CONTRACT ADMINISTRATION BEST PRACTISES: LESSONS FROM ETHIOPIAN ENGINEERING CORPORATION-CONSTRUCTION SECTOR:

A Thesis Submitted to Addis Ababa University College of Business and Economics Department of Management for the Degree of Master of Science in International Business

By: Yohannes Ameha

Advisor: Dr. Hailemariam G.

May, 2025

Addis Ababa, Ethiopia

CONTRACT ADMINISTRATION BEST PRACTISES: LESSONS FROM ETHIOPIAN ENGINEERING CORPORATION-CONSTRUCTION SECTOR: A CASE STUDY IN FEDERAL JUDGES APARTMENT RENOVATION PROJECT

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STATEMENT OF DECLARATION

I, Yohannes Ameha, declare that this thesis entitled: "CONTRACT ADMINISTRATION BEST PRACTICES: LESSONS FROM ETHIOPIAN ENGINEERING CORPORATION-CONSTRUCTION SECTOR: A CASE STUDY IN FEDERAL JUDGES APARTMENT RENOVATION PROJECT" and submitted in partial fulfillment of the requirements for the degree of Master of Science in International Business is the outcome of my own effort and study. All sources of materials used for the study have been duly acknowledged. I have produced it independently with only the guidance and suggestions of the thesis advisor, Dr. Hailemariam G. The study complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Name Yohannes Ameha Signature  Date 31/05/2025

STATEMENT OF CERTIFICATION

This is to certify that the thesis prepared by Yohannes Ameha, entitled "CONTRACT ADMINISTRATION BEST PRACTICES: LESSONS FROM ETHIOPIAN ENGINEERING CORPORATION-CONSTRUCTION SECTOR: A CASE STUDY IN FEDERAL JUDGES APARTMENT RENOVATION PROJECT" and submitted in partial fulfillment of the requirements for the degree of Master of Science in International Business complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Approved by:

Advisor: Dr. Hailemariam G.__

Signature: _____

Date: ___31/05/2025_____

DECLARATION

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COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT

This is to certify that the thesis prepared by Yohannes Ameha, entitled: "CONTRACT ADMINISTRATION BEST PRACTISES: LESSONS FROM ETHIOPIAN ENGINEERING CORPORATION-CONSTRUCTION SECTOR: A CASE STUDY IN FEDERAL JUDGES APARTMENT RENOVATION PROJECT" and submitted in partial fulfillment of the requirements for the degree of Master of Science in International Business complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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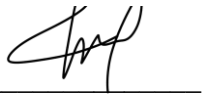
Amare Abawa (PhD)		23/06/2025
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LIST OF ACRONYMS

BIM: Building Information Modeling

PPA: Public Procurement Agency

FIDIC: Fédération Internationale Des Ingénieurs-Conseils/International Federation of Consulting Engineers

SGS: School of Graduate Studies

SPSS: Statistical Package for the Social Sciences

PMI: Project Management Institute

NASPO: National Association of State Procurement Officials

LCA: Lifecycle Assessment

LCCA: Life Cycle Cost Analysis

IoT: Internet of Things

GIS: Geographic Information Systems

ABSTRACT

This thesis examines the best practices of contract administration within Ethiopia's Engineering Corporation Construction Sector, with a specific focus on the Federal Judges Department Renovation Project. The study aims to identify strengths and areas for improvement in contract administration practices, including contract clarity, financial management, risk mitigation, stakeholder communication, and the implementation of Building Information Modeling (BIM). Using a mixed-methods approach, the research combines quantitative data from structured Likert scale questionnaires with qualitative insights from semi-structured interviews. The study population consists of professionals directly involved in contract administration, including project managers, office engineers, legal experts, and contractors. Key findings indicate that while contract clarity and communication are generally effective, there is a need for more consistent communication and timely updates to contract documents. Risk management practices are robust but require more consistent application throughout the project lifecycle. Financial management practices demonstrate strong adherence to budgetary constraints and progress payment schedules, though challenges in managing cost escalations and delayed payments highlight areas for improvement. Performance monitoring and documentation practices are established but could benefit from more timely corrective actions and standardized reporting. BIM usage is found to be moderately effective in enhancing various aspects of contract administration, though its adoption within the organization is still limited. The study concludes that while several contract administration practices are effective, there are substantial opportunities for improvement. Recommendations include enhancing contract clarity and communication, improving risk management consistency, strengthening financial management practices, increasing the timeliness in performance monitoring, and expanding the adoption of BIM. Future research could explore the integration of BIM technology across different project phases and investigate the long-term effects of improved contract administration practices on project outcomes.

Key Words: *Contract Administration, Risk Management, Performance Monitoring, Building Information Modeling (BIM)*

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

The construction industry remains a cornerstone of economic development, significantly contributing to a nation's gross fixed capital formation (GFCF) (Turin, 1969). It enhances the utility and extends the life of buildings and infrastructure, thereby driving economic growth. The World Bank (1984) highlighted the construction industry's extensive inter-sectoral linkages and high value-added-to-output ratio, making it a critical driver of economic development. Ofori (1990) also emphasized the construction industry's role in fostering economic development by providing the physical infrastructure necessary for other sectors to thrive.

Contract administration is a critical component of construction project management. It involves the management and oversight of contracts throughout their lifecycle, ensuring that all parties adhere to agreed terms and conditions. Effective contract administration minimizes disputes, enhances project outcomes, and ensures clarity in roles and responsibilities (PMI, 2021). It provides a structured framework for managing project deliverables, timelines, and financial aspects, ultimately leading to successful project completion.

In Ethiopia, the construction sector has experienced rapid growth, driven by infrastructure development projects such as roads, railways, dams, and residential buildings. Despite its economic significance, the industry faces challenges related to safety, risk, and time management (Hailemeskel Tefera, 2021). Yenealem Fantahun (2020) found that 88% of road and 100% of railway construction projects in Ethiopia were delayed, with 80% of road and 100% of railway projects experiencing cost overruns. These findings highlight the need for improved contract administration practices to enhance project performance and reduce delays and cost overruns.

In recent years, Building Information Modeling (BIM) has emerged as a transformative technology in the construction industry, offering significant benefits for contract administration. BIM facilitates collaboration among stakeholders by providing a centralized digital platform for project information. It enhances design coordination, reduces errors and omissions, and improves project documentation (Eastman et al., 2011). The implementation of BIM can lead to better risk management, improved communication, and more efficient project delivery. According to a study by Li et al. (2024), BIM significantly improved collaboration and efficiency in infrastructure projects by providing a unified platform for information sharing. Another study by Jamil and Fathi (2019) highlighted how BIM-based projects experienced fewer disputes and better alignment between project participants due to improved communication and clarity of contract terms.

Given the importance of contract administration in ensuring project success and the specific challenges faced by the construction industry in Ethiopia, this study aims to investigate the practices of construction project contract administration within Ethiopia's engineering and construction sector. Using the Federal Judges Apartment Renovation Project as a case study, the research will examine various aspects of contract administration, including contract clarity, financial management, risk mitigation, stakeholder communication, and the implementation of BIM. By identifying best practices and areas for improvement, the study seeks to provide valuable insights and recommendations for enhancing contract administration in Ethiopia's construction landscape.

1.2. Problem Statement

The construction industry in Ethiopia plays a pivotal role in the country's economic development, yet it is beset by challenges that significantly impact project execution and outcomes. A notable concern is the prevalence of poor contract administration practices, which have led to frequent delays and cost overruns in construction projects. Research has highlighted that 88% of road and 100% of railway construction projects in Ethiopia experience delays, with 80% of road and 100% of railway projects exceeding their budgets

(Yenealem Fantahun, 2020). These delays and cost overruns not only result in financial losses but also undermine the industry's competitiveness and ability to attract investment. Inefficient contract administration practices are identified as critical contributors to these issues. Key challenges include poor communication between stakeholders, inadequate risk management, and delayed progress payments (PMI, 2021). These problems often lead to disputes and project failures, further exacerbating the situation. While technologies like Building Information Modeling (BIM) offer potential solutions by enhancing information sharing and collaboration among stakeholders, their adoption in Ethiopia's construction sector remains limited (Eastman et al., 2011). This lack of technological integration further hinders the improvement of contract administration practices.

This study aims to address these gaps by providing an in-depth examination of the contract administration practices within Ethiopia's Engineering Corporation's Construction Sector. Using the Federal Judges Department Renovation Project as a case study, the research will explore various aspects of contract administration, including contract clarity, financial management, risk mitigation, stakeholder communication, and the implementation of BIM. By identifying best practices and areas for improvement, the study seeks to offer valuable insights and practical recommendations to enhance contract administration in Ethiopia's construction landscape. Additionally, the findings will contribute to the broader knowledge base in construction management, particularly in developing contexts like Ethiopia, and lay the groundwork for future research in this critical area.

1.3. Research Questions

1. What is the current level of contract clarity and communication in construction projects within the Ethiopian Engineering Corporation?
2. How effective are the current risk and dispute management practices in construction projects within the Ethiopian Engineering Corporation?
3. What is the current state of financial management practices in construction projects within the Ethiopian Engineering Corporation?
4. How effective are the current performance monitoring and documentation practices in construction projects within the Ethiopian Engineering Corporation?

5. What is the current extent and effectiveness of Building Information Modeling (BIM) usage in construction projects within the Ethiopian Engineering Corporation?

