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ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

MA Program in Project Management

**Factors Influencing Project Success in the Road Construction Industry: In
the Case of Projects Administered Under Ethiopian Road Authority**

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May 14, 2024

**Factors Influencing Project Success in the Road Construction
Industry: In the Case of Projects Administered Under Ethiopian
Road Authority**

By

Rodas Mulugeta

*A Project Research Work in Partial Fulfillment of the Requirements for
the Award of Master of Arts Degree in Project Management*

Advisor

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May, 2024

Addis Ababa, Ethiopia

LETTER OF CERTIFICATION

I hereby certify that Rodas Mulugeta has completed work under my supervision as part of the requirements for the Masters of Arts in Project Management degree. The work is titled "Factors Influencing Project Success in the Construction Firm: In the Case of Projects Administered under the Ethiopian Road Authority." Based on my assessment, I recommend that the student has fulfilled the necessary criteria and can proceed to submit the project research work to the department.

Name of advisor: _____

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Date: _____

Approval by Board of Examiners

Project Research Work Title: Factors Influencing Project Success in the Construction Firm: In the Case of Projects Administered under the Ethiopian Road Authority

Approved by: Name and signature of members of the Advisor and Examining Board members

_____ Advisor	_____ Signature	_____ Date
_____ Internal Examiner	_____ Signature	_____ Date
_____ External Examiner	_____ Signature	_____ Date

Declaration

I, Roda Mulugeta, solemnly declare that the study I have conducted is entirely my own original work. It has not been submitted to any university or other institution for the purpose of earning a degree or for any other reason. Furthermore, I guarantee that all information sources used in this work have been appropriately acknowledged.

Name: _____

Signature: _____

Date: _____

Acknowledgment

I am profoundly grateful for the support and guidance of the many people who have contributed to the completion of this research project. First and foremost, I would like to express my gratitude to God for providing me with the strength, wisdom, and inspiration to undertake this research work.

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Abbreviations and Acronyms

ERA: Ethiopian Road Authority

SPSS: Statistical Package for Social Sciences

PMBOK: Project Management Body of Knowledge

EVM: Earned Value Management

KPI: Key Performance Indicators

RSDP: Road Sector Development Program

Table of Contents

1.1 Background of the Study.....	1
1.2 Background of the organization	2
1.3 Statement of the Problem.....	3
1.4 Basic Research Questions	4
1.5 Objectives of the Study.....	4
1.6 Significance of the Study	5
1.7 Scope of the study	5
1.8 Organization of the Study	6
2.1 Introduction.....	7
2.2 Theoretical Review of the Literature.....	8
2.2.1 General Project Success/ Performance Criteria	8
2.2.2 Project Success/ Performance Criteria Specific to Construction Projects	9
2.2.2.1 Methodological Approaches in Research to measure Project success	10
2.2.2.2 Challenges in Defining and Measuring Construction Project Success	10
2.2.2.1 Project Management Related Factors	11
2.2.3 Barriers to Project Success in Construction Environment.....	21
2.3 Empirical Literature Review	22
2.4 Conceptual Frame work.....	23
3.1 Description of the study area.....	24
3.2 Research Design and Approach.....	24
3.3 Population, Sampling and Sampling Technique.....	25
3.4 Data types, sources and methods of data collection	26
3.4.1 Data types and sources of data.....	26
3.4.2 Methods of data collection	26
3.5 Research Materials	26

3.6 Methods of data analysis.....	27
3.7 Validity and Reliability.....	28
3.8 Ethical Considerations	29
4.1 Introduction.....	30
4.2 Demographic Information about Respondents.....	30
4.3 Reliability Analysis	33
4.4 Descriptive Analysis of Factors in influencing Project Success	33
4.4 Inferential Analysis of the factors influencing project success	34
4.4.1 Correlation Analysis	35
4.4.2 Regression analysis.....	37
4.4.2.1 Assumption Tests.....	37
4.4.2.2 Model Summary.....	42
4.4.2.2 Regression Coefficients.....	43
4.4.2.3 Discussion on Findings.....	47
4.5 Descriptive analysis on the barriers to Project success.....	48
5.1 Introduction.....	51
5.2 Summary.....	51
5.3 Conclusion	53
5.4 Recommendations	54
5.5 Limitations	55
5.6 Future Directions	55
References.....	a
APPENDIX.....	e

List of Figures

Figure 1 Conceptual framework	23
Figure 2 Histogram	39
Figure 3 Linearity test, P-P plot.....	40
Figure 4 Homoscedasticity	41

List of Tables

Table 1 Demographic Information.....	31
Table 2 Reliability test	33
Table 3 Descriptive analysis of factors influencing project t success.....	34
Table 4 Correlation analysis	Error! Bookmark not defined.
Table 5 Multicollinearity analysis	38
Table 6 Autocorrelation.....	42
Table 7 Model Summary	42
Table 8 Anova (Model Summary)	43
Table 9 Regression Coefficients	45
Table 10 Descriptive analysis of BPS	50

Abstract

In the Ethiopian road construction industry, cost overruns, schedule delays, lower quality, and scope changes occur in two out of three projects. Most of the road construction projects in Ethiopia are undertaken by ERA. Various researchers have conducted the research in the company in relation to project success, despite that the difficulties persist. Of the projects that ERA worked on, variations in scope affected 27.6%, variations in schedule affected 79.8%, and variations in cost affected 67.2% of the overall project. Hence, detailed further study is required in the industry regarding the factors affecting project Success. Thus, this project research work is to determine the factors influencing project success. An extensive literature review identified 8 project management related factors influencing project success, and 7 barriers to project success. Primary and secondary data sources were utilized to gather data, and a descriptive and explanatory research design was employed. Both qualitative and quantitative research approaches were used to collect and analyze data. A total of 80 respondents participated in the study by applying census sampling. The data collected through questionnaires was analyzed quantitatively using SPSS version 26, while the data collected through interviews was analyzed qualitatively by using manual approach. Descriptive statistical analysis was used to describe respondents' demographic characteristics, factors influencing project success, and barriers to project success. The descriptive analysis indicates the influence of the factors Leadership, Monitoring and control, planning and scheduling, and Clear objectives and Scope have high average. In order to determine the strength of relationship between dependent and independent variables, correlation analyses were conducted, and its results depicts that the independent variable Monitoring and control has extremely large relationship with the project success, and Leadership, Clear objective and scope, planning and scheduling, communication, and Decision making Process have a strong relationship with the project Success. In order to determine the influence of independent variables on progress success multiple regression analysis has been conducted. Its results indicate that all the eight factors have significant effect on project success putting planning and scheduling factor first with greatest effect on Project success. The study recommended that the Industry should prioritize improving the clarity of objectives and scope, enhancing monitoring and control, and refining planning and scheduling to increase the project's success rate.

Key Words: Project, Project Management, Project Success, Success factor, Barriers

Chapter One

Introduction

1.1 Background of the Study

A project is a complex, unique endeavor with constraints such as time, financial resources, and performance, aimed at meeting the client's needs (Arslan et al., 2009). Construction projects involve a series of planned and unexpected events and interactions that occur throughout the life of a facility, with changing actors and processes in a continually changing environment. Current literature indicates that construction projects often experience significant cost overruns, extended schedules, and quality challenges. As the outcomes of capital projects are strategically important for a company's success and profitability, the ability to meet predetermined targets is crucial.

Project success can be defined as meeting the expectations of the stakeholders and achieving the intended purpose. The criteria for success or a person's definition of success in construction often varies from project to project, depending on the participants, scope of services, project size, owner's familiarity with facility design, technological implications, and various other factors.

Construction undertakings, especially those overseen by public entities, Federal Government, like the Ethiopian Roads Authority (ERA), are key to the socioeconomic growth of a country. In Ethiopia, road sector construction projects are used to implement development strategies. Successful road projects fulfill development plans by improving rural accessibility, lowering transportation maintenance costs, and opening up new areas for development operations. Road projects, involving substantial amounts of cash, also contribute to the whole economy by creating jobs and having a ripple impact on other businesses.

The construction sector in Ethiopia is an important component of the national economy with road infrastructure projects being some of the main strategies aimed at improving connectivity, boosting trade and enhancing social development across regions. Sumesh (2015) argues that in today's competitive world, delivering effective projects on schedule, under budget, with high quality, and satisfying client criteria is crucial for maintaining a competitive advantage. Nevertheless, ensuring success for these initiatives remains challenging due to different factors including; project management related factors (Leadership, Communication, Monitoring and

control, Resource and Risk Management), technical complexities, resource constraints, regulatory requirements and stakeholder expectations (Müller & Jugdev, 2012).

Understanding the factors that influence project success within construction firms operating under ERA's umbrella is critical for several reasons. To begin with, successful project delivery ensures that public funds allocated towards infrastructure development are put into effective use thereby leading to accountability and transparency in governance. Secondly, improved project outcomes add value to road networks in general which in turn improves mobility while reducing transport costs thus stimulating economic growth through easier movement of goods and people (Morris, 2013).

Despite the recognized importance of project success, the construction industry is often characterized by project delays, cost overruns, and quality deficiencies (Azhar & Ahmed, 2008). In Ethiopian context where infrastructure development is a national priority, addressing these challenges assumes heightened significance.

This study therefore aims to inquire into the complex factors that affect project success in particular among construction companies undertaking projects under the supervision of Ethiopian Road Authority.

1.2 Background of the organization

The Ethiopian Road Authority (ERA) is a vital organization responsible for planning, constructing, and maintaining roads in Ethiopia. Established in 1951 under Proclamation No. 115/1951, ERA aims to develop and manage the road network to promote economic growth and accessibility throughout the country.

It has undergone several restructurings over the years, including becoming the Ethiopian Transport Construction Authority in 1980 and the Ethiopian Road Transport Authority in 1967. As part of Ethiopia's broader development agenda, ERA has been instrumental in implementing significant road infrastructure projects aimed at enhancing connectivity and supporting economic activities.

In recent years, ERA has undertaken numerous large-scale road construction projects. For instance, the Fourth Road Sector Development Program (RSDP IV), which spanned from 2010 to 2015, aimed to construct, upgrade, and rehabilitate thousands of kilometers of roads. Under this program, ERA planned to increase the road network from 48,800 kilometers in 2010 to 136,000 kilometers by 2015. The subsequent phases of the RSDP continued this ambitious expansion, focusing on both federal and regional roads to improve access and stimulate economic growth. However, ERA faced challenges in achieving the plan, often due to poor project management (World Bank, 2017).

1.3 Statement of the Problem

In the Ethiopian road construction industry, cost overruns, schedule delays, lower quality, and scope changes occur in two out of three projects (Tegegne & Borrego, 2021). In Ethiopia, most of the road constructions are undertaken by ERA. Despite significant investments and efforts in construction projects administered under the Ethiopian Road Authority (ERA), achieving consistent success remains a formidable challenge (Dagnachew, 2018). While various factors contribute to project outcomes, understanding the specific influences on success, particularly in terms of cost performance, schedule performance, quality of deliverables, and scope, and considering recently emerged performance indicators is essential for improving project management practices and ensuring optimization.

In the Ethiopian Road Authority (ERA), there are no clearly determined project success factors that are agreed upon among all influential stakeholders and internal staff. Hence, for every finished Road construction project in ERA, a number of deficiencies or delays (time overruns and over budgets is the norm in the performance of construction projects) occur and continue to occur (Abebe, 2020).

The difficulties and issues persist despite the fact that numerous researchers have conducted the research in the company in relation to project performance. Of the projects that ERA worked on, variations in scope affected 27.6% of the projects, variations in schedule affected 79.8%, and variations in cost affected 67.2% of the overall project. This indicates that detailed further study is required in the firm regarding the factors affecting project Success.

Therefore, this paper is aimed to find out the factors influencing Project Success in the Construction Firm: In the Case of Projects Administered under Ethiopian Road Authority in order to fill the gap with appropriate solutions.

1.4 Basic Research Questions

General research question of the study

- ✓ What are the key successes factors influencing road construction industry like Ethiopian Road Authority?

Specific research questions of the study

- ✓ To what extent does Leadership influence Project Success?
- ✓ How does effective Communication impact Project Success?
- ✓ What role does Monitoring and Control play in determining project success?
- ✓ To what extent is Risk Management related to Project success?
- ✓ How does Resource Management influence Project Success?
- ✓ To what extent is the influence of Decision Making Process in Project Success?
- ✓ What role does Clear Objective and Scope play in determining Project success?
- ✓ What are the barriers to Project Performance of construction projects in Ethiopian Road Authority?

1.5 Objectives of the Study

General Objective of the Study

The general objective of the study is to indentify factors Influencing Project Success in the Construction Industry: In the Case of Projects Administered under Ethiopian Road Authority

Specific Objective of the Study

To address the general objectives of the study specific objectives will include the following issues:

- ✓ To assess the extent to which leadership influences project success.
- ✓ To evaluate the impact of effective communication on project success.
- ✓ To determine the role of monitoring and control in project success.

- ✓ To examine the relationship between risk management and project success.
- ✓ To analyze how resource management influences project success.
- ✓ To investigate the influence of the decision-making process on project success.
- ✓ To evaluate the role of clear objectives and scope in determining project success.
- ✓ To Identify key barriers to Project Performance of road Construction industry like Ethiopian Road Authority

1.6 Significance of the Study

A project is a special, one-time undertaking. It should therefore be managed appropriately to guarantee that its goal is achieved. Therefore, having a thorough understanding of the aspects that impact project success particularly those related to construction firms like ERA greatly enhances project performance.

