ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS SCHOOL OF COMMERCE

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The Effect of Tender Evaluation Delay on Projects under Ethiopian Roads Administration (ERA)

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THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, ADDIS ABABA UNIVERSITY, COLLEGE OF BUSINESS AND ECONOMICS, SCHOOL OF COMMERCE, DEPARTMENT OF PROJECT MANAGEMENT, GRADUATE PROGRAM UNIT, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN PROJECT MANAGEMENT

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DECLARATION

I declare that the thesis entitled, “The Effect of Tender Evaluation Delay on Projects under Ethiopian Roads Administration (ERA)” is my original and submitted for the award of Master of Art Degree in Project Management from Addis Ababa University at Addis Ababa, and has not been presented for the award of any other degree. Under this study, fellowship of other similar titles of any other university or institution of all sources of material used for the study appropriately acknowledged and notice.

Kedir Akmell	_____	_____
Candidate	Signature	Date

CERTIFICATION

This is to certify that Mr. Kedir Akmell has properly completed his research work entitled “The Effect of Tender Evaluation Delay on Projects under Ethiopian Roads Administration (ERA)” with our guidance through the time. In my recommendation, his task is appropriate, to be submitted as a partial fulfillment requirement for the Master of art Degree in Project Management.

Research Advisor

Mengsitu Bogale (PhD)

_____

Signature and Date

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LIST OF ACRONYMS

CAC	Contract Awarding Committee
CoST	Construction Sector Transparency Initiative
ERA	Ethiopian Roads Administration
DBB	Design-Bid-Build
DB	Design Build
FDRE	Federal Democratic Republic of Ethiopia
GTP	Growth and Transformation Plan
ICB	International Competitive Bidding
NCB	National Competitive Bidding
PPA	Public Procurement Agency
SBD	Standard Bidding Document
GDP	Gross Domestic Product
MEAT	Most Economically Advantageous Tender
WBPM	World Bank Procurement Manual
MDG	Millennium Development Goals
TAC	Tender Analysis Committee
TEC	Tender Endorsing Committee

ABSTRACT

For efficient and timely delivery of cost effective road projects it is necessary to have fair and transparent procurement that affords an equal opportunity for all suppliers to compete. This study aimed to examine the effect of tender evaluation delay on projects under Ethiopian Roads Administration (ERA). In addition, this study addressed four specific objectives, the status of bid evaluation delay on projects, by using descriptive analysis, and carried out investigation the influence of key determinants of tender evaluation delay under the study area. The target population for this study was 452 individuals stratified based on the surveyed project employees and working departments where a sample of 212 respondents was established and only 171 responded properly. Questionnaires were self-administered, dropped, and picked immediately when respondents done filling them. Data collected then presented using tables and figures. Statistical Package for Social Sciences (SPSS) software used to analyze data. The findings revealed that key determinants of tender evaluation delay such as poor planning, poor engagement, vagueness of documents and procedures and lack of top management support, positively and significantly influence road projects. The study concluded that there is high occurrence of tender evaluation delay on projects under the study area. It also concluded that poor planning, poor engagement, vagueness of documents and procedures and lack of top management support are the key determinants of tender evaluation delay those influence road projects to large extent. Finally, the study recommends that bid evaluation found under road projects across the country needs proper planning, fully engaged bid evaluation members, clear procedures and documentation and high involvement of top management.

Keywords: Bid Evaluation, Delay, Project, Road

CHAPTER ONE
INTRODUCTION

This chapter presents the background of the study and the organization, statement of the problem, research questions, objective of the study, significance of the study, definitions of key terms, and scope of the study and organization of the research report.

1.1 Background of the Study

Economic activities cannot take place without an infrastructure base such as transportation. The transport sector is an important component of the economy and a common tool used for development, where economic opportunities been increasingly related to the mobility of people and freight. Economic cycles are associated with transportation influencing economic opportunities for production, distribution, and consumption (Jean-Paul, 2020). Accordingly, the government has been allocating huge investment to expand transport infrastructure and transport services delivery.

In the case of Ethiopia road is the backbone and accelerator of economic growth and social development. As a result, government is concerned on road sector development with an objective of expanding road infrastructure, upgrading, and improving the standards of the existing roads, construction of express roads that link to the main corridors, linking rural Kebeles to all weather roads and main roads in terms of quality and quantity and reducing transportation cost (MOFED, 2021). Road sector development plan focus on exploring alternatives and implement to construct roads at reasonable cost, at the required standard and in a reasonably short time. Roads built with billions of birr funded by government of Ethiopia and different international funding agencies, all of which require a comprehensive and systematic approach to their planning and procurement.

Procurement is acquisition of goods and services, contracting of works, purchasing and buying, renting or leasing, and the management, in accordance with specific methods and procedures by the government. For efficient and timely delivery of cost effective road projects it is necessary to have fair and transparent procurement that affords an equal opportunity for all suppliers to

compete. It is essential that procurement to be well planned and managed as it is an extensive procedure that can potentially end in the wastage of scarce resources or even complete failure. Principles of public procurement are economy, effectiveness, fairness, competition, transparency, integrity, and openness (Abayneh, 2019).

Mostly public procurement done through open tendering that follows successive procedures. Bid evaluation is the process of determining the best responsive bid, in accordance with the evaluation and selection methodology specified in the biding document, among the bids submitted before the bid closing time on the date specified in the bid document. There should be check for responsiveness to the contractual, technical, and financial requirements of the bid solicitation. Fair, accurate, and transparent evaluation of bids is an important aspect of procurement process (Bhawani et al., 2021). Construction Sector Transparency Initiative (CoST-Ethiopia.2016) articulated that failure to start the procurement process on time; it is important to stay informed of the deadlines on the procurement schedule, especially the start date of the procurement process.

Extension of Bid causes delay in awarding the contract. Some of the delay reasons are mistakes in the bid or proposal documents, prospective bidders request more time for submission and granted, poor response to invitation for bids or call for proposals, unforeseen events, and request for clarification results in an amendment (Jean-Paul, 2020). To avoid or reduce the mentioned problems, a research study with possible solution should be present. Tender boards usually have specific dates on which they convene, so procurements need schedule accordingly in order to avoid delaying the process. When procurements are donor funded, there may be need for donor approval at different stages of the procurement process. Therefore, bid evaluation delay on projects is possible project delay factor and the consequences need anticipation and consideration.

The establishment of bid evaluation delay factors and their effect on projects the prerequisite for the evaluation and selection of bidders. By establishing a comprehensive and reasonable understanding of helpfulness of bid evaluation delay and their consequences can be effectively and comprehensively evaluated. Therefore, this paper conducts systematic research on, bid evaluation delay of road project procurement under Ethiopian roads administration (ERA), which

will not only help save time, cost, protect the environment, and bring huge environmental benefits to the society, but will also help establish a social image and give full play to the role of the government's demonstration and leadership.

1.2 Background of Ethiopia Roads Administration (ERA)

ERA counts 70 years of dedication connecting the nation starting from 1951 to 2021 changing three names indifferent eras. Following the eviction of the Italian occupiers, under proclamation No. 115/1951 Imperial Highway Authority (IHA) established with the responsibility of rehabilitating, restoring and expanding the road network throughout the country and with specific duties to plan, design, construct, and maintain roads. In 1980, by proclamation No.189/1980 the Military Government that took power in 1974 reformed the agency into the Ethiopian Transport Construction Authority (ETCA) enlarging responsibility of the authority by expanding its task to incorporate the construction of Airports, Seaports, Railways, and Municipal Roads. ERA again reestablished by proclamation No.63/1993 with a view to providing a strong administration under the leadership of a Board. Finally, the current organization ERA reestablished under proclamation 80/1997, the board and chairperson appointed by the government and given power to design through a consultant, construct through contractors, maintain, and administrate all road networks in Ethiopia. Currently, the main responsibilities of ERA are network planning, management of contract projects and force account operations. The long-term objective is to focus on policy, planning, and contract administration and to pull out gradually from direct operational works.

The vision of ERA is "Global Competence and Great Roads to Prosperous Ethiopia by 2030" and its mission is Develop and Manage Sustainable Roads through institutional competency and Optimal Utilization of Resources. To meet its objectives, ERA initiates road related policies, directives and laws prescribe road design standards, prepare coordinated national road network development plans and programs, and render consultancy and technical support to the regional road agencies and other relevant organs. Era also train man power required for the development of roads, acquire land required for road works by paying compensation for the land possessors and property owners in accordance with the law, remove properties unlawfully placed within the right of way and take necessary measures to protect the environment whenever road works are undertaken (ERA, 2013).

1.3 Statement of the Problem

Public procurement is a vital system of government for spending public money on acquisition of goods, works, and services required for public programs and projects. Procurement comprises annual budget preparation when government agencies have to estimate their needs, after budgetary allocation procurement planning, and execution of procurement plans. Procurement plans are implemented using a procurement cycle that includes tendering or bidding, contract award, and contract management. The main objective of these activities is delivery of quality and timely services to citizens through public programs and projects (Naushad Khan, 2018).The processes and products of the construction industry affect all people in the industrialized world the efficiency of the construction industry is of great interest and relevance. In order to achieve efficient governance of construction projects a systemic and holistic approach to procurement procedures is however crucial. Hence, investigations of a wide range of procurement procedures and their effects on different aspects of project performance called (Pinar, 2019). The basic presumption in public procurement is that, contracts of a specified type and value procured using an advertised competitive procedure that is open, fair and transparent, ensuring equality of opportunity and treatment for all candidates and bidders (Transparency International, 2013).

Bid evaluation is the major part of procurement with a purpose of identifying the Most Economically Advantageous Tender (MEAT) and carried out by Bid Evaluation Panel using predefined criteria only then recommends award to the lowest responsive evaluated bid. The evaluation committee nominated by the contracting authority then declares to participate in the evaluation to their knowledge. They should have no conflict of interest with any bidder who have submitted a bid for that contract and shall execute their responsibilities impartially and objectively (Asian Development Bank Procurement Guidelines, 2015).

In Ethiopian construction industry, the tender document preparation and bid evaluation process public procurement must be fair, equitable, transparent, competitive, and cost effective. Because of the gap in the tender document preparation and bid evaluation process, many public projects are suffering excessive cost and time overrun, as well as unacceptable quality standard (Fitsum, 2018). This study aims to address and explore that, in public procurement most of the bid evaluation process doesn’t completed in the bid validity period due to this many public

construction projects completed after having excessive delay, significant cost overrun, claims, terminations and abandonment.

Most public organizations that found in authority level including ERA do not have permanent bid evaluation committee. They form a committee when after the procurement processes is started although the members of the comities doesn't have sufficient skills and knowledge of public procurement, this is the main cause for non-effective and non-efficient public procurement and also major cause of project failure.

When this study conducted, a review of literatures and researches made and there are few researches done previously in the area. One of them is a research done by Fitsum (2018). The concern and findings are on identifying factors that hinders bid evaluation process as well as affecting appropriate contractor selection in non-residential public building projects in Addis Ababa. The another one is done by Abayneh (2019) and its findings are the enterprise does not follow the PPA and enterprise manuals, identifying the factors causing delays of bid evaluation process and proficiencies of the team on dry port facility construction. The present study adds on the previous researches the effect of bid evaluation delays on projects and the consequences of bid evaluation delay on road projects under ERA.

The differences with this proposed paper and the previous are, this paper mainly focus on finding the effects of bid evaluation delay and its consequences on road construction projects, which are complex, evolves large amount of fund and takes much longer evaluation time and high evaluation criteria. The study tries to assess the causes of delay on bid evaluation process and asses the consequences or impacts of bid evaluation delay on the contractor and ERA.