1.4. Objective of the Study

1.4.1. General Objective

The general objective of this research is to investigate the practices of construction project contract administration within the Ethiopian Engineering Corporation's Construction Sector.

1.4.2. Specific Objectives

1. To assess the current level of contract clarity and communication in construction projects within the Ethiopian Engineering Corporation.
2. To evaluate the effectiveness of current risk and dispute management practices in construction projects within the Ethiopian Engineering Corporation.
3. To examine the current state of financial management practices in construction projects within the Ethiopian Engineering Corporation.
4. To analyze the effectiveness of current performance monitoring and documentation practices in construction projects within the Ethiopian Engineering Corporation.
5. To investigate the extent and effectiveness of Building Information Modeling (BIM) usage in enhancing contract administration practices within the Ethiopian Engineering Corporation.

1.5. Significance of the Study

This study provides valuable insights into the current contract administration practices within the Ethiopian Engineering Corporation's construction sector, highlighting strengths and areas for improvement. It offers practical recommendations to enhance project efficiency, reduce delays, and minimize cost overruns, benefiting project managers, contractors, and stakeholders by guiding them in adopting best practices. Additionally, the study contributes to the broader knowledge base in construction management, particularly

relevant to developing contexts like Ethiopia. It lays the groundwork for future research in contract administration and related areas.

1.6. Scope of the Study

This study focuses on the contract administration practices within the Ethiopian Engineering Corporation's Construction Sector, specifically examining key aspects such as contract clarity, financial management, risk mitigation, stakeholder communication, and the implementation of Building Information Modeling (BIM). The research employs a mixed-methods approach, utilizing both quantitative data collected through Likert scale questionnaires and qualitative data gathered from semi-structured interviews with professionals directly involved in contract administration, including project managers, office engineers, legal experts, and subcontractors.

1.7. Limitations of the Study

The study is descriptive in nature and focuses on the contract administration practices within Ethiopia's Engineering Corporation's Construction Sector. The findings may not be fully generalizable to other organizations or sectors due to the specific context of the study. Additionally, while a mixed-methods approach enhances the depth of insights, the reliance on self-reported data from respondents could introduce response biases, potentially affecting the accuracy of the results. Future research could address these limitations by expanding the sample size and incorporating additional data collection methods to further enrich the understanding of contract administration practices.

1.8. Definition of Terminologies

Contract Administration: Refers to the management and oversight of contracts throughout their lifecycle, from initial negotiation and agreement to final completion and closeout. It involves ensuring that all parties involved in a construction project adhere to the agreed terms and conditions, thereby minimizing disputes and enhancing project outcomes.

Building Information Modeling (BIM): A digital technology-based process that enables the creation and management of digital models covering all stages of a project's lifecycle. BIM integrates geometric and non-geometric information related to cost, materials, and construction processes, facilitating collaboration among various stakeholders.

Stakeholders: Individuals or organizations with an interest or concern in the construction project. This includes project owners, contractors, subcontractors, architects, project managers, and any other parties affected by the project outcomes.

Contract Clarity: The clear and explicit definition of roles, responsibilities, expectations, and obligations within a contract to reduce ambiguity and ensure all parties have a shared understanding.

Risk Management: The process of identifying, assessing, and prioritizing risks followed by coordinated efforts to minimize, monitor, and control the probability or impact of uncertain events on the project.

Performance Monitoring: The systematic process of collecting, analyzing, and interpreting data to assess whether a project is on track to meet its objectives and deliverables as specified in the contract.

Change Management: The process of managing alterations or deviations from the original project scope, timeline, or budget as defined in the contract, including the implementation of change control clauses and procedures.

Dispute Resolution: The methods and procedures used to address and resolve conflicts or disagreements between contracting parties, aiming to maintain positive relationships and minimize project disruptions.

1.9. Outline of the study

The research is presented in five chapters. Chapter One introduces the topic, problem, research questions, and significance. Chapter Two reviews relevant literature to establish the theoretical foundation. Chapter Three details the methodology, including research design, data collection, and analysis techniques. Chapter Four presents the results from both explanatory and regression analyses. Chapter Five concludes by discussing the findings, limitations, and recommendations.

CHAPTER TWO

2. RELATED LITERATURE REVIEW

2.1. Basic definition of contract

A contract is a written agreement between or among two or more parties whereby each party promises to do or not to do something and agrees to terms (conditions and Warranties) set out in the contract (L. Teferi, 2022).

The Ethiopian civil code further elaborates on a contract stating is an agreement whereby two or more persons between themselves create, vary, or extinguish obligations of a proprietary nature (Ethiopian civil code, Art. 1675) Contracts serve as a crucial means of establishing explicit expectations and obligations between involved parties, and it is through contract administration that these expectations are reliably fulfilled (J. Cunanan, 2024).

Conditions of contract define the basic rights, responsibilities, and relationship of the parties involved or the rules by which each party must comply. Conditions of contract mostly consist of: General Conditions & supplementary conditions. General conditions contain general clauses that establish how the project is administered and are intended to be used unchanged for every project. It is usually in the form of a published standard document that includes written principles common to most construction contracts. Supplementary conditions are specially prepared to modify or supplement the general conditions as needed to accommodate the unique requirements of a specific project. (T. Tesgaye, 2020),

A valid contract requires mutual assent, which means that all parties involved must agree to the terms and conditions of the contract. Furthermore, all parties entering a contract must have the legal capacity to do so. This means they must be of legal age and mentally competent to understand the terms and obligations of the contract. (Cornell Law School, 2022).

2.2. Elements of contract

In Ethiopian Civil Code Art 1678 states that no valid contract shall exist unless it consists of the following elements:

1. The parties are capable of contracting and give their consent sustainable at law
2. The object of the contract is sufficiently defined and is possible and lawful
3. The contract is made in the form prescribed by law, if any

2.3. Construction contract definition

A construction contract is a legally binding agreement between parties involved in a construction project. This can include property owners, architects, contractors, subcontractors, and suppliers. The contract outlines the scope of work, payment terms, timelines, and responsibilities of each party. (S.Debnam, 2024)

The Ethiopian Civil Code Article 2610 further elaborates a construction contract as a contract of work and labor whereby one party, the contractor, undertakes to produce a given result, under his responsibility, in consideration of a remuneration that the other party, the client, undertakes to pay him. Moreover, Article 2876 explained that a contract whereby one of the parties undertakes to deliver to the other party a house, a flat, or another building that does not yet exist, is a contract of work and labor relating to immovable and not a contract of sale.

It thereby provides the rights and obligations of each party. The primary aim of the construction contract is to define roles and responsibilities, achieve commitment, enable communication, manage risks, and reduce problems and conflicts to promote positive relationships among contracting parties (M. Gunduz, Ph.D; and H. A. Elsherbeny, PhD, 2020).

Construction contracts are vital in that they reduce risks involved when managing a project and ensure that it is a success. They avoid any possible dispute or misunderstanding since it

is a written agreement. It will be used in the resolution of differences arising. This, therefore, safeguards the interests of all the parties involved. They are also used as critical tools for contractor and subcontractor management, as they specify all the terms and conditions of the relationship (RIB Unite, 2024).

2.4. Types of Construction Contracts

There are several types of contracts based on pricing arrangements according to which Contractors are paid for their work done. Many variations and combinations can be used; however, the most used types and criteria are discussed here:

1. Lump sum contracts: also called fixed price contracts, establish a fixed price for all of the materials and labour required to complete a job. This is the most basic and common type of construction contract. Lump sum contracts work especially well for projects with a well-defined scope of work, which enables contractors to make an accurate estimate of the project's cost. Lump sum contracts are helpful for property owners during the bidding phase, but during construction, owners have to be mindful that the general contractors are incentivized to come in under budget. For that reason, many owners choose to hire a construction manager as their representative on the job site (R. O'Donnell and D. Gray, 2024).

Lump-sum contracts can seem to favor the owner over the contractor, but there are ways to balance the scales. Many contractors charge an additional percentage for signing lump-sum contracts, as they'll be taking a higher risk. Additionally, owners often put incentive programs in place to reward jobs being completed early (W. Malsam, 2024).

2. Cost-plus contracts: In these construction contracts, the client will pay for the actual costs incurred for the construction along with some extra fee or percentage amount for profit. This is the best contract to be used for projects that have scopes of work with uncertainties or possibly there might come changes during construction (RIB Unite, 2024).

With cost-plus contracts, both direct and indirect costs are covered, and markup is typically calculated as a specific percentage of the total costs. Direct costs are those specifically related to the project (like labor, materials, or equipment just for the job) while indirect costs are the overhead required to keep the business running (like insurance, and office space) (R. O'Donnell and D. Gray, 2024).

3. Unit price contracts: used when an owner wishes to buy a large quantity of a certain product. Each product is a unit and costs a set price. These items can also often be charged in bulk quantities for a reduced price. Unit pricing contracts are advantageous when an owner knows exactly how much of a specific product they need, such as when a bill of quantities has been drafted or a material takeoff has been done. Using this type of contract and buying all the units at once is also a good way to protect against potential future inflation of material prices. By buying all of the items at once, owners generally pay less than they would in the future and don't have to worry about drawing up future contracts (W. Malsam, 2024).

