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PROCUREMENT EFFECT ON SCHEDULE PERFORMANCE OF PROJECTS: A CASE OF DONOR REQUIREMENTS ON ELECTRICAL DISTRIBUTION PROJECTS OF ETHIOPIAN ELECTRIC UTILITY (EEU).

A Thesis Submitted to Addis Ababa University College of Business and Economics in Partial Fulfilment of the Requirements for a Master of Arts in Project Management

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Addis Ababa University

May 2026

Addis Ababa, Ethiopia

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Advisor: Wasihun Mohammed (PhD)

Addis Ababa University

May 2026

Addis Ababa, Ethiopia

APPROVAL STATEMENT

This is to certify that the project work titled "***Procurement Effect on Schedule Performance of Projects: A Case of Donor Requirements on Electrical Distribution Projects of Ethiopian Electric Utility (EEU)***". Submitted to Addis Ababa University School of Commerce, in partial fulfilment of the requirements for Master of Arts in Project Management, is the original work of Kidist Lakew, carried out under my supervision. The research has been conducted following the standards of academic integrity, research ethics and scientific rigor as set by the university. The findings and conclusions of this project are solely of the author and do not necessarily reflect the view of the university or the affiliated companies involved.

APPROVED BY BOARD OF EXAMINERS

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Advisor	**Signature**
Dr.Zerihun Kinde **External Examiner**	**Signature**
Internal Examiner	**Signature**

DECLARATION

I, Kidist Lakew, hereby declare that this thesis work entitled “Procurement Effect on Schedule Performance of Projects: A Case of Donor Requirements on Electrical Distribution Projects of Ethiopian Electric Utility (EEU)” is my original work. This work, in any manner, has not been submitted to acquire a degree in any other higher education institutes, and all the evidences and used materials used for the thesis work have been appropriately acknowledged and referenced. This research is submitted in partial fulfilment of the requirements for the Master of Arts in Project Management at Addis Ababa University, under the guidance of my advisor. I take full responsibility for any shortcomings in the content of this study.

Name: Kidist Lakew

Signature: _____

Date: _____

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List of Abbreviations

ADEL	Accelerated Development through Experimental Learning
AfDB	African Development Bank
DV	Dependent Variable
EEU	Ethiopian Electric Utility
EFA	Explanatory Factor Analysis
ENREP	Electricity Network Reinforcement and Expansion Project
IV	Independent Variable
MDB	Multilateral Development Banks
MED	Mediator
MOD	Moderator
MPRA	Munich Personal RePEc Archive.
PPP	Public–Private Partnership.
TCT	Transaction Cost Theory
WB	World Bank

ABSTRACT

This study examined the effect of the demands of donor procurement to the schedule performance of the electrical distribution projects at the Ethiopian Electric Utility or EEU. The quantitative approach was used to gather data on 53 individuals who participated in donor-funded projects and test it using descriptive statistics, correlation and regression. It was found that the effect of donor procurement requirement on project delays is statistically significant and has the following $\beta = 0.355$ and $p = 0.009$ meaning that more complicated procurement processes was associated with higher schedule overruns. The approval layers were the key delay factors, where the mean score was 4.30; comparing with national procurement procedures, where the mean score was 4.53; and no-objection requirements, where the mean score was 4.04. The regression analysis also revealed that the independent variable was strongly correlated with the mediator; that is, 0.652 and $p = 0.001$ was not significant; however, the mediator did not have any significant influence on the dependent variable, given that the $p = 0.05$ and above was not significant. The moderation analysis however, resulted in significant moderating effect with $0 = -0.444$ and $p = 0.002$, indicating that negotiation and contextual factors moderate the strength of the relationship between the schedule performance and procurement requirements. The regression model was statistically significant, $F(4, 48) = 8.001$, $p < 0.001$, explaining 40% of the variance in DV_Mean, indicating that IV_Mean, MED_Mean, and MOD_Mean meaningfully predict the dependent variable. The reliability test indicated high internal consistency, with total Cronbachs Alpha of 0.898. In general, the paper found that donor procurement processes form a significant part of project delays and recommended an effective solution to mitigate delays by increasing the ability to negotiate, better coordination, and aligning national systems with the donor needs to enable projects to be accomplished on time.

Keywords: Donor Procurement, Schedule Performance, Ethiopian Electric Utility (EEU), Time Overruns, Electrical Distribution Projects, Mixed-Methods.

CHAPTER ONE - INTRODUCTION

1.1.Background of the Study

Building of various infrastructure is key to economic growth, social development, and industrial transformation in developing countries. In Ethiopia, it has become a national priority to increase electricity coverage and improve the reliability of the electricity distribution network. This priority is reflected in the past Growth and Transformation Plans, GTP I (2010/11–2014/15) and GTP II (2015/16–2019/20), and the current Ten-Year Development Plan (2021–2030), which aims at expanding and modernizing electricity infrastructure to facilitate universal access, economic transformation, and regional integration (FDRE, 2021; MoFED, 2010). Ethiopian Electric Utility (EEU) is the main government institution responsible for constructing, operating, and maintaining power distribution networks throughout the country. The successful implementation of infrastructure projects largely depends on effective procurement. Procurement encompasses the acquisition of goods, works, and services, beginning with planning and bidding through evaluation, contract award, and contract management. Efficient procurement promotes value for money, transparency, competition, and accountability in the utilization of public resources (World Bank, 2017; OECD, 2016). Conversely, ineffective procurement systems are widely recognized as major contributors to project delays, cost overruns, and quality deficiencies (Thai, 2009; Flyvbjerg, 2014; UNDP, 2016). Project management studies further indicate that lengthy bid evaluations, inadequate specifications, excessive approval levels, and weak contract administration can significantly affect schedule and cost performance (Ahsan & Gunawan, 2010; PMI, 2021). Therefore, procurement performance is closely linked to overall project success.

Due to the high capital investment requirements of large-scale electricity distribution network projects, EEU relies heavily on financing from international development partners such as the World Bank, the African Development Bank, and other bilateral and multilateral donors. While donor financing provides essential financial support, it is commonly accompanied by standardized procurement procedures designed to enhance transparency, competition, value for money, and fiduciary accountability (World Bank, 2017; AfDB, 2019; ADB, 2020). These procurement frameworks typically prescribe specific requirements relating to bidding procedures, prequalification, bid evaluation, approval processes, and no-objection clearances at different stages of the procurement cycle. Although such requirements are intended to reduce procurement risks

and improve accountability, they may also increase administrative complexity and contribute to delays in project implementation, particularly in developing-country contexts (Thai, 2009; Ahsan & Gunawan, 2010; World Bank, 2023). Donor-funded distribution projects in Ethiopia have frequently been associated with longer procurement cycles and implementation delays compared to projects financed through domestic resources. Delays in contract award often trigger subsequent delays in mobilization and construction activities, thereby adversely affecting project schedules and costs. Prolonged bid evaluations, repeated clarification requests, lengthy donor review procedures, and stringent prequalification requirements are among the commonly cited causes. Such delays can result in schedule slippages, cost escalations, and deferred delivery of electricity services to end users (Flyvbjerg, 2014; Durdyev et al., 2020; Ayele et al., 2021).

Despite the strategic importance of donor-funded projects, there remains a limited body of empirical research in Ethiopia examining the specific effects of donor procurement requirements on schedule performance in the electricity distribution subsector. Most existing studies focus on project delays in general and do not clearly distinguish procurement-related causes from other sources of delay or quantify their effects on project schedules (Alemayehu, 2023; Berihu, 2022). As a result, policy discussions and negotiations between EEU and development partners are often informed by isolated experiences rather than systematic evidence and rigorous statistical analysis. Therefore, this study investigates the effect of donor procurement requirements on the schedule performance of electrical distribution projects implemented by Ethiopian Electric Utility.

The relationship between the key concepts examined in this study is that donor procurement requirements influence procurement duration and decision-making processes, which in turn affect project schedule performance. Requirements such as no-objection approvals, extensive bid evaluations, and multiple review stages may prolong procurement cycles and delay project commencement and implementation. Understanding this relationship is important for identifying procurement practices that contribute to schedule overruns and for developing strategies that improve the timely delivery of donor-funded electrical distribution projects. The motivation for this study arises from the growing dependence of EEU on donor financing, the persistent occurrence of project delays, and the need to generate empirical evidence that can support improvements in procurement policy and project implementation practices.

1.2.Statement of the Problem

Schedule performance remains a main challenge in electrical distribution projects, with many projects experiencing delays and cannot addressed planned completion dates. Factors such as complex procurement requirements, lengthy approval processes, contractor inefficiency, material shortages, and inadequate stakeholder coordination contribute significantly to poor schedule performance. These delays result in increased project costs, inefficient resource utilization, and postponed delivery of electricity services. The empirical findings on the procurement practices in the Ethiopian electricity sector indicate that the procurement practices play a big role in the timelines of projects, especially in the donor-funded distribution projects. Research on distribution network projects in the Universal Electricity Access Program indicates that some of the significant sources of schedule overruns are procurement delays such as late delivery of material, inefficient procurement processes, and lengthy approval procedures (Universal Electricity Access Program, 2023). In the same way, the studies of externally funded power projects indicate that the time to achieve financial close and commence implementation may further lengthen project cycles (Berihu, 2022). Even large, donor-funded initiatives, like the World Bank ADELE project, keep close track of procurement timelines, demonstrating the relevance of lead times in procurement in terms of timeline performance (World Bank, 2021). Poor schedule performance remains a main problem in infrastructure projects. A study of Ethiopian Electric Utility projects found an average delay of 2.48 years beyond planned date of completion, largely due to employer-related factors, contractor inefficiencies, material supply delays, and redesign of plans (Alemayehu, 2015). On time delivery of electrical distribution projects will be critical towards achieving the electrification targets of Ethiopia, enhancing the reliability of the service provided, and ensuring that the available financial resources are used well. Nevertheless, most donor-funded projects, which Ethiopian Electric Utility (EEU) undertakes, continue to be delayed due to lengthy and complicated bidding, lengthy prequalification, lengthy proposals appraisal, and several donor clearance or no-objection procedures. Studies on Development Bank of Ethiopia financed projects found that procurement-related factors, including procurement process inefficiencies and donor or institutional requirements, are statistically significant determinants of project implementation delays (Dereje, 2022). In addition, research on PPP and infrastructure projects in Ethiopia indicates that procurement procedures and institutional requirements significantly slow down project implementation and contribute to schedule performance gaps (Ayele et al., 2021).

Even though such delays associated with procurement are typical, there is still little empirical evidence on the extent to which they impact on project schedules, and which particular processes impact performance most. In the absence of this evidence, EEU might have a hard time to objectively evaluate procurement risks, reforms priorities or negotiate more context-sensitive and flexible procurement deals. Because of this, the performance of projects and the delivery of necessary electricity services in time is at stake. This research fills this gap, by empirically investigating the connection between donor procurement requirements and schedule performance in EEUs electrical distribution projects.

1.3. Research Questions

1. What is the overall procurement time and its impacts on the schedule performance and time overrun of the electrical distribution projects by EEU?
2. What is the impact of clearance requirements, bidding procedures, and complexity of prequalification procedures in donor procurement processes on project schedule delays?
3. What role do the requirements of donor procurement play in determining the contractor mobilization time and project start in EEU electrical distribution projects?
4. Which policy or procedural modifications might assist EEU in more flexible and context sensitive procurement agreements with donors?

1.4.Objectives

1.4.1. General Objective:

The aim of this general objective is to study the procurement effect on schedule performance of electrical distribution projects at the Ethiopian Electric Utility and suggest reforms that may help to enhance the efficiency of these rules.

1.4.2. Specific Objectives:

The study will focus on:

1. Study current practice and establish the relationship of donor procurement time on project time overruns of donor-funded electrical distribution projects at EEU.

2. To examine the mediating and moderating effects of key procurement and institutional factors on the relationship between donor procurement requirements and project schedule performance.
3. Prioritize and list the donor procurement processes that add to schedule slippage by statistically comparing bid evaluation time, complexity of prequalification and no-objection requirements.
4. Determine the impact of donor procurement requirements on time of contractor mobilization and delays in the start of contracts in EEU electrical distribution projects.
5. Recommend appropriate policy reforms that might lead to more favorable and flexible procurement contracting with major donors by EEU.

1.5.Significance of the study.

This study adds to the academic field as well as practical field by:

- First, it provides EEU with a data foundation to negotiate a more flexible procurement practice with donors.
- Second, it enhances evidence-based changes in the project management processes funded by donors.
- It also enhances effectiveness and efficiency of national electrification programs.
- Final it contributes to the prevailing body of knowledge on the topic of donor influence and project performance in the utility sectors of the developing countries.

1.6.Scope of the study

This study is limited to electrical distribution network projects that EEU conducted during the 15-year period between 2010/11 and 2024/25. It helps to focus on completed electrical distribution projects for which adequate performance data are available and comparable. Distribution projects represent the core of EEU's efforts to expand electricity access nationwide, while transmission, standalone substation, and generation projects were excluded because they involve different procurement processes and project implementation conditions. The geographical area includes projects on distribution network at the city-wide, regional, and national levels in Ethiopia. This encompasses urban centers like Addis Ababa, and all the states in the regions. The paper examines

the growth, modernization, and enhancement of feeders, transformers, and rural electrification systems to facilitate quality and equitable access to electricity nationwide. It only covers completed projects and excludes transmission line projects, standalone substation projects and power generation projects.

1.7.Limitations of the study

There is a possibility that certain information could be either missing or untrustworthy particularly when going through older procurement records and project schedules. Information related to procurement approval dates, bid evaluation periods, donor review and no-objection processes, contract award dates, and project completion schedules may be missing or inconsistently documented, which could affect the accuracy of the analysis. Results of this paper could be primarily specific to the situation in EEU and electricity distribution projects funded by donors, and thus the use of the results in other contexts should be approached with care.

1.8.Organization of the study

The research was divided into six chapters. Chapter One presented the background of the study, the statement of the problem, research objectives, significance of the study, scope, and limitations. Chapter Two reviewed the relevant literature on the effect of donor procurement requirements on project schedule performance, with particular emphasis on electrical distribution projects undertaken by Ethiopian Electric Utility (EEU). Chapter Three presented the conceptual framework of the study. Chapter Four described the research methodology, including the research design, data sources, sampling techniques, data collection methods, and data analysis procedures. Chapter Five presented and analyzed the findings of the study and discussed the results in relation to the research objectives and existing literature. Finally, Chapter Six provided the conclusions drawn from the findings and presented recommendations for policy, practice, and future research.