1.4 Research Questions

Assessing the effect of bid evaluation delay in road construction projects under Ethiopian Roads Administration in the project procurement and implementation phase was an effort of answering the following research questions:

- What is the status of tender evaluation delay on procurement of projects in ERA?
- To what extent the effect of poor planning, as key determinant of tender evaluation delay on projects under ERA?

- To what extent the effects of poor employee engagement, as key determinant of tender evaluation delay on projects under ERA?
- What is the level of effect of vagueness (documents and procedures), as key determinant of tender evaluation delay on projects under ERA?
- What is the level of effect of lack of support of top management, as key determinant of tender evaluation delay on projects under ERA?
- What is the level of project consequences due to tender evaluation delay in projects under ERA?

1.5 Objective of the Study

The general and specific objectives of this research are the following.

1.5.1 General Objective of the Study

- To examine the effect of tender evaluation delay on projects under ERA

1.5.2 Specific Objectives of the Study

- To examine the status of tender evaluation delay on projects under ERA
- To investigate the effect of poor planning, as key determinants of tender evaluation delay on projects under ERA
- To investigate the effect of poor employee engagement, as key determinants of tender evaluation delay on projects under ERA
- To assess the level of effect of vagueness, as key determinants of tender evaluation delay has on projects under ERA
- To investigate the effect of lack of support of top management, as key determinants of tender evaluation delay on projects under ERA
- To investigate the level of project consequences due to tender evaluation delay in projects under ERA

1.6 Significance of the Study

The study was useful to the public sector in identifying key factors that cause tender evaluation delay and their levels of impact on projects as well as their level of consequences. Through this study, policy makers able to identify the gaps in the current bid evaluation practice and put in place remedial measures that ensured better and effective tendering and service delivery in the country. The research is also be helpful that it gives an implication for managers and directors of the procuring entities what to consider and give more concern on the formation of evaluation committee with respect to their procurement and technical knowledge, skills public procurement principles and work commitment. The study shall add to the body of knowledge in the area of tendering evaluation practice as well as project delivery in road construction sector.

The research study also used as a reference by other researchers who want to conduct further study related to tender evaluation process and delay, causes, effects and consequences of tender evaluation. Findings of this study will be useful and very important for students and academicians as an input for embarking upon similar researches in the future and will be a helpful literature reference.

1.7 Scope of the Study

This study is limited to ERA at head office and project under ERA (Debreberhan-Ankober road project). The research target was employees of ERA, at head office and some of the project stakeholder (contractor and consultant staffs and locals). The study focused on effect of poor planning, poor employee engagement, vagueness of documents and procedures and lack of support of top management, as key determinants of tender evaluation delay, and theirs consequences on road projects. Accordingly, it applied descriptive and explanatory research designs. The target sample size was limited to 212 personnel, from four directorates namely road asset, engineering procurement, project management and corporate services. This includes mainly team leaders, lead engineers, senior engineers and junior engineers, supervisors, project engineers and managers, as they are intimately involved in the engineering procurement, in project planning and management of projects. Data were mainly collected using developed questionnaires. Interview used as data collection tool with interview guideline.

1.8 Definitions of Key Terms

- Procurement: Acquisition of goods and services, contracting of works, purchasing, and buying, renting or leasing, and the management thereof, in accordance with specific methods and procedures.
- Public procurement: the purchase by governments and state-owned enterprises of goods services and works.
- Bid (Tender): An offer submitted in response to an invitation for bids, or invitation to tender, under a competitive bidding process.
- Bid Evaluation: Analysis of bids/offers received by the Procuring Entity to appraise and assess the most advantageous and competitive offer.
- Bid evaluation process: the process that takes place after the tender submission deadline that involves the opening and examining of the bids to identify the preferred supplier(s) for the project.
- Bid evaluation committee: the committee constituted by the Authority for evaluation of the Bids received and for selection of the Selected Bidder for the Project;

CHAPTER TWO
REVIEW OF RELATED LITERATURE

This chapter reviews the theoretical and empirical literatures to enhance understanding of the topic under study. Furthermore, to inform the linkages and relationship between study variables the conceptual framework of this study presented at the end of this chapter.

2.1. Theoretical Literature Review

2.1.1. Overview of Public Procurement

Public procurement means an acquisition, whether under formal contract or otherwise, of works, supplies and services by public bodies using publicly sourced finances. It involves the purchasing, hiring or obtaining by any contractual means of publicly needed goods, construction works, and services by the public sector. It also includes mobilization of public funds to procure works, goods, and services (NPPP, 2012).

(Minahan, 2007) noted that, the objective of procurement is to provide quality goods and services through open and fair competition in the exact quantity and proper quality as specified; and has to be delivered at the time and place where needed. Therefore, to secure such goods and services at competitive prices requires accurate planning and involvement of a number of stakeholders.

Procurement planning is one of the primary functions of procurement with a potential to contribute to the success of local government operations and improved service delivery. The contribution of planning in facilitating an efficient and effective performance of public sector organizations is generally undisputed in both developed and developing countries. Its contribution can be at both central and local government levels of public sector management. (George, 2013) Procurement plan is one of the basic and major steps for successful completion of a project. However, ERA starts its procurement process when procurement requisition made. This will result failure to procure at the right time and effective and efficient procurement process. In ERA projects, it noted that detection of market risk potentially able to endanger business goals and supplier performance not considered during work packaging. In view of the

above, found that procurement planning and packaging is one factor to consider for success of projects.

It is important to note that service delivery in government institutions is highly dependent on efficient and effective tendering processes. Despite the existence of procurement departments and tendering committees in public institutions, the service deliveries they offer are still questionable. Kulshrestha (2013) notes that there is lack of transparency, efficiency, and unreliable delivery of services that mainly originates from poor tendering processes. Efficient tendering system is a main prerequisite of managing public expenditure in a contemporary budgetary system. Effective tendering policies and practices can reduce public expenditure; yield timely outputs, stimulate private sector development; as well as reduce delays, waste, corruption, and inefficiencies in government (Djurovic-Todorovic & Djordjevic, 2009). Conversely, using public funds inefficiently emanates from issues across the whole process of tendering, from needs identification, bidding documents creation, to a tender process that lacks competition and transparency especially during bidding, evaluation of bids, contract awarding, as well as poor contract supervision (Francis, 2018).

Bid preparation and project performance**:** In deciding the deadline for submission of bids, the PDE should allow bidders sufficient time for studying the bidding document, preparing a responsive bid and submitting the bid. The bid document need to be issued to all shortlisted bidders at the same time and must be issued early enough to ensure compliance with the minimum bidding period. About bid Evaluation and project performance, IAPWG (2006) suggests that, the main purpose of bid evaluation is to determine the best responsive bid, in accordance with the evaluation and selection methodology among the bids submitted before the bid closing time. In conclusion therefore , in order for any project to realized it objectives , it was proposed by (Pinar, 2019), that for services and works, the fewer the number of contractors' bids invited, the better in time performance, the better the quality and the better the collaboration. Also recommended that the PDU to create and use a checklist of all requirements, which are to be use throughout evaluation of each bid. Evaluation of bids must be in accordance with the procedures stipulated in the bid solicitation. They must check for responsiveness to the contractual, technical, and financial requirements of the bid solicitation. Fair, accurate, and

transparent evaluation of bids is an important aspect of procurement process, which in the end will lead to good project performance.

The Ethiopian Federal Government Procurement Proclamation, Proclamation No. 649/2009 (Federal Negarit Gazeta, 2009) states six types of methods of procurement: open bidding, request for proposals, two stages tendering, restricted tendering, request for quotation and direct procurement. Open competitive bidding shall be the principal method of procurement. There are two main means of procurement irrespective of open bidding i.e. International Competitive Bidding (ICB) and National (Local) Competitive Bidding (NCB). International Competitive Bidding (ICB) is open to all interested parties, firms, or individuals, whether national or international. It is the default method of procurement for all procurements with an estimated cost 50 million or above ETB or equivalent amount and applied for procurements of the estimated cost below 50milion ETB or equivalent. If it is convinced technological sophistication, technical expertise or professional capability of the satisfactory level is not available within the country and the best value for money cannot obtained, if competition is restricted to the domestic companies, firms, or parties. National Competitive Bidding is open only to interested national firms, companies, or parties. NCB shall be the principal method of procurement with an estimated cost below 50 million ETB. A procuring agency may apply for National Competitive Bidding for procurements with an estimated cost of 50 million ETB or above, where the procuring agency is convinced that it is the most economical and timely way of procuring goods, works or services which, by their nature or scope are unlikely to attract foreign competition. However, to increase the local content ERA uses relaxing the qualification criteria and the options of the criteria is limited regardless of the size of the project and no consideration given like classifying the project type and value.

2.1.2. Project Delivery Methods (PDM)

According to Frederic E. Gould and Nancy E. Joyce the term delivery method refers to the owner's approach to organizing the project team that will manage the entire design and construction process describing how participant are organized to interact, transforming the owner's interest and objective into a finished facility.

The main delivery methods used in ERA are Design, Bid and Build (DBB) and Design and Build (DB). (Shanko, 2010) describes the three project delivery methods as follows:

Traditional or Design Bid Build (DBB) method: For many years, DBB has been the most common method of project delivery for public projects in Ethiopia especially in ERA. This method is one of the main reasons for construction time overruns due to its autonomous work system that provides little opportunity for interaction and team building among the participants. Allows late implementation of changes occurred during the construction process; have poor participation of the construction professionals until the design is complete; difficult to reduce the time required to do both design and construction because the process is sequential and linear; have not any system to overlap activities and thus reduce the overall time. Provides little opportunity for integration and team building among the participants and can lead to major breakdowns in relationships. Unforeseen condition on a job can also be a source of conflict and may lead to changes in the contract.

Design and Build (DB) method: Known as fast track because, it tries to solve the problems of construction time overruns through creating good communication among the contracting parties and professionals. Allows easier incorporation of changes due to unforeseen conditions, allows overlapping of the design and construction works, keeps owner staffing to a minimum and puts the full responsibility for good communication, problem solving and project delivery on the design/build team. One major reason for choosing the DB method is to benefit from the good communication that can occur between the design and construction teams developed a smooth flow between design and construction phases of the project. This collaboration allows the project to be easily fast-tracked, cutting down on over all schedules for the project. Good communication between the designer and the construction professionals allows construction input early in the design phase.

Construction Management (CM) method: Tries to reduce the construction time overruns through creating good communication among the contracting parties which encourages collaboration. construction people to influence the design of the project before it is bid, allows fast implementation of changes during the construction course because of the designer, contractor and construction manager are in close communication which these minimizes construction

delays. ERA on most projects follows DBB type of delivery method and the bidding method for all projects financed by government is two envelops post qualification. However, sticking on one type of delivery and bidding method will have an impact on the delay, cost overrun, and quality projects. Hence, delivery and bidding methods found part of the main factors to consider.

2.1.3. Bid Evaluation

The term "Bid evaluation" describes the procedure for the assessment of bids submitted by contractors. Bidding procedures are two types: competitive and negotiated. In pure competitive method, the contract is awarded to the lowest bidder, if the bidder is found to be responsive i.e. bidders are required to meet the minimum qualifying criteria set forth in the qualification criteria in the bid document like annual construction turnover, experience, financial stability and proposal of the timely acquisition of equipment and personnel. In pure negotiated method, the price negotiated with a selected contractor.

