ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PROJECT MANAGEMENT

MA THESIS

LEADERSHIP ROLE FOR SUCCESSFUL COMPLETION OF CONSTRUCTION PROJECTS AT SELECTED CONSTRUCTION ORGANIZATION IN ADDIS ABABA, ETHIOPIA

BY

EYOEL ABEBE

ID: SGS/0485/2015A

June, 2024

ADDIS ABABA, ETHIOPIA

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ADVISOR: HAILEMELEKOT TAYE (Asst. Professor)

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ST. MARY'S UNIVERSITY

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APPROVED BY BOARD OF EXAMINERS

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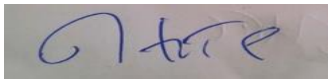
Advisor Signature

_____ 

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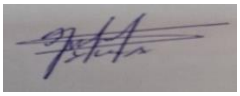
_____ 

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Eyoel Abebe
The Researcher

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Acronyms and Abbreviation

ANOVA: Analysis of Variance

BCL: Behavioral Complexity in Leadership

BR: Broker Role

CR: Coordinator role

DR: Director Role

FR: Facilitator role

INVR: Innovator role

IRT: Iron Triangle (Cost + Scope + Time)

LR : Leadership Roles

M: Mean

MENTR: Mentor role

MR: Monitor role

PMI: Project Management Institute Goal Achievement

POLS: People-Oriented Leadership Style

PR: Producer role

PS : Project Success

QMLR: Quinn's Model of Leadership Roles

SD: Standard Deviation

SPPS: Statistical Program for Social Science

Abstract

In project management, project managers' competencies and their leadership style are found to be central to their success. The objective of this study was to assess the effect of leadership roles on successful completion of construction projects at selected construction organization in Addis Ababa, Ethiopia. The research had a cross-sectional explanatory design that utilized a quantitative data generated through administering a self-completion structured questionnaire distributed to sampled respondents (n=90). Of the distributed questionnaires 75 correctly filled and returned to the researcher. Descriptive and regression analysis performed on the collected data using the statistical package for the social sciences tool. The result showed that leadership roles such as mentor role, facilitator role, innovator role, coordinator role, producer role, director role have positively and significantly influencing the successful completion of construction projects whereas mentor role and broker role found to have a negative and insignificant influence on project success in the study population. The researcher recommended that Project managers should give attention to six leadership roles found to have a positive a positive and significant influence on success of construction projects, construction leaders, should up grade communication skills, problem-solving abilities, decision-making skills, and the ability to coordinate multiple stakeholders for betterment of the leadership role in their respective projects. .Moreover continuous education and training should be given in leadership management for projects managers in their respective projects.

Key Words: Leadership, Leadership roles, project, project success

Chapter One

1.1 Background of the Study

Construction industry makes substantial contributions to the socio-economic development process of any country. It has direct or indirect impact on all economic activities and contributes to the national growth of other sectors through a complex system of linkages. By its very nature this industry has numerous parties such as clients, contractors, consultants and regulators which makes the sector complex unlike other sectors (Hare B, et al 2006; Fetene G 2008).

As demonstrated by its share in the gross domestic products (GDPs), the construction industry has important contributions to the Ethiopian economy. The sector has registered relatively higher growth and there has been increased investment on the development and expansion of various infrastructure projects like roads, airports and residential and non-residential housing units. Maintaining steady cost projection on construction projects had been until recently an issue of serious concern, both to the client and project contractors (Tadesse et al, 2017; Merid T., 2016; MoUDC, 2012).

Ideally, projects designed and managed by highly trained construction professionals and executed by qualified contractors selected on the basis of their capability should meet the project performance goals. These goals are in terms of the contract period, budget, quality, environmental sustainability and client satisfaction. However, there is evidence that despite the high quality of training of consultants in the building industry in Ethiopia and regulation of the industry in major urban areas, construction projects do not always meet their goals (Maerege G & Maru S., 2019).

Project management is a complex and challenging process that involves a lot more than just scheduling and executing tasks. The key to any successful project lies in effective leadership, and it is known that great leadership is essential for any project to achieve its goals on time and within budget (Turner and Müller, 2005).

The success of any project heavily depends on the leadership skills of the project manager. Moreover, a great leader can navigate challenges and changes that arise during the project's lifecycle and must be able to adapt to changes in scope, timelines, and budgets while keeping

the project on track and recognize risks and address them proactively, minimizing their impact on the project's success (PMI, 2008; Meron T 2023).

Leadership plays a critical role in project success. Leadership roles are defined as the collection of eight roles; namely, facilitator, mentor, innovator, broker, producer, director, coordinator and monitor that an effective project manager can demonstrate appropriately in a complex and rapidly changing environment (Denison et al., 1995). There are many facets to great leadership, so it's important to focus on developing them to address issues early on before they become larger problems that can derail the project's progress. Ciraklar (2008) in his work found direct relationships existing between leadership roles and project success. However, according to Chen et al. (2008), diversified leadership roles are indirectly influencing project success through mediators like leadership effectiveness and project team.

Project management is defined as an application of knowledge, skills, and techniques to oversee activities in order to meet the needs of project requirements (Heagney, 2011). Therefore, leadership is required to enhance successful project deliverables. Organizations need leaders who can manage in uncertain and competitive environments, increasingly diverse teams and achieve during the time of the project's existence organizational profitability and success. In order to meet these objectives, organizations are often faced with the challenge of finding the right skills and leadership to deliver the desired results.

Determinants that influence project success are an important theme of research in the project management literature (Ika et al., 2012; Söderlund, 2011; Nauman et al., 2010). Scholars, in regard to defining project success, disagree on its measure or in clearly defining what it is. The Project Management Institute (PMI) defines project success as balancing the competing demands for project quality, scope, time, and cost as well as meeting the varying concerns and expectations of the project stakeholders (PMI, 2008).

From the project management literatures in Ethiopia, there is a lack of researches on how leadership roles on successful completion of construction projects and it is unclear whether leadership roles of a project manager directly influencing project success.

This study, was, therefore, intended to assess the effect of leadership roles on successful completion of construction projects at selected sites in Addis Ababa, Ethiopia.

Addis Ababa is the capital and largest city of Ethiopia. Construction projects in the city are often categorized based on their scale, the types of structures being built, and the purpose of the project (also called “end use” or “land use”). Broadly, there are six types of construction projects: residential, commercial, institutional, mixed-use, industrial, and heavy civil. At the time of initiating this study there were more than 159 construction projects ranging from middle to mega projects in Addis Ababa (Deloitte, 2023).

1.2. Statement of the Problem

Project management is a combination of art and science, leadership, and management (Arora & Baronikian, 2013). In addition, a project manager must look in various directions, assigning resources for the future. Nowadays, scholars believe that leadership has a positive impact on project management performance.

In project management, project managers’ competencies and their leadership style are found to be central to their success (Crawford, 2005; Geoghegan, and Dulewicz, 2008). Most of the studies generally explored the leadership style and its relationship with project success. However, there is little empirical research on relationships of leadership roles and project success (Yang et al., 2011; Aga et al., 2016, Yang et al, 2011).

Jiang (2014) also found that leadership style helps the project to be successful in different ways, including: collaboration in teamwork, management of resource and communication with subordinates and clients. Geoghegan and Dulewicz (2008) found that increased competencies of leadership increases the chances of success of the project, and state that leadership style has an impact on the project’s success. Feger and Thomas (2012) on the other hand, state that there is no leadership style that is suitable for all projects because of the uniqueness of each project and specific environment.

Most of the studies conducted in Ethiopia emphasize that there are certain leadership styles, skills and characteristics identified as being critical for successful project delivery (Meron T., 2022), Unfortunately, there are no studies conducted resulting in lack of theoretical understanding and empirical finding so far on how leadership roles are influencing project success in construction projects in Ethiopia. This study is, therefore, initiated to fill such a gap.

1.3 Objective of the study

1.3.1. General Objective

- To assess the effect of leadership role on successful completion of construction projects at selected construction project sites in Addis Ababa, Ethiopia.

1.3.2 Specific Objectives

- To assess the effect of mentor role on project success in the study population
- To assess the effect of facilitator role on project success in the study population
- To assess the influence of innovator role on project success in the study population
- To assess the influence of broker role on project success in the study population
- To assess the influence of monitor role on project success in the study population
- To assess the influence of coordinator role on project success in the study population
- To assess the influence of producer role on project success in the study population
- To assess the influence of director role on project success in the study population

1.4 Hypothesis of the Study

In order to meet the study objectives the following hypotheses are formulated:

H_1: Mentor role is positively influencing the project success in the study population

H2: Facilitator role is positively influencing the project success in the study population

H3: Innovator role is positively influencing the project success in the study population

H4: Broker role is positively influencing the project success in the study population

H5: Monitor role is positively influencing the project success in the study population

H6: Coordinator role is positively influencing the project success in the study population

H7: Producer role is positively influencing the project success in the study population

H8: Director role is positively influencing the project success in the study population

1.5 Significance of the Study

Potentially, the study can fill knowledge gap being observed in the area with a focus on leadership roles that influence construction project success in the context of Ethiopia, enabling management and project managers to promote and focus on the right leadership roles in order to achieve the specific criteria of project success.

The revelation of the implications will also inform policy and decision-makers in the country to devise effective ways of addressing the leadership roles of project managers in the study area. It will also allow the government and other development partners to adopt effective measures with the aim of enhancing project success in the construction industry of Ethiopia.

1.6 Scope and Limitation of the Study

From literature, there are numerous theories about leadership roles. Conceptually, this study was focused on and adopted the BCL theory (Behavioral Complexity in Leadership) that explains that effective leaders equip and perform various leadership roles and opposing behaviors simultaneously when confronted with complex and fast changing environments (Denison et al., 1995). The study employed the Quinn's (1988) framework to determine the level of behavioral complexity of organizational leaders. The relationships between behavioral complexity and several variables are then investigated including the eight leadership roles mentioned earlier.

Methodologically, the assessment was done by gathering and analyzing quantitative data from project stakeholders, and a structured questionnaire was used for the purpose. Geographically, the study covered construction project sites located in Addis Ababa city due to its proximity to the researcher, and time and budget constraints.

1.7. Operational Definition of Variables

Broker is defined as a leadership role that is similar to Innovator but also includes behaviors that sell ideas, influences decisions at higher levels, acquires needed resources and is also a strong negotiator (Quinn, 1988).

Coordinator is defined as a leadership role that is similar to Monitor but also includes bringing order, planning schedules, providing stability, control and continuity to a project team (Quinn, 1988).