4. Time and material contracts: they contain specific hourly labor rates and material prices. This form of contract is frequently used when the nature of the work is relatively small, or the scope of work is not clear. The owner pays for the actual labor and materials plus an agreed-upon percentage (RIB Unite, 2024).

2.5. Parties involved in construction contracts

When constructing a project, many parties/specialists are involved in the process of planning, designing, financing, monitoring, and building. Each of these parties has a different role to play, but they are temporarily joined together for a certain period by a legal contract. However, this legal contract/agreement is signed by two main parties. According to Marta Teshome (2019), The Owner, the first party, intends to carry out certain works for the implementation of a project and is sponsoring the works. The first party then appoints a Contractor, the second party, to execute the works.

2.5.1. The Owner

The Owner, when planning to construct a project, will have to face many challenges, such as time and cost constraints, program and quality goals, selection of a management team, a Constructor, etc. The Owner decides the scope, program, and budget for a project before starting the project design (Surahyo, 2018).

2.5.2. The Consultant

The employer's representative is generally a specialized engineering professional such as a project manager or quantity surveyor. More often than not, the role of the employer's representative, while fulfilled by a named individual, is supported by a team of engineering or construction professionals who have likely been involved in the project before the execution of the contract with the contractor. The team supporting the employer's representative has usually worked with the employer to prepare the specification for the works and the tender documents, may have advised on various issues such as risk, insurance arrangements, and contracting methodology, and is likely to have involvement in the letting and review of the tender submissions for the works. As such, by the time the contract is executed with the contractor, the employer's representative is generally very familiar with the project, the requirements of the works, and the contract. Direct and manage project execution (S.Stiegler, Vinson & Elkins, 2019)

2.5.3. The Contractor

The 'contractor' is the contracting party responsible for carrying out the works. Depending on the type of construction contract, the contractor can either perform the works itself or elect to subcontract part of the works to specialist subcontractors and designers. The nature and scope of works under the particular construction contract will dictate the role and responsibilities of the contractor (S.Stiegler, Vinson & Elkins, 2019)

2.5.4. Subcontractor

Subcontracting the works to trade or design subcontractors is a common feature in modern construction contracts. This may be for reasons attributable to the specialist nature of the works or simply the need for additional resources or labour. Whatever the reasons may be, the requirements and restrictions around subcontracting are typically dealt with in detail in the contract (S.Stiegler, Vinson & Elkins, 2019).

Subcontractors are any natural person, private or government entity, or a combination of the above, including its legal successors or permitted assigns who have a contract with the Contractor to carry out a part of the Work in the Contract, which includes work on the Site (E.D.Debelo, Z.B.Weldegebriel, 2022)

2.5.5. Architects

The traditional role of the architect was that of the principal's representative as well as the designer of the works. The law regarding the obligations of construction professionals has, therefore, developed from this initial position. However, the role has evolved, and in larger projects, it is usually performed by other construction professionals such as engineers or project managers (S.Stiegler, Vinson & Elkins, 2019).

The duties of an architect could be expected to include the following:

- Undertaking a review and assessment of the site (in particular, geological and geotechnical characteristics of the site) to advise on ground conditions;
- Advising an employer to the use of the land and any limitations thereon, such as planning and development matters, rights of adjacent owners or restrictive covenants, and other access issues that may have an impact on the performance of the works;
- Advising the employer of project execution issues, such as design development, cost planning, and indicative programming;
- Preparing preliminary concept designs and initial specifications for the performance of the works, whether for an approval process, cost planning or for tender purposes;

- Advising on project risk identification and potential contracting methodology;
- Preparing documents for and thereafter managing the tender process for the works, including a review of the submitted tenders and providing recommendations and analysis of the submitted tenders; and
- Monitoring the execution of the works by the contractor and, in some situations, acting as a certifier of the works.

2.5.6. Project Managers

The role of a project manager may cover many of the activities traditionally performed by an architect. For example, project managers may have a greater role in cost planning and analysis from a project feasibility perspective, have a contract management role, and may well indeed have a level of input from a procurement aspect. These duties are, of course, variable and are dependent on the contracting framework with the contractor (S.Stiegler, Vinson & Elkins, 2019).

2.6. Contract Delivery Method

Owners and projects have different needs, such as urgent time frames, funding pressures, increased safety and quality requirements, etc. Once the project objectives are established and the Owner's capabilities are defined, the role of the construction professional is to identify Owner's needs and propose a means to deliver a completed project that satisfies both the needs of the Owner and objectives of the project (M.Teshome, 2019)

2.6.1. Design-Bid-Build-Method

Design-Bid-Build-Method refers to the sequential and phased project delivery method involving three key players: the owner, the designer (architect), and the general contractor (builder). In this contractual structure, the owner contracts with the designer and the contractor, respectively, monitoring the activities of the designer and the contractor to ensure compliance with the contract requirements the owner signs a contract with the designer first

and then signs an agreement with the contractor through bidding after the design contract is completed. There is no direct connection between the designer and the contractor, and all information needs to be transmitted after the owner's decision (Q. Zhong, H. Tang and C. Chen, 2022)

2.6.2. Design and Build Method

Under this method, the design and construction are carried out by one entity. The owner only needs to sign one contract covering architecture, engineering, and construction and contracts with a single enterprise responsible for design and construction. The owner will give priority to the DB method when he cannot bear too much risk and responsibility. Because it is a single entity responsible for design and construction, it avoids the possible opposition in DBB. Since the contractor is liable for all coordination efforts, the owner's contract administration, and site representative risks and costs are reduced (Q. Zhong, H. Tang and C. Chen, 2022).

2.7. Standardize National and International Construction Contracts used in Ethiopia

2.7.1. Public Procurement Agency (PPA) Contracts

The Ethiopian Public Procurement Agency (PPA) is a government organization founded to ensure that public procurement in Ethiopia is carried out transparently, fairly, and in accordance with the nation's legal framework. The PPA develops and standardizes procurement procedures, including those for construction contracts, to encourage efficient and ethical practices in government projects.

Ethiopian Public Procurement Agency (PPA) contracts, particularly those used in construction, are designed to align with the country's public procurement laws and address specific national needs. The contracts are based on the **Public Procurement and Property**

Administration Proclamation (Proclamation No. 649/2009), which governs procurement procedures for public entities.

2.7.2. FIDIC

FIDIC (Fédération Internationale Des Ingénieurs-Conseils/International Federation of Consulting Engineers) is a renowned international engineering association that was founded in 1913 by France, Belgium, and Switzerland. 114 Since then, FIDIC has contributed to the construction, engineering, and infrastructure industries by providing risk-balanced contractual standards that are designed for different infrastructure projects (C. Rubanovici, 2021)

FIDIC operates with a various suite of contracts, but some of the most used forms are the 1999 versions, especially the following three books: - The Red Book, Conditions of Contract for Construction – used for works where the employer provides the design; - The Yellow Book, Conditions of Contract for Plant and Design-Build – used for works where the contractor provides the design based on the employer's requirements which are an integrant part of the contract; - The Silver Book, Conditions of Contract for EPC/Turnkey Projects – where the contractor will assume the biggest part of risks and will deliver the project "on key" (C. Rubanovici, 2021).

2.8. Contract Administration

Contract administration refers to the management and oversight of a contract throughout its lifecycle, from the initial negotiation and agreement phase to the final completion and closeout. (Dr. A. K. Mishra, 2020)

Contract Administration involves those activities performed after a contract has been awarded to determine how well the contractor performed to meet the requirements of the contract. It encompasses all dealings between the client, consultant, and contractor from the time the contract is awarded until the work has been completed and accepted or the contract terminated, payment has been made, and disputes have been resolved. As such, contract

administration constitutes the primary part of the procurement process that assures the client gets what it paid for. In contract administration, the focus is on obtaining supplies and services, of requisite quality, on time, and within budget. While the legal requirements of the contract are determinative of the proper course of action of officials in administering a contract, the exercise of skill and judgment is often required to protect effectively the public interest (Dr. A. K. Mishra, 2020)

The professionals responsible for a company's contract administration focus their work on the planning and execution of contracts. The planning process often includes sourcing potential contracting partners, for example via sending out requests for proposal. In addition, contract administrators help with ironing out the details of the contract arrangement, working with prospective partners to negotiate on contract matters such as price, delivery schedules, and performance expectations. (T. Naughter, 2021)

2.9. Contract Administration Best Practices

2.9.1. Contract monitoring and administration plan

A Contract Monitoring & Administration Plan documents the contracting process from the development of the specifications to the contract closeout (NASPO, 2023).
Activities involved in this plan include: -

- Determining the sequence of activities, dependencies, and performance levels.
- Developing a plan with start and end dates, milestones, and monitoring requirements. - Establishing clear communication channels.
- Providing access to necessary facilities, equipment, and information.
- Regularly monitoring contractor activities to identify issues.
- Communicating with the contractor to review progress and address problems.
- Maintaining documentation of monitoring activities and resolutions.
- Verifying the receipt of services, goods, and reports.
- Ensuring performance measures and reports meet contract standards.

2.9.2. Contract Kick off Meeting

The contract kick off meeting is held prior to the work start date with representatives from both parties (the contractor and state entity) in attendance. These meetings are important communication tools to use at the beginning of contract performance to discuss the roles and responsibilities of all parties to determine how performance should be evaluated, documents should be reported, among other things (NASPO, 2023).