To minimize the shortcomings of these two extreme types, modifications have been proposed and tried in many countries like Competitive Low Bidding (Price-based), Competitive Average Bidding (Price-based), Multi Parameter Bidding Method (Based on price and “other” factors), Competitive Negotiated Bidding, Non Competitive Negotiated Bidding. Although Competitive low bidding (Price Based) is generally accepted that competitive low bid method saves taxpayers money and thus protects public interest, this traditional method has recently been criticized lately for promoting inferior quality, causing too many change orders, furthering adversarial relationships, time overrun, and increasing overall cost of the project (Pinar, 2019).

The major drawbacks of the low bid method is the possibility of awarding a construction contract to a contractor that submits, either accidentally or deliberately, an unrealistically low bid price. Often, such an occurrence works to the owner’s and contractor’s detriment by promoting disputes, increased costs, and delays. After the establishment of Public Procurement Agency (PPA) in 2006 the procurement of all federal government works and services have been guided by the rules and regulations prepared by this agency. The modified evaluation methodology proposed by construction minister the former Ministry of works and urban development (MoWUD, 2021) was a. Project estimate means 50% engineer’s estimate and 50% estimate of

the Ministry. b. Bidder 's who are submitted the required bid security and whose offer is within plus or minus 20% of the project estimate will be subjected to detail evaluation and bidders whose offer are outside the limit will be rejected. c. The winning bidder will be the least bidder whose offer is within minuses (-) 15% of the adjusted project estimate. The adjusted project estimate is 25% of the project estimate and 75% from the average of the offer from the bidders subjected to detail evaluation. The main advantage is that, it safeguards the owner against signing a construction contract for an unrealistically low bid price that almost certainly will lead to adversarial relationships during construction (Pinar, 2019). The average bid method would increase contractor profitability and has the potential to improve relationships between the owner and the contractor.

ERA considers the financial progress of the bidder without considering physical progress of the work, quality of the work achieved by contractors and project management skills, personnel, equipment, and organization of the project. ERA projects base on the lowest evaluated bid, which found responsive to the qualification criteria. However, allowing projects to be awarded based on the least price has become one of the major sources of construction projects failures.

2.1.4. Bid Validity Period

Bid validity period is a period with in which the rates quoted by the contractor are valid. The entire process, examination, & evaluation of tenders, preparation of ranking statement, and notification of award should done within the original tender validity period. Beyond this period, the contractor can agree or he can refuse to accept the rates for the execution of the work. This period starts after the submission of the tender. Any change not accepted from the contractor.

According to World Bank procurement manual (2022), a procuring agency, keeping in view nature of procurement, shall subject the bid to a validity period, which shall be specified in the bidding document and shall not be more than 90 days in case of National Competitive Bidding and 120 days in case of International Competitive Bidding. The tendering procedure or the bid evaluation for road and similar complex projects may require extra time more than the time allocated for the evaluation process. At this condition, the client in our case ERA may request the potential contractors for acceptance of extension of the bid validity time. The contractors may or may not agree by considering factors such as, how big is the project, how small is the project, the

importance of the project, the reputation for the client and the time involved for the project. If the contractor agreed and awarded the project the rate of work at the commencement of the project may vary from that of the contractor assumed to start the project. In addition, ERA can make a price adjustment. Therefore, the extension of bid validity period affects the project in terms of cost and time and can be the source of construction claim.

2.1.5. Extension of Bid Validity period

The final award and signing of the contract shall completed by the procuring entity within the validity period of the bids, which has been stated in the bidding documents so that extensions are not necessary. Bid validity period extended only when there are exceptional circumstances. Where an extension of the validity period is considered necessary, it shall be requested in writing before the initial expiration date from all those who submitted bids. The extension shall be for the minimum period required to complete the evaluation, obtain the necessary approvals, and award the contract. Bidders who are willing to extend the validity of their bids shall neither be required nor permitted to modify the substance of their bids and shall be required to provide a suitable extension for their bid security. Bidders shall have the right to refuse to grant such an extension without forfeiting their bid security, and the bid securities of bidders who are not willing to extend the validity of their bids shall returned to them. Months and possibly even years of work reach their climax during bid evaluation. For the losing bidders, months of work and considerable investment considered as “wasted.” If they suspect they are not been treated fairly by the procuring entity, many bidders will not hesitate to challenge the bid evaluation process. There have been suggestions to mitigate this risk, including compensating the losers to cover part of their expenses in some countries (Toolkit for public private partnerships in roads & highways module, 2009).

2.1.6. Bid Evaluation Process

The evaluation of the tenders is a process defined by the evaluation of biddings and the comparison with each other in the context of the tender specification. It is a critical stage of the procurement process. It is the last chance for the public agency to influence the efficient and effective use of public resources and verify that the lowest responsible bidder awarded (Anderson and Norman, 2002). A study made by Pınar KESKİN, July 2019 “ process capability

analysis (PCA) of tender evaluation process in public agencies" stated the tender evaluation process intends to identify the weakness and strengths of the tenders made according to criteria specified in invitation documents. In essence, the tender evaluation process involves five main generic sub processes: Receiving of tenders, Opening and evaluation of tenders, elevation of tenders, Approval of the tender proceedings and Notification of finalized tender decisions.

Receiving of Tenders

The tender submitted to the service officer until the submission time of the tender stated in the tender documents. The number of tenders submitted at the hour of tender submission time is determined and recorded.

Opening and Evaluation of Tenders

The tender evaluation process consists of two main sessions: First, open session, the opening of tenders begins with the announcement of the total number of tenders by the tender commission in the presence of the tenderers. The tender envelopes ordered according to submission time. Examination of the tenders carried out following this order. Envelopes examined in term of form and the inappropriate ones eliminated. Then the tender envelopes opened in the order of submission time. Tender opening aims to verify publicly the completeness of bids in order to eliminate those that are not complete. Documents of tenderers, tender letter, and preliminary guarantee checked against the possibility of being any incompleteness and unconformity. Tenderers who have missing tender documents and non-conformities excluded from the evaluation. In closed session, the tender commission assesses the tenders of tenderers in terms of professional and technical aspects in this session. The main issues examined at this stage are; conformity with the qualification criteria determining the capacity of the tenderers to perform the contract, conditions set forth in the tender documents, arithmetical error exists in unit price. The tender commission evaluates the tenders and then calculated the limit value according to the method determined by the institution.

The tender commission determines tenders below the limit value as 'abnormally low tender'. Tenderers whose tender is below the limit value are required to disclose tender in detail according to criteria determined by the institution. Because of this evaluation, the tenders of the tenderers whose explanations considered insufficient or who fail to make a written explanation

rejected. Tenders that are not rejected by the tender commission are determined a valid tender. With the decision of the tender commission, the institution can cancel the tender by rejecting all tenders.

Conclusion of Tenders

The tender awarded to the tenderers who submitted the economically most advantageous tender. There are two kinds of selection of the most advantageous offer in the tenders. First, the most advantageous offer is the lowest tender in terms of price. The second way to choose the best offer is to evaluate the other factors, which stated in tender documents except for the price. The tender concluded with the determination of the most advantageous tender in overall.

Approval of the Tender Proceedings

Following the completion, the tender decision document, the tender commission shall submit the decision to the contracting officer in ERA case the TEC (technical endorsing committee) for approval. Within a maximum five days following the date of the decision, the contracting officer shall approve or cancel the tender decision, clarifying causes of the cancellation. If the decision of the tender decision approved, tender is valid; if the decision canceled, tender is deemed null and void.

Notification of Finalized Tender Decisions

Finalized tender decision and reasons of this decision notified to all tenderers who have submitted an offer, within the three days following the day of approval by contracting officer or by procurement director. The contract not signed until 10 days after the finalized tender decision announced to all participants. For foreign tenderers, this period is added for another extra days. During this period, other tenderers, who have complain can challenge the decision.

Invitation to Contract Signing

Within three days following the end of complaint period, and in cases requiring the pre-fiscal control, following the completion date of this control, the successful tenderer notified to sign the contract by issuing a performance bond within ten days following the date of notification.

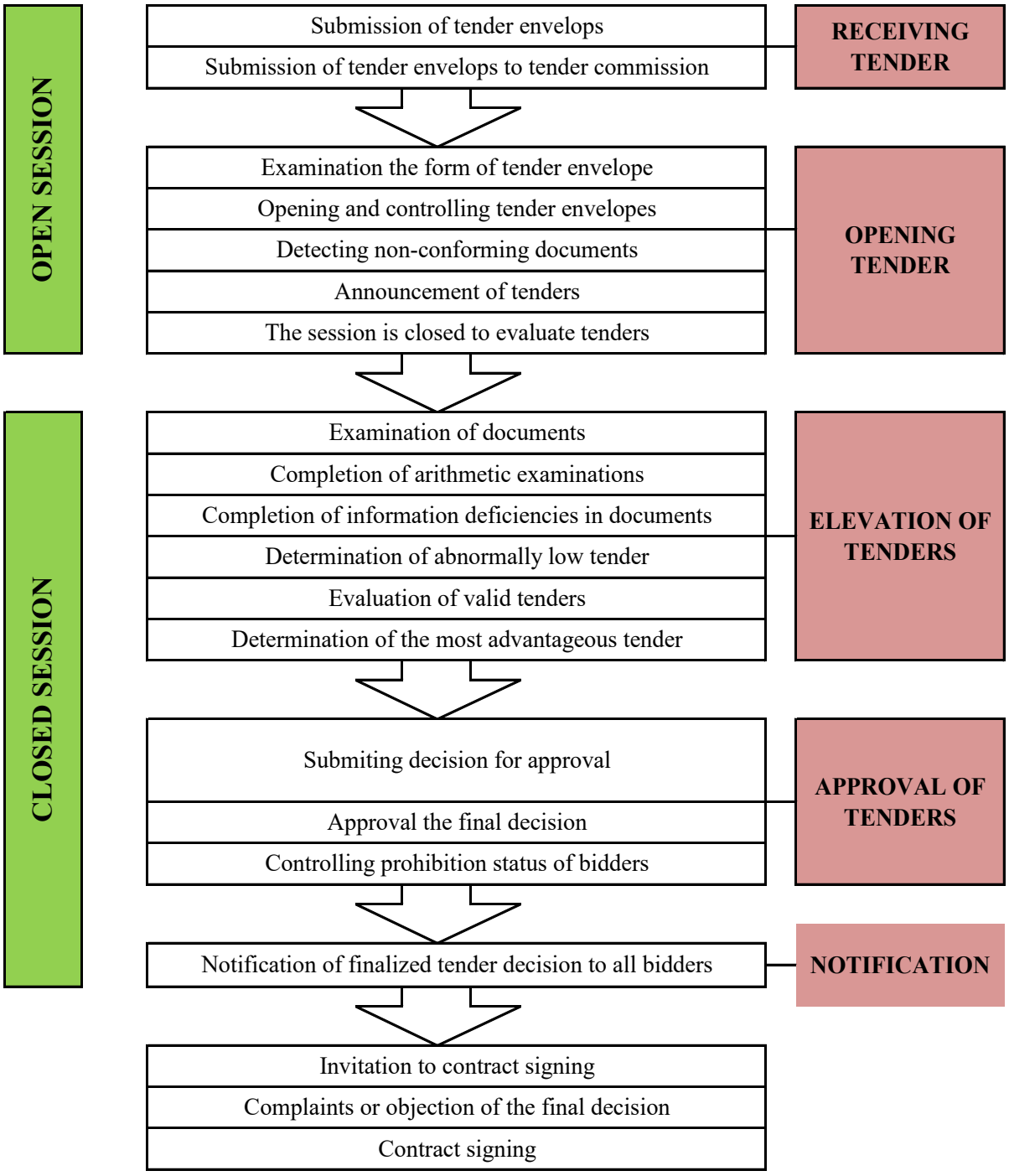


Figure 1: Tender Evaluation Process Flow Chart

Source: Pınar KESKİN, 2019

2.1.7. Public Procurement Bid Evaluation Delays Dimensions

There are many causes of delay in the tender evaluation. Among which are the issue of Evaluation Panel members also working as regular staff members of the districts, late Response from bids and evidential proof of documents and acceptance of correction of errors is also another cause of delay, Justification of unit rates of contractors and lack of technical expertise to evaluate is also another cause. Political interference recognized as the main cause of delays during tender evaluation (Abayneh 2019). Bid evaluation can be delayed due to late submission of tender documents to analysis committee and late submission of evaluation reports to the endorsing committee, due to late disclosing of results for bidders, late approval due to work load, team members lack of technical and procurement skill and knowledge.