Empowerment is defined as a provision of confidence in team members for being able to think, reason, plan as well as having power and freedom to act accordingly (Hoevemeyer, 1993).

Facilitator is defined as a leadership role that acknowledges team members' personal need, helps developing them, practices participation and team building, focuses on consensus building, manages conflict and encourages participative decision-making (Quinn, 1988).

Goal Achievement is defined as the attainment of team goals which are clear, specific, measurable, realistic and achievable (Hoevemeyer, 1993)

Innovator is defined as a leadership role that inspires, anticipates customer needs, initiates significant changes, generates new ideas, dares to experiment, resolves problems and adaptable to different situations (Quinn, 1988).

Leadership Roles are defined as the collection of eight roles which includes facilitator, mentor, innovator, broker, producer, director, coordinator and monitor that an effective project manager can demonstrate appropriately in a complex and rapidly changing environment (Denison et al., 1995).

Mentor is defined as a leadership role that is caring, empathetic, acknowledges team members' personal needs and helps developing them (Quinn, 1988).

Monitor is defined as a leadership role that clarifies policies, expects accurate work deliverables, controls projects, monitors progress, develops measures and checkpoints in a project team (Quinn, 1988).

Positive Roles and Norms are defined as team members' capabilities to fulfil their responsibilities and rules of behavior (Hoevemeyer, 1993).

Producer is defined as a leadership role that focuses on outside competition, emphasizes on speed, hard work ethics, motivates team members and initiates action in a project team (Quinn, 1988).

1.8 Organization of the Study

The study report is divided into five chapters. The first chapter is the introduction which includes background of the study, statement of the problem, objectives of the study, research hypothesis, significance of the study, its scope and limitation. The second chapter is about literature review. The third chapter presents methodological and ethical considerations. Following this, study results and discussions are presented in the fourth chapter. Finally, chapter five presents conclusion and recommendation of the study.

Chapter Two

Literature Review

2.1 Concepts and Theories

2.1.1 Leadership

Leadership is important in all fields of human endeavor. Features of the construction process and construction projects render leadership even more essential. Construction projects are expensive and technically demanding and the project teams are large and diverse. The process is long and involves a large number of discrete and interrelated tasks. Because constructed products influence long-term socioeconomic development in developing countries, poor performance on projects can have severe implications for the nation and its citizens. Thus, the need for effective leadership in construction is even more acute (Fiedler, 1967).

It may be argued that "effective leadership" is one of the primary answers to the problems of the construction industry, including (and perhaps, especially) problems in developing countries**.** To this end, greater attention is given to leadership development (Turner and Müller, 2005).

What is Leadership?

Lussier and Achual (2013) have written, that “there is no universal definition of leadership, because leadership is complex and because leadership is studied in different ways that require different definitions. So, there is no consensus on a definition of leadership. Fiedler (1967) suggested that "leadership behavior means particular acts in which a leader engages in the course of directing and coordinating the work of his group members". To Burns (1978), "leadership is the reciprocal process of mobilizing by persons with certain motives and values, various economic, political and other resources, in context of competition and conflict, in order to realize goals independently or mutually held by both leaders and followers". Bennis (1989) defined leadership as "the capacity to create a compelling vision and translate it into action and sustain it". To Yukl (1989), "leadership involves influencing task, objectives and strategies, influencing commitment and compliance in task behavior to achieve these objectives, influencing group maintenance and identification and influencing the culture of an organization". Other definitions

include Bass's definition (1990), which defined leadership as "the principal dynamic force that motivates and coordinates the organization in the accomplishment of its objectives".

To Gardner (1990), "leadership is the process of persuasion or example by which an individual (or leadership team) induces a group to pursue objectives held by the leader and his or her followers". Chemers (1997) believed that "leadership is a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task". Vroom and Jago (2007) defined leadership as "a process of motivating people to work together collaboratively to accomplish great things". Certain terms in these definitions that are worth considering include "directing", "co-coordinating", "mobilizing", "motivating", "persuading" and "vision". Most of the above definitions consider the task objective to include both a leader and followers (Gardner, 1990, Chemers, 1997).

2.1.2 Approaches to Leadership

There have been many approaches to studying leadership over the years. From literature on project manager's leadership styles, studies have shown that a project manager's leadership style did impact his or her perception of success in different situations instead of directly impacting project success itself (Turner and Muller, 2005). According to Geoghegan and Dulewicz (2008), eight leadership dimensions of project managers were found to be significantly related to project success. Furthermore, in a project management realm, being task-oriented is the preferred leadership style rather than having people-oriented leadership style (Turner and Muller, 2005).

According to Turner and Muller (2005), different project leadership styles are appropriate at different project life-cycle as well as for different multi-cultural projects. Trait, Behavioral or Style School, Contingency School, Visionary or Charismatic School, Emotional Intelligence School, Competency School and Behavioral Complexity in Leadership (BCL) theory were among them .

2.1.3 Behavioral Complexity in Leadership (BCL) Theory

Behavioral Complexity in Leadership (BCL) theory explains that effective leaders will equip and perform various leadership roles and opposing behaviors simultaneously when confronted with complex and fast changing environments (Denison et al., 1995). Opposing behaviors refer to

competing or contrasting behaviors like creative and routine, strict and lenient and others. These various leadership roles and opposing behaviors are extracted from a repertoire of roles and behaviors which grew over time and affected by the experiences of the leaders. More roles and behaviors that a leader can display in a particular situation, more effective is the leader.

Effective leader is capable of identifying the needs of his followers within a particular situation and he or she will adjust, behave or perform the roles that will meet those needs. According to Yukl (2010), BCL theory is not new but it is still evolving whereby it has emerged in recent years as a new approach to conceptualize leadership. In this study, BCL theory is adopted instead of other leadership theories because only BCL theory focuses on the complexity and contradiction of a leader's behaviors whereby the simultaneous and various opposing roles and behaviors of the leader enable him or her to deal with different complex situations more effectively (Denison et al., 1995).

On the other hand, in more traditional leadership theories, situation is presented and leadership style is displayed in an absolute "either or" manner e.g. either Theory X or Theory Y, autocratic or democratic, task oriented or relationship oriented, autocratic or democratic, transactional or transformational subject to a particular situation (Denison et al., 1995). Displaying the right leadership style in a right situation shows effective leadership. In today's complex and rapidly changing environment e.g. in situations whereby multiple objectives are contradicting each other, traditional leadership theories might not be as effective as BCL theory in handling different complex situations at the same time e.g. a project may need to be completed at much lower cost, shorter duration and higher quality than previously agreed.

In such situations, BCL leaders will display multiple leadership roles to handle the situation more effectively. There are numerous theories about leadership roles. Some researchers had proposed what should be the leadership roles and complex behaviors in the repertoire of a leader e.g. Mintzberg's ten leadership / managerial roles which can be classified into (a) decision making related, (b) information processing related; and (c) interpersonal contact related (Mintzberg, 1973). Jessup (1990) proposed that leadership roles should include (a) advisor, (b) administrator and (c) coach.

According to Stephen (1998), leadership roles consist of 13 sub-dimensions which include coaching, effective communication, encouraging teamwork, establishing high standards, effective delegation, rewarding performance, developing and releasing employees, building consensus, supporting reasonable risk taking, forecast thinking, improving the organization, managing diversity, and overall effectiveness. Gunnar and Torodd (1999) also suggested that various leadership roles can be categorized into four main roles i.e. producer, administrator, integrator and entrepreneur. Nevertheless, Quinn's (1988) model is adopted in this study as its leadership roles are well-known, well-balanced (i.e. encompasses internal, external, flexibility and control dimensions) and attracted the most citations (Quinn, 1988; Denison et al., 1995; Chen et al., 2008; Wakefield et al., 2008, Zafft et al., 2009).

Quinn (1988) proposed a model of leadership roles which consists of eight roles namely, facilitator, mentor, innovator, broker, producer, director, coordinator and monitor. These eight roles are spread over 4 quadrants (or sometimes also called profiles) in which each quadrant consists of two roles that are very close in terms of role's attributes versus roles in other quadrants (see Figure 1 below). The four quadrants are: 1) Relating to People, 2) Leading Change, 3) Producing Results and 4) Managing Processes. These four quadrants are divided by both x- and y-axis in which x axis continuum consists of two extreme dimensions i.e. focus on internal or external environment. Y-axis continuum consists of highly flexible or highly controlled or stable environment. Each role consists of opposing attributes compared to the role that is located on the opposite side e.g. mentor role attributes are opposite against the director role attributes; likewise facilitator role is opposite against the producer role.

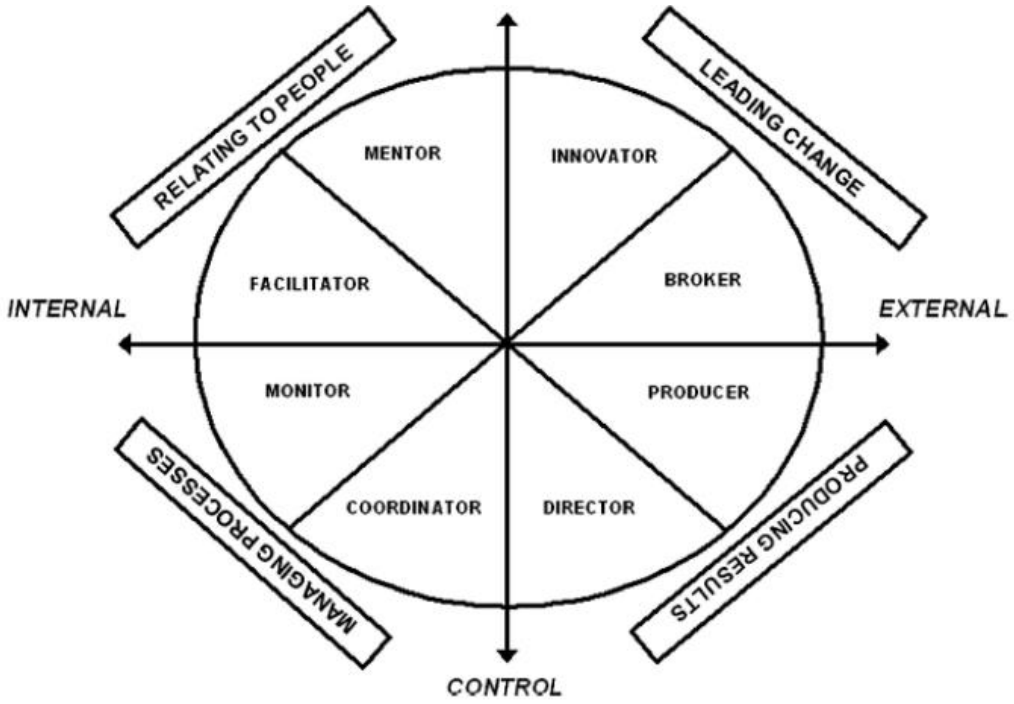


Figure 1 Quinn Model of Leadership Roles (Quinn, 1988)

A description for each role is presented on Table 1 below.

