysis of numerical data and information that are descriptive in nature and qualified (Sekaran, 2003).It is best suited for looking at cause and effect, and testing of theories and hypothesis (Muijs, 2010).Thus in this study, to gain a deeper understanding of the magnitude of the relationship between project manager's leadership competences and project success in selected construction companies and hence to test the hypotheses through collection and analysis of data, the researcher has employed quantitative research approach.

3.3 Research Design

Since the objective of this study is based on clearly stated hypotheses and concerned with describing a population with respect to specific variables, both explanatory and descriptive research designs were found to be the most appropriate. Explanatory studies establish causal relationships between variables and focuses on studying a situation or a problem in order to explain the relationships between variables (Saunders et al., 2016) and descriptive research is used to get the most factual and dependable information about the characteristics of a particular individuals or group of the study (Bryman and Bell ,2011).

The study also used cross-sectional survey method.The aim of selecting survey method for the study enables the researcher to generalize or make claims about the population from sample result. Data collected using a survey at one point in time can be used to determine the particular relationship among variables and to produce model of this relationship (Saunders et al., 2016).

3.4 Population, Sampling Technique and Sample Size

The study's target organizations were Category A construction firms that have been undertaking construction projects in Ethiopia recently.Based on information obtained from Ethiopian Revenue and Custom Authority there are thirty-eight (38) category A known construction companies which are operating currently and classified as a large construction companies. A two-stage sampling technique was applied which first with systematic random sampling selected fourteen (14) construction firms to ensure the representativeness of the firms engaging in construction projects. From this using purposive sampling, forty-two (42) project managers were obtained who constituted the sample size by directly selecting three project managers from each firm.

3.5 Data Source and Types

To meet the objectives of this study, the researcher mainly used primary source of data. This primary data was collected from these selected construction companies' project managers in Addis Ababa through self-administered questionnaires.

Secondary data was gathered from Ethiopian Revenue and Custom Authority to obtain list of Category A construction firms currently operating in Ethiopia.

3.6 Research Instrument

For this research, the research instrument comprised questionnaires that are self-administered and closed-ended/structured. These types of questionnaires were chosen because they facilitate the speed and accuracy of recording and the process of analyzing the relevant data for the study.

The questionnaires consist of three parts. The first part included questions about general information on the project and demographic profiles of the respondents including the company. The second part of the questionnaires is about leadership competences which are the independent variables. The questionnaires are adapted from the Leadership Dimensions Questionnaire (LDQ) developed by Dulewicz and Higgs (2005) and comprises 43 measurement items for measurement of project managers' leadership competences and asked the respondent to identify and rate his/her leadership competences on his/her last project's success. The third part of the questionnaire measures project success by eight measurement items. Both leadership competence and project success questionnaires are rated by a five point Likert scale ranked as **1:** ***Not At All , 2: To A Little Extent , 3: Indifferent, 4: To A Great Extent , 5: To A Very Great Extent***

From these measurement items, composite measures of the leadership competences and project success were determined.

3.7 Reliability and Validity

3.7.1 Reliability Test

Before going to analyze the data, initially the reliability of the leadership competences and project success variables was checked. The reliability of a measure ensures consistent measurement across time and the various items in the instrument. In other words, the reliability of a measure is an indication of the stability and consistency with which the instrument measures the concept and helps to assess the goodness of a measure (Sekaran, 2003).

Consistency and reliability within the items of the questionnaire were measured using Cronbach's Alpha test. The Cronbach's Alpha values for the measurement items of the questionnaires are shown in Table 5 and from this table the Cronbach's Alpha coefficients for independent variables EQ, MQ and IQ were found to be 0.761, 0.934 and 0.830, respectively whereas for the dependent variable project success it was 0.726. For the measuring instrument to be reliable, its Cronbach's Alpha value should be minimum 0.70 (Muijs, 2010, p.73). Since all the values are above the minimum, the instrument is reliable.

Table 5 Reliability Statistics

S/N	Measurement Scale	Number of Items	Cronbach's Alpha
1	Emotional Competence	14	0.761
2	Managerial Competence	21	0.934
3	Intellectual Competence	8	0.830
4	Overall Project Success	8	0.726

Source: Data survey, 2019

3.7.2 Validity Test

Hair et al. (2014) identify validity as the extent to which a measure accurately represents what it's supposed to. Ensuring validity requires a thorough understanding of what is to be measured and making it as accurate and right as possible.

The validity of the LDQ questionnaire as assessment tool was repeatedly shown, for example in Dulewicz and Higgs (2003 and 2005) leadership competences questionnaires.The LDQ is developed on the basis of incorporating and integrating established research tools in the field of

leadership (Dulewicz and Higgs , 2003). Moreover, the measuring instrument is closely linked with existing theories and similar researches by Muller and Turner (2010), Geoghegan and Dulewicz (2008) and Shao (2018) who used and proved the validity of similar questionnaire. Thus the measuring instrument is valid for the study.

3.8 Methods of Data Analysis

For the purpose of this study the analysis of primary data was performed using Statistical Package for the Social Sciences (SPSS V24). The collected primary data regarding demographics, leadership competences and project success variables were coded and subjected to statistical analysis according to their types.

3.8.1 Descriptive Statistics

Descriptive statistics such as mean, standard deviation, percentage, frequency distributions were used to describe the research sample data.

3.8.2. Correlation Analysis

Correlation analysis is a statistical technique used to calculate the strength and direction of the association between two variables. The output of correlation matrix can be with correlation coefficient that lies between -1 and +1. Within this framework, a correlation coefficient of +1 indicates a perfect positive relationship and a correlation coefficient of -1 indicates a perfect negative relationship; whereas a coefficient of 0 indicates no linear relationship at all.According to Saunders et al. (2016) and Hair et al. (2014) the classification of the strength of relationship is based on the following table. Hence Pearson's coefficient of correlation was calculated to determine the coefficient among leadership competences facets (emotional, managerial and intellectual) and project success.

Table 6 Classification of the Strength of Correlation

Positive values	**Negative values**	**Correlation strength**
0.80 to 1	- 0.80 to -1	Very Strong
0.6 to 0.8	-0.6 to - 0.8	Strong
0. 35 to 0.6	-0.35 to - 0.6	Moderate
0.2 to 0. 35	-0.2 to - 0.35	Weak
0 to 0.2	0to-0.2	Very Weak

Source**:** Saunders et al. (2016) and Hair et al. (2014)

3.8.3 Multiple Linear Regression Analysis

Multiple linear regression analysis is one of the most commonly used statistical techniques in social and behavioral sciences as well as in physical sciences which involves identifying and evaluating the relationship between a dependent variable and one or more independent variables.