Merging the above causes the researcher presented bid evaluation delay dimension in to four namely, poor planning, poor employee engagement, vagueness of documents and procedures and lack of support of top management.

2.1.7.1. Poor Planning

In the long run, many procuring entities suffer massive losses because of poor management of the tendering processes. The tendering process is mainly comprised of the tender plan, tendering itself as well as contract management (Shirima, 2009). The processes of tendering especially tender planning impacts on duration it takes for the execution of works, goods, or services to be delivered, the quality and also cost of the works, services or goods acquired (Basheka, 2008). Poor public tendering processes translates to higher cost to the government and citizens, delays in execution of projects or deliverables, which ends up in escalation of cost, poorly executed project, and delaying the delivery of benefits to the beneficiaries. They further result in poor proficiency of job contracts, delivering of poor quality goods, delaying of benefits to the beneficiaries and nurtures elements of corruption in the tendering process (Tweneboah & Ndebugri, 2017). There is mostly Delay in starting or finishing the evaluation process. The evaluation committee need initiated during the Planning Phase. Members need informed of their expected contributions to the evaluation as well as of the tentative timelines within which they will be required to accomplish each task.

The tender evaluation issues included in the procurement planning are dates of technical and financial tender opening, dates of document handing over to the tender analysis and endorsing committee and establishment of the committee. Chimberengwa et al. (2015) attribute poor service delivery to problems in the procurement process. These problems include stock shortages of essential goods and the poor quality of procured goods, and attributed to a lack of proper procurement planning, cumbersome procurement processes, as well as ignorance of procurement processes, procurement policies, and legislation.

- **Hypothesis 1 (H_1) -** ***There is a positive and significant effect of poor planning, as key determinant of tender evaluation delay on projects under ERA.***

2.1.7.2. Poor Employee Engagement

Employee engagement is employees' ability and willingness to contribute for organizational accomplishment, their willingness to give discretionary exertion, going beyond what is typically required in their position to make the organization successful. Employee engagement is above all average willingness to occupy the energy and commitment of all employees in everything they do in order to achieve exceptional results (http://www.dialogos.si/slo/objave/clanki/zavzetost/). Employee engagement describes employees' emotional and intellectual commitment to their organization and its success. Engaged employees experience a compelling purpose and meaning in their work, and give of their discrete effort to advance the organizations objectives' (The Work Foundation cited at IDeA, 2008).

The procuring entity organizes the evaluation process but bids and proposals evaluated by independent panel of three or more individuals. Therefore, the duration of the evaluation process is not under the control of the procuring entity. Sometimes one or more members may not be available to start the evaluation process and when started they may be unreliable under availability to continue due to other commitments. Some of the major causes of delay in bid evaluation related to employees engagement are, working of the evaluation members as regular staff at other department, the late response from technical analysis committee to endorsing committee and late review approval by endorsing committee, less commitment among members for evaluation and lack of permanently trained bid evaluation committee. Licenji (2015) observed that the lack of appropriate skills and specialized knowledge are significant problems in

public procurement, as procurement officers are required to provide value for money and take into account strategic considerations. The public procurement process often delayed for different reasons such delays may damage the procuring entity's reputation and are a waste of scarce public resource. Contracts not awarded on time and this result in poor delivery of public goods and services (Ben, 2015). Effective tenders evaluation depend much on competency of evaluation personnel, experience of evaluation personnel, awareness of evaluation procedures and freely from interface of the other departments to the evaluation team members.

- **Hypothesis 2 (H_2)-*There is a positive and significant effect of poor employee engagement, as key determinant of tender evaluation delay on projects under ERA.***

2.1.7.3. Vagueness (Documents and procedures)

Tendering is one of the stages in a construction project that requires extensive information and documents exchange. Clients typically provide contractors with a set of tender documents for a bid proposal upon which a contract may be late and executed (Murdoch and Hughes, 2008). Purpose of tender documents is to provide each builder with common data in sufficient detail to suit the circumstances of a project. (Cook, 1991)

Tender document are the basis for the successful implementation of the contact and should be prepared in a good quality. However, in most of our road projects, it can be seen that tender documents become among the main causes for a time overrun according to ERAs Contract Procurement and Project Design Preparation BPR study group (As-Is report, 2007). Shortage of skilled man power to prepare the documents, Selection of poor performing design consultants, Unavailability of quality control plan and quality assurance system in the ERA and among the service providers are some of the common causes for immature tender documents.

Delay in preparing technical specifications, scope of work or terms of reference: technical specifications, scope of work and terms of reference are documents that describe what needed and should be clear enough to avoid confusing suppliers, contractors, service providers, and evaluation panel. They also needed to prepare the solicitation, biding, or tender document and if not completed ahead of schedule the procurement process delayed before it is started (Abayneh, 2019). The reason for delay is usually the lack of expertise in preparing these documents; no

realizing the extent of the information and research that may needed to complete them. A contractor, suppliers or service providers challenges the procurement process. contractor, suppliers and service providers are allowed to formally challenge to procurement process if they have evidence or reason to believe the procuring entity fail to comply weather procurement rules or if they feel they are unfairly treated or affected by the manner in which the procurement process is carried out. This delay is also difficult to avoid (Asian Development Bank, 2015).

Contractors respond to unclear tender documents in five main ways i.e. queries, assumptions, clarifications, qualifications and not bidding at all. If the tender document is not clear, most bidders will ask for clarification and ERA should allow extension of tender submission period, which also hinders the bid evaluation period.

Delays causes associated to vagueness are, the late response for evidential proof of documentations from bidders, the late response for acceptance of correction of errors from bidders, justification of unit rate of contractors and lack of technical experience to evaluate it, submittal of incomplete document and repeated compliant.

The procuring entity should allow Bidders sufficient time for studying the Bidding Document, preparing a responsive bid, and submitting the bid. They must check for responsiveness to the contractual, technical, and financial requirements of the bid solicitation. Fair, accurate, and transparent evaluation of bids is an important aspect of procurement process, which in the end will lead to good project performance.

- **Hypothesis 3 (H_3)-** ***There is a positive and significant effect of vagueness, as key determinants of tender evaluation delay on projects under ERA***

2.1.7.4. Lack of Support of Top Management

Many organizations fail to capture billions of dollars in procurement savings, because they lack leadership skills, processes, and infrastructure for effective management of procurement across all spending categories (Minahan, 2004). Mohamad and Abdulrahman (2018) affirmed that leadership commitment and communication influence the efficiency of procurement staffs significantly. Leaders lead employees towards achieving goals by influencing employee behaviors in several ways. They set clear vision for the organization, motivates employees, guides employees through the work process and builds morale, as part of their roles (Kemunto

and Ngugi, 2014; Walter & George, 2017). Brammer and Walker (2011) found leadership and management support to be critical in the implementation of sustainable procurement.

The importance of top management support could be (partly) explained by the fact that top managers facilitate, ensure and deploy organizational resources to meet the goals of the organization and individual departments (Hoejmose & Adrien-Kirby, 2012). Lack of leadership and management support has been responsible for failure of many procurement initiatives because top management approves funding for specific procurement initiatives. (Kemunto and Ngugi, 2014)

Delays during the approval process, it is required of various stages in the procurement process. It depends on the monetary value and complexity of the procurement requirement and stipulated in the procurement rules. The approval issues are relied on top management and the organization-governed body needs to uphold procurement rules (Abayneh, 2019). Generally, goods and works contracts awarded without negotiations because once they meet the technical requirements the contract awarded based on the lowest reasonable price. For complex goods and works there may be requirement for negotiation before the contract awarded. This has to be determined during procurement planning and scheduling and clearly reflected in the biding document. Acceptingly, the top management follow-up and guideline is necessary. The duration of the contract negotiation is beyond the control of the procuring entity so you should be conservatively determined during Procurement planning and scheduling (Bhawani et.el 2021).

The factors related to top management support that delays the evaluation process are, lack of assigning technical expertise, not assigning permanent trained tender analysis committee and political interference or interfering in the bids that are being evaluated. The approval committees and the top management who gives comments and approves the evaluation report mainly not available because of workload and waiting for their comments and decisions the evaluation process can be stacked for a long period and can cause big delay.

- **Hypothesis 4 (H_4)-*There is a positive and significant effect of lack of support of top management as key determinant of tender evaluation delay on projects under ERA:***

2.2. Empirical Literature Review

Number of factors affects road construction performance some of them are: poor planning and poor management; Lack of experience; Inadequate controls during road construction; scarcity of road construction materials; Delayed commencement of works; delay to make decisions, and failure to address road safety (Ogunlana *et al.,* 2015). Procurement systems, project team performance, conflict between the project parties, poor workmanship, and external conditions lead to poor project performance. Project Managers' ignorance and lack of knowledge; faulty project conceptualization; and aggressive competition during tendering also affect road construction performance. Francis (2018), in a thesis titled effects of tendering process on services delivery in road construction sector, states contract negotiation, pre bid meetings, performance bond, correct identification of the best evaluated bidder are the procurement factors to improve the performance of road construction projects.

A study made by CoST (2016) concerned to make informed judgments about the cost, time and procurement compliance of government projects), in the Ethiopian road sector, procurement issues are the primary level of concern and project delays, contract administration issues and cost overrun are quoted as other major causes for concern. From roads constructed by Ethiopian roads administration 17 percent of road projects were delivered on Design-Build (DB) arrangement while 76 percent of DBB projects involved separate contracts for SCI (Service Contract I – Design Consultancy Service Contract) and SCII (Service Contract II – Construction Supervision Consultancy Service Contract). The bid preparation (floating) period, bid evaluation period, duration between contract award and signing have also been summarized for Works contracts. It found that all of the projects under the ICB and 93 percent of the projects under NCB procedures have sufficient bid preparation periods and the efficiency of bid evaluation and contract-signing processes is 73 and 20 percent respectively. There is a delay of contract signing with duration ranging between 8 and 207 days. With respect to information availability, sufficient bid information obtained in the road sector. For design and consultancy service contracts, the average time for procurement duration and design period is respectively 215 and 314 days and for Works contract, the average time for procurement duration and completion period is respectively 262 and 1136 days. If projects are successively implemented in this manner, the

total implementation period of construction projects could be 1927 calendar days (nearly five years) without considering delays in design service and construction Works. The study concludes the procurement phase is a major concern on road sector and the efficiency of bid evaluation and contract signing does not meet the schedule for most projects then more concern need given for evaluation and procurement to minimize the risk of schedule overrun, which causes time overrun and cost overrun (Abayneh, 2019).