Thus, by determining these variables, this study offers insightful information that can boost project efficiency, cut down on delays, strengthen cost control, and raise the standard of construction projects managed by the Ethiopian Road Authority overall. By addressing crucial issues that affect project performance and delivery within the projects of the Ethiopian Road Authority, this study was also crucial for directing future project management strategies, promoting efficiency, and eventually boosting the Ethiopian construction industry.

Furthermore, the study's conclusions can help guide evidence-based decision-making at many stages of a project, from planning to execution to monitoring, which will enable more intelligent and strategic approaches to project management. In addition, the study forms a basis on which academic researchers can do further study on the factors influencing project success in construction firms.

1.7 Scope of the study

The main goal of the study was to determine the variables that affect project success in road Construction industry focusing on projects managed under Ethiopian Road Authority. The investigation also looked into the obstacles Ethiopian Road Authority faced when undertaking the projects.

The Factors that influence the project can be classified under Project-type related (Project Type, Project Nature, Project Complexity, Project Size etc.), The procurement-related factors (governance structure, service delivery methods, tendering and pricing methods, etc), Project Management related factors (Communication, Leadership, Monitoring and Control, planning and scheduling, Decision making process, stakeholder engagement, Clear objective and scope, resource management, and risk management), The environmental/context factors (Economic environment, Social environment, Political Environment, etc).

Among the above identified factors this study limited its scope to Project Management Related factors (Communication, Leadership, Monitoring and Control, planning and scheduling, Decision making process, stakeholder engagement, Clear objective and scope, resource management, and risk management).

Geographically, the study exclusively concentrated on the initiatives carried out in Ethiopia by the Ethiopian Road Authority.

Moreover, the investigation specifically looked at projects that ERA has been working on since 2015 G.C.

The study used both a quantitative and qualitative research approach, and also used an explanatory and descriptive research design. Furthermore, a judgmental or purposeful sample technique was used to find key informants within the Ethiopian Road Authority. Data collected primarily from key informants by using questionnaires and interviews.

1.8 Organization of the Study

The paper will be organized by five chapters. Chapter one will discuss the overall introduction of the factors influencing the project success in the case of Ethiopian Road Authority, and the need for conducting the study. Chapter two will clarify the relevant literatures that will be used to meet the objectives of the study. The third chapter will discuss the methodology that will be carried out to tackle research questions. Chapter four will present in detail the overall data analysis, interpretation and findings of the assessment and the final chapter will summarize findings and forward recommendations with respect to the findings.

Chapter Two

Literature Review

2.1 Introduction

Countries' ability to thrive economically is reliant on the construction sector, which supplies the infrastructure required for expansion. Nonetheless, the sector is also recognized for its challenges in completing projects on schedule, under budget, and in accordance with quality standards (Assaf & Al-Hejji, 2006). In the construction industry, project success is considered a crucial performance indicator that requires an understanding of the factors that influence it.

Ethiopia's building industry has grown significantly as a result of the government's infrastructure development strategy (Wubishet & Dereje, 2018). Building and maintaining the nation's road network, which links rural and urban areas and promotes trade and economic activity, is the responsibility of the Ethiopian Road Authority (ERA) (ERA, 2021). However, despite the importance of road projects, many face challenges in achieving success, with delays, cost overruns, and quality issues being common occurrences (Wubishet & Dereje, 2018).

With a specific focus on projects managed by the Ethiopian Road Authority, the goal of this literature review is to identify and analyze the key factors that influence project success in construction companies.

Construction companies can create plans to enhance project results and support the development of Ethiopia's infrastructure as a whole by taking these factors into consideration. The research will look at several aspects of project success, such as stakeholder satisfaction, time, cost, and quality. In addition, some of the unique circumstances facing construction companies in Ethiopia will be covered, including resource scarcity, political and economic unrest, and cultural differences (Wubishet and Dereje, 2018). For Ethiopian construction companies as well as other stakeholders, such as policy makers, the outcomes of this kind of review are crucial in improving knowledge on project success within the construction industry.

2.2 Theoretical Review of the Literature

2.2.1 General Project Success/ Performance Criteria

In a project environment 'success' is interpreted differently by various project stakeholders. For example, as Freeman and Beale (1992) point out, a client may assess a project as successful if it is completed under budget and on time, whereas a design consultant may rate it as so if it combines the best inventive artifacts. Still, the community in which the project is executed may consider it a success if it is safe, generates opportunities, and is environmentally beneficial.

Pinto and Slevin (1988:67) highlighted the difficulty by pointing out that lists of success or failure variables vary in past studies, and there appears to be no universally agreed-upon criterion from which specifics may be extracted. As a result, with multiple dimensions evaluated, there are no consolidated project success criteria (or Key Performance Indicators (KPIs) as of yet. Indeed, given the 'unique' character of projects (PMI, 2008), there may only be a general level of criteria that may be universally applied but must be adapted to the project's details. The many definitions of success show that setting success criteria for a project must be carefully considered based on both the unique project and stakeholder characteristics.

Project success criteria addressed in the literature range, in terms of scope, from the effectiveness of the project's business plan in the first place to the ability of the facility delivered to fulfil the business plan it is incepted for (product life span coverage) to the narrower evaluation of identified criteria within the project life cycle phase. Similarly, in terms of depth, the criteria used range from high (corporate or even economic cooperation) to low (project management) levels.

Chan et al. (2002) evaluated project success criteria from eight journals published between 1990 and 2000 and identified the following overlapping success criteria utilized by various researchers. The criteria include time, budget (financial), quality, and technical performance; health and safety, profitability, completion, aesthetics and functionality, productivity (efficiency); client (customer), contractor, and project manager (team) satisfaction; dispute resolution satisfaction (conflict management, absence of conflict, claim, etc.); educational, social, and professional aspects achieved; and environmental sustainability.

Identifying such important elements that have a major impact on success will allow for more efficient resource and effort allocation. These fundamental criteria that affect the success or failure of a specific undertaking are commonly known as Critical Success criteria (CSFs). In the context of project management, Savindo et al. (1992) define crucial success criteria as those that predict project success. Wubishet (2004) investigated the evolution of important success elements over time, and his summary demonstrates the shift from early technical challenges to a holistic approach and quality at entry (to implementation) in later years.

2.2.2 Project Success/ Performance Criteria Specific to Construction Projects

The concept of project success in construction projects is multi-dimensional, and it accommodates a range of criteria using the perspectives of numerous stakeholders. Metrics such as time, cost, and quality are used to measure project success alongside broader indicators like client satisfaction, sustainability and social impact. Time, Cost and Quality: The “iron triangle” has been used to evaluate the success of construction projects with respect to time, cost and quality. As argued by Atkinson (1999), this approach focuses on finishing projects on time and within budget while meeting specific standards for quality. These are fundamental benchmarks; however they have been criticized for being too narrow in focus. What follows are additional extended success criteria including later scope.

Success Criteria for Expanding Client Satisfaction: A client’s satisfaction is the most important determinant of success in a project. Chan and Chan (2004) have stated that successful construction projects do not only meet technical parameters but also fulfill clients’ expectations about functionality and appearance. This view is upheld by studies that have shown the importance of stakeholder involvement and communication in achieving customer satisfaction (Yang, Shen, Ho, Drew, & Xue, 2011).

Sustainability and Environmental Impact: Over the past few years, sustainability has emerged as a major factor for determining whether a construction project is successful or not. In his study on Sustainable Construction Practice Ding (2008) highlighted energy efficient buildings as the way to go while Kibert (2008) emphasized use of expert systems in decision making process on sustainable construction. These criteria are consistent with global sustainability objectives and reflect an increasing emphasis on environmentally sensitive building methods.

Social and Community Impact: Another emerging criterion includes social impact of construction projects. Vanclay (2003) argued that projects should be evaluated based not only on their physical outputs but also on their social implications such as community dislocation, job creation, and social cohesion. Such a holistic perspective acknowledges the wider societal obligations imposed by these enterprises

In general, Project success in construction projects can be measured by using well known metrics such as time, quality, cost and scope by not excluding the extended metrics such as client satisfaction, sustainability and environmental impact, and social and community impact.

2.2.2.1 Methodological Approaches in Research to measure Project success

Quantitative Studies: Quantitative research is the dominant approach with many studies using surveys and statistical analysis to identify critical success factors (CSFs). For example, a survey by Chan et al. (2004) identified key CSFs such as project manager competence, clear objectives, and stakeholder involvement.

Qualitative Studies: Although less common, qualitative research provides valuable insights into the subjective and contextual peculiarities of successful projects. Case studies and interviews applied by Yang et al. (2011) reveal the in-depth nature of complexities involved in construction project management and diverse stakeholder perspectives.

2.2.2.2 Challenges in Defining and Measuring Construction Project Success

The main difficulty in defining and measuring building project success lies in its subjective characteristics as well as divergent opinions among stakeholders. Besides that there is no standardized tool for assessing success that can be universally used while being adaptable enough to take into account specific case scenarios or context-based considerations too are further challenges faced when trying to define and measure construction project success; still some of such difficulties can be overcome via implementation architectural models such as Building Information Modeling BIM, digital collaboration tools like virtual reality VR/AR systems, use of data analytics or machine learning algorithms. These tools can facilitate real-time monitoring and decision-making, thereby improving project outcomes (Bryde, Broquetas, & Volm, 2013).

Chan et al. (2004) examined critical success factor in construction project studies published in seven journal sources, generated a list of critical success factors found by researchers, and presented a 'conceptual framework' of these success factors and their inter and intra-relationships. They classified the factors into project-Management related factors, project procedures, human-related factors, and the external environment.

2.2.2.1 Project Management Related Factors

Project management-related factors include communication, leadership, monitoring and control, planning and scheduling, resource management, risk management, decision-making effectiveness, clear objectives and scope, and overall managerial actions (PMI, 2008).

2.2.2.1.1 Communication

Effective communication is a critical component of successful project management, influencing a variety of project outcomes including stakeholder involvement, team cooperation, and risk minimization. This literature review investigates the essential aspects influencing communication in project management and their impact on project success.

Stakeholder Identification and Analysis: Comprehensive stakeholder identification and analysis are required to understand stakeholder interests, expectations, and communication preferences (Freeman & Freidson, 2018). Effective communication techniques targeted to different stakeholder groups increase participation and alignment with project goals (Harrison & Wicks, 2019).

Stakeholder Involvement and Participation: Keeping stakeholders involved throughout the project lifecycle promotes transparency, trust, and commitment (Gray & Larson, 2018). Regular communication channels, such as meetings, workshops, and progress reports, allow stakeholders to provide input, comments, and support, which improve project success (Turner & Müller, 2018).

Team Collaboration that Considers Clear Communication and dispute resolution are essential components of effective communication in the project management context. **Clear Communication Channels:** Clear communication channels and protocols among project teams encourage information sharing, coordination, and collaboration (Balthazard et al., 2018). The

effective use of communication tools and platforms allows for real-time communication and develops an open and accountable culture (Kerzner, 2018). Conflict Resolution Mechanisms: Conflict is unavoidable in project settings, but excellent communication is essential for constructive conflict resolution (Thomas et al., 2017). Active listening, empathy, and mediation skills empower project managers to address conflicts promptly and maintain team cohesion and productivity.

In addition, timely risk communication and crisis communication are important communication processes in the project management context. Risk Communication: When project risks are communicated transparently and timely, stakeholders may make educated decisions and manage uncertainty proactively (Hillson and Murray-Webster, 2017). Risk communication should include risk identification, assessment, mitigation measures, and contingency plans to reduce the impact of potential risks to project success. Crisis Communication: Effective communication is especially important at times of crisis or unexpected events (Coombs, 2018). Project managers must communicate openly, honestly, and empathetically to manage stakeholders' concerns, maintain trust, and mitigate reputational damage, thus safeguarding project success.

Furthermore, the corporate communication environment, which is defined by openness, trust, and information flow, has a major impact on project communication effectiveness (Detert and Burris, 2019). Creating a supportive communication environment at the organizational level improves project team collaboration, innovation, and overall performance.

In conclusion, effective communication is a multidimensional process driven by both internal and external influences. Project managers may improve communication effectiveness and, as a result, contribute to project success by addressing stakeholder demands, encouraging team cooperation, managing risk communications, and cultivating a positive communication environment.

2.2.2.1.2 Leadership

The projects' triumph in organizations is greatly dependent on leadership. This paper provides a critical analysis of literature regarding the importance of leadership in a project management environment for project success. Diverse researches have shown the role played by leadership styles, competencies and practices on project outcomes.

The research conducted by Yukl, (2013), indicated that leadership styles play a pivotal role in project success. Specifically in transformational leadership, Transformational leaders convey a compelling vision, inspire a sense of purpose, and foster a culture of change and innovation. (Arumugam and Maneesh (2013) according to their research has examined how learning transformational leadership, knowledge creation and project success are linked to Six Sigma projects. Cserhati and Szabo (2014) explained that through studying the relationship between success criteria and success factors in organizational event projects one can see what really matters for project's good performance. Nubuor, Hongyi, and Frimpong (2014) establish how transformational leadership style affects project success specifically within Ghanaian banking industry.

Transformational Leadership and Team Performance: In a study by Easton and Rosenzweig from 2009, they focus on team leader experience in improvement teams and take a look at it from a social networks perspective. Their findings show that the more experience a team leader has, the better the team performs overall.

Another study, a Meta-Analysis on Leadership and Project Success, was published in 2017 by Atlantis Press. This meta-analysis examined 36 different studies and tried to make sense of how leadership affects project success. Their research shows that good leadership is really important for making sure projects run smoothly and are successful in the end.

It all means that having a leader who knows what they're doing and can work well with their team is super important for making sure projects are a success. This kind of leadership style, called "transformational leadership," helps teams work better together, communicate better, and get more done.