Table 1 Leadership Quadrants and Role Descriptions (Quinn, 1988)

Quadrant	Leadership Role
Relating to People (RP)	• Mentor: Acknowledges personal needs, develops people, caring, empathetic. • Facilitator: Acknowledges personal needs, develops people, practices participation and teambuilding, focuses on consensus building, manages conflict and encourages participative decision-making.
Leading Change (LC)	• Innovator: Inspires, anticipates customer needs, initiates significant changes, new ideas, experiments, problem solves, adaptable. • Broker: Same functions as innovator including, sells ideas, influences decisions at higher levels, acquires needed resources, strong negotiator.
Managing Processes (MP)	• Monitor: Clarifies policies, expects accurate work, controls projects, monitors progress, develops measures and checkpoints. • Coordinator: Same functions as the monitor including brings order, plans schedules, provides stability, control and continuity.
Producing Results (PR)	• Producer: Focuses on outside competition, emphasizes speed, hard work ethic, motivates people, initiates action. • Director: Same functions as producer including providing clear direction, clarifies priorities, communicates the vision, plans and prioritizes.

Quinn's Model of Leadership Roles explains that a more effective leader will be able to cover more roles e.g. three to four quadrants of roles in his or her repertoire versus a less effective leader who may only have one to two quadrants of roles. All the roles covered by a leader co-exist simultaneously within the leader but when facing different situations, certain roles will be demonstrated highly while some opposite roles will be retracted to a minimum degree. Leadership Roles are defined as the collection of eight roles which includes facilitator, mentor, innovator, broker, producer, director, coordinator and monitor that an effective project manager can demonstrate appropriately in a complex and rapidly changing environment (Denison et al., 1995).

There were studies done on how BCL theory had influenced team conflict and team trust (Chen et al., 2008; Wakefield et al., 2008) but there is still lack of research on whether BCL theory will also influence project. In the Ethiopian context, despite the numerous studies conducted on leadership, there is no conclusive evidence showing the more widely practiced leadership roles. Moreover, none of them is evaluating how BCL theory is influencing constructs such as project success in a construction projects setting.

2.1.4 Leadership in the Construction Industry

The construction industry has a greater need for leadership than, arguably, any other field of endeavor. Many reasons support this contention and are evident in the nature of the construction projects, industry and constructed products (Hillebrandt, 2000). First, construction projects are large and technically complex and they involve a combination of specialized skills. Thus, the teams are not only large but are also multi-disciplinary and the members are from several different organizations.

Today's large projects are also multi-cultural. Second, the projects are typically expensive and the stock of buildings represents a large proportion of a nation's savings. Thus, the quality of the built product is of the essence. Third, the projects take a long time to complete and involve a large number of discrete activities, which increases the certain time-related risks and exacerbate problems with communication, co-ordination and the ability to manage a wide range of risks. Finally, the projects and the constructed product have serious implications for the health and

safety of the workers involved, as well as the general public. Thus, due care, diligence and expertise are necessary safeguards. (Retno W 2018, Vroom, and Jago, 2007)

Developing countries like Ethiopia have an even greater need for leadership in construction. First, developing countries report more project performance deficiencies, such as cost and time overruns, poor work quality, technical defects, poor durability, as well as inadequate attention to safety, health and environmental issues (Ofori, 2007). Second, the project management in these countries is fraught with many problems, due to the nature of the industries and their operating environments. In developing countries, the importance of effective management of stakeholders in construction projects is most evident in international projects, which are commonly large and complex projects (Ofori, 2003). On such projects, the teams are invariably multi-cultural, which underscores the need for leadership skills. Third, because the constructed product is critical to long-term national socio-economic development in developing countries, poor performance on construction projects has even more adverse implications. Finally, the clients, end purchasers, users and other stakeholders of construction in these countries are unaware of aspects of construction. This finding implies a need for professionalism among the construction project participants and a dedication to meet the objectives and aspirations of the stakeholders in the most innovative, imaginative and value adding manner for the benefit of the client and all concerned. Thus, leadership should be a key feature in construction.

2.1.5 Project Success Criteria

Traditionally, project management has been associated with the fields of construction and engineering, where the project success criteria are objective, well-accepted, and measurable, usually by the conventional triangle criteria of time, budget, and compliance with the client's terms of reference, or "quality." Project management, however, has become ubiquitous in the service sector nowadays, as well as in areas like capacity building and social work projects (Diallo & Thuillier, 2005). For the Project Management Institute (PMI), project success is defined as balancing the competing demands for project quality, scope, time, and cost, as well as meeting the varying concerns and expectations of the project stakeholders (PMI, 2008).

The work of Ika (2015) indicates that while the "iron triangle" (cost, time, and quality) dominated the concept of project success criteria in the 1960s to 1980s, and many other criteria

were added more recently. These include benefit to the organization, end user satisfaction, benefit to stakeholders, benefit to project personnel, strategic objectives of the organization, and business success. Though there is no consensus on project success criteria in the project management literature, the work by Ika et al. (2012) follows a holistic approach in measuring success for development projects. The criteria set forth by these authors include relevance, efficiency, effectiveness, impact, and sustainability.

Relevance refers to the extent to which the project suits the priorities of the target group, the recipient, and the donor. Efficiency refers to the extent to which the project uses the least costly resources possible to achieve the desired results. Effectiveness refers to the extent to which the project meets its objectives. Impact refers to the positive and negative changes produced by the project, directly or indirectly, intentionally or not. Sustainability refers to whether the benefits of the project are likely to continue after donor funding has been withdrawn. More specific to development projects, Khang and Moe (2008) point out the following three different dimensions of success criteria: first the efficiency of the implementation process, that is, "an internally oriented measure of the performance of the project team, including such criteria as staying on schedule, on budget, meeting the technical goals of the project, and maintaining smooth working relationships within the team and the parent organization"; (2) the perceived quality of the project, which includes the project team's perception of the value and usefulness of the project deliverables; and (3) the target beneficiary's satisfaction.

Project success is determined by different factors. These factors can usually be measured that will define the success of the project. Project managers need to define the success criteria after collaboration with the end customer. Being on the same page regarding project success criteria can eliminate the risk of project failures and improve the odds of project success. The project success criteria refer to measurable terms of what should be the outcome of the project that is acceptable to the end user, customer, and others such as clients and contractors . In other words, the project success factors consist of activities or elements that are required to ensure successful completion of the project (Claudio , 2023, Turner and Müller , 2005. Müller and Turner, 2007)

In order to deliver project value, the success criteria should be well defined. Defining the project success criteria should be a practice of conciseness. The three key factors that can define project success include the following. (Claudio, 2023)

- The Iron Triangle (Cost + Scope + Time)
- Realized benefits
- Stakeholder satisfaction.

One of the most common problems when defining project success criteria relates to having a myopic focus on the Iron Triangle, especially relating to the cost and time. Most project managers tend to overlook the benefits and also ignore whether the client is happy. However, focusing merely on the benefits or the client satisfaction is also not the right approach (Claudio ,2023)

Instead, a project manager should try to create a balance. While the focus should be on the iron triangle, the manager should also not lose sight of the realized benefits and stakeholder satisfaction. Successful project delivery depends on the requirements of the project. It requires delivering the objectives and goals of the project. (Turner and Müller, 2005)

In order to achieve success, one needs to be in agreement with the stakeholders regarding the project goals, objectives, and success criteria.

2.2 Empirical Review

The characteristic of a project is different with the operational process; therefore, the role of a leader in the project is also different. The researchers of project management have examined the role of project leaders in project success. The results of those studies are still very diverse. Some researchers say that there is a strong correlation between the two, but some say that there is no significant direct link between leadership and the success of the project. A meta-analysis study was conducted to obtain a comprehensive overview of the previous studies to clarify the different opinions. Based on the exploration of 115 cases of research from 36 project management studies, it was found that between leadership and project success has low direct correlation. This situation happens because contextual factors of project type and the country of project location influence the role and style of leadership in the success of the project (Retino . 2018).

In the literature of project management research, the role of the leader or the project manager is not mentioned as one of the critical factors supporting the project success (Müller R. et al 2007, Müller et al 2012 , Turner and Müller 2005)

Project has unique characteristics, it is temporary, and it has elements of uncertainty such as rapid changes or unknown risks. Those characteristics are in contrast to the operational characteristics which are repetitive, procedural, and permanent for its cycles, and clear for its entities and activities in specific operating processes (Whitty, 2005. Pinto, 1987, Amoatey, 2017). In case there is a risk, usually the anticipation of operational risk has been predicted. Project characteristics that are different with operational management processes make the leadership characteristics not explicitly stated in the success of the project (Aga et al. 2016). Such a rapidly changing and temporary character of the project influences the performance characteristics of the project leaders. Project managers may switch before the project is completed or should be replaced because project activities require other project leaders. The dynamism is one of the factors to conclude that whatever the nature, the behavior or the role of the leaders, it is not considered as a significant factor as long as the project is completed according to the target time, cost, and specification (Pinto, 1987). Along with the development of social theory to support problem-solving in the field of engineering, recently researchers of project management have begun to incorporate the concept of leadership in their studies, and do the empirical test in the object area of different projects (Müller et al, 2012). However, there has not been any agreement among the researchers regarding the correlation and the influence of the leaders or managers in managing the project to achieve success. Some researchers have suggested that the leadership has little impact on the success of the project and the others claim that the leadership directly affects the success of the project. (Retno,. 2018)

Today, more and more project teams are formed to achieve organizational objectives as organizations generally recognized the importance and benefits of project teams. However, in order to ensure project teams perform effectively, project managers need to learn and exhibit some of the leadership roles proposed by Quinn (1988) as these roles can impact the project team effectiveness. The current study developed by Cohen and Bailey (1997) team effectiveness framework and Quinn (1988) leadership roles and Hoevemeyer (1993) five criteria of project team effectiveness on a sample of 201 project managers, an empirical study had confirmed that a

project manager's leadership roles like mentor, facilitator, innovator and coordinator are important in influencing four out of five criteria of project team effectiveness which include team mission, goal achievement, empowerment, open and honest communication. (Han , 2020)

Akram, et al. (2012) piloted examination entitled how Leadership Behaviors Affect Organizational Performance in Pakistan concluded that leadership behaviors" are interconnected and have great progressive influence in employee performance.