1.9.Definition of key terms

Donor Procurement Requirements: The rules and procedures that apply to the acquisition of goods, works and services dictated by funding agencies (World Bank, 2023).

Schedule Performance: How well a project is performed according to the schedule (Project Management Institute [PMI], 2021).

Procurement Duration: The length of time spent on procurement beginning with initiation to contract awarding (World Bank, 2023).

No-Objection Requirement: Formal permission by the donors at the major stages of procurement (World Bank, 2023).

Electrical Distribution Project: Projects included in this category are the construction, rehabilitation, or extension of medium- and low-voltage electricity networks (International Energy Agency, 2023).

CHAPTER TWO- REVIEW OF LITERATURE

2.1 Introduction

This chapter summarizes the empirical and theoretical literature on the impacts of the donor procurement requirements on the performance of the project schedule, particularly in electrical distribution network projects executed by Ethiopian Electric Utility (EEU). The review began with conceptual discussions and theoretical foundations related to project delays and performance. It then examined common delays in projects funded by donors, progressed to evidence and data collected from infrastructure and electricity sector projects, and finally focused on the Ethiopian experience, particularly donor-funded electrical distribution projects. The chapter concluded by identifying significant gaps in the existing literature, thereby demonstrating the strong need for this study.

Conceptual and theoretical foundations provide the basis for understanding the major variables and relationships examined in a study. Conceptual foundations explain the key concepts, definitions, and dimensions relevant to the research problem, while theoretical foundations provide established theories that explain why particular phenomena occur and how different variables interact (Creswell & Creswell, 2018). In studies related to project implementation and delays, these foundations help researchers develop analytical frameworks, interpret findings, and connect the study with existing scholarly knowledge.

The conceptual foundation of project delay studies commonly focuses on concepts such as project management, project performance, donor-funded projects, schedule performance, and implementation challenges. Project delay refers to the failure of a project to be completed within the planned schedule and budget (Kerzner, 2017). Delays may arise from financial constraints, technical difficulties, poor planning, weak coordination, procurement challenges, or external environmental factors. In donor-funded projects, delays are often more complicated because projects must comply with donor regulations, procurement procedures, reporting systems, and multiple stakeholder requirements (World Bank, 2021).

Project performance is another important concept closely associated with project implementation. Project performance is commonly evaluated based on time, cost, quality, and stakeholder satisfaction (PMI, 2021). Timely completion is considered one of the major indicators of

successful project performance because delays often result in cost overruns, reduced efficiency, and interruptions in service delivery. In infrastructure and electrical distribution projects, delays may significantly affect economic development and the provision of reliable electricity services to communities.

The theoretical foundation of project delay studies is frequently supported by the Theory of Constraints. The Theory of Constraints, developed by Eliyahu Goldratt, argues that every system contains at least one constraint that limits its overall performance (Goldratt & Cox, 1984). In project implementation, such constraints may include shortages of construction materials, delays in procurement, inadequate funding, weak managerial capacity, or bureaucratic approval procedures. According to this theory, identifying and effectively managing key constraints can improve project efficiency and reduce delays.

Another important theoretical perspective is Stakeholder Theory, which emphasizes the importance of balancing the interests and expectations of all parties involved in a project (Freeman, 1984). Donor-funded projects involve several stakeholders, including donors, government institutions, contractors, consultants, and local communities. Poor communication, conflicting interests, and weak stakeholder coordination may create implementation challenges and contribute to project delays.

Similarly, Systems Theory views projects as interconnected systems composed of multiple interdependent components (Von Bertalanffy, 1968). According to this theory, weaknesses in one component of the system, such as procurement, financing, or technical operations, can negatively affect the overall project performance. Therefore, successful project implementation requires proper coordination and integration among all project activities and stakeholders.

These conceptual and theoretical foundations provide a framework for understanding the causes of delays in donor-funded electrical distribution projects and support the analysis of factors affecting project performance within the Ethiopian context.

2.2 Donor Procurement Requirements and Project Schedule Performance

Donor-funded infrastructure projects are typically influenced by procurement, legal, environmental, and social requirements to achieve transparency, accountability and money value. Although these requirements play a vital role in good governance, many studies find them to be substantial causes of schedule delays in projects, particularly in developing nations (World Bank, 2018; Ahsan and Paul, 2018).

The time spent on procurement is frequently cited as one of the contributing factors to schedule overruns. The procurement process can be extended by procedures necessitated by the donor, including international competitive bidding (ICB), comprehensive documentation, multi-phase bid evaluations, and donor No-Objection approvals (Ahsan and Paul, 2018). Another point made by Aziz (2013) is that stringent lowest-bid selection criteria may result capacity mismatch in the contractor, which can subsequently result in delays in implementation.

The experience of Sub-Saharan Africa showed that the compliance of donor procurement has the potential to raise transaction costs and delays decisions, especially in environments with low institutional capacity (MPRA, 2018). Such issues may be aggravated by the fact that disbursements are attached on compliance based on milestones, resulting in cash flow disruptions that slow the process of mobilization of contractors and the implementation of projects (World Bank, 2017).

2.3 Procurement Duration, Clearance Requirements, and Schedule Delays

A number of studies find procurement period to be a statistically significant factor that adds to time overruns in infrastructure projects. The time to prepare, evaluate and approve the bids is long, with the possibilities of delayed project start-up (Ahsan and Paul, 2018). The actual processes of donor clearance, particularly, the mandatory approvals of the No-Objection at various steps also introduce additional waiting periods that are largely not within the control of implementing agencies (World Bank, 2018).

A study on African power projects funded by donors discloses that the approval of procurement processes is, in itself, sufficient to delay by 6 to 18 months (Berkouwer, 2023). These results are in agreement with the broader infrastructure projects, which indicates that various levels of

administrative review can have a considerable impact on project schedule performance, in particular, when approvals are centralized at the head offices of donors (Osei-Tutu et al., 2011).

2.4 Pre-Qualification Complexity and Bid Evaluation Time

Prequalification requirements, whereby in-depth eligibility criteria are used to filter unqualified contractors, can reduce the participation of bidders and lengthen the evaluation process (Ahsan and Paul, 2018). The process can be rather extended in the context of donor-funded electrical projects as it may require technical qualification checks, financial clarification checks, and compliance checks (World Bank, 2017).

According to Koshe & Jha (2016) studies the donor procurement regulations implemented without contextualization to countries specifics demonstrate that it may highly increases the time required to evaluate bids, particularly in electric utility companies with a small procurement staff and experience. The MPRA (2018) states that such delays may be even more severe, as the project requires importing specialized electrical equipment, because of sourcing regulations and foreign exchange limitations.

2.5 Infrastructure and Electrical Distribution Projects in Developing Countries

The developing countries are usually challenged by the institutional capacity and technological infrastructure, forced them to be more dependent on the systems and expertise of the developed countries. These problems are particularly visible in Ethiopia, where over 90 percent of projects in the construction and electricity distribution sectors face schedule delays (Koshe & Jha, 2016). Electricity distribution projects funded by donors are especially likely to extend the timelines due to the matters associated with procurement, such as complicated systems of bidding, numerous approvals stages, and expensive procedures of mobilizing a contract. The procurement difficulties can be singled out as among the primary factors contributing to schedule overruns, which demonstrates the necessity of empirical research to quantify their effect and promote improved project management and procurement reforms. The construction phase of the donor-funded projects can also cause significant issues due to design modifications, material delays to reach the site, and contractor mobilization problems (Berkouwer, 2023).

2.6 Ethiopian Donor-Funded Electrical Distribution Projects

The development of electricity distribution network infrastructure in Ethiopia is largely dependent on donor funds, including the World Bank and African Development Bank. According to project documents, the disbursement of funds and the starting of construction are usually related with donor procurement procedures and Environmental and Social Frameworks (ESF) (World Bank, 2018).

Implementation Completion and Results Reports (ICRs) showed indication of donor related delays in project implementation. To suggest an evidence, the Addis Ababa Distribution Network Expansion Project had its closing date postponed by approximately one year due to the difficulty in executing procurements and alterations in designs (World Bank, 2011). The same is reflected in reports issued by African Development Bank on completion and rural electrification projects, which have been delayed by the process of obtaining procurement approvals and No Objection requirements (African Development Bank, 2020).

There are also studies that indicate that in Ethiopia, low disbursement rates, below 50% are typical in donor-funded electricity projects. This is partly associated with the misalignment of the donor reporting requirements and utility monitoring systems (Yehun, 2021). The Letters of Credit required to purchase equipment overseas also can be slowed down due to foreign exchange shortages, even in cases where donor funds are available (MPRA, 2018).

2.7 Donor Requirements and Overall Project Performance

Literature on the subject explains a compliance-performance paradox of donor-funded infrastructure projects. That is, technical quality and transparency could be enhanced by rigorous procurement procedures and protection, but it might also reduce project timelines (Aziz, 2013; Berkouwer, 2023). Berkouwer (2023) established that World Bank procurement processes slow down electrification projects in East Africa by an average of 16 months; however, these processes might also help build quality construction and risk resilient networks. In Ethiopia, electrification efforts funded by donors like the Electricity Network Reinforcement and Expansion Project (ENREP) have been suspended during construction over 20 months due to resettlement and land clearance compliance procedures (World Bank, 2024). Such delays are potentially detrimental to the outcomes of national development, given that Ethiopia has an enormous electricity access gap

(EEU, 2025). Recent reports indicate that urban areas in Ethiopia might have better access to electricity but access is generally limited. Within recent years, the percentage of the population that could access electricity is about 55 percent, and millions of people lack a connection to the grid.

2.8 Literature Gap

The literature review revealed that schedule delays in donor-funded projects are strongly associated with donor procurement requirements, including lengthy procurement durations, extensive clearance procedures, complex prequalification requirements, and mandatory No-Objection approvals. From a conceptual perspective, these procurement procedures directly influence project schedule performance, which is one of the principal indicators of overall project performance (PMI, 2021). The reviewed studies consistently indicate that while donor procurement systems are designed to enhance transparency, accountability, and value for money, they frequently create administrative and operational bottlenecks that negatively affect timely project completion.

The reviewed literature is further supported by several theoretical perspectives. The Theory of Constraints explains that project systems are often limited by critical constraints that hinder performance and delay implementation (Goldratt & Cox, 1984). In donor-funded electrical distribution projects, procurement procedures, approval processes, and compliance requirements may act as major constraints that reduce implementation efficiency. Similarly, Stakeholder Theory highlights the importance of coordination among multiple stakeholders, including donors, government agencies, contractors, consultants, and utility institutions (Freeman, 1984). Weak coordination, conflicting priorities, and communication gaps among these stakeholders can contribute significantly to procurement delays and schedule overruns. In addition, Systems Theory views projects as interconnected systems in which weaknesses in procurement, financing, technical operations, or institutional arrangements may negatively affect the overall project schedule performance (Von Bertalanffy, 1968).

Despite the valuable insights provided by global and regional studies, the review identified several significant gaps in the existing literature. First, most previous studies treat procurement as a general cause of project delay without disaggregating and statistically examining specific donor

procurement procedures such as procurement duration, No-Objection approvals, clearance requirements, and prequalification complexity. As a result, the individual effects of these procurement dimensions on schedule performance remain insufficiently quantified.

Second, although electrical distribution projects play a central role in Ethiopia's electrification and infrastructure development agenda, there is a scarcity of empirical studies focusing specifically on donor-funded electrical distribution projects implemented by Ethiopian Electric Utility (EEU). Much of the existing literature concentrates broadly on construction or infrastructure projects without adequately addressing the unique operational and procurement challenges faced within the electricity distribution sector.

Third, the available Ethiopia-specific studies are largely qualitative and descriptive in nature, relying heavily on project reports and institutional assessments. Limited quantitative evidence exists to statistically demonstrate the relationship between donor procurement duration, procedural complexity, and schedule overruns in EEU projects. Consequently, there remains inadequate empirical evidence to support evidence-based procurement reforms and project management improvements.

Furthermore, limited scholarly attention has been given to how implementing agencies such as EEU can negotiate more flexible and context-sensitive procurement arrangements with development partners. This gap is increasingly important as results-based financing mechanisms continue to gain prominence among major donors, where prolonged implementation delays may result in funding suspension, delayed disbursements, or project cancellation (World Bank, 2024). The absence of adequate empirical evidence may therefore weaken the ability of implementing agencies to advocate for procurement reforms that balance accountability requirements with project implementation efficiency.

Hence, this study addressed an important empirical and policy-relevant gap by statistically examining the effects of donor procurement requirements on schedule performance in EEU electrical distribution projects. Guided by the identified conceptual and theoretical foundations, the study also identified evidence-based policy alternatives aimed at improving procurement

negotiations, enhancing implementation efficiency, and reducing schedule overruns in donor-funded electrical distribution projects in Ethiopia.

2.9. Conceptual framework

2.9.1 Introduction

The chapter shows the conceptual framework of the study. The framework is constructed based on the literature reviewed and other theories in project management and procurement. It establishes the rational connection between the needs in terms of donor procurement and the performance of electrical distribution projects introduced by EEU on a schedule basis. It also draws attention to the mediating and moderating factors, and the policy implications of the study. The conceptual framework gives an underpinning of identification of the main variables, formulation of the instruments of research and how to analyze the data in the subsequent chapters.

2.9.2 Framework: theoretical basis of conceptual frame work.

The theoretical framework of this research is rooted in various theoretical views that describe the correlation between procurement systems and project performance. Procurement requirements are significant in the development of infrastructures especially when they are developed by the international donors as they influence the way the project will be implemented and its time efficiency. Technical activities are not the only determinants of project schedule performance. It is also affected by governance systems, procurement processes, institutional provisions and monitoring systems (Ika, 2012; Thai, 2009).

Donor-funded projects will probably be associated with rigid procurement procedures that are aimed at fostering transparency, accountability, and economy. Although such procedures can enhance governance and minimize chances of corruption, they can cause administrative complexity, multiple layers of approval and the inflexibility of processes which can slow project implementation (World Bank, 2017). Thus, to comprehend the impact of procurement requirements to schedule performance, it is necessary to focus on the theoretical basis of the project management and procurement systems.

This study is theoretically based on five important theories which are Project Management Theory, Public Procurement Theory, Transaction Cost Theory, Agency Theory and Institutional Theory.