Furthermore, According to Kerzner (2019), Clear instructions avoid uncertainty and misunderstandings, which can result in delays and errors. Timely communicating these instructions is also essential for addressing concerns as they arise, allowing for prompt resolution and keeping the project on schedule.

In Addition, according to Crosby (1979), commitment to fostering quality culture enhances project performance and customer satisfaction.

In summary, having a good leader who understands how to lead a team in the right direction is crucial for the success of any project. It's important for organizations to make sure they have leaders who know how to lead in this way, so they can make sure their projects are delivered on time and to the highest standards.

2.2.2.1.3 Monitoring and Control

In construction of roads in developing nations like Ethiopia, monitoring and controlling are crucial activities of project management that hugely influence the success of a project. Effective monitoring and controlling processes ensure that projects stay on track in terms of scope, time, cost, and quality, so as to improve the probability for successful outcomes. This literature review examines the role of monitoring and controlling towards project success with specific reference to Ethiopian road construction projects; it highlights main findings, methods used and current research gaps.

Monitoring refers to observing continually or recording all occurrences within the given project. It ensures that project performance matches the planned objectives. Conversely, control involves analyzing the data from monitoring in order to make necessary adjustments that keep the project on track (Kerzner, 2017). These two processes together create a feedback loop used for identifying variance from plans and applying corrective actions.

Good monitoring and controlling skills are vital when managing project schedules. For example, frequent schedule monitoring has been found by studies such as Ayalew et al., (2016) to help in early identification of potential delays thus allowing timely interventions.

The strict control of schedule is highly demanded in Ethiopian road construction projects that are often delayed by various causes like funding problems and logistics issues (MoCT, 2018). Construction projects are faced with cost overruns as a major challenge. Financial expenditure monitoring and cost control necessitating adjusting budgets or cutting costs are vital to project success. According to Mengesha's research(2011), several Ethiopian road works experience cost

overruns because of weak monitoring and control systems on matters concerning their costs. Such measures would be useful in addressing this problem.

Construction projects require quality as a factor for success. Quality is a variable element that is inspected continuously, tested and met through adherence to standards. As Tesfaye showed (2016), poor quality has been experienced while constructing Ethiopian roads due to the lack of enough quality assurance measures. This can enhance what should be done to improve the project.

Several researchers have shown that monitoring and controlling is crucial for the success of Ethiopian road construction projects. For example, Assefa et al.'s study (2018) indicated that those who implemented tight monitoring and controlling systems had higher chances of meeting their time frames and budgets.

The Ethiopian Roads Authority (ERA) has introduced many monitoring tools to improve the performance of projects which have shown good results (ERA, 2019). There are several methods and practices to control and monitor road construction. These include: Earned Value Management (EVM), Gantt charts, Critical Path Method (CPM), and Building Information Modeling (BIM). It has been found that these tools can significantly enhance project performance (Vanhoucke, 2012).

Technology is being increasingly integrated into the processes of monitoring and controlling. For instance, drones for site monitoring and software for real-time data analysis have enhanced project oversight and decision-making (Hajjar & AbouRizk, 2016). Technological adoption in Ethiopia is still in embryonic phase but efforts are underway to incorporate such initiatives in place (MoCT, 2018).

2.2.2.1.4 Planning and Scheduling

Planning and scheduling are critical components of project management that can determine a project's success or failure. Planning is important in project management because it allows you to determine what you want to do, how you're going to do it, and how long it will take. It is similar to creating a project roadmap. Effective planning can help you set reasonable expectations,

ensure that everyone is on the same page, and avoid future difficulties. According to studies, poor planning can result in project delays and overruns.

Scheduling is all about defining a timeline for your project's responsibilities and ensuring that everyone understands when they need to accomplish what. Accurate scheduling is essential for keeping everyone aligned and on track. Using approaches such as the critical path method (CPM) and the program evaluation and review technique (PERT), will contribute to keep the project on track.

Planning and scheduling are two aspects of project management that work well together. Planning prepares you for scheduling by determining what needs to be done and how much time you have available. Scheduling, on the other hand, converts your plans into actionable tasks and allows you to monitor progress. The more these two parts work together, the easier it is to stay on track and deal with any problems that come up along the way.

According to studies, when you properly plan and schedule your project, it is more likely to succeed. You'll manage your resources more wisely, fulfill deadlines, and produce high-quality work. Planning allows you to make informed decisions about how to spend your budget and ensures that your project achieves its objectives. Scheduling keeps everyone organized and on track with their work, allowing you to identify possible difficulties early on and address them before they become serious concerns.

To summarize, project success is dependent on both planning and scheduling. They help you define goals, assign resources, and track your progress. When you combine these two elements, you are setting yourself up for success. Making planning and scheduling a priority increases the likelihood that your project will be a complete success and provide value to all parties involved (PMBOK Guide, 2017).

2.2.2.1.5 Risk Management

Road construction projects are complex and can be affected by uncertainties, leading to increased costs, delays, and quality issues. Effective risk management is crucial to address these challenges and ensure project success. This literature review examines the key aspects of risk management in road construction projects, focusing on risk identification, assessment, and mitigation. Risk

Identification: The first step in risk management is to identify potential threats to the project. Various studies emphasize the importance of using a systematic approach to assess risks. According to Zou et al. (2007), the most common hazards in road construction projects include financial, environmental, and safety-related risks. Additionally, Hwang et al. (2014) argue that stakeholder-related risks, such as those arising from stakeholder conflicts or unclear project specifications, are particularly significant in road construction projects.

Risk Assessment: Assessing risks involves determining the likelihood and severity of each risk. Qualitative risk assessment approaches, such as risk matrices, are commonly used in road-building projects to prioritize risks based on severity and likelihood of occurrence (Ahmed et al., 2007). Additionally, quantitative tools like Monte Carlo simulations are recommended to provide a more comprehensive study of risk consequences and aid in decision-making (Choudhry and Iqbal, 2013). **Risk Mitigation:** Mitigating risks involves developing techniques to reduce the likelihood or severity of dangers. In road building, contract management, such as the use of fixed-price contracts to transfer financial risks to contractors, is a proven risk reduction strategy (El-Sayegh, 2008). Furthermore, preventive measures, including thorough site assessments and meticulous project planning, play a crucial role in reducing technical and environmental hazards (Dey and Ogunlana, 2004).

Risk Monitoring and Control: Risk monitoring and control are ongoing processes throughout the project's lifecycle. Regular risk assessments and updates to the risk management plan are necessary to address evolving hazards and ensure that mitigation methods are effective. According to Zwikaël and Ahn (2011), project teams should establish a robust communication framework to enable the continuous exchange of risk-related information among stakeholders. This approach facilitates the prompt identification and management of emerging risks.

2.2.2.1.6 Decision Making Process

Effective decision-making is crucial for the success of a project. Project managers need to make decisions about project scope, resource allocation, risk management, and stakeholder engagement in order to navigate the complexities and uncertainties of project environments. The quality of these decisions can determine the success or failure of a project. Several factors can affect the effectiveness of decision-making in project management. These factors include the

availability of accurate and timely information, the experience and expertise of the project manager, the organizational culture and decision-making processes, and the involvement of key stakeholders. Research has shown that involving stakeholders in the decision-making process can lead to better-informed decisions and increased buy-in.

The ability to make effective decisions has been shown to improve project performance in various areas such as cost, time, quality, and stakeholder satisfaction. Careful consideration of alternatives and potential consequences can help project managers make informed decisions that optimize project outcomes. On the other hand, poor decision-making can result in project delays, cost overruns, and dissatisfied stakeholders.

Agile project management methodologies, particularly in the software development industry, have become increasingly popular. Agile approaches prioritize iterative decision-making, allowing project teams to make frequent adjustments based on feedback and changing requirements. This flexibility enables more effective decision-making in dynamic project environments. In conclusion, this literature review emphasizes the critical role of decision-making effectiveness in project success. Effective decision-making helps project managers navigate project complexities, optimize project outcomes, and meet stakeholder expectations. By prioritizing decision-making effectiveness, project managers can enhance the likelihood of project success and deliver value to their organizations (Bazerman, M. H., & Moore, D. A., 2013).

2.2.2.1.7 Resource Management

Resource management is a critical aspect of project success. It involves allocating, utilizing, and optimizing human, financial, material, and other resources throughout the project lifecycle. This literature review explores the significance of resource management as a factor affecting project success. It also examines key principles, methodologies, and best practices associated with effective resource management in project environments. Human Resource Management: Role Assignment and Skill Matching Effective human resource management involves assigning roles and responsibilities to team members based on their skills, competencies, and expertise (Kerzner, 2018). Skill matching ensures that team members are adequately qualified and equipped to perform their assigned tasks, reducing the risk of skill gaps and performance issues.

Team Development and Motivation: Investing in team development and motivation enhances team cohesion, morale, and performance (PMBOK Guide, 2017). Training programs, team-building activities, and recognition schemes foster a positive work environment, empowering team members to contribute their best efforts toward project success.

Financial Resource Management: Budgeting and Cost Control: Rigorous budgeting and cost control mechanisms are essential for managing project finances effectively (Levitt, 2019). Budget allocation, expenditure tracking, and variance analysis enable project managers to monitor project costs, identify cost overruns, and implement corrective actions to ensure project profitability and financial viability.

Resource optimization involves maximizing the value and utilization of available resources while minimizing waste and inefficiencies (Kerzner, 2018). Techniques such as resource leveling, resource smoothing, and resource allocation matrices help balance resource demand and capacity, ensuring optimal resource allocation throughout the project lifecycle.

Material and Equipment Management: Procurement and Inventory Control: Efficient procurement and inventory management practices ensure the timely acquisition and availability of materials and equipment required for project activities (PMBOK Guide, 2017). Just-in-time (JIT) inventory systems, vendor management, and supplier relationship management optimize inventory levels and reduce procurement lead times.

Time management is crucial for meeting project objectives. Various studies have shown that effective time management is strongly correlated with project success across different industries. Completing project tasks on time enhances stakeholder satisfaction, maintains project momentum, and increases the likelihood of achieving project goals within budget constraints.

Key components of time resource management include scheduling, task prioritization, resource allocation, and monitoring. Task prioritization ensures that critical activities receive adequate attention and resources to reduce the risk of delays. Resource allocation involves assigning human, financial, and material resources to tasks based on their importance and urgency. Monitoring includes tracking project progress, identifying bottlenecks, and implementing corrective actions to maintain schedule adherence (Kerzner, 2018).

Challenges in Time Resource Management Despite its importance, time resource management poses several challenges for project managers. One common challenge is the inaccurate estimation of task durations, which can lead to unrealistic schedules and project delays. Poorly defined project scope and requirements can also result in scope creep, causing schedule deviations. Additionally, resource constraints, such as limited manpower or budgetary restrictions, can impede timely project completion. Furthermore, unforeseen risks and external dependencies may disrupt planned schedules, requiring agile adaptation strategies.

2.2.2.1.8 Clear Objective and Scope

It is essential to have clear objectives and scope for the success of construction projects within firms. Defining clear objectives and scope is crucial for the success of construction projects. A well-defined plan helps projects avoid conflicts, delays, and quality issues, leading to potential failure. Clear objectives and scope serve as the foundation of project management in construction, outlining the project's purpose, deliverables, and measurement criteria. This alignment with client expectations, team capabilities, and budget constraints is crucial. Clear objectives and scope provide a roadmap for construction projects, guiding teams toward achieving specific goals and deliverables. By defining the project scope upfront, teams can avoid misunderstandings, miscommunications, and scope creep that could derail the project later on. The scope statement outlines project objectives, timelines, resources, and stakeholders, ensuring everyone involved have a shared understanding of project requirements and goals.

Research indicates that one of the main reasons for project failures in construction is the lack of clear goals and direction. Clearly defining and communicating objectives and goals early on significantly increases the chances of project success by keeping the project on track and preventing derailment due to unexpected events. Clear objectives and scope help manage expectations, avoid scope creep, and ensure that the project stays aligned with strategic objectives, ultimately delivering value to stakeholders (Jugdev and Muller, 2005).

In construction projects, it is essential to create a shared understanding of products and requirements for effective project scoping. This involves defining project goals, deliverables, timelines, and resources and communicating them to all stakeholders to ensure alignment and prevent misunderstandings. Allowing for scope tolerance provides flexibility to address

unforeseen events or changes without compromising project objectives, ensuring that the project remains on track and aligned with strategic goals. In conclusion, the reviewed literature emphasizes the critical role of clear objectives and scope in construction projects for project success. By defining clear objectives and scope, construction firms can enhance project management, avoid scope creep, and ensure that projects stay on track, ultimately leading to successful project outcomes and stakeholder satisfaction (Jugdev and Muller, 2005).

2.2.3 Barriers to Project Success in Construction Environment

Government-led construction projects, such as those overseen by the Ethiopian Road Authority (ERA), encounter various challenges that can hinder their success. It is important to comprehend these obstacles in order to devise strategies to reduce risks and enhance project outcomes. One major barrier to project success is the inadequate infrastructure and allocation of resources. Shortcomings in infrastructure, such as insufficient road networks and limited access to resources, pose significant challenges. A study conducted by Girma et al. in 2018 emphasizes that the insufficient allocation of resources, including funding, materials, and skilled labor, often results in delays and cost overruns in ERA projects.

As per Tadesse & Mulugeta (2019), political and socioeconomic factors are major barriers to project success if not properly considered. Political instability and socioeconomic issues can significantly impact construction projects. In Ethiopia, political transitions and social unrest may disrupt project timelines and resource availability. Tadesse & Mulugeta (2019) stress the importance of political stability and community engagement to overcome these challenges.