For the purpose of this study the researcher employed multiple linear regression analysis to examine the relationship between the leadership competences (expressed as emotional, managerial, intellectual) and project success, (expressed as composite measure of project stakeholders' satisfaction, time, qualityand cost). The multiple regression analysis not only indicates how well a set of variables explains a dependent variable, but also gives the direction and strength of relationship between the independent variables and the dependent variable.

The correct use of the multiple linear regression models requires that several critical assumptions be satisfied in order to apply the model and establish validity (Gujarati, 2004).So the data were subjected for critical assumptions before doing regression analysis.

3.9 Mathematical Model for the Regression Analysis

Based on the conceptual framework formulated in this study, the variables Emotional Competence **(EQ),** Managerial Competence **(MQ)** and Intellectual Competence **(IQ)** are taken as independent variables which are aggregate measures of the respective 15 sub dimensions whereas the Overall Project Success (**PS)** is taken as dependent variable for the model.

Therefore, the model for the multiple linear regression analysis is formulated as follows

$$\mathbf{PS: \beta_0 + \beta_1(EQ) + \beta_2\,(MQ) + \beta_3\,(IQ) + e_i}$$

Where,

PS: Overall Project Success

EQ: Emotional Competence

MQ: Managerial Competence

IQ: Intellectual Competence

$\mathbf{e_i}$**:** The error term

3.10 Ethical Considerations

Ethical concerns will emerge as you design and plan your research, seek access to organizations and to individuals, collect, analyze, manage and report your data. In the context of research,

ethics refers to the standards of behavior that guide your conduct in relation to the rights of those who become the subject of your work, or are affected by it (Saunders et al., 2016). The ethical issues to be considered are the same in quantitative research. Ethical issues in research relates to research participants, researchers and sponsoring organizations. Therefore, the researcher has to inform the participants about the purpose of the study. And also, the researcher has to be maintaining the participants' privacy, dignity and keeping confidentiality and the collected data shall be used for the purpose of this study only.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents discussion of the results of the data analysis and the process through which the results were obtained. First the collected data were rearranged, edited and calculated in order to become complete data that are needed for this study. The analysis starts with a description of the respondents' demographic profiles. After this the descriptive, correlation and regression analyses of the data were done and finally the results of the analyses were discussed. Statistical Package for Social Science (SPSS version 24) software was used for analyses.

4.2 Response Rate

A total of 42 questionnaires were distributed to project managers of 14 selected category A construction firms found in Addis Ababa. The copies of the questionnaires were handed out personally and each respondent was briefed about the purpose of the study and how to fill out the questionnaire. Each project manager was informed that, he/she should consider only one project that had been completed in the last 5 years. The data were collected in the period between March, 2019 and April, 2019.

Out of these questionnaires, 33 were filled properly and collected and the remaining 9 questionnaires were rejected due to incomplete and invalid responses. As a result, the overall response rate was 78.6 percent which is acceptable for data analysis and discussion of the study.

4.3 Demographics of the Respondents

The demographic data of the respondents collected for this study were age, educational level, profession and years of work experience. All the respondents are male.

From Table 7, the age distribution showed that 3 % were older than 60 years, 27 % between 25 and 34 years old, 58 % between 35 and 44 years old, 12 % between 45 and 54 years old.

Educationally, 79 % have a first degree and 21% have a second degree. Most of them had first degree educational level.

Professionally, 67 % were civil engineers, 3% were urban engineers, 27% graduated in construction management and 3% were hydraulic engineers. Most of them were civil engineers.

Regarding years of work experience, 36 % had above 15 years, 30 % had 11 to 15 years and 33% had 6 to 10 years of work experience. This shows that most of project managers in category A construction firms had at least 15 years of work experience

Table 7 Demographics of the Respondents

Dimension	Attribute	Frequency	Percent
Age	Greater than 60 yrs	1	3.0
	25-34 yrs	9	27.3
	35-44 yrs	19	57.6
	45-54 yrs	4	12.1
	Total	33	100
Educational level	B.Sc degree	26	78.8
	M.Sc degree	7	21.2
	Total	33	100
Profession	Civil engineer	22	66.7
	Civil/Urban engineer	1	3.0
	Construction mgt	9	27.3
	Hydraulic engineer	1	3.0
	Total	33	100
Work Experience	Greater than 15 yrs	12	36.4
	11-15 yrs	10	30.3
	6-10 yrs	11	33.3
	Total	33	100

Source: Data survey, 2019

4.4 Descriptive Statistics of the Study Variables

4.4.1 Mean Values of Independent Variables

The independent variables in this study were project manager's leadership competences such as Emotional, Managerial and Intellectual. The mean scores of the independent variables and their sub-dimensions were computed and their values are shown in Table 8.

The results of Table 8 show that the project managers exhibit emotional competence to a higher extent with a mean score of 4.0373 out of 5. Within emotional competence, the sub-dimension Self-Awareness has highest mean score of 4.1667. The next higher mean scores are 4.1515 for Motivation and 4.1061 for Conscientiousness. Intuitiveness is the only leadership sub-dimension which has the moderate mean score at 3.6061.The results also show that Emotional Resilience sub-dimension had less variability (SD =0.46669) among the respondents.

Table 8 Descriptive Statistics of Independent Variables

Variables	**Sub dimension**	**N**	**Min.**	**Max.**	**Mean**	**SD**
Emotional Competence	Motivation	33	3.00	5.00	4.1515	0.57940
	Conscientiousness	33	2.00	5.00	4.1061	0.68188
	Interpersonal Sensitivity	33	2.00	5.00	4.0455	0.62953
	Influence	33	2.00	5.00	3.9394	0.72627
	Self-Awareness	33	2.00	5.00	4.1667	0.68084
	Emotional Resilience	33	2.67	5.00	4.0303	0.46669
	Intuitiveness	33	2.00	5.00	3.6061	0.99810
	Overall EQ	**33**	**3.29**	**4.93**	**4.0373**	**0.38875**
Managerial Competence	Managing Resources	33	2.00	5.00	3.9091	0.72838
	Engaging Communication	33	2.00	5.00	3.8727	0.68158
	Developing	33	2.40	5.00	4.1939	0.61742
	Empowering	33	2.00	5.00	4.0909	0.81340
	Achieving	33	2.50	5.00	4.0227	0.59412
	Overall MQ	**33**	**2.52**	**4.95**	**4.0155**	**0.56464**
Intellectual Competence	Strategic Perspective	33	2.00	5.00	3.8485	0.64329
	Vision and Imagination	33	2.00	5.00	3.8283	0.73655
	Critical Analysis & Judgment	33	2.00	5.00	3.8391	0.65083
	Overall IQ	**33**	**2.00**	**5.00**	**3.8394**	**0.57635**

Source: Data survey, 2019

The managerial competence has a mean score of 4.0155 which is almost equal to that of emotional competence. Within managerial competence, the sub-dimension Developing has a mean score of 4.1939 which is the highest one. The next higher mean scores are 4.0909 for Empowering and 3.9091 for Managing Resources sub-dimensions. Engaging Communication, which has a mean score at 3.8727, is less than the other managerial competences sub-dimensions. The results also show that Achieving had less variability (SD = 0.59412) compared to other sub-dimensions.