Project Management Theory: Project Management Theory gives the fundamental basis on the theory of project performance, particularly in its time management and scheduling. The Project Management Triangle or Triple Constraint Model is one of the most popular project management models, and it is depicted in Figure 3.1. This model states that project success is related to the balance of the time, cost, and scope (Kerzner, 2017). The model states that optimization of a project in three areas is not possible at once. The presence of changes or inefficiencies in one area will translate to the rest. Delays in procurement processes in terms of infrastructure projects may have some direct impacts on time dimension which in turn causes schedule overrun and poor overall performance of the entire project.

Research indicates that procurement delays are also one of the most relevant reasons behind schedule overruns in infrastructure development projects, particularly in the developing world (Flyvbjerg, 2014). Such delays could be experienced in the planning of procurement, bidding documentation, bidding evaluation, contract approval, or mobilization of the contractor. Other procedures like donor's review and no objection procedures may prolong procurement time, and project schedules in donor funded projects. The world bank is one example of development partners that demand that projects must adhere to rigid procurement regulations to achieve transparency and accountability (World Bank, 2017).

As such, Project Management Theory proposed that effective procurement processes could offer the schedule of projects and project timely completion.



Figure 1: Project Management Triple Constraint (Kerzner, 2017)

This model indicates that the delays caused in procurement on the time dimension can also result in cost and scope changes in the project.

Public Procurement Theory: The Public Procurement Theory is the theory of the procurement of goods, services, and works in a manner that fosters transparency, fairness, competition, and value to money by the governments and other institutions owned by the people (Thai, 2009). Public procurement systems tend to be systematic in nature and comprise of procurement planning, tendering, bid assessment, contract award and contract management.

The primary goal of the regulations on public procurement is to guarantee that state money is spent effectively and avoids corruption and fosters accountability (Arrowsmith, 2010). The procurement laws especially in donor-funded infrastructure projects tend to adopt international standards that have been stipulated by the partners in the development process. Nevertheless, the same regulations also have the capacity to introduce multifaceted processes and bureaucratic demands which cause delays in decision making. The research on the projects of public infrastructure has indicated that the key reasons of project postponements are lengthy procurement processes, bureaucratic regulations and compliance (Osei-Tutu et al., 2011).

The procurement processes in most of the donor funded projects have to comply with the national procurement procedures as well as the donor procurement procedures. This may cause duplicating processes and additional certification. These institutional complexities have the potential to impact greatly on timelines of project implementation. Thus, Public Procurement Theory, is useful in explaining the impact that procurement regulations have on project performance by determining the selection process of contractors and suppliers.

Transaction Cost Theory: The original version of the theory was created by Williamson (1985) and is called the Transaction Cost Theory (TCT). This theory describes how organizations negotiate their economic transactions in the most cost-efficient manner. These are expenses associated with identifying suppliers, contracting, performance monitoring and enforcing agreements. Governance mechanisms are also created to minimize corruption, opportunistic behavior, and inefficiency in a procurement system in the public. But the same mechanisms may also result in the administrative procedures that become costly to transactions and more time-consuming.

International competitive bidding, extensive documentation, and a series of evaluation activities make procurement more burdensome in donor-funded projects. The procedures can prolong the procurement process and postponed project execution. According to Williamson (1985), governance structures must strike the balance between efficiency and control. Although the accountability can be enhanced with the help of stricter procurement procedures, it might lead to higher costs of coordination and slow the decision-making process. Thus, the Transaction Cost Theory can be used to understand the reasons why donor procurement requirements can increase the costs of administration and prolong project schedules.

Agency Theory: Agency Theory describes the connection between principals and agents in instances where one party delegates the other one to represent it (Jensen and Meckling, 1976). In infrastructures funded by donors, the donors are the principals since they contribute the financial resources whereas the government agencies or the public utilities are the agents who carry out the projects.

The donors cannot directly regulate all the activities of a project, as such they ensure that there are monitoring and governance provisions that will ensure funds are being used in the right way and the project goal is met. Such mechanisms frequently involve stringent procurement policies,

financial reporting policies, audit practices and controls. They are to minimize information gaps and enhance accountability. Nevertheless, the extra control that donors might demand may also slow down the procurement approvals and the implementation of the contract (World Bank, 2017). These delays may have an impact on the scheduling of a project, particularly where procurements require to travel through a number of levels of approval. Agency Theory thus assists in understanding why the donors have rigid procurement conditions and how these conditions can indirectly influence the performance of the project schedules.

Institutional Theory: Institutional Theory is also concerned with how the behavior of organizations is shaped by formal rules, regulations and institutional structures (Scott, 2014). Institutions tend to have formal procedures and governing systems to achieve legitimacy and fulfill institutional expectations.

In infrastructure projects which are funded by donors, the institutions through which procurement processes are conducted are the development banks, national procurement authorities and regulatory bodies which establish the guidelines to be followed. These institutional frameworks affect the making of procurement decisions and implementation of projects. Indicatively, donor agencies like World Bank and African Development Bank have certain procurement guidelines that require projects to have their procurement guidelines transparent and competitive in terms of bidding. Although these guidelines enhance governance and accountability, it can also lead to procedural complexity and extra approvals. Institutional theory thus describes the external institutional pressures that influence the procurement practices and project implementation processes.

Integration of the Theoretical Frameworks: A combination of these theories offers a powerful theory of the role that procurement requirements play in the performance of the project schedule. The Project Management Theory describes the connection between the procurement processes and the project schedules, in which delays in the procurement process can directly influence the delivery of the project in time (Kerzner, 2017). The Public Procurement Theory describes the design, principles and aims of the procurement systems particularly transparency, competitiveness and value in use of public resources (Thai, 2009). Transaction Cost Theory further incorporates that there are administrative and coordinating costs that accompany the procurement processes, cost of searching suppliers, contracting, and performance monitoring which may prolong the

procurement processes and influence project schedules (Williamson, 1985). Agency Theory describes the relationship between donors and the implementing agency in which the donor applies the mechanisms of governance, monitoring systems and rules of procurement to hold the implementing agency accountable (Jensen and Meckling, 1976). The Institutional Theory is also useful in identifying how the external rules, regulations and the institutional frameworks affect the organizational behavior and project implementation processes (Scott, 2014). All in all, these theoretical view can justify the argument that donor procurement requirements can greatly influence the schedule performance of electrical distribution projects carried out by Ethiopian Electric Utility.

The conceptual framework of this study was developed based on the assumption that donor procurement requirements significantly influence the schedule performance of donor-funded electrical distribution projects implemented by Ethiopian Electric Utility (EEU). The framework consists of independent variables, a dependent variable, mediating variables, and moderating variables, all supported by relevant theoretical perspectives.

In this study, the dependent variable is project schedule performance, which refers to the extent to which electrical distribution projects are completed within the planned timeframe. Schedule performance is commonly measured using indicators such as schedule variance, completion time, and frequency of schedule overruns (PMI, 2021).

The independent variables are donor procurement requirements, which include procurement duration, donor clearance procedures, prequalification complexity, bid evaluation requirements, and No-Objection approval processes. These procurement requirements are considered major procedural factors that may delay project implementation and affect schedule performance.

The relationship between donor procurement requirements and project schedule performance is theoretically supported by Project Management Theory. This theory explains that project activities are interconnected and delays in one process, particularly procurement activities, directly affect the achievement of project timelines (Kerzner, 2017). The theory therefore supports the argument that prolonged procurement procedures can negatively influence schedule performance in donor-funded projects.

The study also incorporates mediating variables that explain the mechanism through which procurement requirements influence schedule performance. The mediating variables include procurement efficiency, contractor mobilization efficiency, and fund disbursement timeliness. Donor procurement procedures may first affect the efficiency of procurement implementation, contractor mobilization, and disbursement processes, which subsequently influence overall project schedules.

The mediating role of these variables is best explained by Transaction Cost Theory. According to Williamson (1985), procurement processes involve transaction costs such as supplier search costs, contracting costs, coordination costs, monitoring expenses, and administrative procedures. When transaction costs increase because of complex donor procurement requirements, procurement efficiency declines, contractor mobilization is delayed, and project implementation slows down, thereby affecting schedule performance.

In addition, Agency Theory provides justification for the donor-imposed monitoring and control mechanisms embedded in procurement procedures. The theory explains the relationship between donors (principals) and implementing agencies such as EEU (agents), where donors establish procurement rules, reporting requirements, and approval mechanisms to ensure accountability and proper use of funds (Jensen & Meckling, 1976). However, excessive monitoring and procedural controls may unintentionally create implementation delays.

The study further recognizes the presence of moderating variables that may strengthen or weaken the relationship between donor procurement requirements and project schedule performance. These moderating variables include institutional capacity, procurement staff competency, stakeholder coordination, ICT-based procurement systems, and government regulatory support. These factors may influence how effectively EEU manages donor procurement procedures and minimizes schedule delays.

The moderating role of institutional and environmental factors is supported by Institutional Theory, which explains how organizational behavior and project implementation are shaped by external rules, regulations, institutional frameworks, and environmental pressures (Scott, 2014). In the context of EEU projects, institutional capacity and organizational readiness may determine how successfully donor procurement requirements are implemented without causing significant schedule overruns.

Furthermore, Public Procurement Theory supports the overall framework by explaining the principles and objectives underlying procurement systems, including transparency, accountability, competition, and value for money (Thai, 2009). Although these principles aim to improve governance and proper resource utilization, strict compliance requirements may also increase procedural complexity and implementation time.

Therefore, the integration of Project Management Theory, Public Procurement Theory, Transaction Cost Theory, Agency Theory, and Institutional Theory provides a comprehensive theoretical foundation for explaining how donor procurement requirements influence the schedule performance of donor-funded electrical distribution projects implemented by EEU.

The conceptual frame work is shown in Figure 2. It has independent variable, mediator, moderator and dependent variable. The independent variable expected to affect the schedule performance (dependent variable) either directly or through the mediator. It was ceveloped by the researcher based on Kerzner (2017), Thai (2009), Williamson (1985), Jensen and Meckling (1976), and Scott (2014).

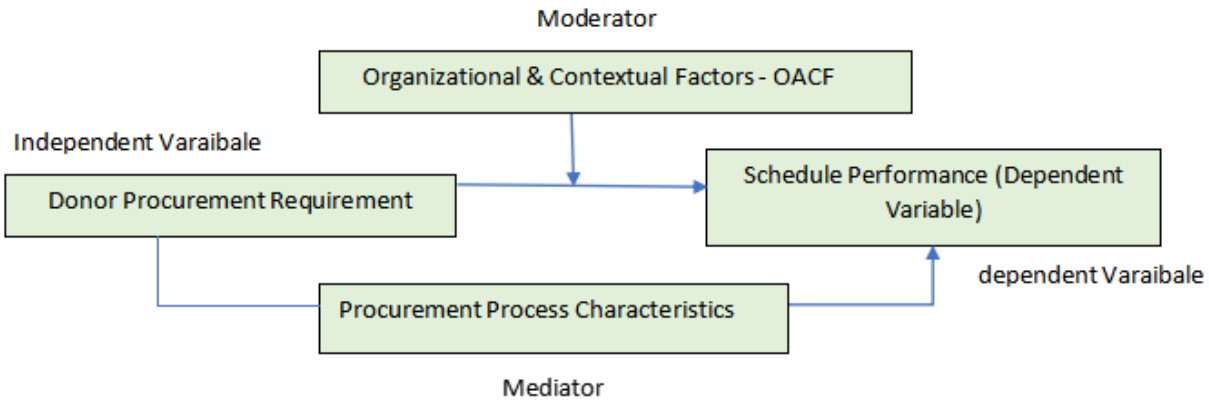


Figure 2:Conceptual Framework.

The relationship between donor procurement requirements and project schedule performance can be explained through mediating variables such as procurement efficiency, contractor mobilization efficiency, and fund disbursement timeliness. Existing literature indicates that lengthy procurement procedures, multiple approval stages, and mandatory No-Objection requirements reduce procurement efficiency and delay contractor mobilization, thereby contributing to schedule overruns in donor-funded projects (Ahsan & Paul, 2018; Berkouwer, 2023). Similarly, delayed procurement approvals often slow fund disbursement processes and interrupt project

implementation activities, particularly in infrastructure and electrical distribution projects that depend heavily on imported materials and contractor cash flow (World Bank, 2018). This mediating relationship is theoretically supported by Transaction Cost Theory, which explains that complex procurement procedures increase coordination, monitoring, and administrative costs that negatively affect implementation efficiency and project timelines (Williamson, 1985).

The effect of donor procurement requirements on project schedule performance may also vary depending on moderating variables such as institutional capacity, procurement staff competency, stakeholder coordination, ICT-based procurement systems, and government regulatory support. Studies suggest that organizations with stronger institutional systems, experienced procurement professionals, and better stakeholder coordination are more capable of complying with donor procurement requirements while minimizing implementation delays (Koshe & Jha, 2016; Thai, 2009). Likewise, digital procurement systems and supportive regulatory environments may improve procurement processing speed and reduce administrative bottlenecks (World Bank, 2021). The moderating role of these factors is supported by Institutional Theory, which explains that organizational performance and project implementation outcomes are influenced by institutional frameworks, organizational capabilities, and external environmental conditions (Scott, 2014).

2.9.3 Independent Variables: Donor Procurement Requirements (DPR)

The independent variables in this study are taken as the donor procurement requirements (DPR). These are viewed as a multidimensional construct indicating the procedural and regulatory circumstances which are offered by development partners to EEU donor-funded electrical distribution projects. The framework is centered around three major dimensions that are aligned with the aims of the study: total procurement duration (TPD), clearance requirements (CR), and bidding methods and prequalification complexity (BM/PQC).

Total Procurement Duration: Total procurement duration (TPD) is defined as the time taken to go through all the procurement processes which are required by the donor. These phases encompass the procurement planning, bidding document preparation, bidding, evaluation, donor review, and contract award. Due to the requirements of the donors like international competitive bidding, required review phases, and no-objection approvals, the procurement processes tend to be stretched. In the current research, it is assumed that, with increased procurement period, there

is more time overrun and construction delay in the commencement of electrical distribution projects (World Bank, 2017).

Clearance Requirements (CR): Clearance requirements (CR) are the approvals by the donor required at various levels of the procurement process, such as approvals of bidding documents, bid evaluation reports and award of contracts. These are requirements which include the quantity and nature of the approvals. The procurement decision-making process can be bureaucratic and time-consuming when it has to pass through many levels of clearance and other approving bodies. The model implies that any strict clearance requirements add administrative delays, which in turn might add to the project schedule (Osei-Tutu et al., 2011).