Inadequate planning and project management: Poor planning and ineffective project management contribute to project failures in the construction sector. Studies by Abera & Kitaw (2016) suggest that deficiencies in project planning, including inaccurate cost estimations and unrealistic schedules, often lead to delays and cost escalations in ERA projects.

Based on various researches, road construction projects in Ethiopia face several significant challenges that must be addressed to assure success. These challenges include poor resource allocation, insufficient support from management, lack of coordination among team members, insufficient technical expertise within the team, inadequate funding, and a shortage of skilled

labor, and technological gap (Wubishet & Daniel, 2020; Tulu, 2018). To overcome the technology and innovation gap, it is essential to invest in technology transfer and capacity building. The adoption of advanced technologies and innovative practices is crucial for enhancing project efficiency and quality. However, the construction industry in Ethiopia faces a technology gap, which hinders the implementation of modern construction methods.

2.3 Empirical Literature Review

Numerous empirical studies have provided insight into the factors that impact project success and the obstacles that hinder project performance in Ethiopian road construction. Stakeholder engagement and communication have been identified as crucial factors in determining project success. For instance, Alemayehu & Woldemariam (2019) emphasized the significance of proactive stakeholder management strategies and transparent communication channels in attaining project objectives.

It is crucial to have effective project planning and management. According to Abera & Kitaw (2016), accurate cost estimations and realistic schedules significantly improve project outcomes. Quality control and safety measures are also important, as Tessema et al. (2018) emphasize the need for robust quality management systems and adherence to safety protocols for successful project execution. However, there are several barriers to project performance. Alemu & Zeleke (2017) identify complex regulatory environments and legal frameworks as sources of bureaucratic hurdles and legal ambiguities. Additionally, Tadesse & Mulugeta (2019) highlight that political instability and socioeconomic challenges further worsen these hurdles.

In addition, environmental and geotechnical challenges, as explored by Hailemariam & Admassie (2017), introduce additional complexities. The shortage of skilled workers and inadequate workforce development programs, as observed by Girma et al. (2018), contribute to delays and cost overruns. Finally, communication breakdowns and stakeholder conflicts, as identified by Alemayehu & Woldemariam (2019), impede project progress. It is crucial to address these factors and mitigate barriers to enhance the efficiency and effectiveness of Ethiopian road construction projects.

2.4 Conceptual Frame work

Based on the related literatures reviewed, the Project Management related factors that influence project Success in Construction firms include Leadership, Communication, Monitoring and Control, Decision Making Process, Planning and Scheduling, Resource Management, Risk Management and Clarity of Objectives and Scope. The success of a project can be measured by Time, Cost, Quality and Scope Constraints. Hence, the identified project management related factors influences over project success will be measured against those constraints.

In general, the effect of independent variables (Leadership, Communication, Monitoring and Control, Decision Making Process, Planning and Scheduling, Resource Management, Risk Management, and Clarity of Objectives and Scope) on dependent variable (Project success), which is expressed in terms of time, cost, quality and scope are represented in fig. 1 below.

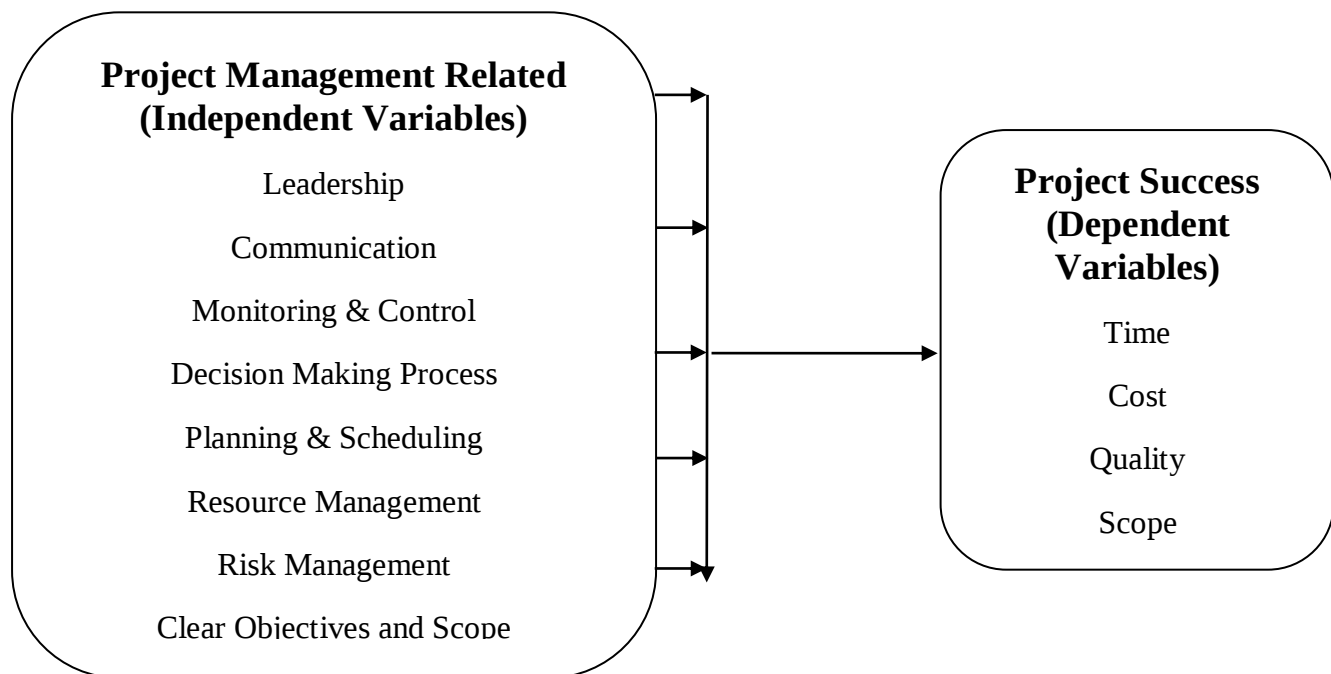


Figure 1 Conceptual framework

Source: Own, Developed based on the theoretical and empirical literature review.

Chapter Three

Research Methodology

This section of the study concentrated on the target population, research study area, sampling strategy, data source, and methods and instruments for data collecting that were employed in this investigation.

3.1 Description of the study area

The study conducted in Ethiopian Road Authority Focusing on the projects undertaken since 2015 G.C. ERA is a government owned firm having duties include designing, planning, and managing the road network as well as supervising road construction. The firm undertaken more than 30 projects since 2015 G.C and this study will focus on the factors influencing success on those projects.

3.2 Research Design and Approach

This research targeted on the factors influencing the project success in the case of Ethiopian road Authority. The design of research and its method for studying the determinants of project success in construction firms under Ethiopian Road Authority based on a well-structured as well as systematic methodology, targeting comprehensive understanding. Hence, the study considered descriptive and explanatory research design.

To determine the main success factors and their impact on the dependent variables, key performance indicators measured from the viewpoints of the major success factors like Cost, Quality, Scope and Time constraints.

In this study, mixed approaches, quantitative and qualitative, were employed to assess the influence of project management practices on project success. Firstly, an extensive review of existing literature on project management, construction industry practices formed basis for the development of conceptual framework. This Conceptual framework was used against which the research questions are answered. Consequently, qualitative methods such as interviewing key informants were used to obtain rich qualitative data from major stakeholders including project

managers, engineers, and Ethiopian Road Authority officials. Besides, quantitative surveys were also conducted on a wider population of respondents like Contractors, Project Managers, Project Engineers, consultants, Supervisors, Team leaders, who worked in construction projects under Ethiopian Roads Authority to help generate structured information regarding different aspects such as project schedules, financial allocations, performance benchmarks and Scope Creep control

Triangulation and validation of research findings made possible through integration of qualitative and quantitative data.

In conclusion, this research design and approach aims at providing a holistic knowledge about success factors in construction firms associated with Ethiopian Road Authority towards both conceptual development and practical suggestions for successful project management.

3.3 Population, Sampling and Sampling Technique

The study targeted on the projects undertaken since 2015 by Ethiopian Road Authority. In the project planning and scheduling, execution and implementation part of the firm there are 100 employees.

Sample design covers two fundamental questions: (1) how elements of the population will be picked, and (2) how many elements will be selected. Sampling is a strategy used to choose elements from a population. Purposive or judgmental sampling, which makes use of the researcher's understanding of the population in light of the study's objectives, will be used in this investigation (Patrick, 2008).

In this study census sampling method was used and data was collected from all 100 employees. Ten respondents were selected for pilot test, and excluded from total sample size. Ten Key personnel, Project Managers, were interviewed. The population to conduct the quantitative part of the study was 80. Therefore, the total population size was 90.

3.4 Data types, sources and methods of data collection

3.4.1 Data types and sources of data

Primary and Secondary data sources can provide the information needed to do research (Catherine, 2007). Primary data were used in this investigation. Through the preparation and distribution of questionnaires, and interview questions primary data were gathered. When it comes to the secondary data, the researcher limits the collection of materials to research publications from acknowledged articles, journals and books.

3.4.2 Methods of data collection

Berg (2001), points out that if the researcher wants to administer the results easily and to collect deep going information from a smaller number of individuals questionnaire is suitable. In the case of this study, the researcher way of thinking corresponds to the thinking of (Berg, 2001).

The 5-point Likert scale is frequently used to measure respondents' opinions, or perceptions on a series of statements or questions. Each item in the scale presents a statement or question, and respondents are asked to indicate their level of agreement or disagreement with each statement using a scale that typically ranges from 'Strongly Disagree' to 'Strongly Agree' (Carifio & Perla, 2007). In this study the researcher used 5 point Likert scale to measure respondent's opinion.

To gather primary data, hard copies of questionnaires were distributed to the respondents and collected accordingly. In order to address important issues and get their perspectives and experiences, a limited number of key personnel were also participated in an online interview by using Zoom platform. A structured interview Guide were prepared and used to facilitate simpler analysis and comparison.

3.5 Research Materials

Questionnaires' and Interview guides were used as survey instruments to collect appropriate data. A thorough literature review on factors influencing project success in the case of road construction industry was conducted and this becomes a base for questions developed in the questionnaire. Then first drafts of the questions to be included in the questionnaire were

developed, and pilot study was conducted to further assure the validity of the questionnaire. Following, Cronbach's alpha were used to test the reliability of the questionnaire. The questionnaires were resent to the chosen employees who answered it earlier, and were included in the sample size to guarantee reliability and consistency.

The Hard copies of the questionnaires were prepared, distributed and collected accordingly. Interview guidelines were prepared, and Interview conducted by using Zoom Application.

3.6 Methods of data analysis

Data analysis for this project combined both qualitative and quantitative techniques. The Statistical Package for Social Sciences, version 27 (SPSS V27), was used to do a quantitative analysis of the closed-ended questions from the surveys. The fundamental demographic data of the respondents were evaluated and described using descriptive statistics like frequency and percentage. The evaluation of the contributing elements and obstacles to project performance were conducted using measures of central tendency, namely mean and standard deviation. To find out if the impact of one independent variable depends on the value of another, multiple regressions were used. In addition, correlations were employed to examine the connections between the variables.

To find the effect of predictors on dependent variable, the specified regression equation in this study takes the following form:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \beta_4 X_{i4} + \beta_5 X_{i5} + \beta_6 X_{i6} + \beta_7 X_{i7} + \beta_8 X_{i8}$$

Where;

Y_i = dependent variable: Project Success

B_0 = Y-intercept at time zero

X_{i1} = Leadership

X_{i2} = Communication

X_{i3} = Monitoring and Control

X_{i4} = Decision Making Process

X_{i5} = Planning and Scheduling

Xi6= Resource Management

Xi7= Risk Management

Xi8= Clear Objective and Scope

Qualitative data analyses by using manual approach were used to evaluate open-ended Interview questions related to the study under consideration. Interview responses were recorded by getting permission from all the attendants. Then Data Preparations (Converting audio recordings of interviews into written text, arranging the transcripts systematically, by labeling them with identifiers like respondent 1, respondent 2), familiarization (Immersing in the data by reading the transcripts multiple times to gain a comprehensive understanding), Categorization, Theme Review and Refinement, and data interpretation were conducted.

3.7 Validity and Reliability

In order to enhance the validity and reliability of the research, the preparation of the questionnaire were split into several sections. To provide a basis for choosing items for the questionnaire and creating a questionnaire (Face Validity), a thorough literature review on factors influencing project success in the case of construction industry specifically in Ethiopian Road Authority as well as the barriers to project performance were conducted first.

There was also a pilot study. Purposefully selected stakeholders, who were not part of the final sample of respondents, received the questionnaire. They have received a synopsis of the theoretical framework of the study and asked to participate in its investigation. They examined the questions, responded appropriately, and offered commentary on the questionnaire as a whole as well as on the specific topics (content validity). After conducting the pilot survey, we revised unclear questions to eliminate all ambiguities.

Third, the final completed questionnaires were produced and distributed accordingly. Fourth, the reliability was examined by using Cronbach's alpha, following the collection of the required data. The questionnaires were resent to the chosen employees who answered it earlier, and were included in the sample size to guarantee reliability and consistency.

3.8 Ethical Considerations

In conducting research and gathering relevant data, ethical considerations encompass the following: the right to autonomy, safety, information, and confidentiality; these rights are outlined by Akaranga and Makau (2016).