The intellectual competence has less mean score than both Emotional and Managerial Competences even though the mean score is 3.8394. From the table, all three sub-dimensions of the Intellectual competence have almost equal mean scores. Both Strategic Perspective (SD = 0.64329) and Critical Analysis & Judgment (SD = 0.65083) sub-dimensions have less variability

To summarize the three independent variables have high mean scores above 3.8 which indicates respondents feel that leadership competences are contributing factors for project success.

4.4.2 Mean Value of the Dependent Variable

The mean values of the dependent variable and its sub-dimensions were computed and their values are shown in Table 9.

Table 9 Descriptive Statistics of Dependent Variable

Descriptive Statistics of Project Success					
Item	**N**	**Min.**	**Max.**	**Mean**	**SD**
Time	33	1.00	5.00	2.5455	1.34840
Cost	33	1.00	5.00	3.3333	1.33853
Quality	33	2.67	5.00	4.1313	0.66112
Stakeholder's Satisfaction	33	2.00	5.00	4.1717	0.62982
Overall Project Success	**33**	**2.25**	**5.00**	**3.8512**	**0.60418**

Source: Data survey, 2019

The above table shows that the overall project success was achieved moderately with the mean score 3.8512 out of 5. The most achieved sub-dimensions of project success are Quality and Stakeholders' Satisfaction with mean score of 4.1313 and 4.1717 respectively meaning that almost the quality of the projects' outcomes had been met up to the expectations and most of the project stakeholders had been satisfied by the outcome of the project.

The Cost aspect of project success has a mean score of 3.3333 which shows that the costs of most projects were a little bit higher than the original allocated budgets.The Time aspect of project success has a mean score of 2.5455 which is low by a standard showing that most of the projects have been completed beyond schedule. The main reasons were material delivery delay or shortage and payment delay which are beyond the capacity of the project manager. Also both Cost (SD =1.32574) and Time (SD = 1.34840) aspects have high variability in the responses.

The above tables show that the independent variables emotional, managerial and intellectual and the dependent variable project success had a mean score greater than 3.80 which is higher by a standard. Also their variability (SD) in the responses is less than one.

4.5 Correlation Analysis of the Variables

To quantify the strength of the relationship between these variables, the study used Karl Pearson's coefficient of correlation. The Pearson's coefficients of correlation of the variables are shown in Table 10.

Table 10 Correlations Analysis of the Study Variables

		EQ	**MQ**	**IQ**	**PS**
EQ (Emotional)	Pearson Correlation	1	.596**	.535**	.688**
	Sig. (2-tailed)		.000	.001	.000
	N	33	33	33	33
MQ (Managerial)	Pearson Correlation	.596**	1	.507**	.651**
	Sig. (2-tailed)	.000		.003	.000
	N	33	33	33	33
IQ (Intellectual)	Pearson Correlation	.535**	.507**	1	.528**
	Sig. (2-tailed)	.001	.003		.002
	N	33	33	33	33
PS (Project Success)	Pearson Correlation	.688**	.651**	.528**	1
	Sig. (2-tailed)	.000	.000	.002	
	N	33	33	33	33
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Data survey, 2019

As we can see from the table the independent variables like emotional competence ($r=0.688$, $p<0.01$) and managerial competence ($r=0.651$, $p<0.01$) have strong and significant correlation with the

dependent variable, project success, while the intellectual competence ($r=0.528$, $p<0.01$) has moderate correlation with project success.

The table also tells us that both emotional competence and managerial competence have strong correlation coefficients which is perhaps the expected result considering the amount of resource development and management involved in project management.Generally, for all the independent variables the sign of correlation is positive meaning that there is positive relationship that indicates an increase or decrease in the leadership competence will also show an increase or decrease in the project success.

4.6 Diagnostic Tests of Classical Linear Regression Model Assumptions

The following are assumptions of the Classical Linear Regression Model **(**CLRM) that were tested in order to determine whether the data are valid for multiple linear regression analysis.

4.6.1 Linearity

Multiple linear regression model assumptions assume that there shall be linear relationship between the independent variables and the dependent variable. This can be verified by if the residuals are both normally distributed and homoscedastic.The residuals are simply the error terms, or the differences between the observed value of the dependent variable and the predicted value. As it is shown from Normal P-P plot and scatter plot (see Appendix B), the residuals are normally distributed and homoscedastic. So the linearity assumption is satisfied.

4.6.2 Normality

This assumption states that the normality of the error distribution should be normally distributed. Normality is used to describe a symmetrical, bell-shaped curve, which has the greatest frequency of scores around in the middle combined with smaller frequencies towards the extremes. The normality assumption assumes a critical role when a study is dealing with a small sample size, data less than 100 observations (Gujarati, 2004).

This assumption can be tested by plotting the Histogram and P-P plot for the model (see Appendix B).Normality criteria are met, if the Histogram plot is symmetric along the center 0 and the points at the P-P Plot are closer to the diagonal line. In this case the Histogram is almost symmetric and the P-P plot points are drawn closer to the diagonal line, indicating that the assumption of normality is met.

4.6.3 Autocorrelation

This assumption states that the errors terms (e_i) or residuals shall be independent or uncorrelated to one another. The Durbin-Watson statistic is used to test for the presence of serial correlation among the residuals. The residuals are not correlated if the Durbin-Watson statistic is approximately 2. This statistic can vary from 0 to 4. A value of two (2) indicates no autocorrelation. A value towards zero indicates positive autocorrelation. A value towards four indicates negative autocorrelation (Saunders et al., 2016, pp.553).

Since the Durbin-Watson statistic is 1.886 (see Table 12) and close to 2, there is no problem of autocorrelation.