Bidding Methods and Pre-Qualification Complexity (BM/PQC): It is the dimension that includes donor-identified bidding techniques, including international competitive bids, prequalification or post-qualification, and hard eligibility criteria. Though these practices are designed to enhance competition and not allow the selection of unqualified contractors, they can also decrease the participation in bidding, as well as raise the evaluation period, and delay the mobilization of contractors. Consequently, the framework presupposes that complex prequalification and bidding requirements have a negative impact on the schedule performance in the initial phases of electrical distribution works.

2.9.4. Mediating Variables: Procurement Process Characteristics (PPC)

The conceptual framework states that no single factor alone has an impact on schedule performance, that is, the requirement of the donor procurement. Rather, the requirements affect schedules of projects by way of certain characteristics of the procurement process that justify how procedural requirements become sources of schedule slips. The key mediators are the approval cycle (AC) the period necessary to get necessary approvals and donor No-Objection clearances during procurement, the evaluation duration (ED) the period during which the submitted bids undergo a review and assessment before a contractor is chosen, and the contract award timing (CAT) the period between the completion of the evaluation procedure and the official award of the contract to a chosen contractor. These aspects of procurement processes are the forces that drive the impacts of donor procurement needs on project timescales and consequently, the performance of project schedules by electrical distribution projects carried out by the Ethiopian Electric Utility.

2.9.5. Moderating Variables: Organizational and Contextual Factors (OACF)

The relationship between the donor procurement requirements and schedule performance can be influenced by organizational and contextual factors pertaining to EEU and to the project environment. Moderating factors are the capacity of EEU to procure and contract management procedures, the experience of project staff in donor procurement processes, availability of qualified contractors and suppliers, and the external factors like the availability of foreign exchange and regulatory alignment. These may reinforce or diminish the effect of donor procurement requirements on projects timeline and contribute to the differences in performance between donors-financed projects.

2.9.6. Dependent Variable: Electrical Distribution Projects Schedule Performance.

The dependent variable of the study is the schedule performance of electrical distribution projects by EEU. Schedule performance is the degree to which projects are completed on time. The measures that can be used to measure it include predictability of planned versus actual project completion time (PvA), the scale of time overruns (TO), the frequency of schedule extensions (SE) and delays in critical project milestones (DM), including the procurement completion date and the construction start date. The schedule performance is of particular significance within the framework of Ethiopian electrification plans since the delays in the distribution initiatives may influence the goals of the electricity accessibility, service quality, and overall socio-economic development results.

2.9.7. Policy and Procedural Feedback Mechanism

An important aspect of the conceptual framework is a policy and procedural feedback mechanism. Using evidence of the impact of donor procurement requirement on schedule performance, the framework can be used to pin-point areas of policy and procedure that require enhancement. This can take the form of increased flexibility and risk-taking procurement approaches, faster donor approvals and clearance, and enhanced negotiations between EEU and development partners. This feedback tool aids in the purpose of the study since it places the research as an evidence-based instrument to enhance the procurement policy conversation between EEU and the donors.

2.9.8. Summary of the Conceptual Framework

In conclusion, the conceptual framework will illustrate the association between the donor procurement needs and the time performance of the electrical distribution projects of EEU. It describes that the nature of the procurement process, including the total time the procurement process takes, clearance factors and the complexity of the bidding and prequalification can impact project schedule performance. This relationship is also moderated by organization and context factors. A policy-driven feedback loop is also part of the framework that can be used to enhance in-practice procurement agreements in between donors and EEU. In general, this framework gives the rational framework of the research approach that will be detail in the following chapter.

2.9.9. Analytical Model Formula

According to the conceptual model, it is possible to examine the relationship between the donor procurement requirements and schedule performance in accordance with the multiple regression model with mediating and moderating variables. The model comprises four key setups, namely, the independent variable (IV), the mediator (MED), the moderator (MOD), and the dependent variable (DV). In this manner, the direct effects, the indirect effects via mediation and the interaction effects via moderation will be able to be assessed within the proposed model.

Base Model (Direct Effect)

The direct effect of the independent variable on the dependent variable:

$$DV = \beta_0 + \beta_1(IV) + \varepsilon$$

This model tests whether IV significantly predicts DV.

Mediated Model

The mediated model expression:

$$MED = \beta_0 + \beta_1(IV) + \varepsilon$$

Moderator Model

The model to study the effect of moderator on dependent variable:

$$DV = \beta_0 + \beta_1(IV) + \beta_2(MOD) + \beta_3(IVxMOD) + \varepsilon$$

Where IV×MODIV represents the interaction effect.

Comprehensive Model

A more comprehensive model includes IV, MED, MOD, and their interaction:

$$DV = \beta_0 + \beta_1(IV) + \beta_2(MED) + \beta_2(MOD) + \beta_4(IVxMOD) + \varepsilon$$

This model allows simultaneous testing of Direct effect (IV → DV), Indirect effect (IV → MED → DV) and Moderation effect (MOD on IV–DV relationship).

A more comprehensive model includes IV, MED, MOD, and their interaction:

$$DV = \beta_0 + \beta_1(IV) + \beta_2(MED) + \beta_2(MOD) + \beta_4(IVxMOD) + \varepsilon$$

This model allows simultaneous testing of Direct effect (IV → DV), Indirect effect (IV → MED → DV) and Moderation effect (MOD on IV–DV relationship).

CHAPTER THREE- RESEARCH METHODOLOGY

3.1 Research Design and Approach

The research was conducted using a mixed-methods research approach, combining quantitative and qualitative methods to obtain a more comprehensive understanding of the impact of donor procurement requirements on project schedule performance in EEU electrical distribution projects. The mixed-methods approach was considered appropriate because the study sought not only to measure the statistical relationship between donor procurement requirements and schedule performance, but also to explain the practical and institutional factors influencing those relationships. The study began with a quantitative approach, which aimed to identify statistical patterns, trends, and causal relationships between donor procurement practices and project schedule performance indicators. During this phase, hypotheses were tested using statistical techniques such as correlation analysis and multiple linear regression to examine the strength and significance of the relationship between the independent variables, namely procurement duration, clearance requirements, and procurement process complexity, and the dependent variable, project schedule performance.

The study adopted a causal-predictive research design because it aimed not only to describe relationships among variables, but also to predict how changes in donor procurement requirements could affect project schedules. This design was aligned with the study objectives, conceptual framework, and theoretical foundations, particularly Project Management Theory, Transaction Cost Theory, Agency Theory, and Institutional Theory, which explain how procurement procedures, organizational factors, and institutional requirements influence project implementation outcomes. The quantitative phase was followed by a qualitative phase that provided further explanation and interpretation of the statistical findings through insights obtained from key informants involved in project management and procurement processes within Ethiopian Electric Utility (EEU). The qualitative findings helped explain the contextual and institutional realities behind the quantitative results. The mixed-methods approach therefore strengthened the study by integrating statistical evidence with practical experiences and organizational perspectives. Creswell and Plano Clark (2018) argue that mixed-methods research provides a stronger understanding of research problems than either quantitative or qualitative approaches alone because it combines statistical analysis with contextual interpretation. Similarly, Tashakkori and

Teddlie (2010) state that integrating quantitative and qualitative data enables researchers to triangulate findings, improve validity, and better understand complex organizational and social problems. Accordingly, the mixed-methods approach was considered suitable for this study because it enabled the researcher to examine measurable relationships while also capturing the practical experiences and institutional dynamics affecting donor procurement procedures and project schedule performance.

3.2 Description of Study Variables

In accordance with the conceptual framework of the research, the variables of the research were divided into independent, dependent, mediating, and moderating variables. The independent variables used were the requirements of the donor procurement and they were the total procurement time, clearance requirements as rated by the number of donor No-Objection stages, and the complexity of the bidding procedures or prequalification procedures involved in the procurement. These variables were deemed to have likelihood of influencing timelines of project implementation. Dependent variable was the project schedule performance which was measured through indicators which included magnitude of time overruns, frequency of schedule extension and delays in the attainment of important project milestones. Mediating variables were also used in the study, also known as characters of procurement process, which justified the way through which the donor procurement requirements might result in delays. These were the time taken in the approval cycles, time taken in the process of evaluating the bids and mobilization of the contractor in case of a contract award. Also, moderating variables were considered, to reflect organizational and contextual conditions that might either add to or minimize the effect of project delays. These were the capacity of the EEU in managing contracts, experience of the staff on the donor procurement processes and the foreign exchange required to implement the project. Collectively, these variables were useful in offering a holistic contribution to the analysis of the impact of donor procurement requirements on the performance of electrical distribution projects in terms of schedule.

3.3.Research Area and Population

The case study was the Ethiopian Electric Utility (EEU) and the electrical distribution projects in particular. The target population was restricted to personnel that were already involved or working

on donor-funded electrical distribution projects. The respondent sample was comprised of the project managers, the procurement officers and the donor coordination specialists in EEU that were directly involved in the donor mandated procurement cycles. The Project Portfolio Management (PPM) staff was approximately 353 (site supervisors, drivers, and secretaries) and the number of staff applicable to this study was 75 based on the information human resource division of EEU. Moreover, there were approximately 12 active and completed donor-funded projects connected with the study.

3.4 Sampling Technique/Methods and Sample Size

The research employed multi-stage purposive sampling exam to ensure that data pertinent projects and seasoned respondents were incorporated. The reason why purposive sampling was employed is that it enabled the researcher to deliberately select participants who possessed specific knowledge and firsthand experience related to donor-mandated procurement processes and project implementation activities. Since the study focused on highly specialized procurement and project management practices within EEU, not all employees were equally relevant to provide the required information. Therefore, purposive sampling was considered appropriate because it allowed the inclusion of respondents directly involved in procurement administration, donor compliance procedures, contract management, project coordination, and schedule monitoring activities. In addition, the researcher had prior familiarity with the EEU organizational structure and staff responsibilities, which made it possible to accurately identify knowledgeable participants capable of providing reliable and relevant data for the study. Given the relatively manageable sample size of 75 respondents, purposive sampling further ensured that the selected participants adequately represented the key professional groups involved in donor-funded electrical distribution projects. In contrast with probability sampling, purposive sampling dwells on information rich cases, which can find deal with helpful information about the problem under investigation. According to Patton (2015), purposive sampling is suitable when researchers must find out people, who have a particular knowledge about a certain issue and will be able to give in-depth information. Given that this study was interested in how the demand of donor procurement influenced the performance of the project schedule in the case of Ethiopian Electric Utility, the respondents identified as project managers, procurement officers and donor coordination specialists were chosen since they were directly concerned with the planning of procurement, evaluation of tender, administration of

contract and also with the donor. This assisted in making sure that the data gathered were relevant and reliable. Purposive sampling is not only popular in applied and case study studies, but it is also recommended in the case of which participants are chosen purposefully and are the most capable of describing the main research issue (Creswell and Creswell, 2018).

The initial stage involved the selection of the electrical distribution projects purposely. The projects identified were the donor-funded projects and this enabled the study to conduct an analysis on the particular procurement conditions that the development partners had. The research also incorporated the projects that were funded by the Ethiopian Electric Utility (EEU) to create a comparative baseline in understanding the schedule performance. In the second phase, either a census or a purposive sample of the staff was used in the survey including project managers and procurement officers involved directly in the implementation and procurement process of the chosen projects. Lastly, in the study, key informants, including senior managers and unit heads, were purposely chosen, on the basis of roles and experience on procurement policy implementation, donor coordination and project oversight. This methodology was used to make sure that the respondents possessed the appropriate knowledge and experience to give valuable insights into donor procurement requirements, and their impacts on performance of the project schedule.

In calculation of the right sample size that the study should be carried out, the simplified formula of a finite population as developed by Yamane (1967) was used:

$$n = \frac{N}{1 + Ne^2}$$

Where:

- n = sample size
- N = total population size which is around 75 (number of employees involved in project management, procurement, and donor coordination)
- e = margin of error (typically set at 5% or 0.05 for social science research)

Therefore, a sample of 63 respondents was taken as large enough to generate statistically sound survey findings. In strengthening this and because of the respondents' rich and specific experience in donor funded projects, a purposive sample of key informants including senior staff and managers, unit heads, and donor liaison officers, were selected to carry out the semi-structured interviews. The interview sample size was less, with 10 to 14 respondents, which was adequately sufficient to collect in-depth and rich information about donor procurement guidelines, procedures, institutional issues, and the impact of the same on project duration and on time completion. This integration of various methods that augment each other enabled the research to come up with statistically acceptable quantitative data as well as enriched qualitative data that gave a more comprehensive view of how the requirements of donor procurement influenced the schedule performance of electrical distribution projects in the Ethiopian Electric Utility.

3.5 Data Collection

The research applied primary sources of data to give a detailed explanation of the impact of donor procurement requirement on project schedule performance. A standardized questionnaire having closed ended question in Likert form and two open-ended questions to strengthen the closed one was arranged to collect valuable primary quantitative data; whereby appropriate project and procurement staff members of the selected projects were acknowledged to respond to the questionnaire administered (Creswell & Creswell, 2018; Kothari, 2004). The questionnaire incorporated a five-point Likert scale to quantify the perceived respondent opinion on the impacts of particular donor procurement processes including Requirements to provide No-Objection and approval processes on project schedules.

In addition to this, some extra insights came through guided interview and discussion with senior staff and experts who worked directly in purchasing operations and partner coordination at the Ethiopian Electric Utility. Instead of standard formats, these conversations used open questions to uncover deeper insight and views in related to donor requirements. On the interview, participants revealed specific challenges tied to dealing with funding partners. In the course of the interview, details emerged around how rules are followed during purchasing steps. Near the end, each discussion touched on adjustments in guidelines that might speed up how projects move forward.

3.6 Data Analysis

In this research, both quantitative and qualitative data analysis methods were applied to investigate the association between donor procurement requirements and the project schedule performance. To study the data, first, the demographic details of the respondents displayed using graphs to depict the information pictorially, then descriptive statistical analysis was performed in order to review the nature of the data. These involved computing mean, standard deviations and percentages to illustrate the scope of the four study variables then interpretation of the data and the write-up were done. The graphs were done using MS Excel and the analyses were conducted using statistical software package- SPSS.

Secondly, after the reliability test of the overall and each constructs questionnaire carried out, the means of the four constructed evaluated to conduct the correlation between the four constructs. The responses of the independent variables which is donor requirements, including the duration of procurement, clearance requirements, and complexity of the procurement processes to the dependent variable of project schedule performance were conducted using inferential statistical analysis specifically using multiple linear regression. It was an approach which helped in establishing the strength and the importance of causation between the fulfillment of requirements in acquiring donors fund and its associated project delays.