A study done by Dalluay & Jalagat (2016 stated that even while there is still space for improvement, the conclusion of the study was that businesses should constantly make the most of leadership styles that boost employee performance and work satisfaction.

The connection between democratic, transformational leadership and autocratic leadership style have an excellent relationship with the organizational performance indicated that these three styles of leadership induce the employees to perform better and as per the level of expectations (Khajeh, 2018)

Bhargavi and Yaseen (2016) also revealed that there was a clear link between leadership and organizational performance. Organizations should work hard to select and hire the right people with the acceptable levels of leadership and place them in the right places that reflect their performance. Widayanti & Putranto (2015) conducted a study on the effects of transformational leadership and transactional leadership styles on employees to determine the significance of the relationship between the two leadership styles and the effects of transactional and transformational leadership on employee performance. The findings demonstrated a beneficial association between transactional and transformative leadership, which influences employee performance either simultaneously or in part.

Eyerusalem K (2021) examined the effect of leadership style on project performance. Her study findings indicated that, transformational and leizes-faire leader ship styles positively and significantly affect the performance of the project she studied at Mojo Hawassa Road project and recommended that project leaders should use transformational and leizes-faire leadership styles since it involves the employees want to part of the decision making process, and enhances effective project completion.

Tabassi and Bahar (2010) conducted a study to establish the relationship between leadership style and project implementation in Iranian construction industry. The study found transformational leadership style as mostly preferred in Iranian construction sector. In another study Thwala, et,al, (2015) reported that the influence of leadership style on performance of project the relationship between transactional leadership style and performance of projects was higher than other leadership styles.

Kariuki (2015) assessed the influence of leadership style, team commitment and project characteristics on project implementation. The study was conducted by participating project managers and project team members from 102 water and sanitation projects in Kenya. The study findings show that transactional leadership style accounted for 12 percent variance in project time performance, and therefore the study encourage adoption of transformational leadership style which has tendency to lead to higher level of project performance. The results were consistent to findings of Kibuchi (2012) that found a significant relationship between human psychological factors and performance of project in housing construction project in Kenya.

Fetene G.(2022) tried to assess the impact of project managers leadership skill such as communication, interpersonal, coordination, team building and delegation, problem finding, analyzing, solving skills on project success while concurrently assessing the impact of team work as moderating variable on association between project mangers' soft leadership skills and project success. This study gathered views of 30 individuals associated within organizations related to projects. This study indicates that a statistically significant positive relationship exists between each of identified soft leadership skills and success of project and moderation impact of team work on soft leadership skills.

2.3 Research Gaps

From the above definitions, leadership is a key factor for success in any activity that involves collaboration among a group (or groups) of people. In construction, leadership is even more essential, this has been established in many studies.

The construction industry has a greater need for leadership than, arguably, any other field of endeavor. Many reasons support this contention and are evident in the nature of the construction projects, industry and constructed products for construction projects are large and technically

complex and they involve a combination of specialized skills, large projects are also multi-cultural. and typically and the projects take a long time to complete and involve a large number of discrete activities, which increases the certain time-related risks and exacerbate problems with communication, co-ordination and the ability to manage a wide range of risks.

Besides , the projects and the constructed product have serious implications for the health and safety of the workers involved, as well as the general public. So that a greater need for leadership in construction are needed.

In the Ethiopian context, despite the numerous studies conducted on leadership, there is no conclusive evidence and researches showing the more widely practiced leadership roles in the construction industries for s project success in a construction project setting. This research, therefore, will try to address these research gaps.

2.4 Conceptual Framework of the Study

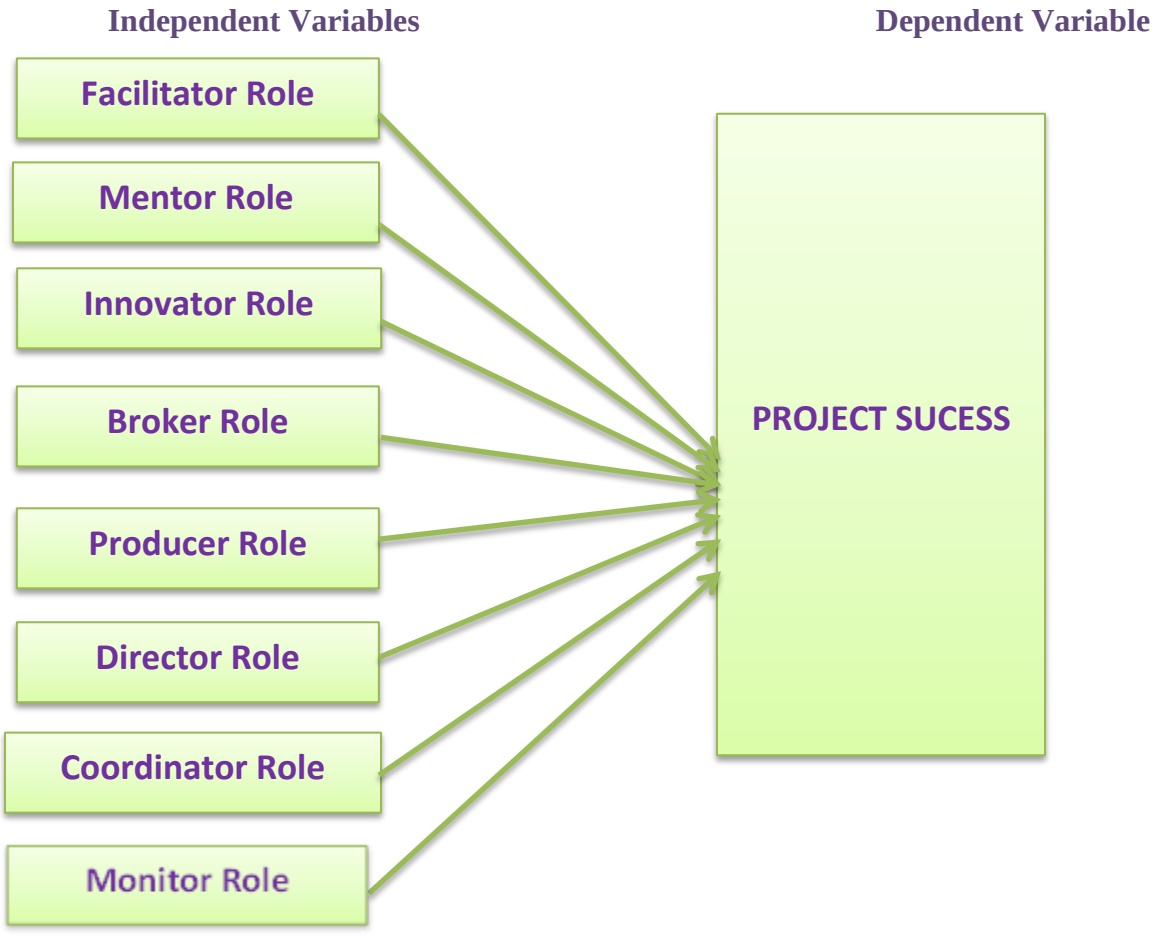


Figure 2 shows the conceptual framework of the Study (developed by the researcher)

Chapter Three

Research Methodology

3.1 Research Setting

The Ethiopian Construction Industry is one of the engines of the country's economy. It has significant impacts on the efficiency and productivity of various sectors. The country's construction industry especially in the capital is booming with the rising need for public facilities.

Addis Ababa is the capital and largest city of Ethiopia. Construction projects in the city are often categorized based on their scale, the types of structures being built, and the purpose of the project. Broadly, there are six types of construction projects: residential, commercial, institutional, mixed-use, industrial, and heavy civil. At the time of conducting this study there were more than 159 projects in the construction industry ranging from middle to mega projects in Addis Ababa (Deloitte, 2023).

The study was conducted at selected sites with a focus on already completed or nearly completed projects (at finishing stage) in the city.

3.2 Research Approach

The research approach is a plan and procedure that determines the research design and consists of steps of broad assumptions to detailed methods of data collection analysis and interpretation. The approach to be chosen must base on the nature of the research problem being addressed (Bryan, 2015). The research approach chosen for this study was a quantitative approach to research employing a deductive study. This is because the study starts with existing theory, develops a hypothesis based on existing theory, and hypothesis were tested and concludes by supporting or rejecting the hypothesis.

3.3 Research Design

The proposed research design for this study was a cross-sectional explanatory study. By definition, cross-sectional studies are researches that analyze the variables in different contexts under the same period of time (Collis & Hussey, 2021). Cross sectional design as an observational research can analyze data of variables collected at on given point of time across the sample population. It is chosen because it will enable the researcher to collect data from the study population (William et al, 2006). The explanatory design aspect was considered to assess the effect of independent variables on the dependent one.

3.4 Target Population and Sampling Technique

The process of developing a sampling plan consists of steps such as identifying the target population, selecting a sampling method, and determining the sample size (Paurav S, 2008).

Target Population

A population can be described as the entire compilation of elements that the researcher aspires to draw conclusions from or population or universe is the aggregate of all the elements (Cooper & Schindler, 2003). The target population for this study includes all 115 Grade 1 construction industries in Addis Ababa, Ethiopia where project managers and engineers targeted as source of primary data.

Sample size

Given the study population indicated above, the sample size for the study was calculated as

$$\mathbf{n = N/ (1+ N \times e^2)}$$

$$\mathbf{= 115/ (1+115 *(0.05)^2)}$$

$$\mathbf{= 115/1.28 = 90}$$

Where N=population, n= sample size and e= level of precision (Yamane, T. 1967)

Sampling and Sampling Techniques

The research used a convenience sampling method. Convenience sampling relies on the factor of being convenient. It had the advantages being inexpensive, the survey reaches more individuals, and data gathering can be obtained over a short period of time.

3.5 Type of Data and Tools of Data Collection

In this study, both primary and secondary data sources were used. Primary data were gathered from representative sample of the study population through a self-completion structured questionnaire whereas secondary data required for the study were collected through document search and examination resulting in literature review, and shaping the content of the questionnaire administered.