4.6.4 Homoscedasticity

This assumption states that the variance in the errors term (e_i) conditional on the independent variables shall be constant for all combinations of outcomes of the independent variables. This assumption is tested using scatter plot diagram. As the predicted values increase, the variation in the residuals should be roughly similar.

From the scatter plot (see Appendix B), it is shown that the plot does not have an obvious pattern and the points are equally distributed above and below zero on the x axis, and to the left and right of zero on the y axis. So this shows that the data are homoscedastic.

4.6.5 Multicollinearity

This assumption states there shall be no perfect linear relationships among the independent variables. Multicollinearity occurs when several independent variables correlate at high levels with one another.The Variance Inflation Factor (VIF) is used to check the presence of multicollinearity among the independent variables. Also to check on the degree of multicollinearity, the tolerance (TOL) is used. The decision rule is a variable whose VIF value is greater than 10 and whose TOL value is less than 0.1 shows possible existence of multicollinearity problem based on the criteria by Pallant (2011) (Gujarati, 2004). Table 11 shows that all the VIF values are less than 10 and the tolerance (TOL) values are greater than 0.1 which is the best case for the absence of multicollinearity.

Table 11 Multicollinearity Test

Independent Variable		Collinearity Statistics	
		Tolerance	VIF
1	Emotional Competence	.572	1.747
	Managerial Competence	.595	1.680
	Intellectual Competence	.659	1.518
Dependent Variable: Project Success			

This section discussed the above five major assumptions that must be fulfilled for the researcher to analyze the data using multiple linear regression model. So, since all the five assumptions were met, the researcher proceeded to analyze the data using multiple linear regression in order to examine whether there is positive significant relationship between the independent variables and the dependent variable.

4.7 Multiple Linear Regression Analysis

Regression analysis is concerned with describing and evaluating the relationship between a given dependent variable and one or more independent variables. It is used to understand the relationship between variables and to predict the value of one variable based on another variable. Therefore, the following linear regression model was formulated and analyzed in order to shed more light on the relationship between project manager's leadership competences and project success.

$$\mathbf{PS: \beta_0 + \beta_1(EQ) + \beta_2\ (MQ) + \beta_3\ (IQ) + e_i}$$

Where,

PS: Overall Project Success

EQ: Emotional Competence

MQ: Managerial Competence

IQ: Intellectual Competence

$\mathbf{e_i}$: The error term

Table 12 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.759[a]	.576	.532	.41338	1.886
2	.810[b]	.656	.607	.37862	2.006
a. Predictors: (Constant), Emotional, Managerial, Intellectual Competences					
b. Predictors: (Constant), Emotional, Managerial, Intellectual Competences , AGE					
C. Dependent Variable: Project Success					

Table 12 indicates the relationship between leadership competence dimensions (Emotional, Managerial and Intellectual Competences) and project success. The R square which is a measure of goodness of fit of the model indicates the extent or percentage of the variations in the dependent variable explain by the independent variables.

From the result of model 1, the R square value of 0.576 showed that the leadership competence dimensions jointly explained 57.6 % of the variation in project success, while the remaining 42.4% of variation is influenced by other variables which are not accounted for in this study.Therefore, the R-squared value is found to be sufficient to infer that the fitted regression line is close to all of the data points taken together and the independent variables have more explanatory power in explaining the dependent variable. Also the table indicates the result of model 2 by including the control variable "AGE" whether the ages of the respondents have explanatory effect on the project success. From the table, the AGE variable increased the percentage of variation in the dependent variable explained together by the independent variables to 65.6 %.

Table 13 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.726	3	2.242	13.120	.000[b]
	Residual	4.956	29	.171		
	Total	11.681	32			
2	Regression	7.667	4	1.917	13.371	.000[c]
	Residual	4.014	28	.143		
	Total	11.681	32			
a. Dependent Variable: Project Success						
b. Predictors: (Constant), Emotional, Managerial, Intellectual Competences						
c. Predictors: (Constant), Emotional, Managerial, Intellectual Competences, AGE						

Table 13 shows the ANOVA test which tests whether all the independent variables collectively have significant effect on the dependent variable. Here the F-test is a statistical test whose purpose is to examine the joint effect of independent variables on the dependent variable.

From the table model 1 results, the F statistic value is 13.120 at P-value < 0.05 of significance level which shows that the project manager's leadership competences, taken together, have a significant effect on the project success in construction projects. Hence the null hypothesis H4 which states that the joint effect of the leadership competences on project success is not significant is rejected. Also from the table model 2 results, by including the control variable, AGE, the F statistic value is increased to 13.371 at P-value < 0.05 of significance level.

Table 14 Regression Result of the Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.744	.771		-.965	.342
	Emotional Competence	.647	.248	.416	2.605	.014
	Managerial Competence	.358	.168	.334	2.132	.042
	Intellectual Competence	.142	.156	.136	.910	.370
2	(Constant)	-1.157	.724		-1.598	.121
	Emotional Competence	.649	.228	.418	2.852	.008
	Managerial Competence	.335	.154	.313	2.176	.038
	Intellectual Competence	.092	.144	.088	.636	.530
	AGE	.217	.085	.290	2.563	.016
a. Dependent Variable: Project Success						

Table 14 shows the results of regression of the model. The variables, emotional and managerial competences have statistically significant positive relationships with project success since their p-values are below the significance levelof 0.05 while the independent variable intellectual competence has no significant relationship with the dependent variable since its p-value is greater than the significance level of 0.05.

Also the table shows the results of regression of the model 2 by including the variable “ages of the respondents” as control variable. From the result the variable AGE has positive significant relationship with project success since its p-value is less than the significance level of 0.05 and whose beta coefficient is 0.217.

We can now answer the research questions. In line with the research hypotheses, there is positive significant relationship between project managers’ emotional competence (EQ) and project success which rejects the null hypothesis H1 that states there is no relationship between project managers’emotional competence (EQ) and project success.Similarly, the project managers' managerial competence (MQ) has positive significant relationship with project success which rejects the null hypothesis H2 that states there is no relationship between project managers’ managerial competence (EQ) and project success. As for the intelligence competence (IQ), the relationship is insignificant as it is shown from the regression analysis. So the hypothesis H3 which states there is no relationship between project managers’ intelligence competence (EQ) and project success is not rejected.

Considering the beta coefficients, the emotional competence has a value of 0.647, the managerial competence with a value of 0.358 and the intellectual competence with a value of 0.142. This result shows both of the project manager’s emotional and managerial competences EQ/MQ play a significant role in achieving project success and the project managers exercised these competences with the emotional competence (EQ) the dominant one during project implementation which agrees with most of the research findings of Muller & Turner (2010) and Geoghegan and Dulewicz (2008).