Moreover, along with questionnaire, respondents' opinion was collected using two open ended questions and also to get some deep insights, qualitative data gathered through key informant interviews. Both qualitative data were analyzed through thematic analysis by coding and identifying themes. After transcribing the interview data, it was hand coded and manually analyzed to identify repeated responses associated with the procurement bottlenecks, administration hurdles and how the donor negotiation processes could be improved.

At the end, an analysis was done to explain the empirical results and to convert them into practical suggestions and recommendations. This discussion aimed at finding potential procedural changes required and policy adjustments that might increase the efficiency of procurement and enhance collaboration between donors and the Ethiopian Electric Utility in the implementation of electrical distribution projects.

3.7 Reliability and Validity Analysis

A certain procedure was conducted to verify the validity and reliability of the questionnaire and data gathering tools and data to ensures reliability and credibility of the research findings. The academic advisors and project and procurement professionals at the Ethiopian Electric utility reviewed the questionnaire content of the survey paper and interview guides to ensure content validity. Their valuable insight and inputs supported in ensuring the instruments that they adequately reflected the objectives of the study and essential issues concerning to the requirements of the donor procurement and performance of the project schedule. The output generated form the reliabiltity and validity test were indicated in chapter four of this thesis.

Internal reliability of the Likert scale questionnaire or instrument was checked on the basis of Cronbachs Alpha, a widely held statistic tool to determine the internal consistency of question items overall and each constructs. Statistical software like SPSS or Stata was used to perform the reliability analysis, with ideal Cronbachs Alpha of 0.70 or more (generally satisfactory with social science research). Additionally, the study employed triangulation as a technique to enhance validity of findings through the incorporation of various sources of data.

This included comparison and cross-checking the statistical outputs of the issue of the questionnaire and the qualitative information of the interviews conducted with the senior managers and other key players in the procurement and donor coordination issues. The study gained a better and more dependable overview on the effect of donor procurement requirements on the schedule performance of electrical distribution projects by synthesizing quantitative and qualitative evidence.

3.8 Ethical Consideration

The study had strong ethical guidelines to adhere to in its research. To begin with, all the participants were informed and gave their consent to participate in the study. The participants were well informed of the intention of the research and nature of their involvement as well as their right to drop out of the study at any time without any adverse effects. Second, privacy was highly ensured when anonymizing individual responses and reporting project-specific information only in the aggregated form to minimize sensitive organizational information involving the Ethiopian

Electric Utility. Participant and project identifying information were eliminated in the data processing and reporting. Lastly, the researchers maintained data integrity by objectively and transparently reporting all the findings on the basis of the evidence gathered in the course of research. These results were analyzed and interpreted without manipulation and predispositions and were not manipulated to benefit a particular donor organization or institutional interest.

CHAPTER FOUR – RESULTS

4.1. Introduction

This chapter gave the findings of the research by giving a comprehensive analysis and interpretation of findings of two main data collection tools; the structured questionnaire survey and the key informant interviews. The chapter was able to integrate both quantitative and qualitative findings of the survey to investigate the impact of the donor procurement requirements of the schedule performance of the electrical distribution projects under the Ethiopian Electric Utility (EEU).

The analysis was structured according to the aims of the research and relationships set out in the conceptual framework. The professional opinions and practical experiences of the staff engaged in procurement and project implementation were obtained in the survey data, which adopted the Likert scale and open-ended questions. This quantitative data was further represented by qualitative data in key informant interviews that were used to elaborate the underlying causes, institutional processes and situational factors influencing the project schedules such as No-Objection bottlenecks and macroeconomic volatility.

The triangulation of these pieces of evidence was used to give a balanced and credible understanding of the findings in the chapter. The findings were categorized into thematic groups as per each data collection tool and then an integrated analysis was performed which directly related particular procurement requirements to project schedule deliverables and was finally followed by a synthesized discussion.

4.2. Structured Questionnaires Survey Findings

This section gave the results of the structured questionnaire that was carried out with professionals that worked on projects funded by donors at the Ethiopian Electric Utility. The study had a starting population of 63 participants out of a population of 75 as indicated in Table 1. Nevertheless, there were 53 respondents who underwent the data collection process making the response rate of 84 percent. The final sample size was slightly less than the target but the response rate was satisfactory to analyze. The risk of non-response bias however, was recognized as a limitation of the study.

Table 1:Response rate of the study

Description	Frequency	Percentage (%)
Target Population	75	100
Target Sample Size	63	84
Actual Responses Received	53	84
Non-Responses	10	16

It was analyzed in two significant steps. Descriptive statistics and simple graphs were created in the first stage (primarily, to summarize the profile of respondents) with the help of Microsoft Excel, which helps to reveal general trends in the data. Analysis of the data obtained in the form of the Likert-scale survey was conducted in the second phase using the IBM SPSS Statistics package; thus, mean values, standard deviations, and reliability were calculated. It helped demonstrate the results in a clear manner while maintaining an adequate degree of statistical reliability.

In order to provide some background information about the results, the analysis process first involved presenting the demographic and professional background of the survey participants, their position, experience and exposure to projects supported by various donors. Background data is important in the understanding of the results obtained as well as ensuring that different professional views were captured.

The analysis proceeded to discuss the responses to the Likert-scale questions, particularly those highlighting how the respondents perceived the effects of the relevant factors that pertained to procurement. Particular attention was given to the issues of multiple approvals, the No-Objection criteria, bidding, and evaluation. Aside to theses, the organizational and procedural aspects that can have caused delays, e.g., prequalification requirements, two-stage bidding, and protracted negotiation and clarification procedures were also examined thoroughly.

The results were reported through descriptive statistics, such as frequency distributions and the mean scores to establish prevailing trends in opinions of respondents. These findings were used to supplement the quantitative project data and indicated how the problems with procurement were realized in practice, which offered a more solid interpretation of how the demands of donors influenced the project schedules.

Respondent Profiles

As indicated in Figure 3, the majority of the respondents (53) were men with 41 being the number of men and 12 being the number of women. This implies that donor-funded electrical distribution and procurement activities within EEU are predominantly handled by male professionals. Since these respondents are directly involved in procurement and project implementation processes, the data collected was considered relevant for assessing the effect of donor procurement requirements on project schedule delays.

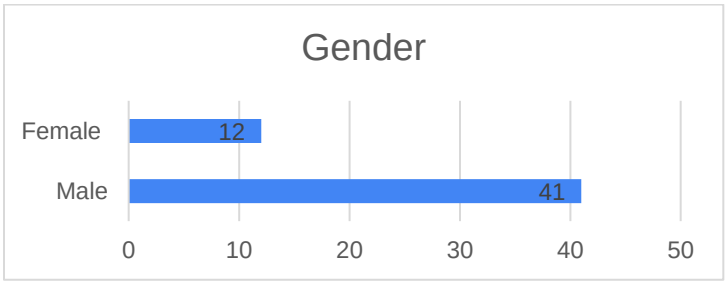


Figure 3:Gender Breakdown.

Figure 4 revealed that respondents in the younger age categories, less than 18 and 1824 were not represented. The age range of most of the participants was 35 to 44 years giving rise to 25 respondents and then 25-34 years giving rise to 16 respondents. The rest of the 12 respondents were aged 45 and older and this increased the number of respondents to 53.

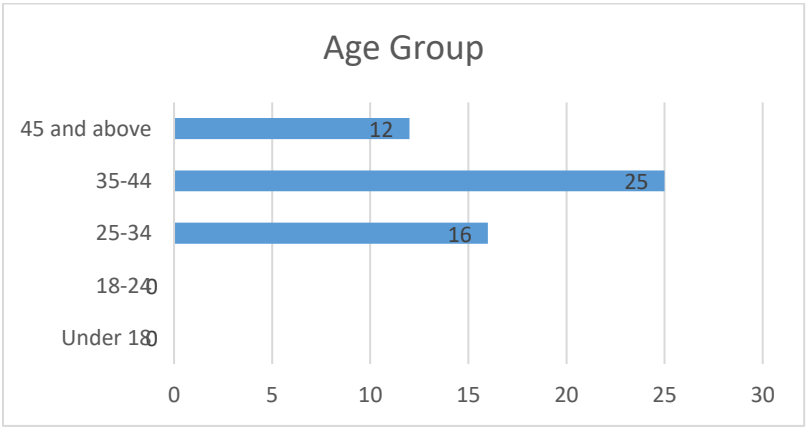


Figure 4:Age Categories.

The respondents' distribution was displayed in terms of professional position in Figure 5. The highest number of respondents were Project Engineers, 24 followed by Project Managers, 12. The number of Procurement Officers and Contract Administrators were 6 and 5, respectively, whereas Project Consultants consisted of 4 participants. There were only one respondents who mentioned being a Program Director and none of the respondents identified as Bank Support Staff. There was one response that did not contain a position, and this has led to one missing value on this category.

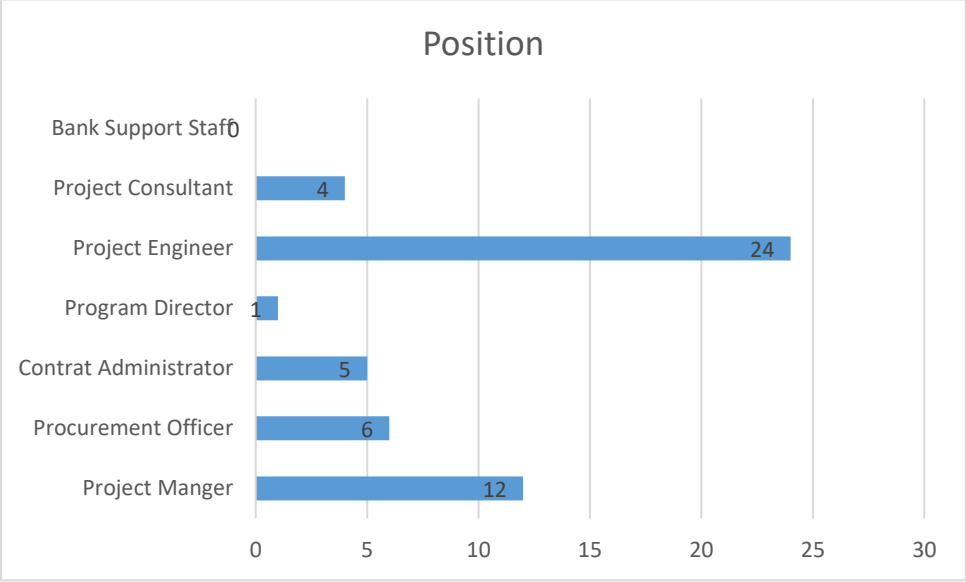


Figure 5:Professional Position Distributions.

The distribution of the respondents in terms of their years of experience was provided in figure 6. The majority of them were with 2 to 5 years of experience, which consisted of 17 individuals, and then another 15 respondents had 6 to 9 years of experience. This included 11 participants with 10 to 15 years of experience. The respondents who had more experience were less, and there were 5 respondents in both 16 to 20 years and above 20 years. On the whole, this distribution indicated that the sample comprised predominantly of professionals whose experience was moderate, and there is a minor proportion of highly experienced people.

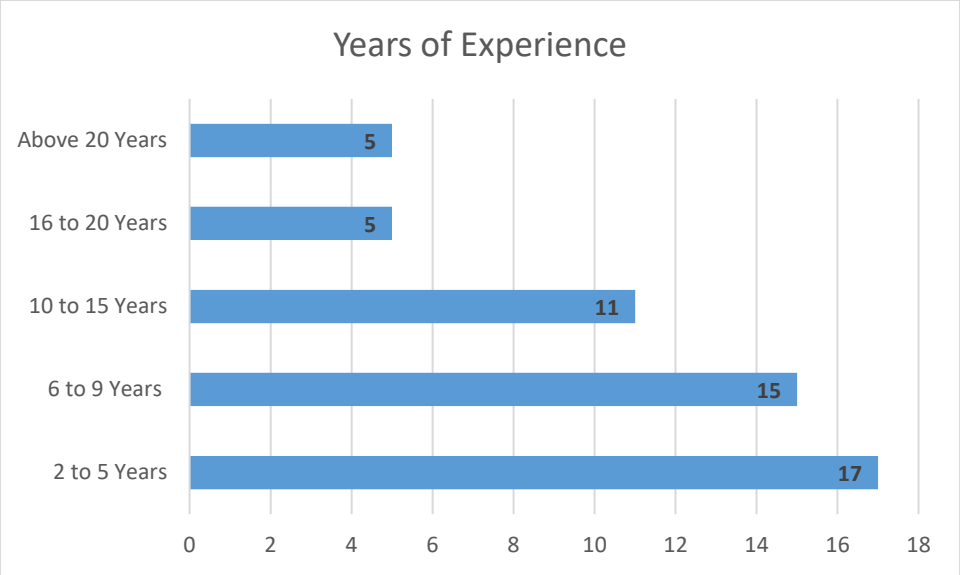


Figure 6:Years of Experience Distribution.

Figure 7 presented a breakdown of the respondents in terms of the nature of the projects that they had been involved in. Four9 of the 53 participants stated that they had experience with bilateral or multilateral donor projects. Comparatively, only 2 respondents had experience in working with either local or international NGOs, with 1 respondent having experience in dealing with a private or corporate donor. One of the respondents failed to provide information to this category hence one missing value.