Abdalla (2014) found there were a number of obstacles in the procurement process, which hinder the effectiveness or performance in the procurement functions. Practices in public service such as delay in signing of the contract, failure to identify the need of the organization, low knowledge of specification, low knowledge of contract ,delay in tendering process ,supplier selection process with the process existing in the procurement, were some of the obstacles of the performance in the procurement functions.

In the study "influence of procurement process on completion of road construction projects in Kenya: a case of bungoma south sub-county by Khisa (2015). The researcher has used four independent variables (Tendering process, client selection criteria, control regulations and quality assurance.) and also moderating variables (contract strategy, risk management), and Intervening variable (economic factors, politics and government policies). The researcher concluded that these all variables have effect on construction project success.

The research titled "The effect of procurement management on project performance: a case of the Uganda millennium science initiative project by Naluyima (2016) used three independent variables (procurement planning, solicitation of bids and contract management) and tested their effect on project performance. In the finding, mentioned: procurement planning significantly affects the overall project performance, solicitation of bids has no effect on project performance, and contract management affects project performance. In case the actual completion period is more than the approved completion period then the difference between Actual Completion period and approved time will be the time overrun. Time overrun also leads to cost overrun, increases in cost of materials, labor, and equipment that leads to claim and disputes. The overall adverse effects placed in the following ways interest during construction (IDC): The IDC of the project increases because of time overrun. The effect of increase in IDC is more relevant if the

project delayed during advance stage of construction. It observed that IDC is the major component of cost overrun in many under construction/ commissioned projects. The time overrun increases the cost of raw material & labor beyond anticipated values as per contract. In general, the price indices related to raw material viz. bitumen, aggregate, cement, steel, labor etc. have an increasing trend with respect to time and have an effect on contract value in case of time overrun. Considering loss of revenue generation, for nongovernmental projects, the developer incurs loss on, account of delay in generation of income due to time overrun.

The impact of cost and time overruns on construction projects is an undesirable experience of both to the clients and stakeholders in the industry. This has regularly led to dispute, unfriendly working relationship, abandonment, low quality, and environmental nuisances. The report "The effects of construction delays on project delivery in Nigerian construction industry, (Aibinu et al. 2002), has identifies, evaluates and assesses the effects of construction delays. The findings showed that time and cost overruns were frequent effects of delay. Delay had significant effect on completion cost and time of projects studied and Client- related delay is significant in Nigeria.

Mulenga (2015) on its survey asked the respondents to rank the effects of construction projects schedule overruns in Gauteng. The results obtained included: extension of time, cost overruns, loss of profit, disputes, poor quality of work due to hurrying the project, creates stress to the client, acceleration losses, bad reputation with contraction team, claims and delay in getting profit by the client were the top ten effects.

Perceptions of Construction Project Delay by Local Stakeholders :(Hussain et al. 2017) carried out a study on Rural Residents' Perception of Construction Project Delays in Pakistan. Came to result that, out of 26 influencing factors incorporated into the questionnaire the top six most important factors highlighted and discussed in detail: Problems faced while traveling, Increases the price of consumer goods, high transportation costs, Lack of educational opportunities, more expenditures on education and Barriers to primary healthcare access. The results show that rural communities confronted severe challenges because of the delays in construction projects or schedule overrun, which mainly related to procurement or evaluation delay. Bhawani et al., (2021) on their study "Assessment of Delay Factors and its Impacts on Selected Road Construction Supervised by Department of Road in Dhakal" analyzed the factors causing delay,

their impacts, and the perception of local stakeholder towards the delay caused by delay causing factors.

Delays in the procurement process, prevents the timely award of contracts. A delayed contract award could cause a chain reaction of delays on other dependent procurements. This is especially important in project procurement management because it could delay the completion of the project. The Figure 2 below demonstrates a more detailed view of the effect of bid evaluation delay on public projects. As shown in the figure below; time overrun, cost overrun, dispute between parties, wastage and underutilization of resources and loose of most qualified candidate are the effect of schedule overrun. The project schedule goes forward due to procurement delay.

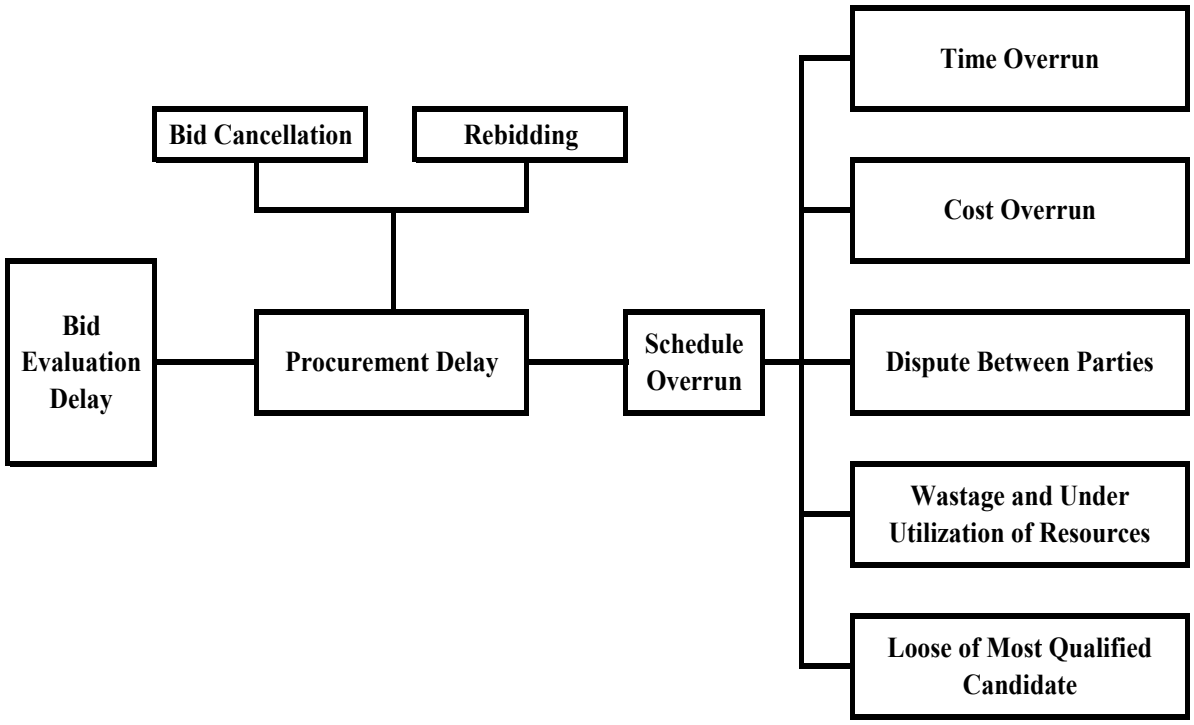


Figure 2: Flow diagram to the Effect of delay in Bid Evaluation

2.3. Conceptual Framework

Procurement delay, particularly Evaluation delay is the primary cause of project schedule overrun. Avoiding delays in the procurement process not only saves time and money, it also permits the timely award of contracts. This is especially important in project procurement management because it could delay the completion of the project. The conceptual framework shown below guided this study. The project schedule goes forward due to procurement delay. The Figure 3 below demonstrates a more detailed view of the effect of bid evaluation delay on public projects. The processes of tendering especially tender planning impacts on duration it takes for the execution of works, goods, or services to be delivered, the quality and also cost of the works, services or goods acquired (Basheka, 2008). While shortage of skilled man power to prepare the documents, vagueness of documents and procedure, Selection of poor performing design consultants, lack of support by top management, unavailability of control plan and quality assurance system and among the service providers are some of the common causes for immature tender documents(Ben, 2015). These considered as independent variables. While the dependent variable may be associated with time overrun, cost overrun, and dispute between parties, wastage, and underutilization of resources and loose of most qualified candidate are the effect of schedule overrun.

The time required for procurement depends on the time consumed on evaluation. Pinar (2019) identified a total of eight effects of schedule overruns and tabulated them as, Time overrun: When the stipulated completion time is pushed forward, the project is said to have experienced time overrun, Budget overrun: When a project is completed at a cost higher than what was budgeted, it is said to experience a budget overrun, Poor quality completed project: inferior workmanship and or inferior quality materials, can lead to issues of project quality, Bad Public Relations: When projects are delayed, contractors, consultants and clients could put their public reputations at risk, Litigation: Disputes can lead to court cases for resolution especially when large penalties are at stake, Arbitration: The project will have extra cost and time related to the engagement of professional Arbitrators, disputes and claims: Disputes and claims arise from the losses incurred through delays by either party in the contract, and total abandonment: Delays in project execution could lead to total abandonment if issues leading to the delays are not resolved early (Naluyima,2016).

Before the implementation stage there will be also bid cancelation and re biding. Also loose of most qualified bidder can be occurred resulting selecting inappropriate bidder. Polat (2016) selection of an inappropriate contractor can result in massive additional costs caused from a rework of the project due to "poor quality of work, claims, disputes, litigation, adversarial working conditions, penalties, abandonment of work, and even bankruptcy"

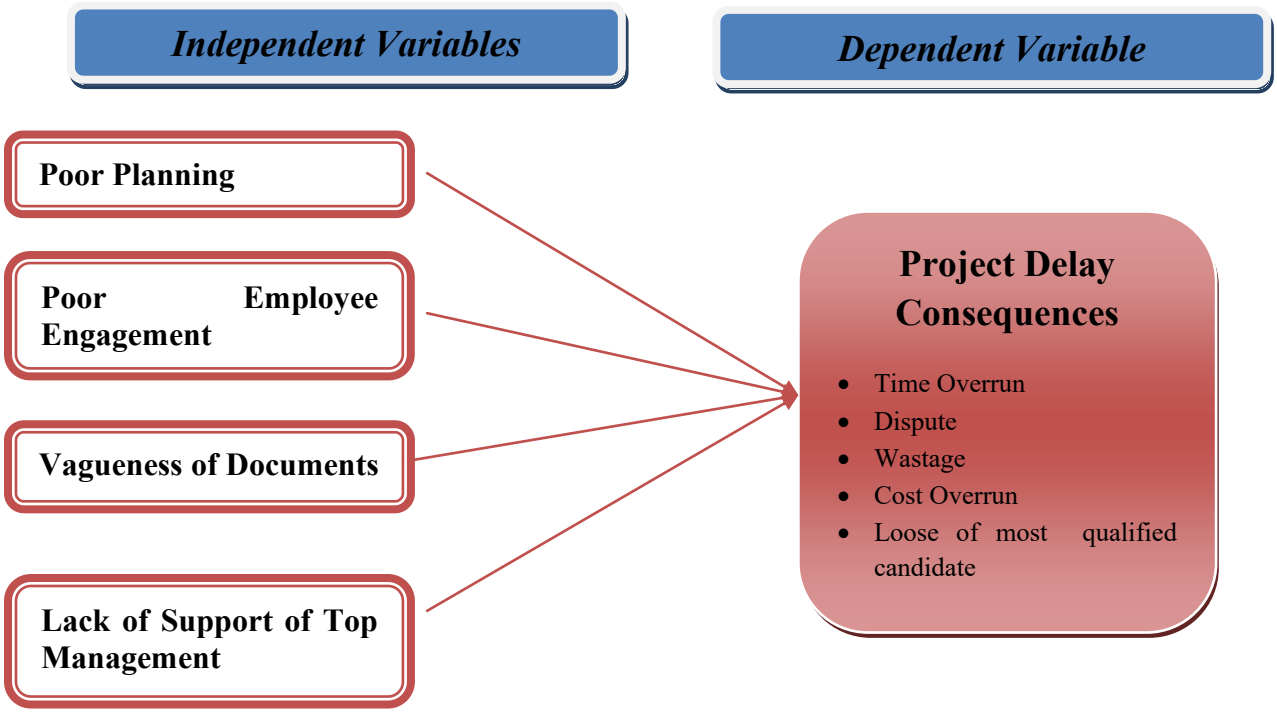


Figure 3: Conceptual Framework

Source: Developed from review of extant literature (Abayneh, 2019; Bhawani et.el, 2019; Naluyima, 2016; Pinar, 2019; Licenji, 2019; Shirima, 2009) and modified by the researcher.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

This chapter presents research approach and design, population and sampling, procedure of data collection and method of data analysis. In addition, survey related reliability and validity presented. The research methodology used is conducting questionnaire and interviews with staffs, engineers, team leaders, and directors from project development, construction project management, road asset management, and corporate services directorates.