All those chosen to complete the survey were questioned about their willingness to participate in the study. No names were mentioned on a questionnaire in order to shield respondents from circumstances that could be physically or psychologically harmful. The research task and its associated data and results were explained to all respondents, with the information intended solely for academic purposes and internal use within the respective organization. Furthermore, ethical considerations pertaining to confidentiality were given due weight. In the questionnaire, codes were used instead of names, and no specific respondent names were included when the results are reported.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

In this chapter, the data collected from questionnaire was analyzed quantitatively by using SPSS Version 26 and data collected from key informant interviews were analyzed qualitatively. The survey contained four major sections: 1) Demographic Information about the respondents, 2) Factors affecting Project Success in Construction firm, which contains 8 subsections (Leadership, Communication, Monitoring and Control, Decision Making Process, Planning and Scheduling, Resource Management, Risk Management, and Clear Objectives and Scope), 3) Barriers to Project Success in Construction firms.

With the exception of demographic information, Likert scaling is used. Scale value 5 indicates Strongly Agree, 4 imply Agree, 3 imply Neutral, 2 indicates Disagree, and 1 indicates Strongly Disagree.

First, the demographic profiles were analyzed and presented using descriptive statistical tools. Then reliability tests were conducted before proceeding to the analysis. Afterwards Correlation analyses were conducted followed regression assumption tests. Finally, the results of the multiple regression analysis were presented.

The study contains total sample size of 80. The questionnaires and interview questions were distributed accordingly to the selected population, and all of them were returned back, which makes response rate 100 percent.

4.2 Demographic Information about Respondents

To collect demographic Information about the respondents the parameters like Gender, Age, level of Education, project work experience, number of years in organization, and Job Title were used.

Attributes	Description	Frequency	Percent	Valid Percent
Gender	M	50	62.5	62.5
	F	30	37.5	37.5
Age	20-30	19	16.25	16.25
	30-40	31	38.75	38.75
	40-50	17	21.25	21.25
	>50	13	16.25	16.25
Level Of Education	High School	0	0	0
	Diploma	0	0	0
	Degree	38	47.5	47.5
	Masters	42	52.5	52.5
	PHD	0	0	0
Project Work Experience	<1	10	12.5	12.5
	1-5	17	21.25	21.25
	5-10	35	43.75	43.75
	>10	18	22.5	22.5
Number of years in an Organization	<1	16	20	20
	1-5	16	20	20
	5-10	32	40	40
	>10	16	20	20
Job Title	Project Manager	6	7.5	7.5
	Project Engineer	14	17.5	17.5
	Consultant	15	18.75	6.25
	Contractor	10	12.5	18.75
	Client representative	5	6.25	6.25
	Supervisor	13	16.25	22.5
	Team leader	12	15	15
	Other	5	6.25	6.25
Total		80	100	100

Source: Own Survey Result, 2024.

Table 1 Demographic Information

The study includes 80 individuals, with 50 males (62.5%) and 30 females (37.5%). This indicates a gender imbalance in the sample, which may reflect the gender distribution in the organization being studied. In terms of age distribution, 19 respondents (16.25%) are aged 20-30 years, 31 respondents (38.75%) are aged 30-40 years, 17 respondents (21.25%) are aged 40-50 years, and 13 respondents (16.25%) are over 50 years old. The largest age group is in the 30-40 year range, making up almost 39% of the respondents. This suggests that the study involved a relatively young workforce, with a significant proportion of mid-career professionals, leading to more accurate responses.

In terms of the level of education, 38 respondents (47.5%) hold a degree, while 42 respondents (52.5%) hold a Master's degree. The majority of respondents are highly educated, with all participants holding at least a degree. Furthermore, more than half of the respondents have a Master's degree, indicating a highly educated workforce, which is likely to have a positive impact on the response. Looking at project work experience, only ten respondents (12.5%) have less than one year of experience, 17 respondents (21.25%) have 1-5 years of experience, 35 individuals (43.75%) have 5-10 years of experience, and 18 respondents (22.5%) have over ten years of experience. The majority of respondents have significant project work experience, with the largest group (43.75%) having 5-10 years of experience. This suggests that most respondents are experienced professionals in the field, which strongly validates the response.

When it comes to the Number of Years in an Organization, the data shows that 16 respondents (20%) have been in ERA for less than one year, 16 respondents (20%) for 1-5 years, 32 respondents (40%) for 5-10 years, and 16 respondents (20%) for over ten years. A significant majority (80%) have been with ERA for more than a year, indicating a stable workforce with moderate to long-term organizational commitment. This suggests that most of the respondents have a deep understanding of the organization's projects, leading to more accurate responses. Additionally, looking at the Job Titles, we see a diverse set of roles among the respondents, with the largest groups being Consultants (18.75%), Project Engineers (17.5%), and Supervisors (16.25%). This diversity in roles indicates a wide range of perspectives within the sample, which could be beneficial for a comprehensive analysis of project-related issues.

The SPSS output presents a comprehensive demographic and professional profile of the 80 respondents in the study. The data shows that the workforce is mostly male, relatively young, and highly educated. The respondents have significant project experience and varied tenure within the firm. They hold a wide range of job titles, indicating diverse roles and responsibilities within the firm under study. This demographic and professional diversity is essential for understanding the various factors that influence project success and can help in evaluating those factors in depth.

4.3 Reliability Analysis

This study has included all the items from the questionnaire to conduct reliability test on the Project management related factors influencing project Success. Nunnally (2008) has suggested Cronbach's $\alpha > 0.7$ as the acceptable level for reliability measure. As shown in the table given below value of Cronbach's α for all variables in this study were within the acceptable range.

Factors Influencing Project Success	Items	Cronbach's Alpha (α) Value
Leadership	5	0.812
Communication	5	0.760
Monitoring and Control	4	0.802
Decision Making Process	4	0.702
Planning and Scheduling	4	0.774
Resource Management	4	0.734
Risk Management	4	0.752
Clear Objective and Scope	4	0.715

Source: Survey Result, 2024

Table 2 Reliability test

4.4 Descriptive Analysis of Factors in influencing Project Success

According to Best and Khan, (2005), average mean less than 3 were considered as low, average mean between 3 to 3.5 considered as medium or moderate, and the average mean greater than 3.5 was deemed as high. The above decision rules were used in this analysis.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
FL	80	2	5	3.53	.563
FC	80	3	5	3.49	.523
FM	80	3	5	3.67	.575
FD	80	3	5	3.42	.449
FP	80	3	5	3.54	.471
Frisk	80	3	5	3.49	.573
FR	80	3	5	3.49	.444
FC_O	80	3	5	3.52	.607
Valid N (listwise)	80				

Source: Survey Result, 2024

Table 3 Descriptive analysis of factors influencing project t success

Table 3 above, shows a description of the Project success in light of Leadership, Communication, Monitoring and Control, Decision Making Process, Planning and Scheduling, Risk management, Resource Management, and Clear objectives and scope with respect to cost, quality, time and Scope. Thus, the table indicates no average mean less than three, and Communication, Decision Making process, Resource Management, and Risk Management have moderate average, and Leadership, Monitoring and control, planning and scheduling, and clear objective and scope have high average. Therefore, as it can be seen from the results no unfavorable factors included in the study, and Monitoring and Control, Planning and scheduling, Leadership, and clear objective and Scope are rated from most favored to favored respectively. The calculated standard deviation is fairly low which shows that there is less variability with the responses among the respondents.

4.4 Inferential Analysis of the factors influencing project success

The scale typed questionnaire, like the descriptive statistical methods, i.e. demographic and other related factors, was entered into the SPSS software, and inferential statistics such as correlation and multiple regressions were used to investigate the effect of identified factors on project success.

4.4.1 Correlation Analysis

Correlation is a bivariate study that determines the strength of the correlation between two variables as well as the relationship's direction. In terms of link strength, the correlation coefficient ranges from +1 to -1. A value of ± 1 implies a perfect correlation between two variables.

Correlations of 0.01 to 0.30 are regarded weak, correlations of 0.30 to 0.50 are considered moderate, correlations of 0.50 to 0.90 are considered strong, and correlations of 0.90 to 1.00 are considered extremely large. As the correlation coefficient value approaches 0, the association between the two variables becomes weaker. (Newbold, P., et., 2019).

The coefficient's sign denotes the direction of the relationship; a + sign indicates a positive association, while a - sign suggests a negative relationship. In statistics, we often assess four types of correlations: Pearson correlation, Kendall rank correlation, Spearman correlation, and Point-Bacterial correlation. In this study, the researcher employed Pearson correlation analysis (Newbold, P., et., 2019).

Table 4, below, shows that the association between all variables is positive, and a significant relationship also found among many variables. All variables, which are Leadership, Communication, Monitoring and Control, Decision making process, planning and Scheduling, Risk management, Resource Management, and clear objectives and scope have a significant relationship with project Success having p value less than 0.05.

Monitoring and Control, Leadership, Clear objective and scope, Planning and scheduling, and Communication have a strong positive relationship with the project Success at the value of 0.907, 0.756, 0.752, 0.751, and 0.689 respectively. Resource Management and Decision Making Process have also a significant relationship with project success. In addition, Risk management has also considerable relationship with project success.

Correlations										
		FL	FC	FM	FD	FP	Frisk	FR	FC_O	PS
FL	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	80								
FC	Pearson Correlation	.254*	1							
	Sig. (2-tailed)	.023								
	N	80	80							
FM	Pearson Correlation	.248*	.506**	1						
	Sig. (2-tailed)	.027	.000							
	N	80	80	80						
FD	Pearson Correlation	.334**	.701**	.438**	1					
	Sig. (2-tailed)	.002	.000	.000						
	N	80	80	80	80					
FP	Pearson Correlation	.344**	.512**	.497**	.468**	1				
	Sig. (2-tailed)	.002	.000	.000	.000					
	N	80	80	80	80	80				
FRisk	Pearson Correlation	.085	.199	.707**	.208	.282*	1			
	Sig. (2-tailed)	.451	.077	.000	.064	.011				
	N	80	80	80	80	80	80			
FR	Pearson Correlation	.099	.365**	.348**	.348**	.434**	.156	1		
	Sig. (2-tailed)	.384	.001	.002	.002	.000	.167			
	N	80	80	80	80	80	80	80		
FC_O	Pearson Correlation	.219	.634**	.472**	.732**	.589**	.204	.451**	1	
	Sig. (2-tailed)	.051	.000	.000	.000	.000	.069	.000		
	N	80	80	80	80	80	80	80	80	
PS	Pearson Correlation	.756**	.689**	.907**	.509**	.751**	.494**	.564**	.752**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	
	N	80	80	80	80	80	80	80	80	80

Correlation is significant at the 0.05 level (2-tailed), Correlation is significant at the 0.05 level (2-tailed)

Table 4 Correlation Analysis

Based on this result the independent variable Monitoring and Control has extremely large relationship with the project success, and Leadership, Clear objective and scope, planning and scheduling, communication, and Decision making Process have a strong relationship with the project Success; Whereas, Risk management has a moderate relationship with project success. Extra large and strong relationship implies that if an independent variable increases /decreases the dependent variable will also increases or decreases at the same time. On this scenario when Monitoring and control, Leadership, Clear objective and scope, planning and scheduling, communication, and Decision making Process increases the project performance also increases and vice versa.

4.4.2 Regression analysis

4.4.2.1 Assumption Tests

The basic assumptions must be met in order to ensure data validity and the robustness of the research's regressed results using multiple regression models. As a result, this study conducted assumption tests such as multicollinearity, linearity, homoscedasticity, autocorrelation, and normality (Wooldridge, J. M. (2016).

4.4.2.1.1 Multi Collinearity Test

Multicollinearity is tested using correlations between the model's variables. Tolerance and variance inflation factor (VIF) are used to diagnose collinearity in variables as part of the multiple regression technique. Tolerance measures how much of the variability of the specified independent variable cannot be explained by the model's other independent variables. If this number is very little (less than 0.10), it implies a high multiple correlation with other variables, implying multicollinearity (Pallant, 2010). The other parameter provided is the VIF, which is simply the inverse of the tolerance value. According to Pallant (2010), VIF values more than 10 are cause for concern because they indicate multicollinearity.

Table below shows the tolerance and VIF value, where multi Collinearity assumption is not violated.

Coefficients^a

		Collinearity Statistics	
Model		Tolerance	VIF
1	FL	.804	1.243
	FC	.417	2.397
	FM	.323	3.094
	FD	.347	2.882
	FP	.523	1.914
	Frisk	.454	2.203
	FR	.735	1.361
	FC_O	.352	2.839

a. Dependent Variable: PS

Table 5 Multicollinearity analysis

Source: Researchers Own Survey, (2024)

As it can be seen from the table 4, above, for all the independent variables the VIF is below 10 and tolerance is in the acceptable range. Therefore, it can be concluded that multicollinearity assumption is not violated.

4.4.2.1.2 Normality Test

This assumption to fulfill the residuals should be approximately normally distributed. Histogram or Shapiro-Wilk Test can be used to test Normality. In this study the researcher used Histogram to test normality.