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

This section concludes the research findings. Recommendations and limitation of the study are also given. Finally, the researcher proposes some suggestions for further study.

5.1 Conclusion

The overall objective of this study was to determine the relationship between the three leadership competences of project managers towards project success in the Ethiopian construction industry in category A. From the leadership competences as studied by the research, it was evident that there is a strong positive relationship between project managers' emotional and managerial competences EQ/MQ and project success. It was specifically found in the study that both emotional and managerial competences EQ/MQ were exercised by the project managers in achieving project success with the emotional leadership competence (EQ) the dominant one. However, the intellectual competence IQ showed insignificant relationship with project success. Given the statistically significant relationship between EQ/MQ and project success and the resulting predictive model, it can be concluded that project manager's emotional and managerial competences have positive and significant effect on project success. Thus, there is a need for project managers to adopt these leadership competences as a way of achieving project success in construction sector in Ethiopia.

5.2 Recommendations

Based on the research findings of this study the following recommendations are forwarded.

Practical Implications

- Construction companies should take into account leadership competences when recruiting and assigning project managers to their projects.
- Project companies and project management training institutions need to focus not only on technical and management skills, but also on the development of leadership competences.
- Project managers progressing from a junior level to middle and then to a senior level need to enhance their leadership competences, particularly developing more the emotional competence dimension.

Theoretical Implications

- If a project manager, who acts a project leader, has a set of competences especially the emotional (EQ) and managerial competences (MQ), the likelihood of project success will increase.
- Project manager as a project leader needs to have leadership competences in order to be competent enough in managing himself/herself, the project team and the project.

Finally, this research shows how leadership competences can contribute to the success of projects. Some competences can be developed through training and experience, whereas others are personal traits which could be more difficult to develop.

It is important that project management community who directly manage and are very much involved in the project, need to be made aware of the importance of leadership competences for project managers or leaders with whom they work and ultimately on the success of their projects.

5.3 Limitations and Further Research Suggestions

The present study is limited to high performing construction projects by construction firms and their project managers in Ethiopia. Further, broader study encompassing a cross-section of different industries would be required with larger sample size to investigate the relationships between leadership competences and project success criteria that could be applicable to any project-based organization.

Furthermore, the researcher suggests that future studies could be made on to validate the current results by involving a 360°appraisal questionnaires by including project team members and other project stakeholders in rating the leadership competences of the project manager.

References

Ahmed, R., and Azmi Bin Mohamad, N. (2014). Mapping project manager's leadership competencesand styles to project success: A theoretical framework. The Journal of Modern ProjectManagement, 2(2),38-55

Ahmed, S., and Abdullahi, M. (2017).Leadership and project success in development sector. Journal of Economics and Management, 30 (4)

Al-Tmeemy, S. M., Abdul-Rahman, H., & Harun, Z. (2011). Future criteria for success of building projects in Malaysia. International Journal of Project Management, 29(3), 337-348.

Atkinson, R. (1999). Project management: cost, time and quality, two best guesses and a phenomenon, it is time to accept other success criteria. International Journal of Project Management, 17(6), 337-342.

Atwater, L.E., and Yammarino, F.J. (1992). Does self-other agreement on leadership perceptions moderatethe validity of leadership and performance predictions? Personnel Psychology, 45(1), 141-164.

Baker, B., Murphy, D., and Fisher, D. (1988). Factors affecting project success.Project management handbook, 2nd ed.,669-685.

Bannerman, P.(2008). Defining project success. Conference paper. Project management institute

Boyatzis, R. E.(1982).The competent manager:A model for effective performance:John Wiley &Sons.

Bryman, A., (1996).Leadership in Organizations, in Clegg, S.R., Hardy, C. and Nord, W.R., (eds) Handbook of Organization Studies, 276-292, London: Sage.

Bryman, A & Bell, E (2011).Business Research Methods.3rd ed. London,UK:Oxford University Press.

Chan, A.P.C., Scott, D. & Chan, A.P.L. (2004). Factors affecting the success of a construction project. Journal of Construction Engineering and Management, 130 (1), 153-155.

Cole, G. A. (1996). Management: Theory and practice, 5th ed. Ashford Color Press: London

Cohen,L.,Manion, L.& Morrison, K.(2007).Research Methods in Education,6th ed., Routledge,UK

Cookie-Davies, T. (2002). The real success factors on projects. International Journal of Project Management, 20 (3), 185-190.

Crawford, L. H. (2003). Assessing and developingthe project management competence of individuals. In J.R. Turner (ed.), People in Project Management: Gower Publishing, Aldershot, UK

Crawford, L.W. (2007).Developing the project management competence of individuals. In J. R. Turner (ed.), Gower handbook of project management (4th ed., 678-694): Gower Publishing, UK

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods.4th ed.: SAGE Publications, Inc.

Damayanti, W., Hartono, B., and Wijaya, R. (2018). A Meta-Analysis Study of Leadership and Project Success.International Conference on Industrial Enterprise and System Engineering.

Dubrin, J.(2002): Leadership: Research findings,practice and skills. 5th ed. George Hofmann, USA

Dulewicz, V., and Higgs, M. J. (2015). Leadership Dimensions Questionnaire. Test manual

Dulewicz, V., and Higgs, M.J. (2003).Design of a new instrument to assess leadership dimensions and styles. Henley Working Paper Series HWP0311. Henley Management College, UK.

Dulewicz, V., and Higgs, M. J. (2005). Assessing Leadership Styles and Organizational Context. Journal of Management Psychology, 20(2), 105-123.

Gujarati, D.N. (2004). Basic Econometrics, 4th ed.: McGraw-Hill Company

Ethiopian Revenue & Customs Authority, List of large construction tax payers in Ethiopia (Feb.,2018)

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

Goleman, D. (1996). Emotional Intelligence: Bloomsbury Publishing PLC, London

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. and Tatham, R. L. (2014).Multivariate data analysis, 7th ed. Pearson Prentice Hall, Upper Saddle River, New Jersey

Hersey, P., and Blanchard, K. (1982).Management of Organizational Behavior. Englewood Cliffs, New Jersey: Prentice Hall

Hogan, R., and Hogan, J. (2002). Leadership and Sociopolitical Intelligence. LEA's organization and management series. Multiple intelligences and leadership, 75-88

Hillebrandt, P. (2000). Economic Theory and the Construction Industry. 3rd ed, Basingstoke: Macmillan.