3.1. Description of the Study

In 2021 the Ethiopian roads authority plans to launch 91 roads projects, which have project cost of 150 billion birr (ERA annual plan). Every year ERA launches similar projects with large budget. Most projects fund is Ethiopian government and some of them funded by sponsors such as World Bank and African development bank. The projects give solution to social, economical, and political problems of the residents by connecting region-to-region and country to country and the major ones are strategic roads, which are part of east African integration initiative. Therefore, procurement of such large projects needs effective implementation. Delay in tender evaluation can risk the implementation and performance of the project. This research intends to investigate the effect of procurement delay specifically tender evaluation delay on road projects under Ethiopian roads administration. The study used data gathered from respondents of corporate support, construction management, asset management and project development departments and an interview conducted with selected team leaders, and directors at the head office of ERA located at Addis Ababa to collect relevant information and in the meantime to cross check the reliability of the data gathered through questionnaires.

3.2. Research Approach

Creswell (2014) categorized scientific research approaches into three main methods: quantitative, qualitative, and mixed research. Qualitative research is an approach for exploring and understanding the meaning individuals, groups ascribe to a social or human problem. Whereas, mixed research approach involves collecting and analyzing both quantitative (numeric)

and qualitative (descriptive) forms of primary data in a single study. Thus for the purpose of attaining objectives of the research and answering research questions qualitative research approach was used. It applied to get insight and understanding of the situation in bid evaluation delay in road project delay in Ethiopia. This paper focused mainly on the evaluation process and problems related to bid evaluation.

3.3. Research Design

A research design establishes the conceptual structure surrounded by which research conducted and the blueprint for the collection, measurement, and analysis of data. It includes an outline of what the researcher did from writing the hypothesis and its operational implications to the final analysis of data. In the data collection, discussion, analysis and presentation this research has an explanatory research design (Kothari, 2014). In line to discourse, the research gap identified and meets the specific objectives, explanatory research design employed. Explanatory design seeks to establish cause-and-effect relationships. Its primary purpose is to determine how events occur and which ones may influence particular outcomes (Kothari, 2014). They reflected by research hypotheses that specify the nature and direction of the relationships between or among variables being studied.

Here the study described the respondents' attractiveness toward bid evaluation delays causes of road project delays and their project characteristics. As it attempts to find out the relationship or association between the variables and the frequency with which they occur this study is explanatory /causal in its approach. In addition, this study attempted to examine the factors affect road project consequences due to delay. Moreover, it employed mathematical models and theories pertaining to road project delays. Thus, explanatory research is an appropriate research design for the reason that this study attempt to investigate the influence of factors affecting road project delays, i.e. to study the relationship between the stated dependent and independent variables of the study. Besides, the study provided a complete picture of bid elevation delay on road project delays condition in Ethiopia.

Consequently, the researcher combined both the cause and reason to the project delays and this can be found out by explanatory research and describe the project delays, so the researcher employed both explanatory and descriptive together.

3.4. Data Type and Sources

One key type of data that used to answer the research questions are primary data gathered through questionnaires, which distributed among 212 respondents working in ERA head office and project. Interviews also made to some key personnel. Secondary data, such as tender evaluation reports and ERA 2013 procurement Key Performance index also used as an input for this study. When using the secondary data the researcher took the necessary caution to check for its reliability, suitability, and adequacy.

3.5. Population and Sampling

3.5.1. Target Population

Research population, according to Kothari (2014), is the sum total of all the entities under consideration by researcher. The target population of the study comprised of 452 employees the surveyed organization.

3.5.2. Sample Frame

The sample framework obtained from March 2022 employees' payroll, and the sample drawn from Addis Ababa head office and projects.

3.5.3. Sample Size

The sample size of the study was determined as per the sampling technique based on the following formula specifically a known formula called Yamane (1973). Sampling is the process of selecting a number of individuals for a study in such a way that the individual selected represents the large group from which they are selected (Kothari, 2004). According to Kothari (2014) for the target population which is not large in number from 5%-10% of the total could be enough. Although there is more complex, formula the general rule of thumb is that not less than 50 participants for a correlation or regression are required. The formula presented below:

$$n = \frac{N}{1+N(e)^2} \quad n = \frac{452}{1+452\ (0.05)^2} \quad = 212$$

Where n = the sample size

N = size of population

e = the level of accuracy (e = 0.05)

3.5.4. Sampling Procedure

This study employed both probability and non-probability sampling methods. Since sampling technique determines the reliability of generalization and conclusion of the study; the researcher gave utmost attention to the study design and sample size. Stratified random sampling technique was functioned particularly. Region of the surveyed project and its associated project actors i.e. employees of ERA, consultant and contractors current working as the basis for selecting samples from the target population among probability sampling techniques. This sampling technique is significant to select from senior, middle level and other staffs equally based on their proportion as compared to others. All targeted employees and officials have the chance to include in the survey. Then after, the researcher constructed a proportionate stratified sample to determine the sample size from head office and region and select by systematic random sampling technique. In addition, it then used simple random sampling technique to recruit employee and project officials for participation in the study. The rationale behind using systematic random sampling technique is because it helps to approach employees during the service hours thereby increase the response rate.

Further, this study applied purposive sampling method to select the most active project actors for determining fact and good information on project delay of the surveyed project based on the questionnaire. From the total sample population the number of respondents to be included from each selected actor decided based on proportion of total actors at each project performer list. Finally, to get the decided number of sample respondents the researcher used selected respondents from head office and project to fill the questionnaire using random sampling method.

Table 1: Sample size determination

Employees by Working Department(Directorate)	Population	Proportion	Sample Size
Corporate Support	**127**	**0.472**	**60**
Construction Management	**145**	**0.469**	**68**
Asset Management	**72**	**0.472**	**34**
Project Development	**108**	**0.472**	**51**
Total	**452**		**212**

Source: Survey result and ERA, 2022

3.6. Data Collection Tools

3.6.1. Questionnaire

It is key data collection method used in this study. The questionnaires included various questions prepared based on study area in a semi- structured manner. Except for a few number of questions the items of choice in the remaining questions presented. The questionnaire developed from the study of Bhawani et al., (2021) and Hussien et al., (2017) and all of the items were measured by using a five-Point Likert-type response scale, anchored at 5 strongly agree and 1 strongly disagrees. The questionnaire with mainly closed and open-ended questions used to collect data from respondents. This study used closed questions as it had some advantages: easy to process answers; enhances the comparability of answers, and makes them easier to show the relationship between variables. The questionnaires divided into three sections to capture the background information of the respondents, causes of project delays.

3.6.2. Interview Checklist

Interview sessions were prepared to gather pertinent information about the study area, delay in projects and internal and external associated factors their relationships, effects, and practices. It tries to cover up to ten directors and team leaders who were working in various directorates and departments of the surveyed project. A face to face interview session was conducted with participants included a team leader, directors and project managers who were deemed to be conversant with road project bid evaluation in Addis Ababa.

3.6.3. Document Review

The other data collection methods or techniques that used in this study are observation and documents related to the topic under investigation. For that purpose different document such as tenders, agreements, reports, action plans published by the organization or external parties used as an important source of data. The tender evaluation reports and key performance index (KPI) of procurement for the fiscal year 2013 is to assess data about bid evaluation process and performance in the ERA

3.7. Validity and Reliability

3.7.1. Assessing Validity

Validity means an instruments ability to measure what meant to measure. There are three types of validity in a study: content validity, predictive validity, and construct validity. This study addressed face and content validity through the review of literature and adapting instruments used in previous research. In addition, ten individuals including projects leaders, experts, students from master degree studies and client representative were participated to validate the questionnaire before data collection were authoritatively administrated.

3.7.2. Pilot Test

Mora et al. (2018) assert that the pilot study assesses the applicability of the process and research instrument, and it is instrumental in the success of main study. A pilot test conducted with ten questionnaires; preliminary draft of the questionnaire was pre-tested to improve upon the clarity of the question items. Non-sample respondents given the questionnaire to read and comment on the meaningfulness of the question items and their comment incorporated. After the pilot, test some modifications such as inclusion of some missed ideas, removal of repeated questions and amendments done.

3.7.3. Reliability Test

Reliability broadly defined as the degree to which measures are free from error and therefore yield consistent results (Kimberlin & Winterstein, 2008). Reliability is a measure that analyzes if the items in a survey questionnaire are reliable to provide consistent results after respective testing in variable environments. Cronbach Alpha used to test reliability of the research questionnaire. Representative questionnaires from the pilot test subjected to reliability test. A Cronbach alpha of 0.7 and above but less than 1 was treated as an acceptable reliability (Tavakol & Dennick, 2011; Drost, 2011).

Table 2 : Reliability statistics test result

Variables	Reliability Statistics	
	Cronbach's Alpha	N of Items
Poor planning	.843	6
Poor Engagement	.802	6
Vagueness	.809	7
Lack of support	.792	5
Project delay consequences	.817	12

Source: Survey result, 2022

As multiple items in all constructs used, the internal consistency/reliabilities of dimension assessed with Cronbach's Alpha and the reliability values for all constructs were tested and verified as greater than 0.7, which considered acceptable (Kothari, 2014). The overall Cronbach alpha of the scales used in this study rated as good. Consequently, it indicates the reliability of the scales was high depicting a strong internal consistency among the measurement items and the selected instrument accurately measures the variables selected. Thus, concluded that the study was reliable to capture the constructs.

3.8. Methods of Data Analysis

After the process of collecting relevant data completed, proper method of data analysis used. The analysis indicated transformation of raw data in to a form that makes easy to understand and interests it. First, the empirical data analyzed by descriptive statistics (frequency, mean, and standard deviation). Then, the data analyzed using statistical techniques of correlation analysis as the study used Likert scale, Pearson correlation used.

3.8.1. Data Processing

Data entered by the researcher using SPSS V.25 for cleaning and analysis. The accuracy of data entry checked, by running frequency analysis and making range checks every time. Errors of data entry corrected, by crosschecking with the filled questionnaires.

3.8.2. Descriptive Analysis

Descriptive statistics computed to describe the socio-demographic characteristics of participants and to summarize the respondents' perception. Descriptive statistics included the mean and standard deviation used to capture the characteristics of the variables under study. It displayed in a meaningful and understandable manner to assist in describing and interpreting the results of the research. The data collected qualitatively have been first transcribed into text, next organized based on the objective of the study and then was analyzed by coding, giving meaning, categorization, editing and through thematic organization and descriptive narration.