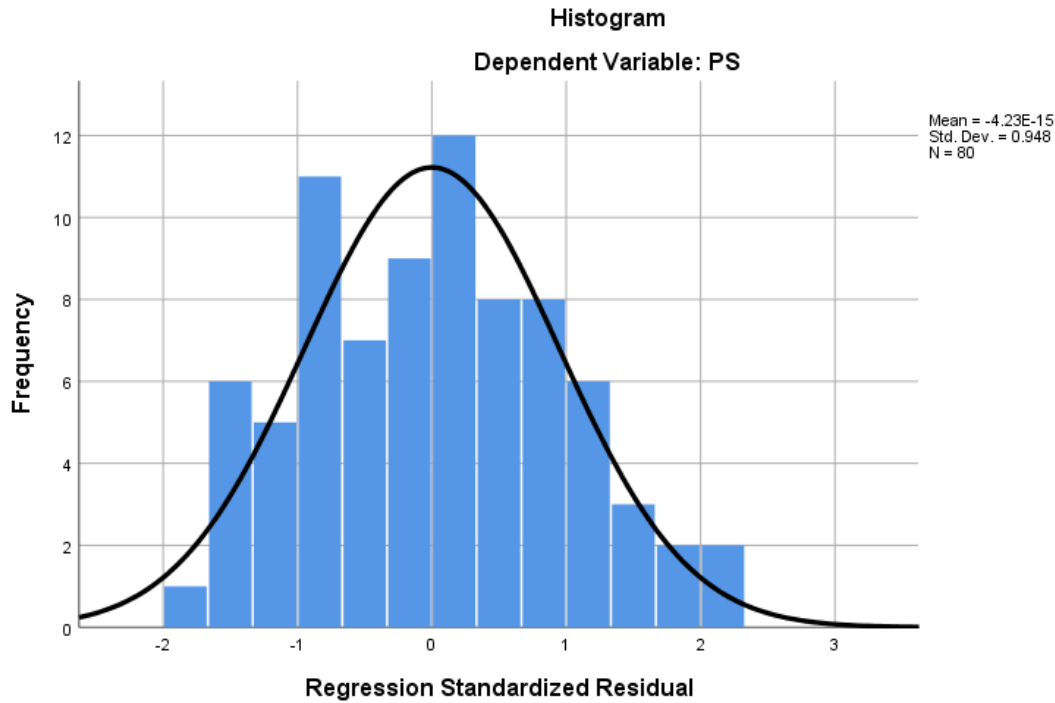


Figure 2 Histogram

Source: Researchers Own Survey, (2024)

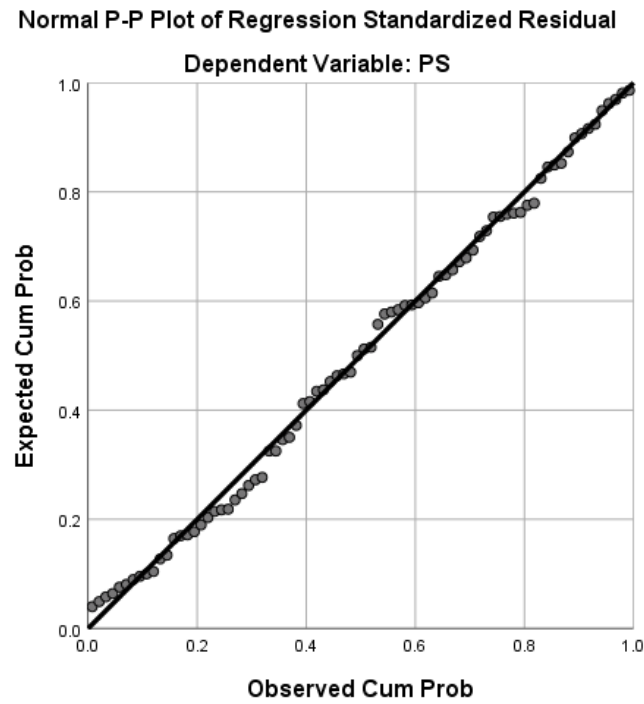
As it can be seen from the figure above the results approximately fits the model. Therefore, it can be concluded that Normality assumption is not violated.

4.4.2.1.3 Linearity Assumption

A linear regression model posits that the average outcome is linearly connected to each term in the model when all other terms are held constant. Before continuing we must clarify one aspect of the linearity assumption. The model's terms are assumed to be linear. In the Normal Probability Plot, it is intended that the points form a decently straight diagonal line from bottom left to top right. This would imply no significant deviations from normality.

To test linearity, the study used the Normal P-P plot of regression Standardized Residual. As shown below, fig 3, because the points were spread symmetrically around the diagonal line, a

linearity pattern emerged. As a result, the straight line relationship between the residuals and anticipated dependent variable scores indicated that linearity had been attained.



Source: Researchers Own Survey, (2024)

Figure 3 Linearity test, P-P plot

4.4.2.1.4 Homoscedasticity Test

Homoscedasticity refers to a scenario in which the error term, often known as "noise" or random disturbance in the relationship between the independent variables and the dependent variable, is constant across all independent variable values. Heteroscedasticity (a violation of homoscedasticity) occurs when the size of the error term varies across values of an independent variable. The impact of breaching the homoscedasticity assumption is proportional to heteroscedasticity.

According to Garson (2012), homoscedasticity is used to ensure that the relationship under examination is consistent across the whole range of the dependent variable, and a lack of homoscedasticity is shown by larger errors (residuals) for specific areas of the range. According

to Field (2009), the graph of *ZRESID and *ZPRED should resemble a random array of dots uniformly distributed around zero in no particular pattern if the homoscedasticity assumption is met.

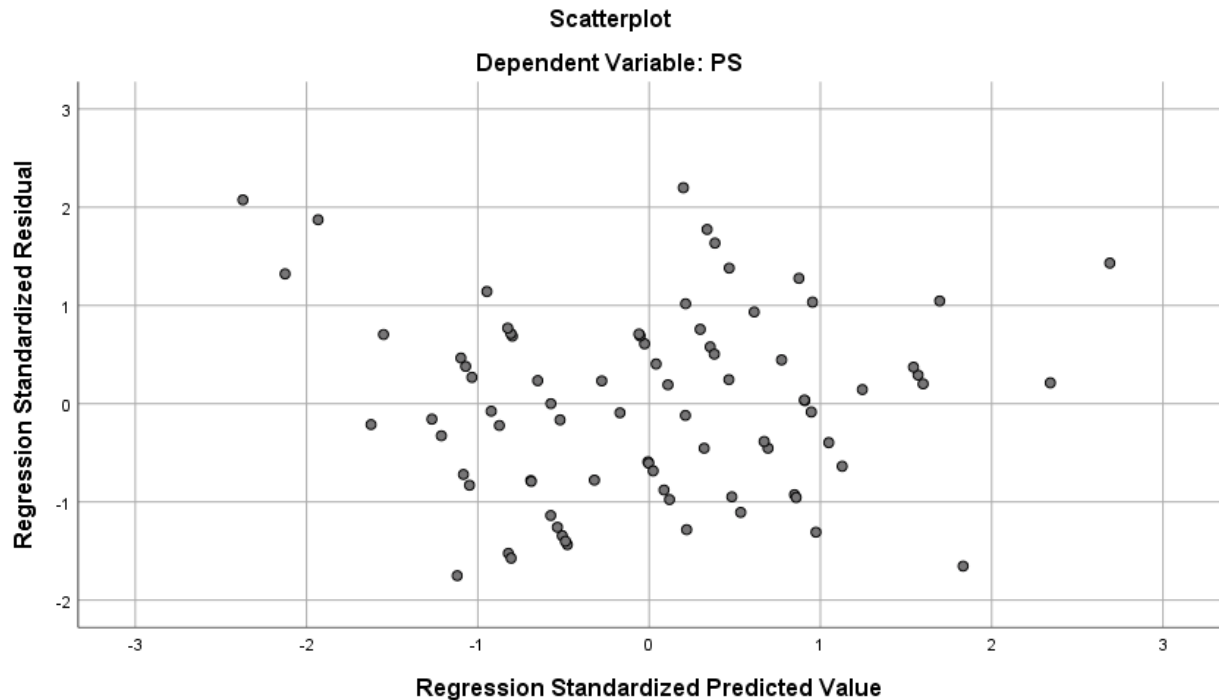


Figure 4 Homoscedasticity

Source: Researchers Own Survey, (2024)

As demonstrated in the figure above, the points are distributed randomly and equally throughout the plot, and there are no visible outliers in this cloud of dots scattered around zero. As a result, it can be concluded that the random error and homoscedasticity assumptions were met.

4.4.2.1.5 Autocorrelation Test

The presence or absence of a serial correlation among the residuals is ascertained using the Durbin-Watson statistic. The residuals are not correlated if the Durbin-Watson value is near to 2 and the acceptable range is 1.50 - 2.50. The Durbin-Watson statistic value in this study as shown below, table 6 is 2.140, which is very near to 2, meaning that this model does not have an autocorrelation issue.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.955 ^a	.912	.902	.110	2.140

a. Predictors: (Constant), FC_O, FRisk, FL, FR, FC, FP, FD, FM

b. Dependent Variable: PS

Table 6 Autocorrelation

Source: Researchers Analysis, (2024)

4.4.2.2 Model Summary

As it is depicted in the table 7, below, the value of Adjusted R square is 0.902 shows how much the independent variables (Leadership, Communication, Monitoring and Control, Planning and Scheduling, Decision Making Process, Risk Management, Resource Management, and Clear Objective and Scope) are influencing the dependent variable, Project Success.

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955 ^a	.912	.902	.110

a. Predictors: (Constant), FC_O, FRisk, FL, FR, FC, FP, FD, FM

b. Dependent Variable: PS

Table 7 Model Summary

Source: Researchers Own Survey, (2024)

The Adjusted R square figures, or 0.902, suggest that the seven independent factors investigated in the study explain 90.2% of the variation in the factor determining project performance. The model implicitly demonstrates that 9.8% of the variance in Project Success can be explained by other factors, emphasizing the need for additional research to identify the causes.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.864	8	1.108	92.244	.000 ^b
	Residual	.853	71	.012		
	Total	9.717	79			

a. Dependent Variable: PS

b. Predictors: (Constant), FC_O, FRisk, FL, FR, FC, FP, FD, FM

Table 8 Anova (Model Summary)

Source: Researchers Own Survey, (2024)

As shown in table 8, above, The F-ratio, which explains whether the regression model results could have occurred by chance, has a value of 92.244 and is significant at 0.000; thus, it is reasonable to conclude that the regression model used in this study did not arise by chance and is regarded significant.

4.4.2.2 Regression Coefficients

In table 9 below, the significance values for each independent variable determine its effect on the dependent variable. The independent variables are expressed as; β_1 Leadership, β_2 Communication, β_3 Monitoring and Control, β_4 Decision Making Process, β_5 planning and Scheduling, β_6 Risk Management, β_7 Resource Management, and β_8 Clear Objective and Scope. From the findings above the study can develop the following regression model.

$$RI = \beta_0 + \beta_1 (FL) + \beta_2 (FC) + \beta_3 (FM) + \beta_4 (FD) + \beta_5 (FP) + \beta_6 (FRisk) + \beta_7 (FR) + \beta_8 (FC_O)$$

$$C (PS) = 0.215 + 0.146FL + 0.141FC + 0.165FM + 0.103FD + 0.172FP + 0.137FRisk + 0.140FR + 0.154FC_O$$

Interpretation of Coefficients

Intercept (Constant = 0.215): This is the expected value of Project Success when all the independent variables are zero. It is the baseline value of Project Success. Considering Leadership, for each one-unit increase in Leadership factor, Project Success is expected to increase by 0.146 units, holding all other variables constant having the significance value 0.000 which is statistically significant ($p < 0.05$). Proceeding to Communication, for each one-unit increase in Communication, Project Success is expected to increase by 0.141 units, holding all other variables constant having the significance value 0.035 which is statistically significant ($p < 0.05$). Looking at Monitoring and control, for each one-unit increase in Monitoring and Control, Project Success is expected to increase by 0.165 units, holding all other variables constant having the significance value 0.028 which indicates it is statistically significant ($p < 0.05$).

Considering Decision Making Process, for each one-unit increase in Decision making process, Project Success is expected to increase by 0.103 units, holding all other variables constant, and with significance value 0.031, statistically significant ($p < 0.05$). Planning and Scheduling is another factor where for each one-unit increase in it, Project Success is expected to increase by 0.172 units, holding all other variables constant, and having statistically significant value 0.000 ($p < 0.05$). For the sixth factor Risk Management, each one-unit increase in it, Project Success is expected to increase by 0.137 units, holding all other variables constant. The significance value 0.000 indicates that Risk Management is statistically significant ($p < 0.05$) factor influencing project success.

Taking a look at Resource Management, for each one-unit increase in Resource Management, Project success is expected to increase by 0.140 units, holding all other variables constant. The significance value 0.000 Resource Management indicated that it is statistically significant ($p < 0.05$). Finally, when considering Clear Objective and Scope, for each one-unit increase in it is expected to increase process by 0.154 units, holding all other variables constant. Its significance value 0.001 is statistically significant ($p < 0.05$).

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	.215	.142		1.515	.034
	FL	.146	.024	.186	4.734	.000
	FC	.141	.037	.118	2.149	.035
	FM	.165	.038	.179	2.249	.028
	FD	.103	.047	.132	2.205	.031
	FP	.172	.036	.231	4.746	.000
	Frisk	.137	.032	.223	4.279	.000
	FR	.140	.032	.177	4.318	.000
	FC_O	.154	.034	.224	3.608	.001

a. Dependent Variable: PS

Table 9 Regression Coefficients

Source: Researchers Own Survey, (2024)

The effect of the eight Project Management Related factors in contributing to the variance of Project success explained by the Beta coefficient was described above. As such, of the eight project management Related factors, the factor which had the greatest effect on Project success is found to be planning and Scheduling, followed by Monitoring and control, and Clear Objective and Scope.

Leadership, and Communication with $\beta_1=0.146$, $\beta_2= 0.141$ and $p < 0.05$ also appear to play an important and significant role in influencing Project success. In addition, as it can be seen from table 9, Decision Making Process, Risk Management and Resource Management also have an influence on project Success with a coefficient of $\beta_4=0.103$, $\beta_6= 0.137$, $\beta_7= 0.140$ and $p < 0.05$ which indicates the effect is still significant.

The responses collected from interview questions revealed that most respondents believe that commitment, effective decision-making, thorough project planning, effective communication, accurate and reliable project budgets, and effective risk identification and mitigation strategies are crucial factors in determining project success. For instance, one respondent noted, "Effective communication is key to ensuring that everyone is on the same page and that any issues are

addressed promptly." Another respondent emphasized, "A well-planned project with clear goals and timelines is essential for achieving success."