Questions incorporated in the questionnaire were constructed based on a model of leadership roles that is proposed by Quinn (1988) which consists of eight roles namely, facilitator, mentor, innovator, broker, producer, director, and coordinator and monitor which are directly linked to the proposed hypotheses. Project success was measured by 14 items construct taken from Aga et al. (2016) based on the three key factors that can define project success: the Iron Triangle (Cost + Scope + Time), realized benefits and stakeholder satisfaction. The Likert's measurement scale with five response categories ranging from strongly agree to strongly disagree was considered in designing items to be presented to respondents on the questionnaire.

3.6 Research Variables

Project success was the dependent variable and the independent variables are facilitator, mentor, innovator, broker, producer, director, coordinator and monitor roles.

3.7 Model Specification

The model framed for the study is presented below. Several authors used this model in different settings (Denison et al., 1995, Queen 2008, Aga 2016, Chen et al., 2008; Wakefield et al., 2008).

Project Success = a + $ß_1$Facilitator + $ß_2$Mentor + $ß_3$Innovator + $ß_4$ Broker + $ß_5$Producer + $ß_6$ Director+ ß7 Coordinator+ $ß_8$ Monitor +e_i

Where,

a - is a constant

ß1-8 - is the coefficient,

ei - the error term

3.8 Data Analysis

Data generated through administering the structured questionnaire were analysed using descriptive and inferential statistical functions of SPSS version 26. Accordingly, frequencies, percentages, means, standard deviations were calculated. With regard to inferential statistics, correlation and multiple regression analysis were performed to investigate variables in relation to the stated research objectives and hypothesis formulated for testing.

3.9 Reliability and Validity of the Instrument

Reliability in this research refers to the internal consistency which is the consistency of people's responses across the items on a multiple-item measure. In general, all the items on such measures supposed to reflect the same underlying construct, so people's scores on those items should be correlated with each other. Cronbach's Alpha Coefficient (α), a value of +.70 or greater will be generally taken to indicate good internal consistency. The test result for each variable category presented in chapter four.

Validity is the extent to which the scores from a measure represent the variable they are intended to. Like face validity, content validity is not usually assessed quantitatively. Instead, it was assessed by carefully checking the measurement method against the conceptual definition of the construct.

Pre testing was conducted to pinpoint problem areas, reduce measurement error, .respondent burden, determine whether or not respondents were interpreting questions correctly, and ensure that the order of questions is not influencing the way a respondent answers.

As indicated in the preceding chapter, construct reliability was assessed using Cronbach's Alpha Coefficient. The result shows that all the independent variables and the dependent one met the requirement, that is, $\alpha >$ or $= +0.70$ (Table 2).

Table 2 Alpha coefficient for each variable section of the questionnaire

No	Variable	Item quantity	Alpha value
1	Mentor role	2	0.767
2	Facilitator role	2	0.676
3	Innovator role	2	0.722
4	Broker role	2	0.727
5	Monitor role	2	0.772
6	Coordinator role	2	0,892
7	Producer role	2	0.793
8	Director role	2	0.814
9	Project Success	14	0.815
	Total	30	0.914

Source: SPSS output of own survey, 2024

3.10 Ethical Consideration

Before distributing the questionnaire, informed verbal consent was secured from respondents. All potential respondents were informed about the purpose of the research and its significance; that they have the right refuse or withdraw from the research process; that their anonymity would be ensured through data aggregation. All this was done by securing permission from management at construction project sites covered in the study.

Chapter Four

Result and Discussion

4.1 Introduction

This chapter presents the collected data, its analysis, interpretation and discussion made on results.

4.2 Response Rate

The questionnaire was distributed to ninety potential respondents. Of this, seventy five respondents responded accurately and timely. This made the response rate 83.3 %. According to Baruch & Holtom (2008), a response rate equal to 52.7% is satisfactory for assessment.

4.3 Demographic Characteristics of Respondents

The demographics of respondents are presented below:

4.3.1. Gender of Respondents

As shown on Table 3 below, male and female respondents constitute 74.7% and 25.3%, respectively. This indicates male dominancy in the construction sector.

Table 3 Gender of the respondents

No	Variable	Frequency	Percent
1	male	56	74.7
2	female	19	25.3
3	Total	75	100.0

Source: SPSS output of own survey, 2024

4.3.2 Age Composition of Respondents

The study sought to establish the age range of respondents. Accordingly, it was found that majority of the respondents (34.7%) were at the age of between 35 to 45 years; followed by those aged 26 to 35 years (32%). Younger and older respondents constitute 17.3% and 16.0% of participants, respectively (Table 4). The result clearly shows that the workforce in the

construction industry surveyed is dominated by younger and matured adults aged between 26 and 45 years; which is an added advantage to the companies, possibly leading to a high performance level (productivity).

Table 4 Age range of the respondents

No	Variable	Frequency	Percent
1	26 to 25	13	17.3
2	26 to 35	24	32.0
3	35 to 45	26	34.66
4	> 45 years	12	16.0
Total		75	100.0

4.3.3 Level of Education

As shown on Table 5 below, a greater portion of participants (57.3%) claimed to have BA/BSc degree; this is followed by those with MA/ MSc degree (24.0%). Respondents with diplomas found the least observed group (18.7%). Such level of education could possibly enabled respondents to complete the questionnaire without much difficulty.

Table 5 Level of Education Attended

No	Variable	Frequency	Percent
1	Diploma	14	18.7
2	BA/BSC	43	57.3
3	MA	18	24.0
4	Total	75	100.0
Total		75	100.0

Source: SPSS output of own survey, 2024

4.3.4 Designation / Job Position

The study sought to establish the designation of respondents. Accordingly, the collected data and result of analysis (Table 6) showed that a very large proportion of respondents who were able to respond to the questionnaire were project managers (80 %); followed by site and office engineers at a rate of 12% and 8%, respectively.

Table 6 Job position of respondents

No	Variable	Frequency	Percent
1	Project manager	60	80
2	Site engineer	9	12.0
3	Office engineer	6	8.0
4	Total	75	100.0
Total		75	100.0

Source: SPSS output of own survey, 2024

4.3.5 Work Experience of Respondents

The study also sought to establish the work experience of respondents at their respective organization/ Construction Company. The results presented below table 7 show that the majority (41.3%) have had a work experience ranging from 6 to ten years; followed by those with 11 to 15 (28.0%) and 1 to 5 (21.3%) years of experience, respectively. Those with more than 15 years of experience found the least observed group. This clearly indicates that the construction companies/ organizations surveyed, had managed to retain competitive talents (experienced experts with the required knowledge on the construction industry) for an average of 5 years, which is an advantage to the companies surveyed.

Table 7 How long have you been working for your organization?

No	Variable	Frequency	Percent
1	1-5	16	21.3
2	6-10	31	41.3
3	11-15	21	28.0
4	above 16	7	9.3
5	Total	75	100.0
Total		75	16

Source: SPSS OUTPUT 2024

4.3.6 Number of Project Executed

The study also sought to determine the experience of respondents in terms of their involvement in executing construction projects. Accordingly it was found that majority of the respondents (45.3%) have had involvement in executing 2 to 5 projects; followed by those having the experience of executing 5 to 10 (40%) and 1 to 2 (14.7%) projects, respectively (Table 8). This clearly indicates that most of the respondents had managed a good number of construction projects.

Table 8 Number of executed projects

No	Variable	Frequency	Percent
1	1-5 Executed	16	80
2	6-10	31	12.0
3	11-15	21	8.0
4	above 15	7	100.0
Total			75

Source: SPSS output of own survey, 2024

4.4 Descriptive Analysis of Variable Factors

Descriptive statistics were conducted for all variable factors (i.e., dependent and independent variables) in general and for each item presented under variable factors in particular. For the sake of simplicity and avoiding content redundancy, however, the researcher decided to explain the overall mean and standard deviation for variable factors considered in the study (for detailed item analysis result see Annex X).

The analysis was performed on eight variables possibly influencing project success in the study population. Notably, the mean score for ‘coordinator role’ stood out significantly, registering a high mean score of 3.89 and a standard deviation of .978; this followed by ‘director role’ with a mean score of 3.79 and standard deviation of 1.029. The average mean calculated for the rest of the variables found greater than 3.0, which indicates that most of the respondents agree with

statements presented as items under each variable factor investigated. As reflected in the standard deviation score, high or very high response variability has not been observed in all cases.

Table 9 Comparison of mean and standard deviation amongst variable factors

Variable factor	Mean	Std deviation
Mentor role	3.48	1.244
Facilitator role	3.19	1.154
Innovator role	3.61	1.158
Broker role	3.49	1.108
Monitor role	3.35	1.149
Coordinator role	3.89	.978
Producer role	3.30	1.301
Director role	3.79	1.029
Project success	3.75	1.105

Source: Compiled by the researcher from SPSS output of own survey, 2024

4.5 Correlation Analysis

Correlation analysis used to describe the strength and direction of the linear relationship between two variables. SPSS calculates a number of statistics to find a relationship between variables. Accordingly, the researcher used a simple bivariate correlation, which just means between two variables also known as zero-order-correlation. Pearson correlation coefficient indicates the relationship between variables. This can range from -1.00 to 1.00. A correlation coefficient of 0.00 indicates no relationship at all, a correlation of 1.00 indicates a perfect positive correlation, and a value of -1.0 indicates a perfect negative correlation (Pallant, 2005) (Annex 3).

Therefore, in the next part, the correlation between the independent variables and the dependent variable calculated with the help of bivariate Pearson correlation coefficient. And Correlation is significant at the 0.01 level (1-tailed) as shown in Annex 3.

Table 10 Correlation Coefficient

Correlation Coefficient (r)	Strength of the correlation
.50 to 1.0 or -.50 to -.10	Strong relationship
.30 to .49 or -30 to -.49	Moderate relationship
.10 to .29 or -.10 to -.29	Small relationship

Source: Pallant, 2005

4.6 Regression Analysis

A linear regression model was created in which each variable were entered one at a time to determine whether a statistically significant association between dependent variable and the variable in question could be found. Project success was used as the outcome variable.

The study utilized ordinary least square (OLS) regression that finds the simple linear regression of data. The method examines the relationship between independent variables, also known as explanatory variables, and a dependent variable.

The choice for applying ordinary least squares as a statistical analysis method derived from the fact that the respective regression is the total squared error. The sum of square errors is the least in ordinary least squares and it refers to the difference between an observed value and a predicted value. The smaller the error value the more accurate is the prediction of the regression line. (Moutinho, 2011).