3.8.3. Analysis Using Inferential Statistics

Besides, inferential statistics like Pearson correlation and regression applied to see the effect of the independent variable on the dependent variable. Inferential statistics included bivariate correlation, which used to analyze the relationship of the independent variable. Besides, correlation and linear regression to test for relationships while a multiple linear regression model used to determine the combined effect on the relationship between dependent and independent variables. Multiple linear regressions also allow determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained. When one selects to analyze his or her data using multiple regression, part of the process involves checking to make sure that the data he or she want to analyze can actually be analyzed using multiple regression.

3.8.4. Model Specification

The statistical regression model of the study was based on the theoretical regression model. After results have been computed analysis of the research, findings done using multiple regression statistical analysis method. The relationship between bid evaluation delay variables and project delay is then mathematically described using multiple regression equation models as follows, based on the conceptual model of the study shown in equation below.

$$Y = \beta_0 + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3) + \beta_4(X_4) + e$$

Where;

- Y = Represents the dependent variable (Project Delay Consequences)
- β_0 = The Constant or the value of *Y* when all *X*-values are zero.
- X_1 = Poor Project Planning
- X_2 = Poor Engagement
- X_3 = Vagueness
- X_4 = Lack of Support
- e- the error term (To account for all other Variables not considered in the study)

3.9. Operational Definitions and Expected Signs

Table 3: summary of variables definitions and scale of measurement

Variables incorporated	Unit of measurement	Sign Expected
Poor project planning - uncertainly bring down response strategies where they are at the threshold or the completion stage (Tadesse, 2017)	Likert scale	+
Poor Engagement – carelessness, demotivated, lack of commitment among technical analysis committee members in evaluating bid	Likert scale	+
Vagueness - present unclear documents, use ambiguous words, often an arithmetical errors in bid documents and others	Likert scale	+
Lack of Support - Lack of technical expertise to evaluate can hinder the evaluation process, lack of permanent trained tender analysis committee can cause evaluation delay and others	Likert scale	+
Project Consequences – Schedule, social, legal project and financial impacts inducing time and cost overrun	Likert scale	
Project Delay - the time overrun either beyond completion date specified in a contract or beyond the date that the parties agreed upon for the delivery of a project (Meena and Babu, 2015)		

Source: Survey result, 2022

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

In this study, this is the fourth chapter that presents the findings from the field, followed by their interpretations and discussion. It comprises the frequency of response rate and respondents profile as well as response analysis by descriptive statistics followed by regression analysis. It also contains qualitative data analysis to answer the research objective.

4.1. Response Rate

The survey questionnaire was administrated by face to face and emails, interested participants being given sufficient time for the initial response. Response rates are presented in detail below.

Table 4: Response Rate

Employee By Department (Directorate)	Distributed Questionnaires	Properly Returned	%
Corporate Support	60	51	85%
Construction Management	68	56	82%
Asset Management	34	28	82%
Project Development	51	36	71%
	212	**171**	**81%**

Source: survey result, 2022

This study found that 212 self-administrated questionnaires disseminated and this study found that 171 respondents properly filled and returned the questionnaires in suitable form and they were used to analysis. It indicates that eighty one percent (81%) response rate attained. A response rate of above 60% considered acceptable for the purpose of any research (Kothari, 2004). Besides, ten interviews conducted based on the prepared interview guideline and the results of their responses discussed accordingly.

4.2. Respondents' Profile

This part of the data presentation summarized demographic profiles of the respondents, i.e. distribution of respondents in sex, age, educational, marital status as well as their experience in road sector and with evaluation of tender.

Table 5: summarized demographic profiles of the respondents

Variables		Count	%
Gender	Female	74	43.3%
	Male	97	56.7%
Age (in year)	Less than 30	16	9.4%
	31 -46 tears	79	46.2%
	47-65 years	58	33.9%
	Above 66 years	18	10.5%
Educational Status	Below High school	0	0.0%
	Diploma and Degree	88	51.5%
	Masters	76	44.4%
	Refused or Others	7	4.1%
Marital Status	Single	47	27.5%
	Married	85	49.7%
	Divorced	22	12.9%
	Refused or Others	17	9.9%
Experience in working with road projects	Less than a year	17	9.9%
	About two or three years	35	20.5%
	4 – 6 years	26	15.2%
	Above 7	93	54.4%
Experience with Bid evaluation	Less than a year	31	18.1%
	About two or three years	58	33.9%
	4 – 6 years	36	21.1%
	Above 7	46	26.9%
Practiced in the field road projects (out of Addis Ababa)?	Less than a year	39	22.8%
	About two or three years	30	17.5%
	4 – 6 years	28	16.4%
	Above 7	74	43.3%

Survey Result, 2022

Personal demographic characteristics of the sampled respondents presented throughout the above table. Findings of this study shows that, out of 171 the total of employees respondents of this study, 74 (43.3 %) in number of the respondents are females and 97 (56.7 %) of the sampled respondents are male. The majority of the respondents are male; the results show that male project participants or actors could be controlling the engagement in road projects at surveyed project level. Among 171 sampled respondents, 9.4 % of the total respondents were of age below 30 and above 18 years or there were young adults. 46.2 % of them were of age 31 to 46 years or middle-aged adults, 33.9% of the respondents are adults aged between 47to 65 and only 10.5 % of the respondents were older adults or aged older than 66 years. This considers the study gathered information from well-experienced and aged people who acquired knowledge in road projects and on tender evaluation. The above table displays that, among 171 sampled respondents, more than half of them (51.5% of the total respondents) had diploma and first degree, 44.4% of them attended university postgraduate (masers and above). In the same way, most of the respondents (85 in number) are married and single (47 in numbers). In view of this, the majority respondents are married showing that, have been exercising the role of accountability and responsibility and in better social relations, they are taking part. Likewise, the majority (154) of the sampled respondents had more than two years working experience in road projects and 140 of them had experience in bid evaluation. The study found that most respondents were university graduated, worked several years in road projects, and experienced in bid evaluation. Besides, they were passed most of their working time in project tools, system and work processes. This demonstrated that most of them are qualified professionals with technical knowledge and skills on the study problem and this assists in providing reliable by understanding the subject under study.

4.3. Analysis of Bid Evaluation status of ERA

This based on evaluation results from ERA KPI (key performance indicator) for 2013 fiscal year. This research conducted during the months of July 2020 through June 2021 (2013 E.C). It attempted to review 216 projects those evaluated during the indicated time by the engineering procurement directorate in headquarter of ERA. It focused on the assessment of bids submitted by contractors. It also conducted the discrepancy documents analysis including bid-opening minutes, checklists and letters of clarification requested, replies from bidders and time coverage

of bid evaluation conducted by checking Key Performance Indicator Report for procurement and bid documents.

4.4. Discrepancy Documents Analysis

From this research, 216 biding documents submitted to road construction projects were included for addressing poor planning, vagueness of documents to eliminate further adversarial relationships, time overrun, and increasing overall cost of the project.

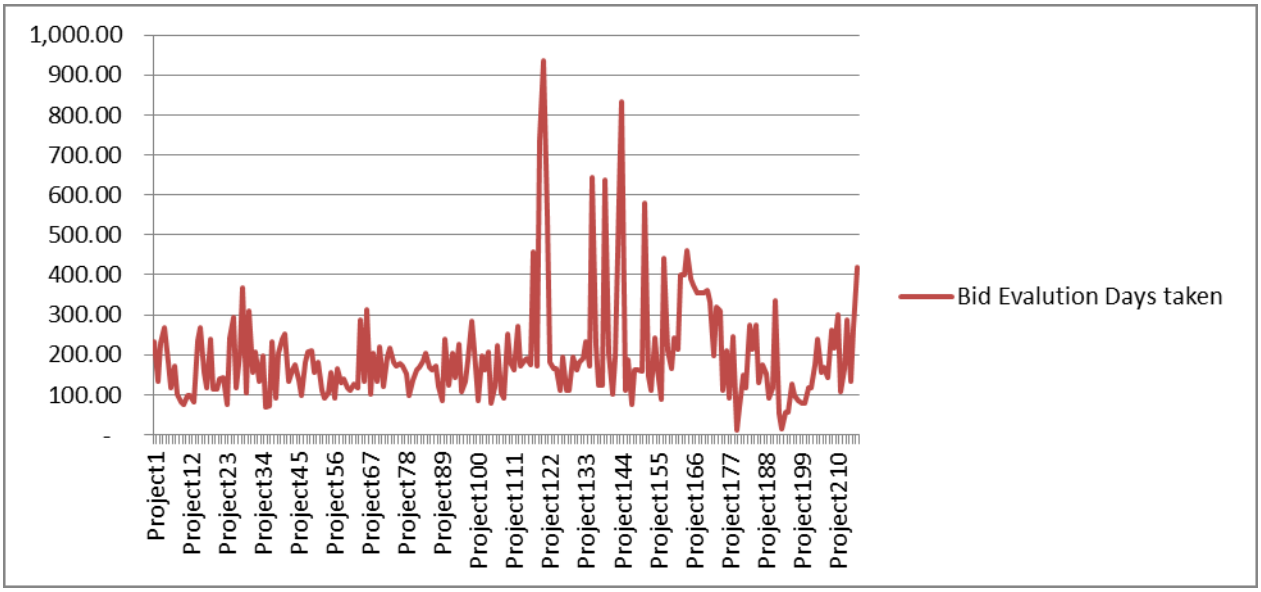


Figure 4: Time used (Bid Evaluation Duration) for 216 projects

Source: *ERA (K.P.I data for 2013 E.C)*

The above graphs shows that, average bid evaluation time recorded as 196 days while the Debreberhan-Ankober Road Project took 215 days for bid evaluation. This shows how far the ERA's bid evaluation from the given standard and practices, which indicates a need of proper planning. A study made by CoST (2016) 93 percent of the projects under NCB procedures have got sufficient bid preparation periods and the efficiency of bid evaluation and contract signing processes is 73 and 20 percent respectively. Most of ERA's projects are under procedure of ICB. Procurement is the major concern on road sector and the efficiency of bid evaluation and contract signing does not meet the schedule for most projects. According to World Bank procurement manual (2020), a procurement bid evaluation should be finalized within 90 days.

Table 6: discrepancy of bid evaluation documents for 216 projects

Types of Discrepancies	Characteristics	Percentages	
		Other Projects	Debreberhan-Ankober Road Project
Proper Signature	Bidders' document not initiation on each page	55	75
	Bid are not signed by ERA's authorized person on same pages complain given by bidders	60	75
Amendment	Amendment or document clarification requested by ERA	53	50
Others	Clerical errors found in bid documents	52	60
	Arithmetic corrections	45	25

Source: Own survey, 2022

The data identified the problem directly involved with bid documents for road projects; the data show that out of 216 projects, almost 55 % of the submitted document did not have a Proper Signature and from four bid documents submitted for Debreberhan-Ankober Road Project three Bidders' document (75 % of the submitted documents) not initiation on each page. These data were analyzed to determine what caused the discrepancies that were posted in Table 6 of 4 bidders participated in Debreberhan-Ankober Road Project and 60 % of the bidders for all projects were complained for ''Bid are not signed by ERA's authorized person on same pages. Two amendment requested were sent to bidders in Debreberhan-Ankober Road Project and half of the bid submitted by all projects needed document amendment. This shows that there is a vagueness of bid documents from both ERA and bidders sides.