Several respondents highlighted the significance of the importance of commitment. For example, three of the respondents pointed out that, "Commitment from all stakeholders is vital to ensure that everyone is working towards the same goal." Another respondent added, "Without commitment, projects can easily go off track, leading to delays and cost overruns." Effective decision-making was also seen as a critical factor in project success. One respondent noted, "Good decision-making is essential to ensure that the project stays on track and that any issues are addressed promptly." Another respondent emphasized, "Effective decision-making involves involving all stakeholders and considering all perspectives before making a decision." Thorough project planning was also seen as crucial. One respondent stated, "A well-planned project is essential to ensure that all aspects of the project are considered and that any potential issues are identified and addressed early on." Another respondent added, "Thorough project planning helps to ensure that the project stays on track and that any changes are managed effectively." Effective communication was seen as a critical component of project success. One respondent noted, "Effective communication is a key to ensuring that everyone is on the same page and that any issues are addressed promptly." Another respondent emphasized, "Effective communication involves keeping all stakeholders informed and involved throughout the project." Accurate and reliable project budgets were also seen as essential. One respondent stated, "A realistic and well-managed budget is crucial to ensure that the project stays on track and that any cost overruns are minimized." Another respondent added, "Accurate and reliable project budgets help to ensure that the project is delivered within budget and that any changes are managed effectively."

Finally, effective risk identification and mitigation strategies were seen as critical. Four of the respondents considered, "Identifying and mitigating risks early on is essential to ensure that the project stays on track and that any potential issues are addressed promptly." Another respondent emphasized, "Effective risk management involves identifying potential risks and developing strategies to mitigate them." These qualitative findings suggest that these factors play a significant role in influencing project outcomes.

4.4.2.3 Discussion on Findings

The results of the descriptive analysis on factors influencing project success show that there are no unfavorable factors influencing project success. The factors Monitoring and Control, Planning and Scheduling, Leadership, and clear Objective and Scope are rated from most favored to favored, respectively. These findings are in consistent with the study conducted by Damtew (2019).

According to the correlation analysis, the independent variable "Monitoring and Control" has an extremely strong relationship with project success. Additionally, "Leadership," "Clear objectives and scope," "Planning and Scheduling," "Communication," and "Decision-Making Process" are strongly correlated with project success, while "Risk Management" has a moderate relationship with project success.

In this study, the data after being processed using multiple regressions, the results of the analysis shows that all the Eight factors included have a significant effect on Project Success.

The Study indicated that Project Planning and Scheduling, Clear objective and scope, and Monitoring and Control strongly influence project success in construction firms like ERA. These findings are consistent with earlier research by Abera & Kitaw (2016). Therefore, it can be concluded that proper planning and scheduling with clearly defined objectives and scope, by introducing continuous monitoring and control greatly contributes to project completion on time, cost, quality and defined scope.

Moreover, the previous study conducted by Alemayehu & Woldemariam (2019) is also in consistent with this research findings indicating that Leadership and Communication significantly influence project success. This indicates that Efficient Leadership with proper communication management among project stakeholders is required to complete a project on time, on budget, on quality and scope.

Furthermore, the study shows that appropriately managing risks and resources leads to an increase in project success rates in terms of time, cost, quality, and scope. The study also addressed the decision-making process, which, if done correctly, improves project success. The findings shown above are consistent with those reported by Zou et al. (2007), Hwang et al. (2014), and Ahmed et al. (2007).

4.5 Descriptive analysis on the barriers to Project success

The barriers to project success specifically in Projects undertaken under Ethiopian Road Authority are discussed in this section. As shown in table 10 below, before proceeding to the analysis, the collected data reliability were tested and found to be reliable with Cronbach's alpha value 0.702.

Reliability Statistics	
Cronbach's Alpha	N of Items
.702	7

Table 10 Reliability analysis for BPS,

Source: Researchers Own Survey, (2024)

To identify the barriers to the project success, the respondents were asked 7 questions based on likert scale. As it is shown in the table 11, below, the respondents' responses depicted '*Lack of adequate funding disrupts project progress*' scored high mean value (4.07) with acceptable standard deviations (0.671). None of the respondents strongly disagreed with the issue. Hence, the numbers indicate that '*Lack of adequate funding disrupts project progress*' is the critical barrier to project success in the firm.

According to the respondents, the barrier that scored second highest mean was '*inadequate use of modern technology affects project outcomes.*' Its mean and standard deviation were 3.95 and 0.761 respectively. None of the respondents strongly disagreed. This results imply that '*inadequate use of modern technology affects project outcomes*' is among the most common barrier to project success in the firm following '*Lack of adequate funding disrupts project progress.*'

Next, according to the respondents, '*Insufficient support from management is a barrier to project success*' is also among the main barriers to project Success having mean 3.56 and acceptable standard deviation (0.653), followed by '*Poor allocation of resources affects project completion*'. Its mean and standard deviation values were 3.55 and 0.634 respectively. The values tell us that that majority of respondents agreed with the issue and both of them are considerable barriers to project Success.

Finally, the Barriers with comparatively less mean but still having above average mean, are *'Lack of coordination among team members is a barrier to project success, and Lack of technical expertise within the team impedes project success.'* Their mean and standard deviation were 3.46 with 0.693, and 3.35 with 0.597 respectively. This indicates that with acceptable deviation range majority of the respondents agreed with the issue as they are a considerable barrier to project success.

The responses collected from interview questions indicated that activities such as lack of required level of stakeholder engagement, technological limitations and economic inflations were also among the barriers to project success in the firm.

In general, the Barriers to the project success include Lack of adequate funding, inadequate use of modern technology, Insufficient support from management, Poor allocation of resources, Lack of coordination among team members, Lack of technical expertise within the team, lack of required level stakeholder engagement, technological limitations and economic inflations.

As indicated by interview responses, total quality management reformation is taking place to handle and overcome those identified existing barriers.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Insufficient support from management is a barrier to project success	80	2	5	3.56	.653
Poor allocation of resources affects project completion	80	2	5	3.55	.634
Lack of coordination among team members is a barrier to project success	80	2	5	3.46	.693
Lack of technical expertise within the team impedes project success.	80	2	5	3.35	.597

Inadequate use of modern technology affects project outcomes.	80	2	5	3.95	.761
Lack of adequate funding disrupts project progress.	80	2	5	4.07	.671
Shortage of skilled labor affects project delivery	80	2	5	3.40	.608
Valid N (listwise)	80				

Table 11 Descriptive analysis of BPS, Source: Researchers Own Survey, (2024)

Chapter 5

Summary, Conclusion and Recommendation

5.1 Introduction

The goal of this research was to evaluate the factors that influence project success in construction firms, specifically in Ethiopian Road Authority projects. The essential data was gathered, evaluated, and interpreted appropriately. Thus, this part summarizes the study's primary findings and draws conclusions based on the data that have emerged. In addition, recommendations, limitations, and proposals for further research were also included.

5.2 Summary

There were 90 participants in the study and ten (10) respondents were selected for questionnaire pilot test. Therefore, the remaining 80 were the sample size of the population. The responses collected from them were analyzed, presented and discussed in chapter 4.

To evaluate the factors influencing projects success, eight categories of Project - Management related factors were used. Named Leadership, Communication, Monitoring and control, Planning and Scheduling, Decision Making Process, Risk Management, Resource Management, and Clear objectives and Scope were included, each containing items more than four.

An explanatory research design was adopted to evaluate factors influencing project success. As it was indicated in the descriptive analysis the influence of the factors such as Communication, Decision Making process, and Risk Management have moderate average, and Leadership, Monitoring and control, planning and scheduling, and Clear objectives and Scope have high average. Among the factor none rated low average, and the calculated standard deviations were fairly low that further shows less variability with the responses among the respondents.

In order to determine the strength of relationship among independent variables and between dependent and independent variables, correlation analyses were conducted.

Based on the analysis results the independent variable Monitoring and control has extremely large relationship with the project success, and Leadership, Clear objective and scope, planning and scheduling, communication, and Decision making Process have a strong relationship with the project Success; Whereas, Risk management has a moderate relationship with project success. In addition, the results depicted that there exists a positive relationship among independent variables.

Second, a multiple regression analysis has been carried out. Before conducting regression analysis assumption tests (Normality, Autocorrelation, Linearity, Multicollinearity, and Homoscedasticity) were conducted, and none of the assumptions were violated. The eight Project Management related factors such as Leadership, Communication, Monitoring and Control, Planning and scheduling, Risk management, Decision Making Process, Resource management, and Clear Objective and Scope represented the independent variables, whereas Project success represented dependent variable. The result from the multiple regression analysis clearly indicates that all the eight project management related factors have significant effect on Project Success.

As such, of the eight Project Management Related factors, the factor which had the greatest effect on Project success is found to be planning and Scheduling, followed by Monitoring and control, and Clear Objective and Scope. Leadership and Communication also appear to play an important and significant role in influencing Project success. In addition, Risk Management, Decision Making Process, and Resource Management also have considerable influence on project Success.

In general, the study the analyzed project management related factors covered 90.2% of the factors influencing the process success in the case of projects undertaken by Ethiopian Road Authority. The remaining 9.8% covered by other project management related or other factors.

Among the barrier to the project success the critical barrier scored high mean value is Lack of adequate funding; followed by inadequate use of modern technology, insufficient support from management and Poor allocation of resources. Lack of coordination among team and Lack of technical expertise within the team are also scored mean value above average, indicating their significant effect in impeding project success.

5.3 Conclusion

The primary objective of this study was to determine the factors influencing project success in the construction firm in the case of projects undertaken by ERA. The study has been successful in accomplishing the research questions. Thus, based on the finding of the study the following conclusions are drawn.

First, in the part of the descriptive findings the researcher has been able to present factors influencing project success. Leadership, Monitoring and control, planning and scheduling, and Clear objectives and Scope received high mean rating. The other factors like Communication, Decision Making process, and Risk Management received moderate mean rating, and none rated low mean. Therefore, it can be concluded that all the determined independent variables have favorable ratings on the Project success with respect to time, quality, cost, and scope constraints.

Second, the researcher tried to present the influence of determined independent variables on project success. Thus, based on correlation analysis all of the determined independent variables have a positive relationship with project success, and specifically Monitoring and control is closely related the project success.

Thirdly, the researchers have been able to determine the influence of each of the study's independent variables on project Success. Thus, from the regressions analysis it can be concluded that among the eight independent variables Planning and Scheduling, followed by Monitoring and control, and Clear Objective and Scope have a greatest influence on project success.

Among the seven identified barriers Lack of adequate funding is the most critical barrier in the firm that requires immediate action. Barriers like inadequate use of modern technology, insufficient support from management and Poor allocation of resources are among the top rated barriers to the project Success.

As it was revealed in the qualitative analysis commitment, effective decision-making, thorough project planning, effective communication, accurate and reliable project budgets, and effective risk identification and mitigation strategies are crucial factors in determining project success.

5.4 Recommendations

Based on the findings the researcher put forward the following presentations. To increase the project's success rate, the industry should prioritize improving the clarity of objectives and scope, enhancing monitoring and control, and refining planning and scheduling. Importantly, the industry must address the critical issue of inadequate funding by developing effective strategies.

To ensure the clarity of the objectives the researcher recommends the industry to ensure the project objectives are specific, measurable, achievable, relevant and time-bounded (SMART). This helps the industry to ensure that all stakeholders are aligned and working towards the same goal. In addition, to have a clear definition of the project scope the researcher recommends including the specific tasks, deliverables, and timelines. This in turn helps to prevent scope creep and ensure that the project stays focused on its objectives.

In addition, to enhance monitoring and control, the researcher recommends the industry to establish a robust project management framework that includes regular progress tracking, issue identification, and corrective action.

Furthermore, to refine planning and scheduling, the researcher recommends the industry to develop detailed project plans and schedules that include realistic timelines and milestones, which can be achieved by identifying and defining detailed deliverables.

The researcher recommendation to address the critical issue of inadequate funding is the industry should develop effective strategies for managing project budgets and resources. This can be achieved by developing effective budgeting strategies that ensure that the project has sufficient resources to achieve its objectives, and managing resources effectively by prioritizing tasks, allocating resources efficiently, and minimizing waste.

These recommendations, however, are not limited to ERA and can be applied to other similar contexts and organizations. By implementing these strategies, organizations can improve project success rates, enhance project management capabilities, and achieve their objectives more effectively.

5.5 Limitations

The study only considered project management-related factors that influence project success. It is possible that there are other relevant factors that could also impact project success. Therefore, future surveys should attempt to identify and include variables that were not examined in this study.

In addition, the study focused on road construction projects managed under ERA, which may limit the generalization of the findings.

5.6 Future Directions

This research only examines the direct influence of each independent variable on project success, without taking into account the potential moderating effect of other variables. Therefore, future research should delve deeper into investigating the moderating effect of other variables. Furthermore, Future studies should consider a more comprehensive analysis of the factors influencing project success considering factors other than project management related factors.