4.6.1 Regression Assumptions

The study used a linear regression model and examined the association of the independent variables with dependent variable (project success). Before analyzing the data, the researcher had checked the necessary assumptions. These assumptions must be fulfilled in order to undertake analysis by multiple regression model. Five tests for linear regression model (LRM) assumptions namely normality, linearity, homoscedasticity; multicollinearity and autocorrelation i.e., independence of residual were conducted and discussed as follows. According to Chumney & Simpsons (2006), the following assumptions should be considered and fulfilled in order to ensure the coherence of the regression analysis:

Assumption 1: Test for Normality

Test of normality, is determining whether the data well modeled by normal distribution or not. This test of normal distribution could be checked by graphical (histogram and dot plot) method of tests (Gujarati, D. 2004). The researcher tested it using normal probability plot (NPP).

The decision rule is if the fitted line in the NPP is approximately a straight line, one can conclude that the variables of interest are normally distributed (Gujarati, D. 2004). From the Figure 3 below one can see that residuals of the model approximately normally distributed as shown in the histogram.

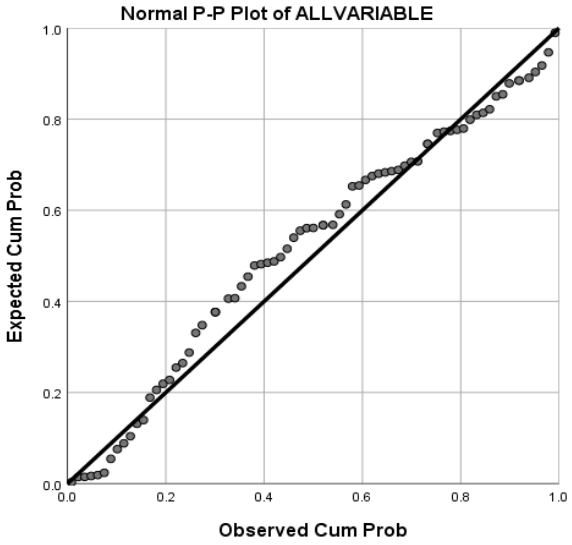


Figure 3 Test for Normality

Assumption2: Linear Testing

In order to evaluate the linearity between the respective variables, the researcher applied the "Fit General Linear" function to construct the graph. All of the graphs illustrated on Figure 4. Scatter plot of the independent and dependent variables convey a positive linear relationship to the dependent variable, project success. Figure 4 shows that there is a randomised pattern indicating that the linear test results are normal. The linearity assumption is therefore fulfilled.

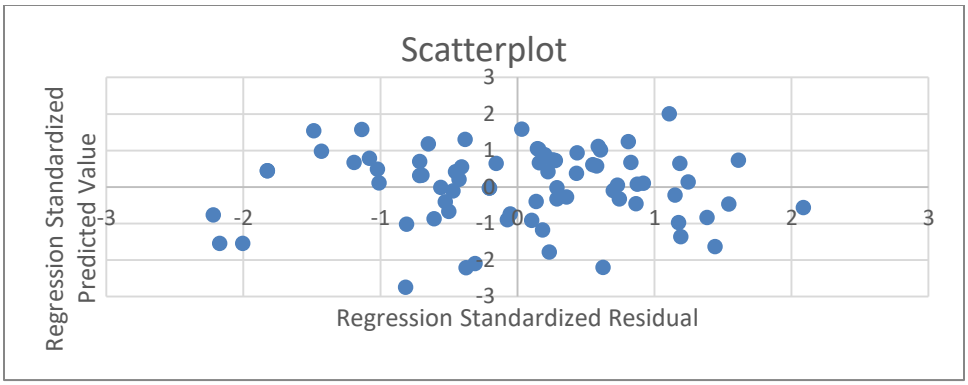


Figure 4 Test of linearity

Assumption 3: Multicollinearity

Another assumption that has to be met to undertake multiple linear regression model is the assumption of multicollinearity. It‘s an indication for a linear relationship between the independent variables (Gujarati, D., 2004). Variable Inflation Factor (VIF) technique is used, which is a measure of the reciprocal of the complement of the inter-correlation among the predictors: /VIF = 1/ (1-r2)/. The decision rule is a variable with VIF value of greater than 10 indicates the possible existence of multicollinearity problem. Tolerance (TOL) defined as 1/VIF, is also used by many researchers to check on the degree of collinearity. The decision rule for Tolerance is a variable whose TOL value is less than 0.1 shows the possible existence of multicollinearity problem (Gujarati, D., 2004).

As shown below (Table 11) VIF values for all variables became less than the tolerable value, i.e. 0.1 and Tolerance value of all variables also became above 0.1; indicating that this model is free from multicollinearity problem between the independent variables.

Table 11 Multicollinearity

Variables	**Collinearity Statistics**	
	Tolerance	**VIF**
Mentor role	.492	2.034
Facilitator role	.269	3.722
Innovator role	.343	2.918
Broker role	.393	2.547
Monitor role	.404	2.477
Coordinator role	.480	2.085
Producer role	.572	1.749
Director role	.530	1.887

Source: SPSS output of own survey, 2024

Assumption 4: Autocorrelation

While a scatter plot allows checking for autocorrelations, the linear regression model for autocorrelation is used the Durbin-Watson test. Durbin-Watson's tests that the residuals are not linearly auto -correlated. While Durbin-Watson's can assume values between 0 and 4, values around 2 indicate no autocorrelation. As a rule of thumb, value of 1.5 to 2.5 shows that there is no auto-correlation in the data. However, the Durbin-Watson test only analyses linear autocorrelation and only between direct neighbors, which are first order effects.

The test statistic shows a value of 2.079 as conveyed below (Table 12) henceforth; assumption 4 is yet again fulfilled (Table 12)

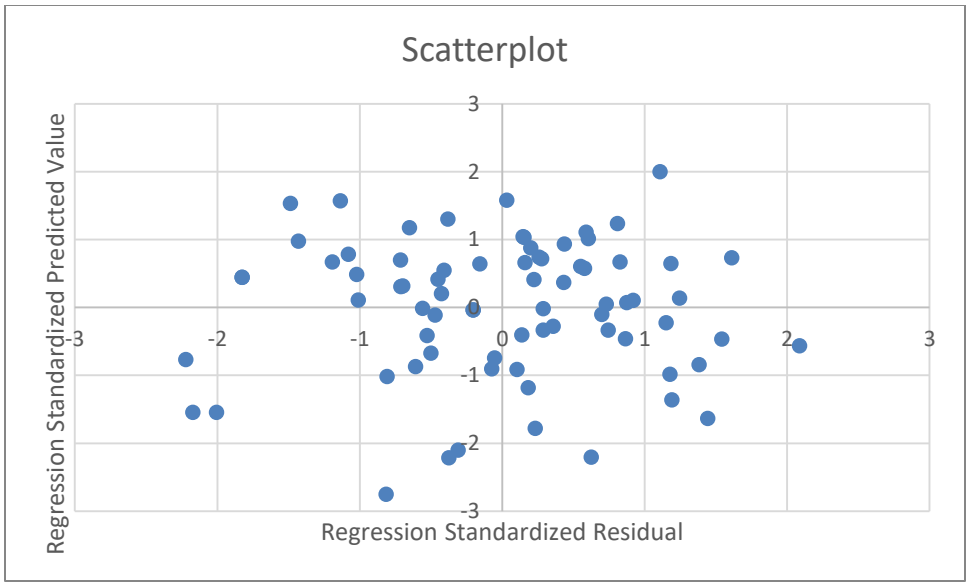
Table 12 Autocorrelation - The Durbin-Watson statistic

Variables	**Durbin-Watson**
Model 1	2.079

Source: SPSS output of own survey, 2024

Assumption 5: Heteroscedasticity

The last assumption of the linear regression analysis is homoscedasticity. The scatter plot is good way to check whether the data are homoscedastic (meaning the residuals are equal across the regression line). No heteroscedasticity refers to the fact that residuals do not follow a particular pattern or show any trends (Hayes & Cai, 2007). As one can see on figure 7 Residuals vs. Fitted plots, the residuals are randomly distributed amongst the axis and do not show to follow any particular pattern. This would indicate that the errors have a constant variance. Thus, assumption 5 referring to homogenous variances with all error terms is fulfilled (Figure5).



Source: SPSS output of own survey, 2024

Figure 5 Heteroscedasticity

4.6.2 Regression Model Summary

As shown on Table 4.12, R^2 value found to be .489, which indicates that 48.9% of the variation in the dependent variable explained by changes or the nature of the independent variables considered in the study. The remaining 52.1 % of the variation in project success explained by stochastic error term (e) (Table 13)

Table 13 Regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.700[a]	.489	.428	.42461	2.079
a. Predictors: (Constant), DIRROLE, PRODROLE, MONITROLE, INVROLE, COORDROLE, FACITROLE, MENTROLE, BRKROLE					
b. Dependent Variable: PROJSUCSESS					

Source: SPSS output of own survey, 2024

The regression model considered project success as dependent variable and the eight leadership roles as independent variables. The regression analysis conducted to evaluate how well the independent variables predict the dependent one. As shown on Table 13 above and Table 14

below, the linear combination of the independent variables significantly related to the dependent variable (R^2 =0.489, F=7.908, P= .000) Hence, one can conclude that this model was a fit where the independent variables included in this model collectively have a significance correlation to the dependent variable.

Table 14 ANOVA F Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.406	8	1.426	7.908	.000[b]
	Residual	11.899	66	.180		
	Total	23.305	74			
a. Dependent Variable: PROJSUCSESS						
b. Predictors: (Constant), DIRROLE, PRODROLE, MONITROLE, INVROLE, COORDROLE, FACITROLE, MENTROLE, BRKROLE						

Source: SPSS output of own survey, 2024

4.6.3 Cause and Effect Relationship

Evaluation results regarding the effect (significance) of each of the independent variables on the dependent one presented below (Table 4.14). To compare the contribution of each independent variable in predicting the dependent variable, the standardized coefficients are used (Pallant, 2005). Accordingly,

Project Success = a + ß$_1$Facilitator + ß$_2$Mentor + ß$_3$Innovator -.017 Broker + .281Producer + ß$_6$ Director+ ß7 Coordinator+ ß$_8$ Monitor +e$_i$

Project Success = 1.897 + .195Facilitator + .175Mentor + .181Innovator - 0.17 Broker + .281Producer + .161 Director+ .068Coordinator- .107 Monitor +.297

From Table 15 it can be seen that the ‘producer role’ had the largest standardized coefficient value, .281, which means that it makes the strongest contribution to explaining the dependent variable, project success. With coefficient value of .195, the ‘facilitator role’ found the second largest influencer. This is followed by the ‘innovator role’ with standardized coefficient value of .181. On the other hand, the ‘monitor’ and ‘broker’ roles found to have a negative and insignificant influence on project success with coefficient values of -.107 and -.017, respectively.