2.9.3. Contract Monitoring

Contract monitoring is a key component of contract administration and is the key to enforcing the contract. The goal is to ensure the contract is satisfactorily performed and the responsibilities of both parties are properly discharged. An effective contract monitoring process mitigates risk (the probability of an event or action having an adverse effect on the agency) (NASPO, 2023).

2.9.4. Risk Assessment

An effective risk assessment model should help focus monitoring resources on contractors or performance activities with the highest risk of noncompliance

- Evaluate the contractor's track record and that of similar contractors.
- Consider how poor performance can affect agency services and stakeholder satisfaction.
- Account for turnover among key personnel, which may disrupt service.
- Review any previous complaints or inquiries related to the contractor.
- Assess the total dollar amount of the contract in relation to expected outcomes.
- Analyze desk review findings, focusing on discrepancies in performance and budget.
- Identify any significant issues with payment requests as potential warning signs.

- Check results from desk and expenditure document reviews for reliability.
- Consider monitoring visit outcomes from other agency divisions for additional insights.
- Ensure the contractor has relevant experience with the specific work to be performed.

2.9.5. Monitoring Contractor Performance

The contractor's performance (both satisfactory and non-satisfactory) should be documented. All performance problems or issues should be documented and should be addressed quickly, before issues grow (NASPO, 2023).

2.9.6. Dispute Resolution

Mastering effective dispute resolution is essential for successful contract administration. By addressing issues promptly, we can prevent them from escalating into larger problems. Identifying concerns early in the performance period, maintaining clear and constructive communication, and documenting the process in writing are vital steps to ensure a smooth resolution (NASPO, 2023).

General Steps Governing Dispute Resolution

- Identify the problem
- Research facts
- Evaluate
- Discuss with the contractor and write the plan of action
- Meeting strategy

2.9.7. Payment process

The costs must be in accordance with the contract payment terms. The total payments must not exceed the contract limits. All payments to the contractor are dependent upon and subject

to the availability of funds to the agency. Invoices must be reviewed to ensure the contractor's billing coincides with the contract progress. This requires the contractor's progress to be measurable. If a requested payment exceeds the contractor's progress, the agency needs to request an explanation from the contractor prior to approval of the invoice (NASPO, 2023)

2.9.8. Closing the contract

The purpose of closeout activities is to verify the parties to the contract have fulfilled their contractual obligations and there are no responsibilities remaining. It is the responsibility of the agency to ensure the work performed under a contract has been completed in a satisfactory manner and the contract is ready for closeout prior to final payment (NASPO, 2023).

2.10. BIM Modelling in Contract Administration

Building Information Modeling (BIM) is a transformative technology that has revolutionized the construction industry by providing a centralized digital platform for project information. BIM facilitates collaboration among stakeholders, enhances design coordination, reduces errors and omissions, and improves project documentation. It integrates geometric and non-geometric information related to cost, materials, and construction processes, making it an invaluable tool for contract administration (Eastman et al., 2011).

2.10.1. Benefits of BIM in Contract Administration

- **Enhanced Communication and Clarity**: BIM provides a visual representation of the project, enabling stakeholders to better understand project requirements and their respective roles and responsibilities. This reduces ambiguity and miscommunication.
- **Improved Risk Management**: BIM allows for the identification and mitigation of potential risks early in the project lifecycle through simulations and clash detection.

- **Efficient Performance Monitoring**: BIM enables real-time monitoring of project progress against the agreed schedule, facilitating timely detection of deviations and prompt corrective actions.
- **Streamlined Documentation**: BIM serves as a centralized repository for all project documents, ensuring that contract documents are consistently updated and accessible to all stakeholders.

2.10.2. Current BIM Adoption in Ethiopia

Despite its potential benefits, the adoption of BIM in Ethiopia's construction sector remains limited. According to a study by Aschalew and Peng (2022), only a small percentage of construction projects in Ethiopia utilize BIM. The primary barriers to adoption include lack of awareness, limited technical expertise, and high implementation costs. However, there is a growing recognition of BIM's potential to enhance project outcomes, and several organizations are beginning to explore its implementation.

2.10.3. Case Studies on BIM Implementation

Research from other countries demonstrates the positive impact of BIM on contract administration. For example, a study by Li et al. (2024) found that BIM significantly improved collaboration and efficiency in infrastructure projects by providing a unified platform for information sharing. Similarly, a case study by Jamil and Fathi (2019) highlighted how BIM-based projects experienced fewer disputes and better alignment between project participants due to improved communication and clarity of contract terms.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research design and methodology used in the study. It describes the approach, sampling design, data sources, and analysis methods employed to investigate the contract administration practices within the Ethiopian Engineering Corporation's Construction Sector.

3.2. Research Design

The study employs a descriptive research design. This design is suitable for systematically describing and documenting the characteristics of contract administration practices within the organization. It provides an accurate and detailed representation of the current situation without manipulating variables or establishing causal relationships.

3.3. Research Approach

The research adopts a mixed-methods approach, combining both quantitative and qualitative data collection and analysis techniques. Quantitative data is collected through structured questionnaires incorporating Likert scale questions, allowing for the measurement and quantification of variables related to contract administration practices. This enables the identification of patterns and trends. Qualitative data is gathered through semi-structured interviews, providing rich insights and contextual understanding of the experiences and perspectives of professionals involved in contract administration. This dual approach ensures a comprehensive exploration of the research questions and objectives.

3.4. Sampling Design

3.4.1. Target Population

The target population consists of all 50 professionals directly involved in contract administration within the Ethiopian Engineering Corporation's Construction Sector.

3.4.2. Sampling Frame

The sampling frame includes all individuals who have been involved in contract administration for the Federal Judges Apartment Renovation Project within the past 7 months. A census approach is used, meaning all individuals in the target population are included in the study. This ensures comprehensive data collection from every member of the population. Given the census approach, there is no need of sampling for a population of 50, ensuring full coverage of the target population.

3.5. Sources of Data

The study relies on primary data collected through two main sources: structured questionnaires and semi-structured interviews. The questionnaires, incorporating Likert scale questions, are designed to gather quantitative data on respondents' perceptions and experiences related to contract administration practices. Complementing this, semi-structured interviews are conducted to collect qualitative insights, allowing for an in-depth exploration of the themes identified in the questionnaires.

3.6. Data Source and Collection Method

Quantitative data is collected using structured questionnaires distributed to the target population. The questionnaires include Likert scale questions to assess respondents' perceptions and experiences related to contract administration practices. Qualitative data is gathered through semi-structured interviews with selected professionals directly involved in

contract administration. The interviews include open-ended questions to explore respondents' experiences and perspectives in greater depth. This mixed-methods approach ensures a comprehensive understanding of the contract administration practices within the organization.

3.7. Reliability and Validity

3.7.1. Reliability Test

Table 3. 1 Reliability

Variable	Cronbach's Alpha	N of Items
Contract Clarity & Communication Status	0.894	6
Risk & Dispute Management Effectiveness	0.848	7
Financial Management Practices Status	0.917	6
Performance Monitoring & Documentation Effectiveness	0.904	7
BIM Usage in Contract Administration	0.870	5
Overall	**0.887**	**31**

Source: Own field survey, 2025

The reliability test results indicate strong internal consistency across all variables related to contract administration practices. The "Contract Clarity & Communication Status" variable, comprising 6 items, achieves a Cronbach's Alpha of 0.894, reflecting high reliability in measuring how clearly contract terms and communications are managed. The "Risk & Dispute Management Effectiveness" variable, with 7 items, attains a Cronbach's Alpha of 0.848, suggesting consistent measurement of risk and dispute management practices. The "Financial Management Practices Status" variable, also with 6 items, shows a high Cronbach's Alpha of 0.917, indicating reliable assessment of financial management aspects. The "Performance Monitoring & Documentation Effectiveness" variable, consisting of 7 items, reaches a Cronbach's Alpha of 0.904, demonstrating reliable evaluation of performance monitoring and documentation practices. When considering all 31 items collectively, the overall Cronbach's Alpha remains robust at 0.887. These results confirm that the questionnaire items are highly correlated and effectively measure the respective constructs, ensuring the data's reliability for subsequent analysis.

3.7.2. Validity Test

To ensure the validity of the data, the study conducted a pre-test with ten questionnaires administered to a representative sample. This pre-testing aimed to confirm that the questions were interpreted consistently and accurately. Feedback from the pre-test was invaluable for refining the wording of the questions, eliminating any ambiguities or potential misinterpretations. These revisions enhanced the clarity and quality of the final questionnaire, establishing a solid foundation for the study's analysis and ensuring that the questionnaire effectively measures the intended constructs related to contract administration practices.

3.8. Data Analysis Methods

Data analysis is conducted using IBM SPSS Statistics. Descriptive statistics (mean, standard deviation) are used to summarize the data. Frequencies and percentages are calculated to provide a clear overview of respondents' perceptions and experiences.

3.9. Ethical Considerations

The study adheres to ethical guidelines by ensuring participant confidentiality and voluntary participation. Respondents are informed about the purpose of the study and how their data will be used. All data is anonymized to protect individual identities.

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

4.1. Introduction

This chapter delves into the analysis, presentation, and interpretation of the data collected through questionnaires. After a meticulous check for consistency, the questionnaires were coded and fed into SPSS for analysis. Descriptive statistics, including frequency distributions and percentages, were employed to analyze the general data. To evaluate the various facets of contract administration practices within the Ethiopian Engineering Corporation's Construction Sector, means and standard deviations were calculated.