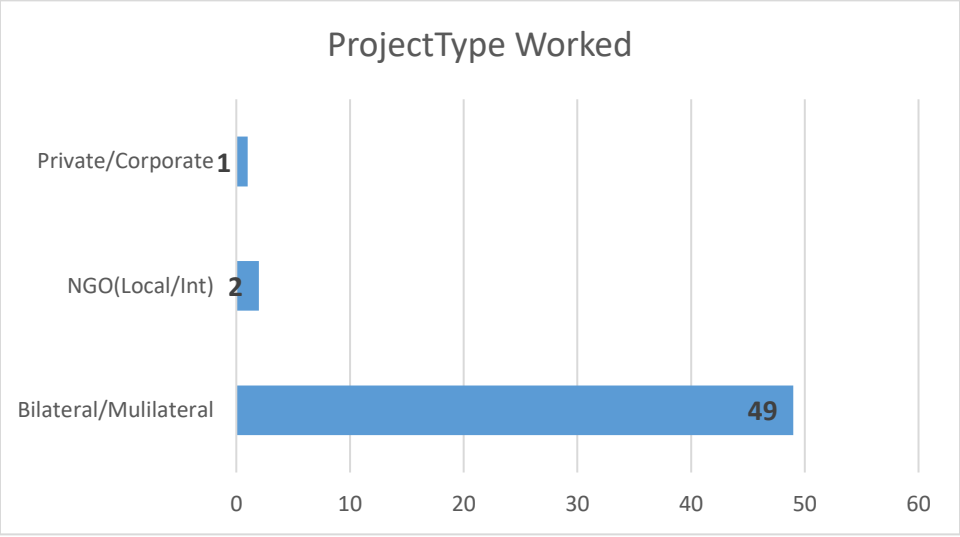


Figure 7:Donor Type Worked With

Multilateral Development Banks (MDBs) were banks owned by several countries. They gave massive lending and technical assistance, whereas bilateral aid was a country-to-country aid, which was typically in the form of grants or small loans. MDBs e.g. the World Bank were more focused on the long term development and infrastructural development in the region whereas bilateral donors e.g. the USAID tended to focus on a particular foreign policy agenda.

Figure 8 presented the amount of donor-funded projects that the respondents dealt with. Out of 53 respondents, the highest number comprised of 14 respondents who responded that they had undertaken five or more projects. This was preceded by 13 respondents who had been involved in one project. The respondents that had experience with two and three projects were equal in number, with 12 respondents each. Two respondents were the only ones who indicated that they had worked on four projects. All in all, the distribution implied that although the number of respondents with extensive exposure to donor-funded projects was high, a significant proportion of the respondents had rather limited experience as well.

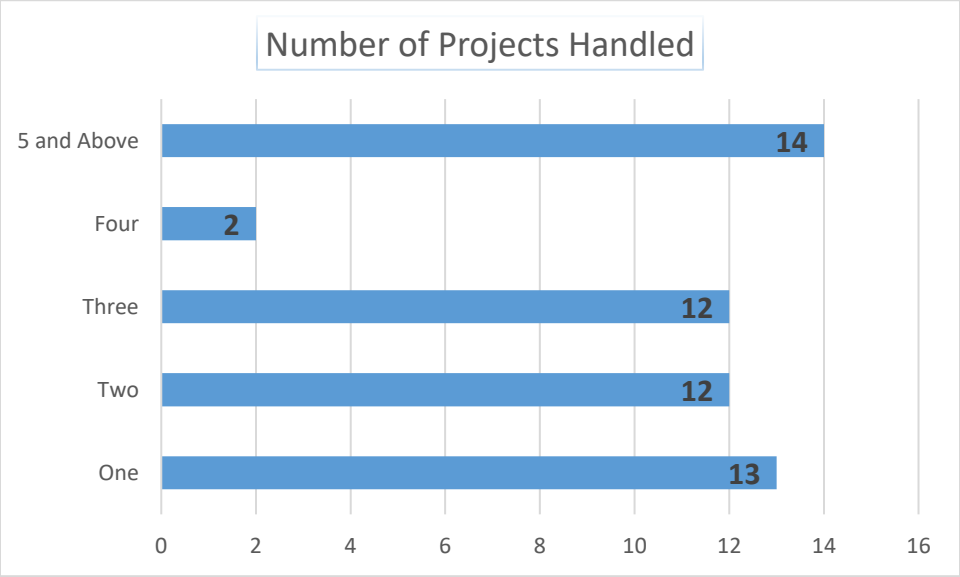


Figure 8:Number of Donor-Funded Projects Handled

Descriptive statistics

The descriptive statistics in Table 1 gave the values of the 13 items in the questionnaire that measured the perceptions of the respondents regarding delays in the processes of acquiring donor-funded procurements. In general, the findings indicated a general agreement that donor

procurement processes were among the factors that led to delays at various stages of the procurement process, since all the items had higher mean values than the Likert scale middle-point (3.0). This finding is consistent with World Bank (2020) and OECD (2015) reports, which indicate that donor-funded procurement systems often involve complex approval procedures, compliance requirements, and multiple oversight layers that can lead to delays in procurement implementation.

The greatest average was achieved on the statement Compared to national procurement, donor procurement takes longer (M = 4.53, SD = 0.504). This presented a high level of agreement that procurement funded by donors was perceived to be more time consuming as compared to national procurement systems. This was preceded by Approval layers raise overall procurement cycle time (M = 4.30, SD = 0.638) and Donor procurement procedures substantially increase procurement times (M = 4.21, SD = 0.689) indicating that the bureaucratic approval structures were also significant contributors of the procurement delays.

Comparatively high consensus was also seen regarding the statements of No-objection requirements delay decision-making (M = 4.04, SD = 0.706) and Donor review comments usually need to be rewritten (M = 3.98, SD = 0.665). This implied that there was an obvious impact on the efficiency of procurement by external checks and revisions. Equally, the product, International Competitive Bidding increases procurement duration (M = 3.94, SD = 0.497) demonstrated that respondents also felt that competitive procurement strategies also led to an increase in the timeframes.

Moderate concurrence was found in the following: Prequalification processes add substantial time to the procurement process (M = 3.77, SD = 0.669), Multiple approval stages slow down project implementation (M = 3.79, SD = 0.689) and Two-stage bidding procedures contribute to delays (M = 3.81, SD = 0.6 Other items, including “Bid evaluation takes longer under donor processes (M = 3.47, SD = 0.575) and Negotiation processes often take longer than planned (M = 3.43, SD = 0.537), had a relatively lower mean score, yet they were generally agreed upon. There was also a positive rating of Clarification Requests (M = 3.62, SD = 0.562) and There is often a long gap between contract award and contractor mobilization (M = 3.70, SD = 0.575) where the later stages of procurement were also a cause of delays. In terms of variability, there was greater standard deviations in the items like the donor procurement procedures (SD = 0.689), multiple approval

stages (SD = 0.689), bid evaluation (SD = 0.575) and negotiation processes (SD = 0.537). This revealed that there was a certain difference in the experience and perceptions of respondents, which could have been as a result of the disparity in the institutional background, type of project as well as the complexity of procurement.

Generally, the results indicated that the respondents always tended to perceive the procurement systems that were donor-funded to be associated with extended period of procurement. These lags were largely associated with approval lines, compliance and review, and procedural snarls, which conspired to slack the procurement process and project execution.

Table 2:Descriptive Statistics

	N	Mean	Std. Deviation
Donor requirements			
1. Donor Procurement procedures significantly extend procurement timelines	53	4.21	.689
2. Approval layers increase overall procurement cycle time	53	4.30	.638
3. Compared to national procurement, donor procurement takes longer	53	4.53	.504
4.No-objection requirements delay decision-making	53	4.04	.706
Procurement process characteristics			
5. Multiple approval stages slow down project implementation	53	3.79	.689
6. Donor review comments often require repeated revisions	53	3.98	.665
7. International Competitive Bidding increases procurement duration.	53	3.94	.497
8. Prequalification processes add substantial time to procurement	53	3.77	.669
9. Two-stage bidding procedures contribute to delays.	53	3.81	.681
Organizational factors			
10. Bid evaluation takes longer under donor procedures.	53	3.47	.575
11.Negotiation processes frequently extend beyond planned timelines.	53	3.43	.537
Schedule performance			
12. Clarification requests prolong evaluation time.	53	3.62	.562
13.There is often a long gap between contract award and contractor mobilization.	53	3.70	.575
Valid N (listwise)	53		

Reliability Test

To Cronbach's Alpha was used to determine the internal consistency of the Likert-scale items. Cronbach Alpha is a common reliability coefficient in social science studies, especially that of assessing multi-item scales aimed at measuring the same underlying construct (Cronbach, 1951; Sekaran and Bougie, 2016). The questionnaire used in this research was composed of 13 Likert-scale questions (organized into four constructs) which were donor procurement requirements, procurement process characteristics, organizational factors and schedule performance. External consistency was checked with the help of IBM SPSS statistics, which was used to analyse the internal consistency of the scale and the separate constructs. The findings suggest that there is a great degree of reliability throughout the instrument. The general Cronbachs Alpha of the 13 items was 0.898, which implied that there was strong internal consistency of the total measurement scale. The Cronbachs Alpha of the donor requirements at the construct level was 0.928, procurement process characteristics recorded 0.900, organizational factors were recorded 0.935 and schedule performance was recorded 0.942 meaning that it has very high reliability. On the whole, the findings indicate that the measurement tool is very reliable and can be further subjected to statistical analysis as shown in Table 2.

Table 3: Reliability Test Results (Cronbach's alpha)

Construct	Number of Items	Cronbach's Alpha	Interpretation
Donor requirements	4	0.928	Very high reliability
Procurement process characteristics	5	0.900	High reliability
Organizational factors	2	0.935	Very high reliability
Schedule performance	2	0.942	Very high reliability
Overall scale (13 items)	13	0.898	Strong internal consistency

Composite Variables' Scores

The composite variables that were calculated as a result of the factor analysis (independent variable, mediator, moderator and dependent variable) were calculated as descriptive statistics. Table 2 shows results. The independent variable (IV_Mean) with the greatest mean score (4.27 SD = 0.56) was the independent variable, the procurement procedural delays. This indicated that

the respondents generally concurred that the process of donor procurement was the cause of delays in projects with very minor differences in the responses. The mediator variable (Mediator_Mean) had a mean score of 3.86 (SD = 0.57) which indicates a moderate level of high and quite stable agreement on the mediating factors influencing procurement processes. The mean score of the moderator variable (Moderator_Mean) was 3.45 (SD = 0.54), with moderate level of agreement with the low dispersion, and more neutral-to-moderate perceptions as compared to the other constructs. The dependent variable (DV_Mean) had a mean of 3.66 (SD=0.55) which showed that there was moderate agreement among the respondents about the consequences of delay in procurement, and the answers were in a relatively consistent manner. On the whole, the mean value of all composite variables was above the middle of Likert scale that was 3.0 indicating common opinion of the respondents (Joshi et al., 2015). The standard deviations were also relatively small, indicating a fairly good amount of uniformity in the sample.

Table 4: Descriptive Statistics of the Composite Scores

	N	Minimum	Maximum	Mean	Std. Deviation	SE	CR
IV_Mean	53	3.25	5.00	4.2689	.56084	0.0770	55.45
Mediator_Mean	53	3.00	5.00	3.8604	.56784	0.0780	49.49
Moderator_Mean	53	3.00	5.00	3.4528	.53945	0.0741	46.59
DV_Mean	53	3.00	5.00	3.6604	.55273	0.0759	48.23
Valid N (listwise)	53						

The Standard Error (SE) and Critical Ratio (CR) were computed for the composite variables (IV, mediator, moderator, and dependent variable) to assess the stability and reliability of their mean estimates. The SE values were relatively small across all constructs, indicating low sampling variability and suggesting that the sample means are precise estimates of the population parameters. Correspondingly, the CR values were substantially high for all variables, implying that the observed mean scores are statistically stable and significantly different from zero in relation to their standard errors. Overall, these results indicate that the composite constructs are consistently measured, with IV showing the highest stability followed by the mediator, dependent variable, and moderator.

Correlation Analysis

The correlation analysis results indicate varying relationships among the study variables. Based on Cohen's (1988) benchmark, donor requirements show a strong and statistically significant positive relationship with procurement process characteristics ($r = .652$, $p < .01$), while its relationship with organizational factors is weak and not statistically significant ($r = .130$, $p > .05$). A moderate and significant relationship is observed between donor requirements and schedule performance ($r = .355$, $p < .01$). Similarly, organizational factors show a moderate and significant positive relationship with schedule performance ($r = .397$, $p < .01$). However, procurement process characteristics do not show significant relationships with either organizational factors or schedule performance. Overall, the results suggest that donor requirements and organizational factors play a more influential role in explaining schedule performance compared to procurement process characteristics.

Table 5:Correlations analysis results.

		IV_Mean	Mediator_Mean	Moderator_Mean	DV_Mean
Donor requirements	Pearson Correlation	1	.652**	.130	.355**
	Sig. (2-tailed)		.000	.353	.009
	N	53	53	53	53
Procurement process characteristics	Pearson Correlation	.652**	1	.160	.152
	Sig. (2-tailed)	.000		.252	.276
	N	53	53	53	53
Organizational factors	Pearson Correlation	.130	.160	1	.397**
	Sig. (2-tailed)	.353	.252		.003
	N	53	53	53	53
Schedule Performance	Pearson Correlation	.355**	.152	.397**	1
	Sig. (2-tailed)	.009	.276	.003	
	N	53	53	53	53
**. Correlation is significant at the 0.01 level (2-tailed).					

Regression Assumption

Linearity was assumed by the residual versus fitted plot, and homoscedasticity, normality, multicollinearity, and influential cases with the Cook distance. The findings indicated that the linearity assumption was satisfied since the plot of the residual vs the predicted values did not

indicate a definite systematic trend or funnel effect. The normal P-P plot of the regression standardized residual showed that the residual was normally distributed. The problem of multicollinearity was also not an issue as the values of VIF were smaller than 10 and tolerance values were more than 0.1. Moreover, we have not found any influential outliers, as all the Cook distance values were under 1.