Jarad, G. H. (2012). The construction manager leading characteristics for the success of construction projects in the Gaza Strip. Master's Thesis, Islamic University of Gaza.

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

Kerzner, H. (2013).Project management: A system approach to planning, scheduling and controlling. 7th ed. John Wiley & Sons Inc.

Khan, S.R., Long, C.S.,and Iqbal, S.M.J. (2014). Leadership Competence: Tools for Project. Middle East Journal of Scientific Research, 19(10), 1280-1283.

Lee, H., Park, J., and Lee, J. (2013). Role of leadership competencies and team social capital in IT services.The Journal of Computer Information Systems,5,3(4),1-11

Lim, C.S., and Mohamed, M.Z.(1999). Criteria of project success: an explanatory reexamination. International Journal of Project Management, 17(4),243-248.

Liphadzi, M., Aigbavboa, C., and Thwala, W. (2015). Relationship between leadership styles and project success in the South Africa construction industry. Procedia Engineering 123, 284-290

Macdonald, I., Burke, C., and Stewart, K.(2006).Systems leadership: Creating Positive Organizations, Gower Publishing Ltd, Great Britain

McColl-Kennedy, R., and Anderson, D. (2002). Impact of leadership style and emotions onsubordinate performance. The Leadership Quarterly, 13(5), 545-559.

Muller,R., andTurner, R. (2005).The project manager's leadership styleas a success factor on projects: Aliterature review. ProjectManagement Journal, 36(2), 49–61.

Muller, R., and Turner, R. (2010). Leadership competency profiles of successful project managers. International Journal of Project Management, 28 (5), 437-448.

Muller, R., Geraldi, J., &Turner, R. (2012). Relationships between leadership and success in different types of project complexities.IEEE Transactions on Engineering Management, 59(1),77- 90

Muijs, D. (2010). Doing quantitative research in education with SPSS. Sage.

Munns, A. K., and Bjeirmi, B.F. (1996). The role of project management in achieving project success. International Journal of Project Management, 14(2), 81-87.

Muzio, E., Fisher, D. J., Thomas, E. R., & Peters, V. (2007). Soft skills quantification (SSQ) for project manager competences, Project Management Journal, 38(2), 30-38.

Toor, S. R., and Ofori, G. (2008). Leadership for future construction industry: Agenda for authentic leadership, International Journal of Project Management, 26, (6.), 620-630.

Partington, D.(2007). Leadership in Turner, J.R. (Ed.), Gower handbook of project management 4th ed. 739-756: Gower Publishing, Aldershot, UK

Pedler, M.,Burgoyne, J.,&Boydell,T. (2010).A Manager's Guide to Leadership.2nd ed. Mc-Graw Hill

Pallant, J. (2011). SPSS Survival Manual: A step by step guide to data analysis using SPSS. 4thed. Allen and Unwin, Australia

Pinto, J. K., and Slevin, D. P. (1988a). Project success: Definition andmeasurement techniques. Project Management Journal, 19, 67-71.

Pinto, J. K., and Slevin, D. P. (1989). Critical Success factors in R & D Projects. Research Technology Management,39(4), 31-35

Project Management Institute (2013). A Guide to the Project Management Book of Knowledge, (PMBOK), 5th ed. Newtown Square, Pennsylvania, USA: Project Management Institute.

Robbins, S. P.,and Judge, T. A.(2013).Organizational Behavior, 15th ed., Pearson Education, Inc., New Jersey, USA

Santana, D., Marzagao L., and Carvalho,M.(2016).The influence of project leaders' behavioral competences on the performance of six sigma projects. Review of Business Management, Sao Paulo, 18(62), 609-632

Saunders, M., Lewis, P.,and Thornhill, A. (2016). Research methods for business students. 7th ed. Pearson Education Limited, England

Sekaran, U.(2003).Research Methods for Business: A Skill Building Approach. 4th ed. Southern Illinois University at Carbondale. John Wiley & Sons, Inc.

Shao, J.(2018).The moderating effect of program context on the relationship between program managers' leadership competences and program success. International Journal of Project Management 36, 108-120.

Shenhar, A.J., Dvir, D., Levy, O., and Maltz, A.C. (2001). Project success: a multidimensional strategic concept. Long Range Planning, 34(6), 699-725.

Toor, S., & Ogunlana, S. O. (2010). Beyond the Iron Triangle: Stakeholder perception of key performance indicators for large-scale public sector development projects.International Journal of Project Management, 28(3), 228-236.

Trivellas, P., and Drimoussis, C. (2013).Investigating leadership styles, behavioral and managerial competence profiles of successful project managers in Greece. Procedia, Social and Behavioral Sciences, 73,692-700.

Wysocki, R.K., and McGary, R. (2003): Effective project management. 3rd ed. Wiley Publishing, NY

Yang, L., Yen, H., and Chiang, Y.(2012).A framework for assessing the impacts of leadership competence on police project performance: Mediating role of job satisfaction and moderating role of project type in Policing: An International Journal of Police Strategies & Management, 35 (3), 528-550

Appendix A: Questionnaires

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
MBA PROGRAM

PURPOSE OF THE QUESTIONNAIRE

Dear Sir/ Madam,

This questionnaire is designed to collect relevant data for my research thesis entitled as **'*Project Managers' Leadership Quality and Project Success in Construction Industry: The Case of Category A Construction Firms in Ethiopia***

The major purpose of the research is to explore and find out ***the relationship between leadership competences and project success in terms of project stakeholders' satisfaction, quality, time and cost. in construction projects***. The research outcome and recommendation will be used as an input

1. For project companies to consider leadership competences when recruiting and allocating project managers.
2. For institutions and policy-makers to consider establishing trainings on leadership competences development for project management

   Hence, the researcher kindly requests the utmost attention and collaboration of all concerned persons who are selected to fill this questionnaire in providing reliable and genuine information that could help to reach the right research outcome and conclusion. The data that you will provide is very important for the achievement of the research objectives. Therefore,I kindly request your genuine and honest responses. As a matter of ethical research, I solemnly committed that your response would be kept confidential and it will be used only for research purpose.

   I thank you so much in advance.