The analysis focuses on the practices related to contract administration. The findings are exhibited in tables, offering a comprehensive overview of the collected data. This chapter aims to present the descriptive statistics that aid in understanding the trends and patterns in contract administration practices within the organization.

4.2. Response Rate of Respondents

Table 4. 1 Response Rate

Response Rate	Frequency	Percentage
Filled	47	94%
Not Filled	3	6%
Total	**50**	**100**

Source: Own field survey, 2025

The response rate table reveals that out of the total 50 distributed questionnaires, 47 were completed and returned, resulting in a 94% response rate. This indicates a high level of participation, with only a small number of unfilled surveys. The engagement level is strong, as the vast majority of surveys sent out were filled and returned, demonstrating a good response rate for the study.

4.3. The Demographic Characteristics of Respondents

Table 4. 2 Distribution of the Respondents' Demographic Data

		Frequency	Percent	Cumulative Percent
Gender	Male	25	53.2	53.2
	Female	22	46.8	100.0
	Total	**47**	**100.0**	
Age Group	18-25	33	70.2	70.2
	26-35	14	29.8	100.0
	Total	**47**	**100.0**	
Education Level	Bachelor's Degree	39	83.0	83.0
	Master's Degree	5	10.6	93.6
	3	3	6.4	100.0
	Total	**47**	**100.0**	
Years of Experience	Less than 2 Year	6	12.8	12.8
	2-5 Years	18	38.3	51.1
	6-10 Years	15	31.9	83.0
	More than 10 Years	8	17.0	100.0
	Total	**47**	**100.0**	
Occupation	Office Engineer	23	48.9	48.9
	Contractors	15	31.9	83.0
	Legal Personnel	2	4.3	87.2
	Project/ Section Manager	2	4.3	89.4
	Other	5	10.6	100.0
	Total	**47**	**100.0**	

Source: Own field survey, 2025

The demographic profile of respondents reveals a relatively balanced gender distribution, with 53.2% male and 46.8% female participants. This balance ensures that the insights gathered are not skewed toward one gender, providing a more comprehensive understanding of contract administration practices across different perspectives. The majority of respondents (70.2%) are aged between 18-25, indicating that younger professionals form a significant portion of the workforce involved in contract administration. This suggests that the construction sector is attracting a young workforce, which is crucial for the adoption of innovation and modern practices like Building Information Modeling (BIM).

A significant majority (83.0%) of respondents hold a Bachelor's Degree, while 10.6% hold a Master's Degree. This highlights a well-educated workforce, with most respondents having at least a Bachelor's Degree, which is essential for understanding and implementing the complex processes involved in contract administration. The varied years of experience among respondents further enrich the data, with 38.3% having 2-5 years of experience, 31.9% having 6-10 years, and 17.0% having more than 10 years. This diversity in experience levels ensures that the study captures both fresh perspectives and seasoned insights, providing a well-rounded view of contract administration practices.

Occupationally, office engineers form the largest group (48.9%), followed by contractors (31.9%). This distribution reflects the practical and technical nature of the sector, where robust contract administration is vital to support these roles effectively. The presence of legal personnel (4.3%) and project/section managers (4.3%) adds further depth to the insights, ensuring that various facets of contract administration are represented. These demographic characteristics collectively ensure that the study's findings are grounded in a diverse and representative sample of the construction sector's workforce, providing a solid foundation for understanding the trends and challenges in contract administration practices within the Ethiopian Engineering Corporation's Construction Sector.

4.4. Contract Clarity & Communication Status

Table 4. 3 Contract Clarity & Communication Status

No	*Items*	*Rating Scales*					*Mean*	*St. dev*
		1	*2*	*3*	*4*	*5*		
1	How often are contract terms clearly explained to stakeholders?	**0.00%**	**12.77%**	**57.45%**	**21.28%**	**8.51%**	**3.26**	**0.793**
2	How often do contracts explicitly define the roles and responsibilities of all parties involved?	**0.00%**	**19.15%**	**34.04%**	**34.04%**	**12.77%**	**3.40**	**0.948**
3	How often are project expectations aligned through formal stakeholder meetings?	**0.00%**	**10.64%**	**48.94%**	**31.91%**	**8.51%**	**3.38**	**0.795**
4	How often does written communication fully resolve misunderstandings between stakeholders?	**2.13%**	**14.89%**	**40.43%**	**36.17%**	**6.38%**	**3.30**	**0.883**
5	How frequently are project deliverables communicated in a timely manner?	**2.13%**	**10.64%**	**57.45%**	**27.66%**	**2.13%**	**3.17**	**0.732**
6	How often are contract documents updated to reflect project changes during the lifecycle?	**0.00%**	**19.15%**	**34.04%**	**40.43%**	**6.38%**	**3.34**	**0.867**
						Overall (aggregate) mean	***3.31***	***0.84***

Source: Own field survey, 2025

The above table presents the results for contract clarity and communication. For the item "How often are contract terms clearly explained to stakeholders?", 57.45% of respondents answered "Often" and 21.28% answered "Always", resulting in a mean of 3.26. This suggests that contract terms are frequently but not consistently communicated clearly to stakeholders. For "How often do contracts explicitly define the roles and responsibilities of all parties involved?", 34.04% said "Often", 34.04% said "Always", and a mean of 3.40 was obtained, indicating that roles and responsibilities are usually well-defined in contracts. When asked about project expectations alignment through formal meetings, 48.94% answered "Often" and 31.91% answered "Sometimes", with a mean of 3.38. This shows that

while formal meetings are a common practice, there is room for improvement in ensuring all stakeholders are aligned.

Regarding written communication resolving misunderstandings, 40.43% answered “Often”, but 14.89% and 2.13% answered “Sometimes” and “Rarely”, respectively, leading to a mean of 3.30. This indicates that while written communication is effective in many cases, it does not always succeed in resolving issues. For the timely communication of project deliverables, 57.45% answered “Often” and 27.66% answered “Always”, with a mean of 3.17. This implies that project deliverables are generally communicated on time. Lastly, concerning contract document updates to reflect project changes, 34.04% answered “Often”, 40.43% answered “Sometimes”, and 12.77% answered “Rarely”, resulting in a mean of 3.34. This suggests that while updates are made, they are not always done consistently throughout the project lifecycle.

The overall aggregate mean of 3.31 for contract clarity and communication indicates that while there are positive practices in place, there is a need for more consistency in these processes. The implications of these results are that improving the clarity and consistency of contract terms and communication methods could lead to better stakeholder understanding and fewer misunderstandings. More frequent updates to contract documents and ensuring written communication effectively resolves issues could enhance the contract administration process.

4.5. Risk & Dispute Management Effectiveness

Table 4. 4 Risk & Dispute Management Effectiveness

No	*Items*	*Rating Scales*					*Mean*	*St. dev*
		1	*2*	*3*	*4*	*5*		
1	How frequently are potential risks evaluated before contracts are signed?	**0.00%**	**0.00%**	**23.40%**	**55.32%**	**21.28%**	**3.98**	**0.675**
2	How often is risk assessed throughout the lifecycle of the contract?	**0.00%**	**8.51%**	**17.02%**	**51.06%**	**23.40%**	**3.89**	**0.866**
3	How often are risk management strategies included in the contract?	**0.00%**	**2.13%**	**19.15%**	**51.06%**	**27.66%**	**4.04**	**0.751**
4	How frequently are clear designations of responsibilities implemented in risk management strategies?	**0.00%**	**2.13%**	**10.64%**	**59.57%**	**27.66%**	**4.13**	**0.679**
5	How often do contracts include clear dispute-resolution procedures?	**0.00%**	**2.13%**	**27.66%**	**46.81%**	**23.40%**	**3.91**	**0.775**
6	How often are efforts made to resolve disputes through negotiation or mediation?	**0.00%**	**0.00%**	**36.17%**	**40.43%**	**23.40%**	**3.87**	**0.769**
7	How often are lessons learned from disputes used to improve future contracts?	**0.00%**	**2.13%**	**19.15%**	**48.94%**	**29.79%**	**4.06**	**0.763**
						Overall (aggregate) mean	***3.98***	***0.75***

Source: Own field survey, 2025

The above table presents the results for risk and dispute management. For the item “How frequently are potential risks evaluated before contracts are signed?”, 55.32% of respondents answered “Always” and 23.40% answered “Often”, resulting in a high mean of 3.98. This indicates that evaluating potential risks before contract signing is a common practice. For “How often is risk assessed throughout the lifecycle of the contract?”, 51.06% answered “Always” and 17.02% answered “Often”, with a mean of 3.89. This shows that risk assessment is regularly conducted but suggests that it could be done more consistently.

Regarding the inclusion of risk management strategies in contracts, 51.06% of respondents indicated “Always” and 27.66% answered “Often”, leading to a mean of 4.04. This reflects that risk management strategies are frequently integrated into contracts. For clear designations of responsibilities in risk management strategies, 59.57% answered “Always” and 27.66% answered “Often”, with a mean of 4.13. This suggests that responsibilities are clearly defined in risk management strategies in most cases.