Table 15 Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.897	.297		6.379	.000
	INVROLE	.106	.074	.181	1.439	.0125
	BRKROLE	-.010	.104	-.017	-1.101	.920
	MENTROLE	.088	.075	.175	1.163	.0249
	MONITROLE	-.062	.082	-.107	-.761	.449
	FACITROLE	.109	.077	.195	1.406	0.016
	PRODROLE	.141	.064	.281	2.208	.031
	COORDROLE	.044	.076	.068	1.580	.002
	DIRROLE	.110	.083	.161	1.331	.018

Dependent Variable: PROJSUCSESS

Source: SPSS output of own survey, 2024

The positive or negative sign in the equation above reflects the direction of correlation between variables. If the sign is positive, it means the increase of independent variable scores can affect the increase of dependent variable score and vice versa. The negative sign, in contrast, means that the decrease of independent variable scores has an impact on the increase of dependent variable scores and vice versa. Then, the value of regression coefficients reflect the value of the decreasing or increasing of variables.

In order to find the contributions of each independent variable to dependent variable included in the model, it has to be noticed that the value of unstandardized coefficient beta (β). The greater value of beta and less value of significant level ($p<0.05$) of each independent variable shows the strongest importance to the dependent variable (Pallant, 2005).

Accordingly, the following paragraphs report the proposed hypothesis tests by comparing with the regression coefficient beta results.

H1 : Mentor role is positively influencing the project success in the study population

Mentor role whose t-statistic value found to be 1.163 at p-value of 0.024 with β coefficients 17.5%, found positively and significantly associated with project success.

H2: Facilitator role is positively influencing the project success in the study population

Facilitator role whose t-statistic value found to be 1.406 at p-value of 0.016 with β coefficients 14.06%, found positively and significantly associated with project success.

H3: Innovator role is positively influencing the project success in the study population

Innovator role whose t-statistic value found to be 1.439 at p-value of 0.012 with β coefficients18.1%, found positively and significantly associated with project success.

H4: Broker role is positively influencing the project success in the study population

Broker role whose t-statistic value found to be -1.101 at p-value of 0.920 with β coefficients 1.7 %, found negatively and insignificantly associated with project success in the study population.

H5: Monitor role is positively influencing the project success in the study population

Monitor role whose t-statistic value found to be -1.761 at p-value of 0.449 with β coefficients 10.7 %, found negatively and insignificantly associated with project success in the study population

H6: Coordinator role is positively influencing the project success in the study population

Coordinator role whose t-statistic value found to be 1.580 at p-value of 0.002 with β coefficients 6.8%, found positively and significantly associated with project success in the study population.

H7: Producer role is positively influencing the project success in the study population

Producer role whose t-statistic value found to be 2.208 at p-value of 0.031 with β coefficients 28.1.1%, found positively and significantly associated with project success in the study population.

H8: Director role is positively influencing the project success in the study population

Director role whose t-statistic value found to be 1.331` at p-value of 0.018 with β coefficients 16.1%, found positively and significantly associated with project success in the study population.

Therefore, from the hypothesis **H1, H2, H3, H6, H7 and H8** are supported and **H4** and **H5** are rejected.

4.6 Discussion

In sum, from statistical result of this study, the researcher concluded that leadership roles such as mentor role, facilitator role, innovator role, coordinator role, producer role and director role have positively and significantly influencing project success; whereas monitor role and broker role have negative and insignificant influence on project success in the study population.

Quinn's Model of Leadership Roles explains that a more effective leader will be able to cover more roles e.g. three to four quadrants of roles in his or her repertoire versus a less effective leader who may only have one to two quadrants of roles. All the roles covered by a leader co-exist simultaneously within the leader but when facing different situations, certain roles will be demonstrated highly while some opposite roles will be retracted to a minimum degree.

In this study, leadership roles are being defined as the collection of eight roles which includes facilitator, mentor, innovator, broker, producer, director, and coordinator and monitor that an effective project manager can demonstrate appropriately in a complex and rapidly changing environment to the successful completion of projects.

There are some lessons learnt from this study on leadership role on project success in construction projects. Project success is positively influenced by mentor role whereby this role is in the profile related to people and is internal oriented within Quinn's model. Internal orientation depicts a leadership role is focusing on internal dimensions of a project success such as cost, quality, time benefits and stakeholder satisfaction. Hence, through mentoring role of a project manager, this will help the project team to commit and support the team mission better. This finding is in line with what Dubrin (2007) had suggested that leaders will use their own resources to foster teamwork which include defining the team mission in order for the team to attain it.

According to Pinto (2007), when a project manager is leading the team with a clear sense of mission, the team will be more effective and less time is required to resolve problems which might arise due to team members not understanding the team mission. Moreover, mentor role is also flexible oriented indicating it can be applied in less controlled or less stable environment e.g. during initial periods of project implementation or during turbulent time whereby mentoring role needs to be exhibited by the project manager.

Facilitator role is positively influences project success because it goes beyond mentoring whereby the project manager is actually performing team building, managing conflict and encouraging participative decision making. Leadership roles in the profiles like leading change, managing processes and producing results are not influencing team mission because they are external oriented or only plausible during stable environment.

Innovator roles are within the "leading change" profile which is external oriented i.e. related to dimensions outside the project success like meeting top management expectation or customer satisfaction. Both monitor and coordinator roles are focusing more on managing processes whereby the project manager is trying to put the project under control to achieve stable environment. Producer and director roles are focusing on producing results and handling external issues like competition between teams rather than within the team e.g. achieving the team mission.

Likewise, producer and director roles are also focusing more on producing results at a controlled or stable environment which are not influencing the goal achievement. Thirdly, empowerment of for project success is only positively influenced by facilitator role. In order to complete the project deliverable committed, project team members need to be entrusted and motivated so that they can deliver what are expected of them. According to Yukl (2010), empowerment in teams is more complex because it allows team members to make important decisions collectively.

Hence, through the facilitator role which encourages participative decision-making within the team, a project manager can help empower the team. This finding is in line with what Yukl (2010) had posited that in order to empower team members, a project manager needs to perform a series of actions which include: (a) delegate authority and responsibility for key activities, (b) take into consideration of individual differences in motivation and skills, (c) express confidence and trust in team members, and (d) provide coaching and advice as and when needed. These actions resemble to the facilitator role of the project manager.

Innovator role is expected to influence open and honest communication because a project manager needs to be innovative and flexible in articulating his or her ideas, initiatives, changes and inspiration through proper communication so that they are clearly understood by team

members. In return, team members are more willing to share their thoughts through open and honest communication to improve the overall team effectiveness.

The coordinator role exhibited by a project manager e.g. intervening to drive the entire project on the right track also requires good communication with the team so that team members can understand, communicate and work more effectively. A lesson learnt is that a project manager can only execute these six leadership roles effectively when he or she can communicate clearly with the team. This finding supports the finding of Zimmer and Yasin (1998) which had indicated that two of the characteristics of an effective project manager cum leader are leadership by example and good communicator. This is logical because when a project manager wants to promote open and honest communication in a team, he or she first needs to demonstrate good communication skills for the team to follow. According to Pinto (2007), a project manager needs to lead with good communication skills because one of the reasons that caused a team to fail is poor communication. Good communication skill is important to any project manager; and the Project Management Institute (2008) had listed project communication management as one of the nine project management knowledge areas in its syllabus.

The broker role which is related to dimensions outside the project team like meeting top management expectation as well as customer satisfaction clearly indicating that it is focusing on matter beyond open and honest communication within the project team. In comparison to coordinator role which interacts and communicates more with project team, monitor role can be less intensive in terms of communication whereby project manager can monitor the project team's progress using other means e.g. reading reports or conducting observational tours.

In order to answer the research question on what are the leadership roles that are significantly influencing each criteria of project success, it is evidenced from this study that only project manager's mentor, facilitator, innovator, coordinator roles, producer role and director role are significant and important. The rest of the leadership roles like broker and monitor are not influencing the project success.

The findings of these study had some similarities s and differences with (Dubrin,.2007, Zimmer and Yasin, 1998. Yukl, 2010. Aga , 2016, Bourgault et al, 2008, Project Management Institute, 2008).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The objective of this study was to assess the effect of leadership roles on successful completion of construction projects at selected sites in Addis Ababa, Ethiopia. A total of ninety respondents were selected from the study population found in Addis Ababa to collect and used data of which Seventy five respondents were responded accurately and timely. The response rate was 83.3 %. The major findings of the study include the following.

- The mean score for coordinator role stood out significantly, registering a high mean score of 3.89 and a standard deviation of .978 followed by director role with a mean score of 3.79 and standard deviation of 1.029. These indicated the existence of extensive coordination and strongly felt director role in the study population.
- The results of the multiple regression analysis showed that mentor role, facilitator role, innovator role, coordinator role, producer role, director role have positively and significantly influencing the project success in the study population whereas monitor role and broker role have a negative and insignificant influences in project success in the study population.

5.2. Conclusion

In the Ethiopian context, despite the numerous studies conducted on leadership, there is no conclusive evidence and researches showing the more widely practiced leadership roles in the construction industries that determine project success.

From statistical result of this study, the researcher concluded that leadership roles such as mentor role, facilitator role, innovator role, coordinator role, producer role and director role have positively and significantly influencing project success; whereas monitor role and broker role have negative and insignificant influence on project success in the study population.

This study indicated that most leadership roles considered in the study influence project success directly.

In order to answer the research questions on what are the leadership roles that are significantly influencing each criteria of project success, it is evidenced from this study that only project manager's mentor role, facilitator role, innovator role, coordinator role, producer role and director are significant and important.

Despite its significance, leadership has not been given due importance in the construction industry as focus is placed on managerial functionalism. At the project level, even with the technological advances in the industry in recent years, construction is realized in the form of people undertaking distinct interdependent activities which require effective leadership.

The result of this study have some implication for the construction industries to consider in their leadership role that project managers should give due attention in their respective organization in terms of role's attributes versus roles in other different profile related to people, leading change, producing results and managing processes. As for which is the most common leadership role that Ethiopian construction project managers are adopting, this study indicates that six roles; namely, mentor, facilitator, innovator, coordinator, producer role and director role have an implication to successful leadership role in completing the construction projects in the study population.