Address:
Amanuel Haile (MBA student, AAU)
Email: amanuelht@yahoo.com
Tel.: 0911669224

I. GENERAL INFORMATION:(to be filled by the project manager)

1. Name of the project_____
2. Name of your employer_____
3. Name of the client _____
4. Project location:(City or Region)_____
5. Kindly indicate the responsibility that describes your role in the above mentioned project:

   ☒Project Manager ☒Consultant /Resident Engineer ☒Project coordinator/member

   ☒Contractor ☒ Client/ owner ☒Others (Kindly specify)……

6. For the above mentioned project, please specify the project type:

   ☒New, ☒Renovation/Rehabilitation, ☒ Expansion

7 For the above mentioned project, please specify the project category

   ☒ Construction , ☒ Engineering, ☒ IT , ☒ Manufacturing, ☒ Developmental

8 Please indicate your gender. ☒ Male, ☒ Female

9. Please indicate your age: ☒Below 25, ☒25 to 34, ☒35 to 44, ☒45 to 54, ☒55 to 60, ☒Above 60

10. Please indicate your highest level of professional education obtained so far.

    ☒PhD ☒Master's degree ☒Bachelor degree ☒Diploma ☒Certificate ☒High school

    ☒Others (please specify…….)

11. Please indicate your educational background _____
12. Please indicate your total work experience.

    ☒Below 3 yrs, ☒3 to 5 yrs , ☒6 to 10 yrs , ☒11 to 15 yrs , ☒Above 15 yrs

13. Please indicate your experience as project manager or project leader

    ☒Below 3 yrs, ☒3 to 5 yrs , ☒6 to 10 yrs , ☒11 to 15 yrs , ☒Above 15 yrs

14. Apart from the current employer, how many other organizations have you worked for _____
15. For the above mentioned project, what was the project duration in month's_____?
16. For the above project, please indicate the size of the project team members (no. of employees) under your leadership_____
17. Given the complexity of projects in Ethiopia, please rate the complexity of the above mentioned project.

    ☒Low ☒Medium ☒High

II. LEADERSHIP COMPETENCES PRACTICE

During the project's execution, please indicate genuinely the extent to which you as the project manager (or other) agree with each of the following leadership qualities statements by putting a tick **(√)** in the appropriate response.

1: ***Not At All, 2: To A Little Extent, 3: Indifferent, 4: To A Great Extent, 5: To A Very Great Extent***

S/N	Leadership Competences Measurement Items	1	2	3	4	5
	Emotional Competence					
	Motivation					
1	I have the drive & energy to achieve clear project results and make an impact					
2	I have the drive and energy to balance short and long-term goals of the project with a capability to pursue demanding goals in the face of rejection or questioning					
	Conscientiousness					
3	I display 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.					
4	I show personal commitment to pursuing an ethical solution to a difficult project issue or problem					
	Interpersonal sensitivity					
5	I am aware of & take account of the needs & perceptions of project members in arriving at decisions & proposing solutions to problems & challenges. I build from this awareness & achieve the commitment of others to decisions & actions					
6	I have willingness to keep open one's thoughts on possible solutions to problems & to actively listen to, & reflect on, the reactions & inputs from project members					
	Influence					
7	Based on project members positions, I persuade them to have new ways of looking at how to complete the project activities					
8	I provide a rationale & reasons for changes to be accepted by project members					
	Self-awareness					
9	I am aware of my own feelings and the capability to recognize and manage these in a way that I feel that I can control.					
10	I show a degree of self-belief in my capability to manage my emotions and to control their impact in a work environment					
	Emotional resilience					

S/N	Leadership Competences Measurement Items	1	2	3	4	5
11	I perform consistently in a range of situations under pressure and adapt behavior appropriately.					
12	I balance the needs of the situation and task with the needs and concerns of the project stakeholders					
13	I retain focus on a course of action or need for results in the face of personal challenge or criticism					
	Intuitiveness					
14	I arrive at clear decisions and drive their implementation when presented with incomplete or ambiguous information using both rational and "emotional" or intuitive perceptions of key project issues and implications.					
	Managerial Competence					
	Managing Resource					
15	I plan ahead, organize all resources & coordinate them efficiently & effectively					
16	I establish clear project objectives					
17	I convert long-term goals into action plans.					
18	I monitor and evaluateproject staff's work regularly and effectively, and gives them sensitive and honest feedback					
	Engaging communication					
19	I am a lively and enthusiastic communicator, engage others and win support.					
20	I clearly communicate instructions and vision to project staff					
21	My communications are tailored to the audience's interests and are focused					
22	My approach inspires project staff and audiences					
23	My communication style is approachable and accessible					
	Developing					
24	I believe my project members have potential to take on ever more-demanding tasks and roles, and encourage them to do so.					
25	I ensure my project members' direct relationship with me have adequate support					
26	I develop my projectmembers' competencies, and invest time and effort in coaching them so they can contribute effectively and develop themselves.					
27	I identify new tasks and roles that will develop my project members					
28	I believe that critical feedback and challenge from project members are important					
	Empowering					
29	I know the strengths and weaknesses of project team members' direct relationship with me. I give project members autonomy, encourages them to take on personally challenging and demanding tasks.					

S/N	Leadership Competences Measurement Items	1	2	3	4	5
30	I encourage project members to solve problems, produce innovative ideas and proposals and develop their vision for the project implementation activities					
31	I encourage a critical analysis and a broad perspective, and encourage the challenging of existing project practices, assumptions and policies					
	Achieving					
32	I am willing to make decisions involving significant project risk to gain an advantage in project implementation.					
33	My decisions are based on core project issues & their likely impact on success.					
34	I select and exploit activities that result in the greatest benefits to the project and that will increase its performance					
35	I have unwavering determination to achieve project objectives and implement decisions					
	Intellectual Competence					
	Strategic perspective					
36	I see the project's wider issues and broader implications. I explore a wide range of relationships, balances short- and long-term considerations.					
37	I am sensitive to the impact of my actions and decisions across the organization.					
	Vision and imagination					
38	I identify opportunities & threats.I am sensitive to project stakeholders' needs, external developments & the implications of external factors on my decisions & actions					
39	I am imaginative and innovative in all aspects of my project work. I establish sound priorities for future project activities.					
40	I foresee the impact of external and internal changes on my vision that reflect project implementation issues and realities.					
	Critical analysis and judgment					
41	I gather relevant information from a wide range of sources & probe the facts					
42	I identify advantages and disadvantages and discern the shortcomings of ideas and proposals.					
43	I make sound judgments and decisions based on reasonable assumptions and factual information, and am aware of the impact of any assumptions made.					