For dispute-resolution procedures in contracts, 46.81% answered “Always” and 27.66% answered “Often”, with a mean of 3.91. This implies that contracts usually include clear dispute-resolution procedures. Regarding efforts to resolve disputes through negotiation or mediation, 40.43% answered “Always” and 36.17% answered “Often”, resulting in a mean of 3.87. This indicates that negotiation and mediation are commonly used to resolve disputes. Lastly, for using lessons learned from disputes to improve future contracts, 48.94% answered “Always” and 19.15% answered “Often”, with a mean of 4.06. This shows that lessons learned are often used to enhance future contracts.

The overall aggregate mean of 3.98 for risk and dispute management indicates that these areas are well-managed within the organization. The implications of these results are that the organization has robust practices in place for evaluating and managing risks, as well as resolving disputes. However, there is still room for improvement in consistently assessing risks throughout the contract lifecycle and in ensuring that all contracts include comprehensive dispute-resolution procedures.

4.6. Financial Management Practices Status

Table 4. 5 Financial Management Practices Status

No	*Items*	*Rating Scales*					*Mean*	*St. dev*
		1	*2*	*3*	*4*	*5*		
1	How often are budgetary constraints addressed during contract drafting?	**0.00%**	**2.13%**	**23.40%**	**38.30%**	**36.17%**	**4.09**	**0.830**
2	How frequently are progress payments made on time, as per contract terms?	**0.00%**	**2.13%**	**12.77%**	**53.19%**	**31.91%**	**4.15**	**0.722**
3	How often are cost escalations managed without leading to disputes?	**0.00%**	**2.13%**	**23.40%**	**44.68%**	**29.79%**	**4.02**	**0.794**
4	How frequently does the use of a bank guarantee contribute to the financial feasibility of a contract?	**0.00%**	**4.26%**	**8.51%**	**61.70%**	**25.53%**	**4.09**	**0.717**
5	How often do delayed payments cause project disputes?	**0.00%**	**2.13%**	**23.40%**	**36.17%**	**38.30%**	**4.11**	**0.840**
6	How often are pricing arrangements regularly reviewed and updated?	**0.00%**	**4.26%**	**19.15%**	**38.30%**	**38.30%**	**4.11**	**0.866**
						Overall (aggregate) mean	***4.09***	***0.79***

Source: Own field survey, 2025

The above table presents the results for financial management practices. For the item “How often are budgetary constraints addressed during contract drafting?”, 38.30% of respondents answered “Often” and 36.17% answered “Always”, resulting in a mean of 4.09. This indicates that budgetary constraints are frequently considered during contract drafting. For “How frequently are progress payments made on time, as per contract terms?”, 53.19% answered “Always” and 12.77% answered “Often”, with a mean of 4.15. This shows that progress payments are usually made on time, aligning with contractual agreements.

Regarding the management of cost escalations without disputes, 44.68% answered “Often” and 29.79% answered “Always”, leading to a mean of 4.02. This suggests that cost escalations are managed effectively in most cases, though there is room for improvement. For the use of bank guarantees contributing to financial feasibility, 61.70% answered

“Always” and 8.51% answered “Often”, with a mean of 4.09. This reflects that bank guarantees are commonly used to enhance contract feasibility.

For delayed payments causing project disputes, 36.17% answered “Often” and 38.30% answered “Sometimes”, resulting in a mean of 4.11. This implies that delayed payments occasionally lead to disputes, indicating a need for more consistent payment practices. Regarding pricing arrangements being reviewed and updated regularly, 38.30% answered “Always” and 19.15% answered “Often”, with a mean of 4.11. This shows that pricing arrangements are periodically updated but could be done more frequently.

The overall aggregate mean of 4.09 for financial management practices indicates that these practices are generally well-established within the organization. The implications of these results are that the organization effectively manages budgetary constraints and progress payments, contributing to project feasibility. However, there is a need to improve consistency in managing cost escalations and avoiding disputes from delayed payments. Regularly reviewing and updating pricing arrangements could further enhance financial management practices.

4.7. Performance Monitoring & Documentation Effectiveness

Table 4. 6 Performance Monitoring & Documentation Effectiveness

No	*Items*	*Rating Scales*					*Mean*	*St. dev*
		1	*2*	*3*	*4*	*5*		
1	How often are performance evaluations conducted to ensure compliance with contract specifications?	**0.00%**	**4.26%**	**25.53%**	**44.68%**	**25.53%**	**3.91**	**0.830**
2	How frequently are deviations from contract terms documented and communicated?	**0.00%**	**2.13%**	**27.66%**	**48.94%**	**21.28%**	**3.89**	**0.759**
3	How often are project milestones reviewed against the agreed-upon schedule?	**0.00%**	**2.13%**	**27.66%**	**46.81%**	**23.40%**	**3.91**	**0.775**
4	How often is corrective action immediately taken when the actual and expected performance variance is detected?	**0.00%**	**6.38%**	**21.28%**	**55.32%**	**17.02%**	**3.83**	**0.789**
5	How frequently are contract performance reports (periodic and final) submitted promptly?	**0.00%**	**2.13%**	**23.40%**	**44.68%**	**29.79%**	**4.02**	**0.794**
6	How frequently are contractor performance evaluation reports prepared based on a standard performance rating system?	**0.00%**	**6.38%**	**31.91%**	**38.30%**	**23.40%**	**3.79**	**0.883**
7	How often does the client provide relevant evaluation information to the contractor and seek feedback?	**0.00%**	**4.26%**	**34.04%**	**36.17%**	**25.53%**	**3.83**	**0.868**
						Overall (aggregate) mean	***3.88***	***0.81***

Source: Own field survey, 2025

The table above presents the results for performance monitoring and documentation. For the item "How often are performance evaluations conducted to ensure compliance with contract specifications?", 44.68% of respondents answered "Often" and 25.53% answered "Always", resulting in a mean of 3.91. This suggests that performance evaluations are regularly conducted to ensure compliance. For "How frequently are deviations from contract terms documented and communicated?", 48.94% answered "Often" and 21.28% answered

"Always", with a mean of 3.89. This indicates that deviations are usually documented and communicated, but there is room for improvement.

Regarding the review of project milestones against the agreed schedule, 46.81% answered "Often" and 23.40% answered "Always", leading to a mean of 3.91. This shows that project milestones are regularly reviewed but could be done more consistently. For corrective action taken when performance variances are detected, 55.32% answered "Often" and 17.02% answered "Always", with a mean of 3.83. This implies that corrective actions are commonly taken but not always immediately.

For the timely submission of contract performance reports, 44.68% answered "Often" and 29.79% answered "Always", resulting in a mean of 4.02. This indicates that performance reports are generally submitted on time. Regarding contractor performance evaluation reports based on a standard rating system, 38.30% answered "Often" and 23.40% answered "Always", with a mean of 3.79. This suggests that these reports are prepared but could be more standardized. Lastly, for clients providing evaluation information and seeking feedback, 36.17% answered "Often" and 25.53% answered "Sometimes", with a mean of 3.83. This shows that client feedback is occasionally provided but not consistently.

The overall aggregate mean of 3.88 for performance monitoring and documentation indicates that these practices are in place but require more consistency. The implications are that while performance monitoring and documentation are part of the organization's routine, enhancing the timeliness of corrective actions, standardizing performance evaluation reports, and increasing client feedback can further strengthen contract administration.

4.8. BIM Usage in Contract Administration

Table 4. 7 4.8. BIM Usage in Contract Administration

No	*Items*	*Rating Scales*					*Mean*	*St. dev*
		1	*2*	*3*	*4*	*5*		
1	How often is BIM used to facilitate contract clarity and communication?	**0.00%**	**4.26%**	**25.53%**	**44.68%**	**25.53%**	**3.91**	**0.830**
2	How often does BIM contribute to risk assessment and management in your projects?	**0.00%**	**2.13%**	**27.66%**	**48.94%**	**21.28%**	**3.89**	**0.759**
3	How often does BIM assist in financial management practices?	**0.00%**	**2.13%**	**27.66%**	**46.81%**	**23.40%**	**3.91**	**0.775**
4	How often does BIM enhance performance monitoring and documentation?	**0.00%**	**6.38%**	**21.28%**	**55.32%**	**17.02%**	**3.83**	**0.789**
5	How often does BIM lead to improved project outcomes?	**0.00%**	**2.13%**	**23.40%**	**44.68%**	**29.79%**	**4.02**	**0.794**
					Overall (aggregate) mean		***3.91***	***0.79***

Source: Own field survey, 2025

The above table presents the results for BIM usage in contract administration. For the item "How often is BIM used to facilitate contract clarity and communication?", 44.68% of respondents answered "Often" and 25.53% answered "Always", resulting in a mean of 3.91. This indicates that BIM is frequently used to enhance contract clarity and communication. For "How often does BIM contribute to risk assessment and management in your projects?", 48.94% answered "Often" and 21.28% answered "Always", with a mean of 3.89. This shows that BIM plays a significant role in risk assessment and management.

Regarding the use of BIM in financial management practices, 46.81% answered "Often" and 23.40% answered "Always", leading to a mean of 3.91. This suggests that BIM is effectively used to assist in financial management. For enhancing performance monitoring and documentation, 55.32% answered "Often" and 17.02% answered "Always", with a mean of 3.83. This implies that BIM significantly improves performance monitoring and documentation practices.

Lastly, for “How often does BIM lead to improved project outcomes?”, 44.68% answered “Often” and 29.79% answered “Always”, resulting in a mean of 4.02. This indicates that BIM is perceived to positively impact project outcomes.