References

- Ahmed, S., Azhar, S., Castillo, M., & Kappagantula, P. (2014). Construction delays in Florida: An empirical study. *Journal of Construction Engineering and Management*, 130(5), pp. 15-21.
- Akaranga, S. I. & Makau, L. K. Ethical considerations and their applications to research: A case of the University of Nairobi. *Journal of Educational Policy and Entrepreneurial Research*, 3(12), pp. 1-9. Available at: https://profiles.uonbi.ac.ke/kuria_paul/files/429-825-2-pb.pdf
- Assaf, S. A. & Al-Hejji, S. (2006). Causes of delay in large construction projects. *International Journal of Project Management*, 24(4), pp. 349-357.
- Assefa, D., Haile, A., & Melese, A. (2018). The role of monitoring and evaluation on road construction project performance in Ethiopia. *Journal of Construction Engineering and Management*, 3(2), pp. 45-50.
- Atkinson, R. (1999). Project management: Cost, time, and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International Journal of Project Management*, 17(6), pp. 337-342.
- Ayalew, T., Dakhil, A. H., & Shibru, D. (2016). Causes of delay in road construction projects in Ethiopia. *Journal of Civil, Construction and Environmental Engineering*, 1(1), pp. 18-25.
- Azhar, N., Farooqui, R. U., & Ahmed, S. M. (2008). Cost overrun factors in construction industry of Pakistan. *First International Conference on Construction in Developing Countries (ICCIDC-I)*, Karachi, Pakistan.
- Balthazard, P. A., Cooke, R. A., & Potter, R. E. (2018). Leadership and team dynamics in the 21st century. *The Leadership Quarterly*, 29(1), pp. 87-105.
- Bryde, D., Broquetas, M., & Volm, J. M. (2013). The project benefits of Building Information Modelling (BIM). *International Journal of Project Management*, 31(7), pp. 971-980.
- Catherine, D. (2007). *A practical guide to research methods*. 3rd ed. How to content: United Kingdom.
- Chan, A. P. & Chan, A. P. (2004). Key performance indicators for measuring construction success. *Benchmarking: an international journal*, 11(2), pp. 203-221.
- Chapman, C. B. & Ward, S. (2016). *How to Manage Project Opportunity and Risk: Why Uncertainty Management Can Be a Much Better Approach Than Risk Management*. John Wiley & Sons.
- Coombs, W. T. (2018). *Ongoing Crisis Communication: Planning, Managing, and Responding*. SAGE Publications.

- Crosby, P. B. (1979). *Quality Is Free: The Art of Making Quality Certain*. McGraw-Hill.
- Dagnachew, A. (2018). *Factors Influencing Project Success in the Construction Firm: In the Case of Projects Administered Under Ethiopian Road Authority*. Addis Ababa University.
- David, A. (2001). *Research Design in Social Research*. 1st ed. Sage Publications: London.
- Detert, J. R. & Burris, E. R. (2019). Can your employees really speak freely? *Harvard Business Review*, 97(1), pp. 82-89.
- Ding, G. K. (2008). Sustainable construction—The role of environmental assessment tools. *Journal of Environmental Management*, 86(3), pp. 451-464.
- Ethiopian Road Authority (ERA). (2021). About ERA. Retrieved from <https://era.gov.et/about-era/>
- Ethiopian Roads Authority (ERA). (2019). *Annual Report on Road Projects Performance*. Addis Ababa: ERA.
- Fleming, Q. W. & Koppelman, J. M. (2016). *Earned Value Project Management*. Project Management Institute.
- Freeman, R. E. & Freidson, E. (2018). *Stakeholder Theory: Concepts and Strategies*. Cambridge University Press.
- Gray, C. F. & Larson, E. W. (2018). *Project Management: The Managerial Process*. McGraw-Hill Education.
- Girma, A., et al. (2018). [Title of the study]. (Provide details of the publication such as journal name, volume, issue, page numbers, or conference details).
- Hajjar, D. & AbouRizk, S. (2016). Role of Simulation in Construction Engineering and Management. *Journal of Construction Engineering and Management*, 126(5), pp. 25-33.
- Harrison, J. S. & Wicks, A. C. (2019). Stakeholder theory, value, and firm performance. *Business Ethics Quarterly*, 19(2), pp. 233-255.
- Hillson, D. & Murray-Webster, R. (2017). *Understanding and Managing Risk Attitude*. Routledge.
- Hwang, B. G., Zhao, X. & Toh, L. P. (2014). Risk management in small construction projects in Singapore: Status, barriers and impact. *International Journal of Project Management*, 32(1), pp. 116-124.
- Kerzner, H. (2017). *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*. John Wiley & Sons.

Kerzner, H. (2019). *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*. 12th ed. Wiley.

Kibert, C. J. (2008). *Sustainable construction: Green building design and delivery*. John Wiley & Sons.

Mengesha, D. (2011). Challenges and Opportunities in the Ethiopian Construction Industry. *Journal of Construction Engineering and Management*, 4(2), pp. 30-42.

Ministry of Construction and Transport (MoCT). (2018). *Review of the Ethiopian Road Sector Development Program*. Addis Ababa: MoCT.

Morris, P. W. G. (2013). *Reconstructing Project Management*. John Wiley & Sons.

Müller, R. & Jugdev, K. (2012). Critical success factors in projects: Pinto, Slevin, and Prescott - the elucidation of project success. *International Journal of Managing Projects in Business*, 5(4), pp. 757-775.

Newbold, P., Carlson, W. L. & Thorne, B. (2019). *Statistics for Business and Economics*. Pearson Education.

PMBOK Guide. (2017). *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*. Project Management Institute.

Tegegne, S. & Borrego, M. (2021). Factors affecting project performance in the Ethiopian road construction industry. *Journal of Construction Engineering and Management*, 147(5), 04021048.

Tesfaye, A. (2016). Quality Management Practices in Ethiopian Road Construction Projects. *Journal of Civil Engineering and Architecture*, 10(4), pp. 489-496.

Tessema, M., et al. (2018). [Title of the study]. (Provide details of the publication such as journal name, volume, issue, page numbers, or conference details).

Thomas, K. W., Kilmann, R. H. & Hulin, C. L. (2017). *Conflict Mode Instrument (TKI)*. CPP, Inc.

Toor, S. R. & Ogunlana, S. O. (2010). Beyond the ‘iron triangle’: Stakeholder perception of key performance indicators (KPIs) for large-scale public sector development projects. *International Journal of Project Management*, 28(3), pp. 228-236.

Tulu, A. (2018). Challenges in Resource Allocation and Coordination in Ethiopian Road Projects.

Umuhoza, C., Bukenya, J., Wright, S. & Monaghan, C. (2021). Transformational Leadership and Organizational Performance: The Mediating Role of Organizational Learning. *Journal of Leadership & Organizational Studies*, 28(1), pp. 45-58.
<https://doi.org/10.1177/1548051820974695>

Vanclay, F. (2003). International principles for social impact assessment. *Impact Assessment and Project Appraisal*, 21(1), pp. 5-12.

Vanhoucke, M. (2012). Measuring Time: Improving Project Performance Using Earned Value Management. *Project Management Journal*, 43(6), pp. 65-72.

Wooldridge, J. M. (2016). *Introductory Econometrics: A Modern Approach*. Cengage Learning.

Wubishet, J. D. & Dereje, T. A. (2018). Challenges in Ethiopian construction projects: a review. *Engineering, Construction and Architectural Management*, 25(1), pp. 124-141.

Wubishet, S. & Daniel, K. (2020). *Barriers to Successful Road Construction Projects in Ethiopia*.

Yang, J., Shen, G. Q., Ho, M., Drew, D. S. & Xue, X. (2011). Stakeholder management in construction: An empirical study to address research gaps in previous studies. *International Journal of Project Management*, 29(7), pp. 900-910.

Yukl, G. (2013). *Leadership in Organizations*. 8th ed. Pearson.

Zou, P. X. W., Zhang, G. & Wang, J. (2007). Understanding the key risks in construction projects in China. *International Journal of Project Management*, 25(6), pp. 601-614.

APPENDIX

QUESTIONNAIRES

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

Dear Participants, I would like to extend my deepest appreciation for your time in responding to the research questions provided below. My name is Rodas Mulugeta and I'm a postgraduate student at Addis Ababa university school of commerce under the department of project management. The title of my project work is: Factors Influencing Project Success in the Construction Firm: In the Case of Projects Administered under Ethiopian Road Authority

I ask your kindly cooperation in answering the questions as truthfully as possible and your response will be highly confidential. This questionnaire will only be used for an academic purpose.

If you have any questions or comments, please don't hesitate to contact me.

You can reach me at;

Mobile:

E-mail:

With best Regards,

Rodas Mulugeta

INSTRUCTIONS

- ✓ Please just tick the BOXES provided in front of each options for the question
- ✓ Answer all the questions with respect to the projects undertaken by your firm, ERA
- ✓ Technical terms like Transformational Leadership and Scope Creep were included in the questions based on the following Conceptual definition: Transformational leadership is a leadership style that combines four main components: inspiring motivation, idealized influence, intellectual stimulation, and customized concern to reach a common vision via personal growth and development (Bass & Riggio, 2006). Scope creep is uncontrolled change in project scope that goes beyond the planned. (Umuhoza et al., 2021).

Section A: Demographic Information

1. Gender: M ☐ F ☐
2. Age (year): 20-30 ☐ 30-40 ☐ 40-50 ☐ >50 ☐
3. Level of Education: High School ☐ Diploma ☐ Degree ☐ Master ☐
PHD ☐
4. Project Work Experience: < 1 ☐ 1-5 ☐ 5-10 ☐ > 10 ☐
5. Number of years in organization: < 1 ☐ 1-5 ☐ 5-10 ☐ > 10 ☐
6. Job Title: Project Manager ☐ Project Engineer ☐
Quality Control Manager ☐ Contractor ☐
Consultant ☐ Client Representative ☐
Supervisor ☐ Team Leader ☐
☐
Other Specify _____

Section B: Factors affecting Project Success in Construction firm

i. Project Leadership

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1	Transformational Leadership Style enhances project performance					
2	Clear and timely instructions provided by project leaders contributed to avoid project delays					
3	Efficient Leadership contributed in handling budget overruns and financial constraints.					
4	The leadership team fostering a culture of quality among project team members contributed to the project performance					
5	The project leadership was effective in setting clear goals and objectives.					

ii. Communication

Q. N	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Clear communication of deadlines and milestones contributed to effective time management.					
2	Effective communication led to better budget management.					
3	Effective communication within the project team ensured adherence to quality standards.					
4	Regular communication with stakeholders helped maintain quality expectations.					
5	Clear communication helped in managing scope creep.					

iii. Monitoring and Control

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	The project monitoring and control were effective in ensuring projects stay within budget					
2	Monitoring and control procedures helped maintain high-quality standards					
3	Monitoring and control mechanisms ensured project timelines are adhered to					
4	The scope of the project is consistently maintained through effective monitoring and control					

iv. Decision Making Process

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Decisions that have made promptly contributed to keep the project within budget					
2	Effective decision-making process ensured that quality is not compromised					
3	Timely decisions that are made contributed to prevent project delays					
4	Decisions that are aligned with the defined scope of the project contributed to project completion on Scope					

v. Planning and Scheduling

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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1	Planning and scheduling were effective in managing project costs					
2	Planning and scheduling processes helped to achieve the desired quality of construction projects.					
3	Proper planning and scheduling helped to achieve realistic and achievable project timelines					
4	Planning and scheduling ensured that the project scope is clearly defined and adhered to.					

vi. Resource Management

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Resources are managed effectively to control project costs.					
2	Quality is maintained by effectively managing resources.					
3	Proper resource management helped in meeting project deadlines.					
4	The scope of the project is not compromised due to resource management issues.					

vii. Risk Management

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Risk management practices were effective in keeping project costs under control.					
2	Risks are managed in a way that quality standards are maintained.					
3	Risk management strategies helped in avoiding delays in project timelines.					

4	The project scope is protected from potential risks through effective risk management.					
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viii. Clear Objective and Scope

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Clear objectives and scope set are contributed to ensure the project stays within budget.					
2	Clearly defined objectives and scope contributed to achieving high-quality project outcomes.					
3	Clear objectives and scope helped in meeting project deadlines.					
4	Well defined and effectively communicated objective and scope helped to complete a project within scope.					

Section C: Project Success

Q. N.	Question Description	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	The projects were completed within the scheduled timeline.					
2	The projects were completed within the allocated budget.					
3	The project deliverables were met the specified quality standards.					
4	The projects were delivered in accordance with the defined scope.					

Section D: Barriers to Project Success in Construction firms in the case of ERA

Q. N.	Description of factors affecting Project Feasibility Study Practice	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Insufficient support from management is a barrier to project success					
2	Poor allocation of resources affects project completion					
3	Lack of coordination among team members is a barrier to project success					
4	Lack of technical expertise within the team impedes project success.					
5	Inadequate use of modern technology affects project outcomes.					
6	Lack of adequate funding disrupts project progress.					
7	Shortage of skilled labor affects project delivery					

Interview for Key Informants

Addis Ababa University College of Business and Economics

School of Commerce

Masters of Art in Project Management

My name is Rodas Mulugeta; I am a post graduate student in Master of Arts in Project Management at Addis Ababa University School of Commerce. As part of my studies I am conducting a project work entitled Factors Influencing Project Success in the Construction Firm: In the Case of Projects Administered under Ethiopian Road Authority.

Therefore, I would like to express my deepest gratitude for your cooperation in answering the following interview questions. I would like to assure you that, the data being collected from you will be presented anonymously, that it will be kept confidential and will be used for the intended academic purpose only.

Q. N.	Questions Description	Your Answers
1	How would you describe the level of commitment from leadership towards project success in the Ethiopian Roads Authority?	
2	How effective is the decision-making process in your projects?	
3	How thorough is the project planning process in your organization?	
4	How would you assess the effectiveness of communication among project stakeholders?	
5	How accurate and reliable are your project budgets?	
6	How effective is your process for identifying and mitigating risks in projects?	
7	How involved are stakeholders in the project lifecycle?	
8	What barriers do you usually face during the life cycle of the Project?	
9	Is there anything else you would like to share that hasn't been covered by these questions?	