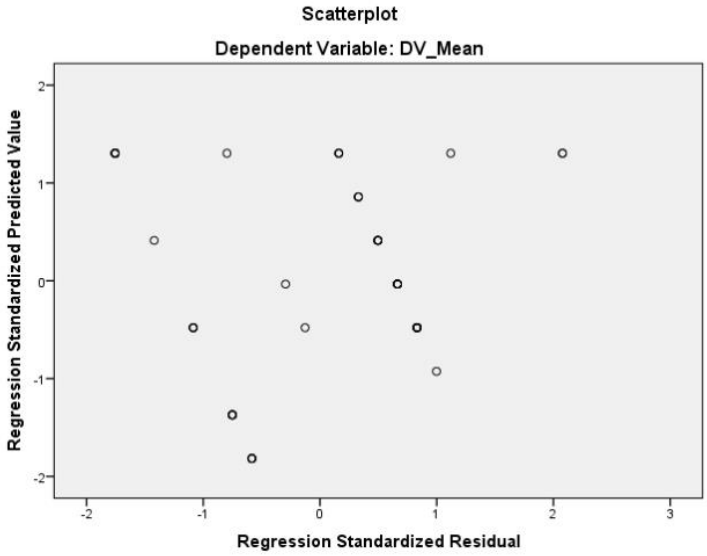


Figure 9:Linearity Plot

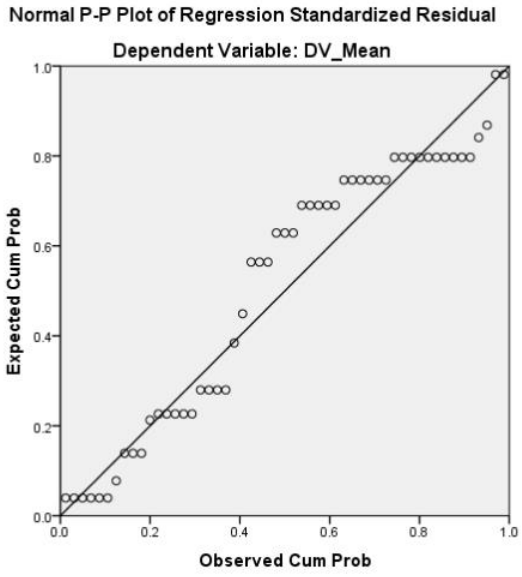


Figure 10: Normal P-P Plot

Hypothesis Testing (Regression Analysis)

A set of regression analyses has been made to test the primary hypotheses of the research to determine the impact of the independent variable (IV), mediator (MED) and moderator (MOD) on the dependent variable (DV). The method enabled the evaluation of the direct, indirect, and moderation of mediation and the interaction within the proposed model. The initial one looks at the immediate impact of the independent variable on the dependent variable:

$$DV = \beta_0 + \beta_1(IV) + \varepsilon$$

This model will test the significant predictive value of IV on DV. The results of the direct regression were shown in Table 4. The results indicated that the independent variable (IV_Mean) had statistically significant positive impact on the dependent variable (DV_Mean), B = 0.349, = 0.355, t = 2.708, p = 0.009. The standardized coefficient revealed that there was a moderate positive relationship between the two indicating that as the delays associated with donor procurement increased, so did the dependent variable. The confidence interval [0.090, 0.608] of B included neither 0 nor 1, which proved the relationship to be stable and significant. In general, the findings indicated the existence of a large positive direct impact of the independent variable on the dependent variable.

Table 6:Direct Regression Analysis.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.169	.556		3.904	.000	1.054	3.284
	IV_Mean	.349	.129	.355	2.708	.009	.090	.608
a. Dependent Variable: DV_Mean								

To test the mediating role of MED, the following regression equations are estimated. Firs the effect of IV on MED:

$$MED = \beta_0 + \beta_1(IV) + \varepsilon$$

Table 5 was the regression results that indicated that the independent variable (IV_Mean) had a strong, positive, and significant impact on the mediator (Mediator_Mean), B = 0.660, 0.652, t =

6.133, p = 0.001. The effect size of the standardized coefficient was significant, which indicated that the growth in the number of donor procurements in relation to delays was linked with significant growth in the mediator variable. The correlation was also very strong and the 95% confidence interval B [0.444, 0.876] was not equal to 0 indicating the strength and validity of the effect. In general, the results were very empirical demonstrating that the independent variable has a positive effect on the mediator.

Table 7:Mediating Role.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.044	.463		2.256	.028	.028	1.974
	IV_Mean	.660	.108	.652	6.133	.000	.444	.876
a. Dependent Variable: Mediator_Mean								

The impact of MED on DV (including IV) is:

$$DV = \beta_0 + \beta_1(IV) + \beta_2(MED) + \varepsilon$$

The conditions under which mediation was supported were: the IV had a significant effect on the MED, the MED had a significant effect on the DV and addition of the MED decreased the effect of IV on the DV. Table 6 showed the regression analysis of the interaction between the independent variable (IV_Mean) and mediator (Mediator_Mean) and the dependent variable (DV_Mean). The findings showed that IV_Mean had a statistically significant positive effect on DV_Mean, B = 0.437, β = 0.444, t = 2.560, p = 0.014. This showed a moderate correlation, in which a rise in the delays related to donor procurement, was correlated to a rise in the dependent variable. Conversely, the mediator was not statistically significant in the effect on DV_Mean, B = -0.133, 8 = -0.137, t = -0.788, p = 0.434 implying weak and non-meaningful relationship. The IV Confidence interval [0.094, 0.780] did not contain the value of zero proving the significance of its effect whereas the mediator confidence interval [-0.472, 0.206] contained the value of zero which further indicated its non-significance. All told the results revealed that the independent variable was a significant predictor of the dependent variable, but no evidence of a mediating effect.

Table 8:Effects of Mediator on Dependent Variable.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.308	.585		3.947	.000	1.133	3.482
	IV_Mean	.437	.171	.444	2.560	.014	.094	.780
	Mediator_ Mean	-1.33	.169	-.137	-.758	.434	-.472	.206
a. Dependent Variable: DV_Mean								

In order to test the hypothesis that moderator (MOD) affects the strength or direction of the relationship between IV and DV, an interaction term is added:

$$DV = \beta_0 + \beta_1(IV) + \beta_2(MOD) + \beta_3(IVxMOD) + \varepsilon$$

Where IV×MODIV is the interaction effect. The moderation was verified when the interaction term is significant ($p < 0.05$). The same (Moderation regression analysis) was reported as Table 7, which tested the effect of the independent variable (IV_Mean), the moderator (Moderator_Mean) and the interaction term (IV_MOD_1) on the dependent variable (DV_Mean). The results revealed that IV_Mean significantly and positively affected DV_Mean, B = 2.916, 0 = 2.959, t = 3.708, p = 0.001, which indicates that the changes in the independent variable were positively related to the changes in the dependent variable. Likewise, the moderator also significantly impacted positively, B = 3.989, 8 = 3.893, t = 3.673, p = 0.001, which suggests that it had a strong direct impact on the dependent variable. The interaction term was however statistically significant at negative value, B = -0.821, 8 = -4.702, t = -3.355, p = 0.002 and this indicated the moderator weakened the relationship between the independent and dependent variables. The 95% confidence intervals of IV_Mean [1.336, 4.497], Moderator_Mean [1.806, 6.172], and IV_MOD -1 [-1.312, -.329] were not made up of zero, which proves the strength and significance of the influence. In general, the findings demonstrated that there was a strong moderating effect in the model with the interaction term indicating that higher levels of the moderator lowered the impact of the independent variable on the dependent variable.

Table 9:Moderation Effect.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-10.431	3.486		-2.992	.004	-17.437	-3.425
	IV_Mean	2.916	.786	2.959	3.708	.001	1.336	4.497
	Moderator_Mean	3.989	1.086	3.893	3.673	.001	1.806	6.172
	IV_MOD_1	-.821	.245	-4.702	-3.355	.002	-1.312	-.329
a. Dependent Variable: DV_Mean								

The more detailed model incorporates IV, MED, MOD and their interaction:

$$DV = \beta_0 + \beta_1(IV) + \beta_2(MED) + \beta_2(MOD) + \beta_4(IVxMOD) + \varepsilon$$

This model enabled the direct effect (IV → DV), indirect effect (IV → MED → DV), and moderating effect of the moderator in the IV-DV relationship to be simultaneously tested. Table 8 regression indicated that the statistically significant positive effect of the independent variable (IV_Mean) on the dependent variable (DV_Mean) was B = 2.918, 8 = 2.961, t = 3.701, p = 0.001. This implied that there was a strong and significant relationship whereby an increase in the independent variable was related to an increase in the dependent variable when other variables were held constant. The moderator (Moderator_Mean) too had a statistically significant positive effect bearing a B = 3.889, 3.795, t = 3.551, p = 0.001, which means that it had a strong direct impact on the dependent variable. Conversely, the mediator (Mediator_Mean), the beta and t of the effect were negative and non-significant, B = -0.126, 0.129, t = -0.865, p = 0.391 and this indicates that there is no mediating effect in the model. The IV_Mean and Moderator_Mean 95% confidence intervals of [1.333, 4.504] and [1.687, 6.091], respectively, did not have a zero in them, which proved the strength of their effects. Nonetheless, the confidence interval of Mediator_Mean [-0.417, 0.166] contained 0, which is another indication that it is not significant. In general, the results indicated that there was a significant direct relationship between the independent and dependent variables, a significant mediating role by the moderator, and no mediation in the relationship.

Table 10:Comprehensive Model.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-9.979	3.534		-2.824	.007	-17.085	-2.873
	IV_Mean	2.918	.789	2.961	3.701	.001	1.333	4.504
	Mediator_Mean	-.126	.145	-.129	-.865	.391	-.417	.166
	Moderator_Mean	3.889	1.095	3.795	3.551	.001	1.687	6.091
	IV_MOD_1	-.796	.247	-4.559	-3.223	.002	-1.292	-.299
a. Dependent Variable: DV_Mean								

Regression Model Fit and ANOVA Results

The analysis was done through multiple regression analysis to determine the contribution of IV_Mean, MED_Mean, and MOD_Mean to the dependent variable (DV_Mean). The model presented, as shown in Table 9 (Model Summary), has a moderate to strong level of explaining the phenomenon, with R = 0.632. This means that there is a relatively strong positive relationship between the combined predictors and the dependent variable.

The coefficient of determination indicates that the model accounts for 40% of the variance in DV_Mean ($R^2 = 0.400$), which implies that the independent variables as well as the mediating, and the moderating ones, together make a meaningful contribution in predicting the outcome variable. The Adjusted R squared = 0.350 when the number of predictors and sample size adjusted, which means that about 35% of the variance in the dependent variable is explained in the population. This indicates that the model is likely to have good generalizability and is not overly complex. Furthermore, the standard error of the estimate (SSE) of 0.44562 shows a relatively low level of prediction error and hence good accuracy of the model's predictions.

Change statistics also point to improvement in model fit (R^2 change = 0.400; F change = 8.001; $p < 0.001$) when the predictors IV_Mean, MED_Mean, and MOD_Mean were added to the model, suggesting that these variables have a meaningful impact on the model's predictive ability.

Table 11:Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.632[a]	.400	.350	.44562	.400	8.001	4	48	.000
a. Predictors: (Constant), MOD_Mean, MED_Mean, IV_Mean									

This is also supported by the results of the ANOVA test (Table 10) that the overall regression model is statistically significant, $F(4, 48) = 8.001$, $p < 0.001$. This means that the variation of DV_Mean is significantly predicted by the combination of the predictors. The regression sum of squares (6.355) is much smaller than the residual sum of squares (9.532), which further supports the R^2 value of 0.400 indicating that the model explains a large part of the variance of the dependent variable.

Results in general show that the combination of IV_Mean, MED_Mean and MOD_Mean predict the dependent variable significantly. The model accounted for 40% of the variance, which is a moderate level of variance that is considered acceptable and meaningful in social science studies where behavioral and contextual factors often impact on outcomes. This indicates that the proposed model has good explanatory power and is statistically valid to explain the variations of DV_Mean.

Table 12: ANOVA

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	6.355	3	1.589	8.001	.000[b]
	Residual	9.532	48	.199		
	Total	15.887	52			
a. Dependent Variable: DV_Mean						
b. Predictors: (Constant), MOD_Mean, MED_Mean, IV_Mean						

4.3. Qualitative Analysis: Open-Ended Responses and Interview Findings

The qualitative data from both open-ended questionnaire responses and key informant interviews were analyzed thematically to gain deeper insight into the practical challenges of donor-funded procurement and their effects on project implementation. Overall, the findings from the two sources were consistent and mutually reinforcing, revealing recurring bottlenecks across procurement procedures, institutional arrangements, and external constraints.

From the open-ended responses, several dominant themes emerged. The most frequently cited issue was delays associated with the No-Objection process, where respondents indicated that multiple approval layers significantly slowed procurement activities. In many cases, each stage of procurement required donor clearance, resulting in prolonged waiting times and cumulative delays across the procurement cycle. This was closely linked to multi-tiered approval structures and bureaucratic procedures that were widely perceived as time-consuming and difficult to control.

Another recurring challenge was the lengthy review and revision of procurement documents. Respondents noted that procurement submissions often went through several rounds of comments from different reviewers, which sometimes created inconsistencies and further delays. The complexity of donor procurement procedures and stringent compliance requirements were also highlighted as contributing factors. While these mechanisms were intended to enhance transparency and accountability, respondents indicated that they increased administrative burden and slowed decision-making processes.

In addition, some respondents identified external and institutional constraints such as customs clearance delays and limited internal capacity. Although not always directly linked to donor requirements, these factors compounded implementation delays and negatively affected overall project timelines. Suggested improvements included streamlining approval processes, reducing the number of No-Objection stages, delegating more authority to project-level teams, and simplifying procurement documentation. The use of digital procurement systems and better alignment between donor and national procurement procedures were also frequently recommended.

These findings were strongly corroborated by the key informant interviews conducted with seven experienced staff members of the Ethiopian Electric Utility. The interview data provided more

detailed explanations of the mechanisms behind the observed delays. Respondents emphasized that the No-Objection process was a major source of implementation delay, as back-and-forth communication between donors and the implementing agency often resulted in significant idle time, in some cases extending project timelines by several months.

Interviewees also highlighted that limited institutional capacity and high staff turnover contributed to weak institutional memory, making it difficult to consistently meet donor requirements. In some instances, donors reportedly went beyond compliance review and initiated extensive technical re-evaluations, further prolonging approval processes even for minor submissions.

With regard to procurement methods, International Competitive Bidding (ICB) was described as inherently slow due to advertising requirements, bid validity extensions, and bid security adjustments. The pre-qualification and technical evaluation stages were also identified as major bottlenecks, particularly when evaluating complex international bids against strict donor specifications. These delays frequently led to expired bid validity periods, necessitating extensions that further increased project risks.

The transition from contract award to contractor mobilization was also affected by a combination of procedural, administrative, and contextual challenges. These included delays in submission of performance guarantees, slow processing of Letters of Credit, and bureaucratic approval procedures for technical specifications and mobilization plans. Additionally, external constraints such as delays in site handover, Right of Way clearance issues, foreign exchange shortages, and inflationary pressures were reported to significantly affect contractor readiness and project execution.

Despite these challenges, respondents proposed several improvement measures. These included establishing dedicated Procurement Excellence Units to enhance the quality of donor submissions, fully implementing Electronic Government Procurement (e-GP) systems to streamline workflows, and increasing the threshold for prior review to allow faster processing of low-risk contracts. The development of standardized technical specifications for commonly procured equipment was also recommended to reduce evaluation delays and inconsistencies.