III. PROJECT SUCCESS CRITERIA

During the project's execution, please indicate genuinely the extent to which you as the project manager (or other) agree with each of the following project success statements by putting a tick **(√)** in the appropriate response

S/N	Project Success Measurement Items	1	2	3	4	5
	Time					
1	Was the project completed on time?					
	Cost					
2	Was the project completed with the allocated budget?					
	Quality					
3	Was the scope of all project works completed?					
4	Were the project specifications met by the time of handover to the client?					
5	Were the outcomes of the project used by its client/owner?					
	Stakeholders' Satisfaction					
6	Was the project client/owner satisfied?					
7	Wasyouremployer satisfied with the outcomes of the project implementation?					
8	Were project team members satisfied with the process by which the project was implemented?					

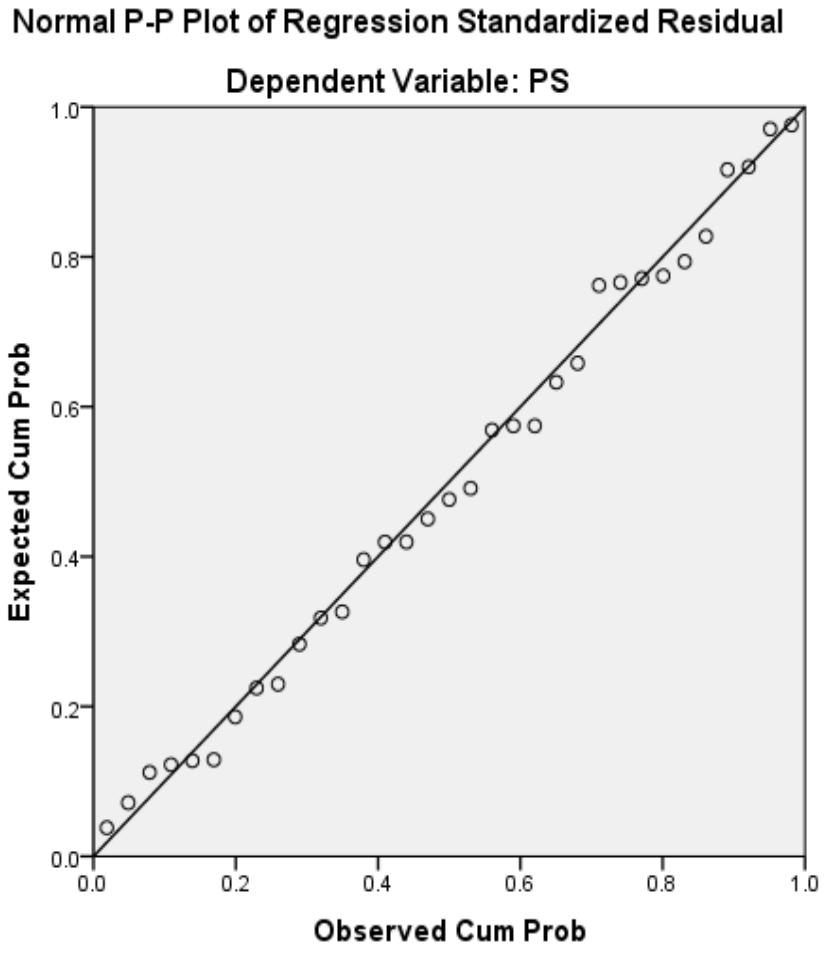
IV. Any comments that are helpful for the questionnaire

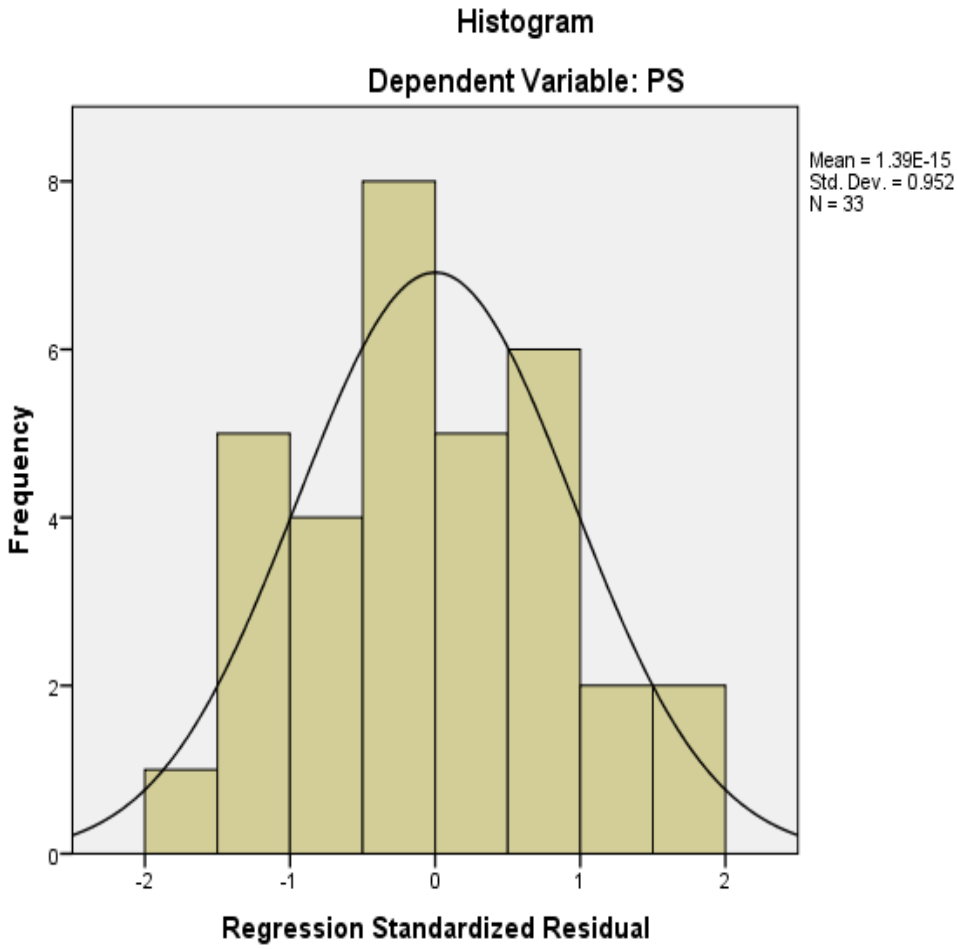
_____
_____
_____
_____
_____
_____
_____

I am grateful for your considerate cooperation, thank you very much for your time and effort

Appendix B: CLRM Assumptions Test

Normality Test




Histogram
Dependent Variable: PS
Mean = 1.39E-15
Std. Dev. = 0.952
N = 33
Frequency
0
2
4
6
8
-2
-1
0
1
2
Regression Standardized Residual

Homoscedasticity Test