The overall aggregate mean of 3.91 for BIM usage indicates that BIM is moderately to effectively used in various aspects of contract administration within the organization. The implications of these results are that the organization recognizes the benefits of BIM and has begun to integrate it into contract administration practices. However, there is still room for improvement in the consistency and extent of BIM adoption to fully leverage its potential for enhancing project outcomes.

4.9. Interview Questions

4.9.1. Project Managers

In response to the question on the clarity of contract terms and communication of roles and responsibilities, project managers indicated that these aspects are generally clear in their projects. They achieve this clarity through thorough reviews and discussions before finalizing the contract. When asked about the most effective risk management strategies in contract administration, they highlighted regular risk assessments and contingency planning, emphasizing the importance of open communication with stakeholders. To ensure timely progress payments and manage cost escalations, project managers adhere to contract payment terms and implement strict cost control measures. In terms of monitoring project performance and documenting deviations from contract terms, they use regular progress reviews and performance metrics, documenting any deviations in detailed reports to take corrective actions promptly.

4.9.2. Office Engineers

Office Engineers noted that project expectations are usually well-aligned through formal stakeholder meetings, which facilitate discussions on project goals and help ensure

stakeholder agreement. When asked how often written communication resolves misunderstandings between stakeholders, they mentioned that while written communication is generally effective, additional clarifications are sometimes necessary. For assessing and managing risks throughout the project lifecycle, office engineers employ methods such as risk workshops and developing risk mitigation plans. To ensure project milestones are met according to the agreed schedule, they use project management tools for tracking progress and make necessary adjustments promptly if delays occur.

4.9.3. Legal Personnel

Legal personnel discussed the comprehensiveness of dispute-resolution procedures in the contracts they review. They mentioned that while these procedures are generally well-structured, there is room for improvement in their consistent application. When asked how lessons learned from disputes are incorporated into future contracts, they explained that these lessons are documented and used to enhance future contracts by revising terms and improving clarity. To ensure contract documents reflect project changes, they follow a formal change management process involving reviewing and documenting changes, ensuring all parties agree before incorporating them into the contract. They also highlighted that legal challenges during contract close-out often relate to unresolved disputes and incomplete documentation, emphasizing the need to ensure all obligations are fulfilled before finalizing contracts.

4.9.4. Contractors

Contractors responded that their roles and responsibilities are usually clearly defined in the contracts they work under, although there are instances where additional clarification is needed for full understanding. When asked about delays in progress payments, they noted that such delays occur occasionally and can impact project cash flow and team morale, underscoring the need for prompt resolution. Changes to the project are communicated to them through formal change orders, ensuring clarity and awareness of implications. Lastly, they described the working relationship with the main contractor as generally collaborative,

marked by open communication and a shared commitment to project success, while also acknowledging opportunities for further improving collaboration.

4.10. Discussion

- **Comparison and Contrast with Previous Works**

The current study's findings on contract administration practices within the Ethiopian Engineering Corporation's Construction Sector present a nuanced picture that aligns with and diverges from previous research in several key aspects.

Previous studies have consistently highlighted the importance of contract clarity and communication in ensuring project success. For instance, the study by Yenealem Fantahun (2020) emphasized that unclear contract terms and poor communication are significant contributors to project delays and cost overruns in Ethiopia's construction sector. Our findings concur with this, showing that while contract clarity and communication are generally effective, there is inconsistency in communication practices and updates to contract documents. This inconsistency may lead to misunderstandings among stakeholders, suggesting that despite awareness of the importance of clarity, practical implementation remains sporadic.

Regarding risk management, prior research such as that by Quest Journals (2024) has pointed out the prevalence of risks in construction projects and the need for robust risk management practices. The current study found that risk management practices are relatively strong, with regular risk assessments and contingency planning. However, the consistency of these assessments throughout the project lifecycle is lacking. This finding adds to the existing body of knowledge by indicating that while the capacity for risk management exists, there is a need for more systematic and consistent application to enhance proactive risk mitigation.

Financial management practices in the current study demonstrated a strong adherence to budgetary constraints and progress payment schedules. This is in line with the study by

Mwanza (2023), which highlighted the importance of financial management in project success. Nonetheless, challenges in managing cost escalations and delayed payments without disputes were identified. Previous works have also noted the complexity of financial management in construction projects, but the current study's emphasis on the need for more proactive financial oversight, such as stricter monitoring and timely payment resolution, offers a pathway for improvement that has not been as explicitly addressed before.

Performance monitoring and documentation practices in the current study are established but require improvements in the timeliness of corrective actions and standardization of performance reports. Previous research has underscored the importance of these practices but has not provided detailed insights into the specific areas needing enhancement. The current study's focus on these aspects provides a more granular understanding of how performance monitoring can be strengthened.

The usage of BIM in contract administration is a relatively new area of inquiry. While previous research has highlighted the potential of BIM to enhance collaboration and efficiency in construction projects (Eastman et al., 2011), the current study provides specific insights into how BIM can improve various aspects of contract administration. The finding that BIM is moderately to effectively used but with room for expansion aligns with the global trend of BIM adoption being in varying stages across different regions and projects.

In terms of comparison with previous works, this study contributes to the existing literature by providing a comprehensive examination of contract administration practices within a specific Ethiopian construction context. It not only confirms the relevance of factors previously identified as critical to contract administration success but also offers new insights into the specific challenges and opportunities within the Ethiopian Engineering Corporation. The study highlights the need for more systemic and consistent approaches to contract administration practices and underscores the potential of BIM as a tool for enhancing these practices. These findings serve to deepen the understanding of contract administration in the Ethiopian context and provide practical recommendations for improvement.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Introduction

This section compromises the summary, conclusion, and recommendation on contract administration best practices in Ethiopia Engineering Corporation-Construction Sector. The research investigates Federal Judges Apartment Renovation project, highlighting best practices and revealing gaps that deserve improvement.

5.2. Summary

This study examined the contract administration practices within the Ethiopian Engineering Corporation's Construction Sector, with a specific focus on the Federal Judges Apartment Renovation Project. Using a mixed-methods approach, data was collected through structured questionnaires and semi-structured interviews. The key findings of the study are as follows:

- **Contract Clarity and Communication**: The study revealed that contract clarity and communication are generally effective, with stakeholders reporting clear definitions of roles and responsibilities through formal reviews and stakeholder meetings. However, there is a need for greater consistency in these communications and more timely updates to contract documents to ensure alignment among all parties.
- **Risk Management Practices**: Risk management practices were found to be relatively robust, with regular risk assessments and contingency planning being common. Yet, the consistency of these assessments throughout the project lifecycle was identified as an area needing improvement to strengthen proactive risk mitigation.

- **Financial Management Practices**: Financial management practices demonstrated strong adherence to budgetary constraints and progress payment schedules, which are critical for project feasibility. However, challenges in managing cost escalations without disputes and the impact of delayed payments on project disputes highlight areas for more proactive financial oversight.
- **Performance Monitoring and Documentation**: Performance monitoring and documentation practices are established and conducted regularly. While performance evaluations and milestone reviews are common, the timeliness of corrective actions and the standardization of performance reports could be improved to enhance their effectiveness.
- **BIM Usage in Contract Administration**: The study highlighted the potential of Building Information Modeling (BIM) to enhance contract administration practices. BIM was found to facilitate contract clarity and communication, contribute to risk assessment and management, assist in financial management practices, enhance performance monitoring and documentation, and lead to improved project outcomes. However, the adoption of BIM within the organization is still limited, and there is significant room for expanding its use to fully leverage its benefits.

Overall, the study identified several strengths in the current contract administration practices but also noted areas where improvements could be made to enhance project outcomes.

5.3. Conclusion

This study provides valuable insights into the contract administration practices within the Ethiopian Engineering Corporation's Construction Sector, focusing on the Federal Judges Apartment Renovation Project. The research has highlighted both the strengths and areas for improvement in the current practices. Below is a detailed conclusion based on the study's findings:

- **Contract Clarity and Communication**: The study confirmed that contract clarity and communication are vital for ensuring that all stakeholders have a shared

understanding of their roles and responsibilities. Although the current practices in this area are generally effective, the dynamic nature of construction projects necessitates even more consistent communication and timely updates to contract documents. This ensures that all parties remain aligned throughout the project lifecycle and minimizes the risk of misunderstandings.

- **Risk Management Practices**: The research indicated that risk management is a critical component of contract administration, and the organization has established practices for regular risk assessments and contingency planning. However, the study also revealed that these assessments are not consistently applied throughout the project lifecycle. Enhancing the consistency and thoroughness of risk assessments can significantly improve the organization's ability to proactively mitigate risks and avoid potential issues.
- **Financial Management Practices**: Effective financial management is essential for project success, and the study found that the organization generally adheres to budgetary constraints and progress payment schedules. Despite these positive findings, the research highlighted challenges in managing cost escalations and addressing delayed payments, which can lead to disputes and project delays. Implementing more stringent financial monitoring and timely resolution of payment issues can help to mitigate these challenges.
- **Performance Monitoring and Documentation**: The study emphasized the importance of performance monitoring and documentation in ensuring that projects progress as planned and deliverables are met. While the organization conducts regular performance evaluations and milestone reviews, the timeliness of corrective actions and the standardization of performance reports were identified as areas for improvement. More timely and standardized reporting can enhance the effectiveness of these practices and facilitate better decision-making.
- **BIM Usage in Contract Administration**: The research underscored the transformative potential of BIM in enhancing contract administration practices. BIM offers significant benefits in terms of improved collaboration, information sharing, and efficiency. Although the organization has begun to adopt BIM, its usage is still

limited. Expanding the use of BIM across different project phases can lead to more efficient contract administration and better project outcomes.