5.3 Recomendations

Based on the conclusion drawn from study findings, the following recommendations are suggested for consideration.

- Project managers should give attention to six leadership roles found to have a positive a positive and significant influence on success of construction projects.
- Construction leader, should up grade communication skills, problem-solving abilities, decision-making skills, and the ability to coordinate multiple stakeholders for betterment of the leadership role in their respective projects
- Continuous education and training should be given in leadership management for projects managers in their respective projects.

5.4 Limitation and Suggestions for Future Research

Like other studies, this study is not without its limitations such as sample size and geographical coverage and other leadership variables.

Further researches are needed in the area of objective measures of project success from project documents like budget plans and closing reports. Moreover, further researches should be conducted on factors leading to project success from multiple sources, such as project managers, team members, beneficiaries, sponsors, and other stakeholders. This approach would help to document in-depth knowledge of emergent and challenging issues for the role of leadership on construction projects,

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ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PROJECT MANAGEMENT

Data Collection Form	
	Collected By

This questionnaire is prepared for the study entitled "L*eadership role for the successful completion of construction projects at selected construction project sites in Addis Ababa*". All the information you provide is totally sought for academic purposes and shall be kept strictly confidential. Your answers will be combined anonymously with other participants. Please kindly give your genuine response.

Thank you in advance for your cooperation

Eyoel Abebe
The Researcher

Section One: General Information

1. Age (Years)

○ 18 – 30 ○ 31 – 45 ○ 46 and above

2. Gender

○ Male ○ Female

3. Educational Qualification

○ TVET ○ Diploma
○ Bachelor's ○ Master ○ PhD

4. Which organization do you represent?

○ Client [Owner] ○ Contractor ○ Others (specify)

5. Respondent designation in the organization

○ Owner ○ Project Manager ○ Site Engineer
○ Office Engineer

6. Work experience

○ Less than 5 years ○ 6 to 10 years ○ 11 to 15 years ○ Above 15 years

7. Number of executed projects

○ 1 to 2 ○ 3 to 5 ○ More than 5

Part Two: Survey Questions:

Kindly state your opinion regarding the following statements under various factors given below:

Scale: 1=strongly disagree; 2=disagree; 3=neutral; 4=agree; 5 =strongly agree

No.	Statement	1	2	3	4	5
The Innovator Role						
INV1	Leaders come up with inventive ideas in my organization					
INV2	Leaders experiment with new concepts and ideas in my organization					
The Broker Role						
BR1	Leaders sell ideas, influence decisions at higher levels in my organization					
BR2	Leaders acquire needed resources in my organization					
The Mentor Role						
MNT1	Leaders caring and empathetic in my organization					
MNT2	Leaders acknowledge team members' personal needs and help developing them					
The Monitor Role						
MR1	Leaders maintain tight logistical control in my organization					
MR2	Leaders compare records, reports, and so on, to detect discrepancies					
The Facilitator Role						
FR1	Leaders practice participation and team building in my organization					
FR2	Leaders focus on consensus building, manage conflict and encourage participative decision-making in my organization					
The Producer Role						
PR1	Leaders focus on outside competition, emphasize on speed, hard work ethics in my organization					
PR2	Leaders motivate team members and initiate action in a project team in my organization					
The Coordinator Role						
CR1	Leaders bringing order, planning schedules and providing stability in my organization					
CR2	Leaders control and continuity to a project team in my organization					
The Director Role						
DR1	Leaders provide clear directions and clarify priorities in my organization					
DR2	Leaders communicate the vision, plan and priorities in my organization					
Project success						

PS1	The project was completed on time in my organization					
PS2	The project was completed according to the budget allocated in my organization.					
PS3	The outcomes of the project are used by its intended end users					
PS4	The outcomes of the project are likely to be sustained in my organization.					
PS5	The outcomes of the project have directly benefited the intended end users, either through increasing efficiency or effectiveness in my organization.					
PS6	Given the problem for which it was developed, the project seems to do the best job of solving that problem in my organization					
PS7	I was satisfied with the process by which the project was implemented in my organization.					
PS8	Project team members were satisfied with the process by which the project was implemented in my organization					
PS9	The project had no or minimal start-up problems because it was readily accepted by its end-users in my organization.					
PS10	The project has directly led to improved performance for the end users/target beneficiaries.					
PS11	The project has made a visible positive impact on the target beneficiaries in my organization.					
PS12	Project specifications were met by the time of handover to the target beneficiaries in my organization.					
PS13	The target beneficiaries were satisfied with the outcomes of the project in my organization.					
PS14	Our principal donors were satisfied with the outcomes of the project implementation.					

Thank you for your cooperation

Annex 1

Table 4.16 Mentor role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders caring and empathetic in my organization	75	1	5	3.45	1.255
Leaders acknowledges team members' personal needs and helps developing them	75	1	5	3.52	1.234
Grand mean	75			3.48	1.244

Source: SPSS OUTPUT 2024

Table 4:17 Facilitator Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders practices participation and team building in my organization	75	1	5	3.15	1.147
Leaders focuses on consensus building, manages conflict and encourages participative decision-making in my organization	75	1	5	3.24	1.161
Grand mean	75			3.19	1.154

Source: SPSS OUTPUT 2024

Table 4.12 Innovator Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders Come up with inventive ideas in my organization	75	1	5	3.39	1.184
Leaders Experiments with new concepts and ideas in my organization	75	1	5	3.83	1.132
Grand mean	75			3.61	1.158

Source: SPSS OUTPUT 2024

Table 4.15: The Broker Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders sell ideas, influences decisions at higher levels in my organization	75	1	5	3.47	1.004
Leaders acquires needed resources in my organization	75	1	5	3.52	1.212
Grand mean	75			3.49	1.108

Source: SPSS OUTPUT 2024

Table 4.16 The Monitor Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders Maintains tight logistical control in my organization	75	1	5	3.49	1.132
Leaders Compares records, reports, and so on, to detect discrepancies	75	1	5	3.21	1.166
Valid N (listwise)	75			3.35	1.149

Source: SPSS OUTPUT 2024

Table 4.18: The Coordinator Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders bringing order, planning schedules and providing stability in my organization	75	1	5	3.96	.979
Leaders control and continuity to a project team in my organization	75	1	5	3.83	.978
Grand mean	75			3.89	.978

Source: SPSS OUTPUT 2024

Table 4.19 Producer Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders focuses on outside competition, emphasizes on speed, hard work ethics in my organization	75	1	5	3.57	1.232
Leaders motivates team members and initiates action in a project team in my organization	75	1	5	3.04	1.370
Grand mean	75			3.30	1.301

Source: SPSS OUTPUT 2024

Table 4.16 The Director Role

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leaders provide clear directions and clarifies priorities in my organization	75	1	5	3.95	.971
Leaders communicate the vision, plan and priorities in my organization	75	1	5	3.63	1.088
Valid N (listwise)	75			3.79	1.029

Source: SPSS OUTPUT 2024

Table 4.21 The Project Success

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
The project was completed on time in my organization	75	1	5	4.09	1.042
The project was completed according to the budget allocated in my organization.	75	1	5	4.20	.944
The outcomes of the project are used by its intended end users	75	1	5	3.52	1.143
The outcomes of the project are likely to be sustained in my organization.	75	1	5	3.60	1.115
The outcomes of the project have directly benefited the intended end users, either through increasing efficiency or effectiveness in my organization.	75	2	5	4.29	.610
Given the problem for which it was developed, the project seems to do the best job of solving that problem in my organization	75	1	5	4.24	.867
I was satisfied with the process by which the project was implemented in my organization.	75	2	5	4.00	.822
Project team members were satisfied with the process by which the project was implemented in my organization	75	1	5	4.11	.746
The project had no or minimal start-up problems because it was readily accepted by its end-users in my organization.	75	1	5	4.29	.802
The project has made a visible positive impact on the target beneficiaries in my organization.	75	1	5	3.59	.917
The project has made a visible positive impact on the target beneficiaries in my organization.	75	1	5	3.33	1.178
Project specifications were met by the time of handover to the target beneficiaries in my organization.	75	1	5	2.85	1.322
The target beneficiaries were satisfied with the outcomes of the project in my organization.	75	1	5	3.07	1.339
Our principal donors were satisfied with the outcomes of the project implementation.	75	1	5	3.22	1.317
Grand mean	75			3.75	1.105

Source: SPSS OUTPUT 2024

Annex 2

Correlation Matrix

Correlations

		INVROLE	BRKROLE	MENTROLE	MONITROLE	FACITROLE	PRODROLE	COORDROLE	DIRROLE
INVROLE	Pearson Correlation	1	.689**	.536**	.390**	.463**	.483**	.238*	.415**
	Sig. (1-tailed)		.000	.000	.000	.000	.000	.020	.000
	N	75	75	75	75	75	75	75	75
BRKROLE	Pearson Correlation	.689**	1	.687**	.531**	.648**	.608**	.434**	.525**
	Sig. (1-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	75	75	75	75	75	75	75	75
MENTROLE	Pearson Correlation	.536**	.687**	1	.704**	.525**	.505**	.203*	.380**
	Sig. (1-tailed)	.000	.000		.000	.000	.000	.040	.000
	N	75	75	75	75	75	75	75	75
MONITROLE	Pearson Correlation	.390**	.531**	.704**	1	.639**	.435**	.178	.277**
	Sig. (1-tailed)	.000	.000	.000		.000	.000	.063	.008
	N	75	75	75	75	75	75	75	75
FACITROLE	Pearson Correlation	.463**	.648**	.525**	.639**	1	.588**	.379**	.322**
	Sig. (1-tailed)	.000	.000	.000	.000		.000	.000	.002
	N	75	75	75	75	75	75	75	75
PRODROLE	Pearson Correlation	.483**	.608**	.505**	.435**	.588**	1	.395**	.187
	Sig. (1-tailed)	.000	.000	.000	.000	.000		.000	.054
	N	75	75	75	75	75	75	75	75
COORDROLE	Pearson Correlation	.238*	.434**	.203*	.178	.379**	.395**	1	.527**
	Sig. (1-tailed)	.020	.000	.040	.063	.000	.000		.000
	N	75	75	75	75	75	75	75	75
DIRROLE	Pearson Correlation	.415**	.525**	.380**	.277**	.322**	.187	.527**	1
	Sig. (1-tailed)	.000	.000	.000	.008	.002	.054	.000	
	N	75	75	75	75	75	75	75	75

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Source: SPSS output of own survey, 2024