Overall, the qualitative findings from both open-ended responses and interviews were highly consistent with the quantitative results. While the survey data indicated a general perception that donor procurement requirements contribute to project delays, the qualitative evidence provided a clearer understanding of the underlying procedural, institutional, and contextual mechanisms driving these delays. The integration of both data sources therefore offers a comprehensive explanation of the factors affecting procurement performance and project schedule outcomes.

4.4. Discussion

The results of this research were a good empirical evidence of the impact of the donor procurement requirement on the schedule performance of electricity distribution projects at Ethiopian Electric Utility (EEU) which directly answered the research objectives. To begin with, on the correlation relationship between the procurement time and the project time overruns, both the correlation and the regression outcomes had a statistically significant positive influence of the procurement-related factors on the schedule performance, 0.355, $p = 0.009$. This implied that the longer and complex processes of procuring donors were linked to delays in the projects, which supported the hypothesis that the length of procurement was a significant factor in the time overruns in EEU projects. This finding is consistent with Transaction Cost Theory, which argues that complex procurement arrangements increase coordination and administrative costs, thereby delaying project execution (Williamson, 1985). Similar studies also confirm that lengthy procurement procedures and approval bottlenecks significantly contribute to project delays in donor-funded infrastructure projects (Ahsan & Paul, 2018; World Bank, 2018).

Second, the analysis revealed the key procurement processes that led to these delays. As depicted in the descriptive statistics, a high degree of consistency in the responses was attained in terms of the agreement among the respondents that approval layers, no-objection requirements and the longer time taken in carrying out the procurement of the donor than the national procurement systems were some of the key contributors to the longer timelines. The high correlation between the independent variable and the mediator, $\beta = 0.652$, $p < 0.001$, further substantiated that procedural complexities, including bid evaluation procedures, prequalification, and repeat reviews of donors, were significant in influencing the procurement duration, and ultimately, project delays. This aligns with findings that donor procurement frameworks often introduce multiple review

layers that slow down decision-making and implementation speed (Berkouwer, 2023; Koshe & Jha, 2016). Additionally, OECD and World Bank procurement assessments highlight that compliance-heavy procurement systems tend to reduce implementation efficiency due to extended approval cycles (World Bank, 2021).

The multiple regression analysis showed that the model including IV_Mean, MED_Mean and MOD_Mean was statistically significant and explained a moderate amount of variance. The correlation coefficient ($R = 0.632$) and coefficient of determination ($R^2 = 0.400$) model results indicated that the independent variables, mediating variables, and moderating variables accounted for about 40% of the variability in the dependent variable (DV_Mean). The adjusted R^2 value of 0.350 further supports the fact that the model has a reasonable degree of generalization, given the number of predictors. The ANOVA results also showed that the overall model was statistically significant, $F(4, 48) = 8.001$, $p < 0.001$, meaning that the predictors as a whole have a significant influence on the dependent variable. This means that the direct, mediating, and moderating relationships between the constructs will have an impact on DV_Mean, which is consistent with the theoretical model wherein the constructs studied are interrelated in explaining the phenomenon. The model shows that there is a meaningful explanatory power as per the requirement of social science research, however, a considerable amount of variance (60%) is not explained, indicating other contextual/organizational factors which are not incorporated in the model. Overall, it was found that the proposed predictors were important and meaningful in accounting for variations in the dependent variable to a significant extent. This is consistent with Institutional Theory, which suggests that organizational outcomes are shaped by both internal capabilities and external institutional environments (Scott, 2014).

Third, the research revealed that the requirements of the procurement of donors had a strong impact on the contractor mobilization and initiation of the contract. Even though the direct effect on the dependent variable of the independent variable, $p > 0.05$, was not statistically significant, the independent variable was still significant even when the other factors were fixed. This showed that the direct and long-term impact of procurement delays on project implementation schedules. It also implied that inefficiencies in the procurement processes persisted beyond the award of the contract and contributed to delays in mobilization and commencement of physical works. This is supported by evidence that procurement delays often extend into post-award phases, particularly

in infrastructure projects where contractor cash flow, guarantees, and mobilization logistics are affected (World Bank, 2018; Thai, 2009).

Lastly, in terms of improving policy and negotiations, the moderation analysis was very insightful. The moderator variable was found to have significant positive effect on the performance of the project, 0.473, p = 0.002, whereas the interaction term between the procurement requirements and the moderator was found to be negative and statistically significant, 0.444, p = 0.002. This meant that not only negotiation and contextual factors influenced the negative effect of procurement requirements on project delays, but that better negotiation mechanisms might have helped to mitigate the negative effect of procurement requirements on project delays. The findings, however, also led to the fact that in the absence of such improvements, the delays may be exacerbated by the requirements of the donors. This is supported by Institutional Theory, which emphasizes that organizational performance is shaped by institutional capacity, coordination mechanisms, and external regulatory frameworks (Scott, 2014), as well as studies highlighting the importance of ICT-based procurement systems and staff competency in reducing delays (World Bank, 2021; Koshe & Jha, 2016).

In summary, the regression and hypothesis test outcomes verified that procurement requirements of the donor had a strong direct impact on schedule performance. The findings indicated that there was little evidence of mediation but high levels of moderation effects. These results led to the necessity of policy changes to simplify the process of electrical distribution projects, reduce the number of bottlenecks in the approval procedure, and enhance the effectiveness of negotiation frameworks between EEU and donors in order to improve the rapid implementation of the electrical distribution projects.

Synthesis of Findings

Overall, the integrated results from correlation, regression, mediation, and moderation analyses provide a coherent explanation of how donor procurement requirements influence project schedule performance in EEU. The findings demonstrate that procurement-related delays are not driven by a single factor but emerge from an interaction of procedural complexity, institutional capacity, and coordination mechanisms. While procurement requirements directly increase project delays, their effects are significantly shaped by institutional and organizational contexts, confirming the

combined relevance of Transaction Cost Theory and Institutional Theory. This synthesis suggests that improving project performance requires not only simplifying procurement procedures but also strengthening institutional capacity, enhancing digital procurement systems, and improving coordination between EEU and donors. Consequently, the study contributes to the broader understanding that procurement reforms must address both structural procedures and organizational capabilities to achieve meaningful improvements in infrastructure project delivery.

CHAPTER FIVE- CONCLUSION AND RECOMMENDATIONS

5.1. Conclusions

This study analyzed how the procurement requirements of donor procurement aid in influencing the schedule performance of electrical distribution projects in Ethiopian Electric Utility (EEU). From the study the followings can be concluded.

- The findings provide clear empirical evidence that donor procurement processes significantly influence project schedule performance. The results from the correlation and regression analyses confirm that increased complexity and prolonged procurement procedures contribute directly to schedule overruns in projects.
- The study further concludes that approval layers, No-Objection requirements, and extended review procedures constitute the major sources of delay within donor procurement systems. These procedural requirements consistently emerge as the most critical determinants of extended procurement timelines.
- It is also concluded that procurement inefficiencies extend beyond the bidding stage and significantly affect contractor mobilization and the commencement of project implementation. Although mediation effects were not statistically supported, moderation results confirm that contextual and negotiation-related factors play a decisive role in shaping this relationship. Accordingly, the impact of donor procurement requirements on project schedule performance is conditional upon the effectiveness of management and negotiation practices.
- The regression model comprising IV_Mean, MED_Mean, and MOD_Mean is confirmed to be statistically significant and moderately explanatory of variations in project schedule performance, accounting for 40% of the variance in the dependent variable. This confirms that the combined effect of independent, mediating, and moderating variables is meaningful in explaining schedule performance outcomes. However, the remaining unexplained variance indicates that additional institutional and contextual factors also play an important role and should be incorporated in future studies to improve model robustness.
- Overall, it is concluded that donor procurement requirements are a key determinant of project schedule performance in EEU projects. Effective improvement of procurement

efficiency, coordination mechanisms, and negotiation frameworks is therefore essential for achieving timely project delivery and reducing schedule overruns.

5.2. Recommendations

In view of the empirical findings of this study, a series of data-driven recommendations are proposed to enhance the schedule performance of electrical distribution projects financed by donor agencies of the EEU. These recommendations are directly derived from the statistical results of the correlation, regression, and moderation analyses.

- Firstly, since the findings confirm that donor procurement requirements significantly influence project schedule performance and are mainly driven by approval layers, No-Objection procedures, and extended review processes, it is recommended that donor procurement procedures be streamlined. This can be achieved by reducing unnecessary approval stages and introducing clear, time-bound decision-making frameworks between EEU and donor agencies to minimize procedural delays.
- Secondly, in line with the conclusion that procurement inefficiencies extend beyond the bidding stage and affect contractor mobilization and project commencement, it is recommended that early contractor engagement and improved post-award contract management practices be strengthened. This will facilitate faster contractor mobilization and reduce delays in project initiation.
- Thirdly, since moderation analysis confirms that contextual and negotiation-related factors significantly shape the relationship between donor procurement requirements and schedule performance, it is recommended that EEU strengthen its institutional capacity in negotiation and stakeholder management. This would enable more flexible, context-sensitive procurement arrangements with donors, thereby improving implementation efficiency.
- Fourthly, the regression results indicate that the combined effect of donor requirements, mediating factors, and moderating factors significantly explains variations in schedule performance, accounting for 40% of the variance. Based on this, it is recommended that EEU adopts an integrated procurement management approach that simultaneously

addresses procedural efficiency, internal coordination, and negotiation effectiveness, rather than focusing on isolated reforms.

- Finally, since the model explains only part of the variation in schedule performance, it is recommended that future improvements also consider additional institutional, environmental, and project-specific factors not captured in this study. Furthermore, harmonization of donor procurement requirements with national procurement systems should be strengthened to reduce procedural complexity and enhance overall efficiency in project delivery.

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Appendix A: Structured Quantitative Questionnaire Guide

Purpose:

Dear Respondents,

My name is KIDIST LAKEW and I am conducting a master's academic research (thesis) on the *"Procurement Requirements effect on Schedule Performance of Projects: A Case of Donor Requirements on Electrical Distribution Projects of Ethiopian Electric Utility (EEU)"*, is being conducted in partial fulfillment of the requirements for the Master of Arts (MA) degree in Project Management at Addis Ababa University, School of Commerce.

The purpose of this questionnaire is to assess the perceived effect of procurement requirement on schedule performance of electrical distribution projects, with particular focus on donor procurement requirements, procurement process characteristics, and organizational and contextual factors

Accordingly, I kindly invite you to thoroughly review the attached questionnaire and provide responses at your discretion. Please note that your participation is entirely voluntary, and any information you share will solely be used for this academic research, with full respect for your privacy.

Thank you in advance for considering this request and for any contribution you may offer, as your view is a great deal to address this work.

Regards,

Section I: Respondent Profile

Instruction: Please provide the following information about yourself. This information will be used only for research purposes and will be kept confidential. **For each question, tick (✓) the box in front of that best represents your answer.**

1. Sex: ☐ Male, ☐ Female
2. Age group: ☐ 18–24, ☐ 25–34, ☐ 35–44, ☐ 45 and above

3. Position:

☐ Project Manager, ☐ Procurement Officer, ☐ Contract Administrator,

☐ Program Director, ☐ Project Engineer, ☐ Project Consultant

4. Years of procurement experience:

☐ 2-5 Years, ☐6-9 Years, ☐10 to 15 Years, ☐ 16 to 20 Years, ☐ More than 20 Years

5. Donor type worked with

☐ Multilateral/ Bilateral, ☐ NGOs (Local/International). ☐ Private / Corporate, ☐ Other: _____

6. Number of donor-funded projects handled

☐ 1, ☐ 2, ☐ 3, ☐ 4, ☐ 5 and above

Section II: Questionnaire

Instruction: For each sentence listed in the tables below, please place a tick symbol (R) next to the number that best reflects your opinion according to the following scale:

1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree

No	Item	1	2	3	4	5
Donor Procurement Requirements						
1	Donor procurement procedures significantly extend procurement timelines.					
2	Approval layers increase overall procurement cycle time.					
3	Compared to national procurement, donor procurement takes longer.					
4	"No-Objection" requirements delay decision-making.					
Procurement Process Characteristics						
5	Multiple approval stages slow down project implementation.					
6	Donor review comments often require repeated revisions.					
7	International Competitive Bidding increases procurement duration.					

8	Prequalification processes add substantial time to procurement.					
9	Two-stage bidding procedures contribute to delays.					
Organizational Factors						
10	Negotiation processes frequently extend beyond planned timelines.					
11	Bid evaluation takes longer under donor procedures.					
	Negotiation processes frequently extend beyond planned timelines.					
Schedule Performance						
12	Clarification requests prolong evaluation time.					
13	There is often a long gap between contract award and contractor mobilization.					

Open-Ended Questions

Instruction: Please briefly explain your views and experiences in the space provided below. Feel free to elaborate as much as necessary. Your answers will be kept confidential and used only for research purposes.

1. What are the main challenges you have experienced in donor-funded procurement processes, and how have they affected project timelines?

_____

_____

_____

_____

2. In your opinion, what improvements or changes could be made to donor procurement procedures to reduce delays and enhance project implementation?

_____

_____

_____

_____

Appendix B: Semi-Structured Key Informant Interview (KII) Guide for the Interviewer

Purpose:

Dear Respondents,

The purpose of this interview guide is to explore in depth the underlying mechanisms, negotiation challenges, and potential policy reform options related to the study subject. This study, entitled *"Procurement Requirements Effect on Schedule Performance of Projects: A Case of Donor Requirements on Electrical Distribution Projects of Ethiopian Electric Utility (EEU)"*, is being conducted in partial fulfillment of the requirements for the Master of Arts (MA) degree in Project Management at Addis Ababa University.

1. Can you describe your experience with donor-funded procurement, including the number and type of projects you have been involved in?
2. Which aspects of donor procurement procedures most significantly affect project timelines, and how?
3. How do donor approval requirements, such as the "No-Objection" process, influence the speed and efficiency of procurement?
4. How do different bidding methods (e.g., International Competitive Bidding, pre-qualification) and bid evaluation processes affect project duration?
5. What are the main causes of delays between contract award and contractor mobilization, and how would you categorize these (procedural, administrative, or contextual)?
6. How do institutional capacity and staff experience influence procurement efficiency and the ability to manage donor requirements?
7. In what ways do contextual factors (e.g., political, regulatory, or economic conditions) impact procurement implementation and project schedules?
8. What policy reforms, practical adjustments, or best practices (including lessons from other donors) would you recommend to improve procurement efficiency without compromising compliance?