In conclusion, the study demonstrates that while several contract administration practices within the Ethiopian Engineering Corporation's Construction Sector are effective, there are substantial opportunities for improvement. By addressing the identified gaps and enhancing the consistency and proactivity of current practices, the organization can achieve better project outcomes and enhance its competitiveness in the construction industry.

5.4. Recommendation

Based on the findings of this study, the following recommendations are proposed to enhance contract administration practices within the Ethiopian Engineering Corporation's Construction Sector:

- **Enhance Contract Clarity and Communication:**
  - **Comprehensive Reviews and Discussions:** The findings indicate that while contract terms are generally clear, inconsistent communication and untimely updates can lead to misunderstandings. To address this, conduct thorough reviews and discussions before finalizing contracts. This ensures all stakeholders have a clear understanding of the contract terms and their respective roles and responsibilities, minimizing misunderstandings and disputes.
  - **Regular Updates to Contract Documents:** Establish a systematic approach to regularly update contract documents to reflect project changes. This ensures all stakeholders have access to the most current information, maintaining alignment throughout the project lifecycle.
- **Improve Risk Management Consistency:**
  - **Regular and Consistent Risk Assessments:** The study found that risk assessments are not consistently applied throughout the project lifecycle. Implement a structured risk management process with regular and consistent risk assessments to promptly identify emerging risks and allow for timely implementation of mitigation strategies.

- **Ongoing Monitoring and Updating of Risk Management Strategies:** Continuously monitor and update risk management strategies to address new risks as they arise. This proactive approach enhances the organization's ability to manage risks effectively and avoid potential issues.

- **Strengthen Financial Management Practices:**
  - **Proactive Cost Escalation Management:** The findings highlight challenges in managing cost escalations without disputes. Develop and implement more proactive approaches to managing cost escalations, such as regular cost reviews, contingency planning, and clear procedures for handling changes in project scope or other factors that may impact costs.
  - **Timely Resolution of Payment Issues:** Establish robust mechanisms for the timely resolution of payment issues to prevent disputes and maintain positive relationships with contractors and other stakeholders. This could involve setting clear payment timelines, implementing efficient payment approval processes, and providing regular feedback to stakeholders on payment status.
- **Increase Timeliness in Performance Monitoring:**
  - **Timely Performance Evaluations and Documentation:** The study found that while performance evaluations and milestone reviews are common, the timeliness of corrective actions and the standardization of performance reports could be improved. Conduct performance evaluations and document deviations from contract terms in a timelier manner to enable quicker identification of performance issues and facilitate prompt corrective actions.
  - **Standardization of Performance Reports:** Develop and implement standardized performance reporting templates and procedures to ensure consistency and completeness of performance data. This enhances the reliability of performance information and supports better decision-making.
- **Adopt Building Information Modeling (BIM):**
  - **Expand BIM Adoption:** The results indicate that BIM is moderately to effectively used but with room for improvement in consistency and extent of adoption. Increase the adoption of BIM across different project phases and types within the organization. Provide training and resources to staff to build their technical expertise in BIM

technologies and ensure they can effectively utilize BIM for contract administration purposes.

- **Integrate BIM into Contract Administration Processes:** Integrate BIM into contract administration processes to enhance collaboration, improve information sharing, and increase efficiency. This can lead to better project outcomes and reduced risks.

5.5. Suggestions for Future Studies

Future research could explore the integration of BIM technology across different project phases to understand its impact on contract administration. It would also be valuable to investigate the long-term effects of improved contract administration practices on project outcomes through longitudinal studies. Additionally, expanding the sample size to include a broader range of construction projects and stakeholders would enhance the generalizability of findings and provide a more comprehensive understanding of contract administration practices in the Ethiopian construction sector.

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APPENDIX

Addis Ababa University

Faculty of Business and Economics

Department of Management

Post graduate program

I am Yohannes Ameha, a student at Addis Ababa University Faculty of Business and Economics Department of Management , pursuing a M.Sc. in International Business. As part of my degree requirements, I am conducting a research study on "Contract Administration Best Practices: Lessons From Ethiopian Engineering Corporation-Construction Sector: A Case Study In Federal Judges Apartment Renovation Project."

I kindly ask for your participation in answering a questionnaire designed to assess the Contract Administration Best Practices. Your responses will be used solely for academic research purposes, and all information provided will be kept strictly confidential. Your honest feedback is crucial for the success of this study. It is not mandatory to include your name on the questionnaire.

Thank you for your valuable time and opinion.

Yohannes Ameha,

Part I: Demographic information

Please put a "√" mark in the appropriate space to indicate your answer.

1. Gender

   Male ☐ B. Female ☐

2. Academic Qualification

   A. College diploma ☐ C. Bachelor's degree ☐

   B. Master's degree ☐

3. Age

   A. 18-25 ☐ B. 26-35 ☐ C. Greater than 35 ☐

   C.

4. Years of Experience

   A. Less than 2 year ☐ C. 2 up to 5 years ☐

   B. 6 to 10 years ☐ D. More than 10 years ☐

5. Monthly Income

   A. Project/Section Manager ☐ D. Legal Personnel ☐

   B. Contractor ☐ E. Other ☐

   C. Office Engineer ☐

Part II: Likert Scale Questionnaires

The following statements are aimed to assess your perception towards Contract Administration Best Practices by using 5 points Likert scale (1= Never, 5= Always). Please indicate your opinion by putting a tick mark on the appropriate box in the table below.

1= Never, 2= Rarely 3= Sometimes 4= Often 5= Always

Part A: Contract Clarity & Communication Status

No		1	2	3	4	5
1	How often are contract terms clearly explained to stakeholders?					
2	How often do contracts explicitly define the roles and responsibilities of all parties involved?					
3	How often are project expectations aligned through formal stakeholder meetings?					
4	How often does written communication fully resolve misunderstandings between stakeholders?					
5	How frequently are project deliverables communicated in a timely manner?					
6	How often are contract documents updated to reflect project changes during the lifecycle?					

Part B: Risk & Dispute Management Effectiveness

No		1	2	3	4	5
1	How often are contract terms clearly explained to stakeholders?					
2	How often do contracts explicitly define the roles and responsibilities of all parties involved?					
3	How often are project expectations aligned through formal stakeholder meetings?					
4	How often does written communication fully resolve misunderstandings between stakeholders?					
5	How frequently are project deliverables communicated in a timely manner?					
6	How often are contract documents updated to reflect project changes during the lifecycle?					

Part C: Financial Management Practices Status

No		1	2	3	4	5
1	How often are contract terms clearly explained to stakeholders?					
2	How often do contracts explicitly define the roles and responsibilities of all parties involved?					
3	How often are project expectations aligned through formal stakeholder meetings?					
4	How often does written communication fully resolve misunderstandings between stakeholders?					
5	How frequently are project deliverables communicated in a timely manner?					
6	How often are contract documents updated to reflect project changes during the lifecycle?					

Part D: Performance Monitoring & Documentation Effectiveness

No		1	2	3	4	5
1	How often are contract terms clearly explained to stakeholders?					
2	How often do contracts explicitly define the roles and responsibilities of all parties involved?					
3	How often are project expectations aligned through formal stakeholder meetings?					
4	How often does written communication fully resolve misunderstandings between stakeholders?					

5	How frequently are project deliverables communicated in a timely manner?					
6	How often are contract documents updated to reflect project changes during the lifecycle?					

Part E: BIM Usage in Contract Administration

No		**1**	**2**	**3**	**4**	**5**
1	How often is BIM used to facilitate contract clarity and communication?					
2	How often does BIM contribute to risk assessment and management in your projects?					
3	How often does BIM assist in financial management practices?					
4	How often does BIM enhance performance monitoring and documentation?					
5	How often does BIM lead to improved project outcomes?					

Part III: Interview Questions

Part A: For Project Managers:

1. How would you describe the clarity of contract terms and communication of roles and responsibilities in your projects?

_____

2. What risk management strategies have you found most effective in contract administration?

_____

3. How do you ensure timely progress payments and manage cost escalations in your projects?

_____

4. How do you monitor project performance and document deviations from contract terms?

Part B: For Office Engineers:

1. How clearly are project expectations aligned through formal stakeholder meetings in your experience?

_____

2. How often do you find written communication resolves misunderstandings between stakeholders?

_____

3. What methods do you use to assess and manage risks throughout the project lifecycle?

_____

4. How do you ensure project milestones are met according to the agreed schedule?

_____

Part C: For Legal Personnel:

1. How comprehensive are dispute-resolution procedures in the contracts you review?

_____

2. How are lessons learned from disputes incorporated into future contracts?

_____

3. How do you ensure contract documents are updated to reflect project changes?

_____

4. What legal challenges have you encountered in contract close-out processes?

_____

Part D: For Contractors:

1. How clearly are your roles and responsibilities defined in the contracts you work under?

_____

2. How often do you experience delays in progress payments, and what impact does this have?

_____

3. How are changes to the project communicated to you, and how are they documented?

_____

4. How collaborative is the working relationship between you and the main contractor in resolving issues?