Table 7: discrepancy of bid evaluation documents for 216 projects

KPI	Measured element	FY 2013
Improvement in Procurement cycle time	Average Bid Process Time [Days]	
	Goods	108.00
	Works	268.86
	Non-Consultancy	248.00
	Consultancy	249.48
	All	**252.78**
Improvement in realistic procurement plan	Average contract signature date delay from planned [%]	
	Goods	0.68
	Works	0.89
	Non-Consultancy	1.00
	Consultancy	0.96
	All	**0.88**
Increase in number complaints resolved within the standard time frame	Percentage of complaints resolved within the standard time	
	Goods	No Data
	Works	0.27
	Non-Consultancy	No Data
	Consultancy	0.23
	All	**0.25**

Source: *ERA (K.P.I data for 2013 E.C)*

The reduction of bid evaluation processing cycle time gives relief of financial and non-financial activities to projects. Thus, this study found that ERA could not able to reduce the bid evaluation processing cycle time as data showed the works evaluation time was 268.86 which scored higher than the given 90 days. It also noted that 89 % on average there is delay on contract signature date from planned.

4.5. Level of Key Bid Evaluation Delay Dimensions

This response analysis presents respondents' opinion regarding their level of agreement on four dimensions with various questions about causes of project bid evaluation delay. The results were interpreted based on the following measurement scale intervals or range; 1.00-1.50 poor, 1.51-2.50 fair, 2.51-3.50 good or average or moderate, 3.51-4.50 very good and 4.51-5.00 excellent.

4.5.1 Poor Planning of Bid Evaluation

Table 8: Poor planning for delay

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
There is late opening of tenders received	21	12%	11	6%	8	5%	126	74%	5	3%	3.49	1.087
Establishment of tender analysis committee(TAC) is late	8	5%	20	12%	11	6%	105	61%	27	16%	3.72	1.019
The documents are handed over to TAC lately	8	5%	28	16%	14	8%	112	66%	9	5%	3.50	0.984
Opening of the tender for financial evaluation and notification of result for bidders is late	11	6%	14	8%	10	6%	105	61%	31	18%	3.77	1.048
The time given for technical - post evaluation process is not mostly enough	11	6%	16	9%	12	7%	97	57%	35	21%	3.75	1.084
There is late disclosing of the results to successful and unsuccessful bidders	9	5%	15	9%	17	10%	92	54%	38	22%	3.79	1.053
										Grand Mean	3.67	

Survey Result, 2022

The findings in the above table show the respondents indicated that there is poor planning in bid evaluation sessions. The mean score 3.67 was rated as very good. \this implies that the committee do not have a good planning as they are concerned in other working appointment. Results in the above table show that all the mean values were greater than 3.49 and less than 3.79; this is an indication that the respondents agreed with the various statements on poor

planning. Similarly, the standard deviation values were less than two, which is a small standard deviation and therefore suggests that respondents had similar opinions. This study found that opening of the tender for financial evaluation, notification of result for bidders is late, and the time given for technical - post evaluation process mostly is not enough. In addition, there is late disclosing of the results to successful and unsuccessful bidders. The lowest mean (3.49) shows a good implication for poor planning in opening of tenders received.

4.5.2 Poor Engagement of Bid Evaluators

Table 9: poor employee engagement for delay

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
TAC takes longer time to prepare evaluation report as evaluators unsatisfied with their career	5	3%	10	6%	15	9%	112	66%	29	17%	3.88	0.862
TEC takes longer time to review tender reports due to lack of autonomy which evaluators need to be able to do their job	3	2%	6	4%	3	2%	113	66%	46	27%	4.13	0.756
There is late financial bid evaluation report due to lack of enforcement.	4	2%	4	2%	9	5%	109	64%	45	26%	4.09	0.784
There is late review-approval of bid by TEC due to no reward in ERA	9	5%	3	2%	16	9%	108	63%	35	21%	3.92	0.917
There is less commitment among technical analysis committee members in evaluating bid	8	5%	6	4%	14	8%	99	58%	44	26%	3.96	0.951
Engagement of technical analysis committee members on their regular jobs as a regular staff can cause delay on evaluation process	5	3%	8	5%	12	7%	109	64%	37	22%	3.96	0.86
										Grand Mean	3.99	

Survey Result, 2022

This study requested respondents' perceived delay causes in bid evaluation phase of public procurement. The mean score 3.99 was rated as very good or serious issue. It implies that it needs cautions in poor engagement, as per the majority of the interview responded. The highest mean score (4.13) shows that tender endorsing committee(TEC) takes longer time to review tender reports due to lack of autonomy which evaluators need to be able to do their job. There is also late submission of financial bid evaluation report by TAC due to lack of enforcement. There is less commitment among technical analysis committee members in evaluating bid and engagement of technical analysis committee members on their regular jobs as a regular staff can cause delay on evaluation process. Similarly, the standard deviation values were less than two which is a small standard deviation and therefore suggests that respondents had similar opinions.

4.5.3 Vagueness of Documents and Procedures

Table 10: Vagueness for delay

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
Bidders whose bids are rejected, during process given sufficient time for complaining and Informed in writing within reasonable time.	4	2%	5	3%	11	6%	139	81%	12	7%	3.88	0.67
Complains on technical-post evaluation result get response in short period	4	2%	1	1%	11	6%	143	84%	12	7%	3.92	0.604
ERA always receives incomplete biding document	4	2%	2	1%	11	6%	141	83%	13	8%	3.92	0.627
There is often an arithmetical error in bid documents.	5	3%	1	1%	10	6%	143	84%	12	7%	3.91	0.64
There is repeated complaint from the bidders	1	1%	1	1%	18	11%	127	74%	24	14%	4.01	0.569
Late response for evidential proof document can hinder the evaluation process	3	2%	1	1%	15	9%	132	77%	20	12%	3.96	0.622
Late response for acceptance of correction of errors can hinder the evaluation process	4	2%	4	2%	25	15%	130	76%	8	5%	3.78	0.673
										Grand Mean	3.91	

Survey Result, 2022

This study requested respondents' perceived delay in bid evaluation due to bid documents and procedure vagueness. The grand mean 3.91 was rated as very good. It shows that there are very serious concerns with the document presentation and lack of understanding the bid procedure. Results in the above table show that all the mean values were greater than 3.78 and less than 4.11; this is an indication that the respondents agreed with the delay in bid, created by document ambiguity to understand. In the same way, the standard deviation values were less than two which is a small standard deviation and therefore suggests that respondents had similar opinions. The highest mean scores were found there is repeated complaint from the bidders and late response for evidential proof document can hinder the evaluation process.

4.5.4 Lack of Top Management Support

Table 11: Lack of top management support for delay

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
Lack of assigning technical expertise to evaluate that can hinder the evaluation process	4	2%	6	4%	44	26%	91	53%	26	15%	3.75	0.839
Political interference is a cause for evaluation delay most likely	4	2%	16	9%	4	2%	124	73%	23	14%	3.85	0.852
Lack of permanent trained tender analysis committee can cause evaluation delay	5	3%	8	5%	3	2%	134	78%	21	12%	3.92	0.767
Lack of assigning skilled labor in bid evaluation committee.	5	3%	12	7%	30	18%	95	56%	29	17%	3.77	0.916
The top management lacks attitude pertaining to public procurement procedure and bid evaluation process.	8	5%	5	3%	34	20%	102	60%	22	13%	3.73	0.893
										Grand Mean	3.80	

Survey Result, 2022

This study found that, road project bid evaluation process has been supported by top management creator. The grand mean (3.80) rated as very good but less than engagement and vagueness. Outcomes of the study in the above table show that all the mean values were greater than 3.72 and less than 3.93; this is an indication that the respondents agreed with the delay in bid evaluation somewhat created by top management. Likewise, the standard deviation values were less than two, which is a small standard deviation and therefore suggests that respondents had similar opinions. The largest mean (3.92) exhibits there is lack of permanent trained tender analysis committee can cause evaluation delay.

4.6. Level of Project Consequences due to Bid Evaluation

This response analysis presents respondent's opinion regarding their level of agreement on project consequences, due to bid evaluation delay with various questions about effect's on projects.

Table 12: level of project consequences to bid evaluation delay

Items	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std. Deviation
	N	%	N	%	N	%	N	%	N	%		
There is high time overrun of project.	14	8%	13	8%	24	14%	102	60%	18	11%	3.57	1.052
Project disruptions occurred.	7	4%	15	9%	1	1%	129	75%	19	11%	3.81	0.897
There is high Cost overrun existed in the project.	5	3%	7	4%	43	25%	77	45%	39	23%	3.81	0.935
Cost inflation for labour wages, equipment and materials	14	8%	27	16%	24	14%	70	41%	36	21%	3.51	1.219
There is a high reduction in employment opportunity	12	7%	30	18%	26	15%	66	39%	37	22%	3.50	1.21
Wastages and under-utilization of human resource	19	11%	30	18%	20	12%	76	44%	26	15%	3.35	1.248
There occurred an additional charges including insurance charges	2	1%	31	18%	22	13%	76	44%	40	23%	3.71	1.055
Reputation of all parties involved were pull down.	6	4%	28	16%	34	20%	72	42%	31	18%	3.55	1.075
Accumulation of the interest rate on the capital of project	1	1%	24	14%	34	20%	71	42%	41	24%	3.74	0.996

was occurred.												
Loss of confidence in the project by contractor/client was dropped.	6	4%	21	12%	20	12%	78	46%	46	27%	3.80	1.077
Late return of security deposit	10	6%	34	20%	15	9%	70	41%	42	25%	3.58	1.221
Effect to economy in the specific region	4	2%	10	6%	20	12%	91	53%	46	27%	3.96	0.913
										Grand Mean	3.65	

Survey Result, 2022

This study found that delay in bid evaluation process made road construction projects distorted. The grand mean (3.65) rated as very good but less than engagement and vagueness. Outcomes of the study in the above table show that all the mean values were greater than 3.49 and less than 3.97; this is an indication that the respondents agreed with the delay in bid evaluation had a consequence of project success. Likewise, the standard deviation values were less than two, which is a small standard deviation and therefore suggests that respondents had similar opinions. The largest mean (3.96) exhibits the majority agreed that there is a high effect to economy in the specific region. Then bid evaluation delay may also be the cause of public grievance and cause of poor public service delivery. The majority of the sampled employees agreed that bid evaluation delay created project disruptions and there is high cost overrun existed in the project.

4.7. Inferential Analysis

This study used two type of inferential analysis namely correlation and multiple regression analysis.

4.7.1.Correlation Analysis

This study used a simple bi-variant relationship analysis between the dependent and independent variables. This study used the rating of relationship between two variables based on Bhawani et.el (2021) on the relationship between two variables will be from 0.01 up to 0.09 negligible associations, 0.10 up to 0.29 low associations, from 0.30 up to 0.49 moderate associations, from 0.50 up to 0.69 substantial associations from 0.70 and above very strong association. A Pearson's Product Moment Correlation conducted to establish the strength of the relationship between the variables. The findings are presented in the below table.

Table 13: Result of correlation analysis (Pearson correlation)

Correlations

		Poor Planning	Poor Employee Engagement	Vagueness	Lack of Support	Project Delay
Poor Planning	Pearson Correlation	1	.495**	.780**	.605**	***.674*****
	Sig. (2-tailed)		.000	.000	.000	***.000***
Poor Employee Engagement	Pearson Correlation	.495**	1	.395**	.389**	***.599*****
	Sig. (2-tailed)	.000		.000	.000	***.000***
Vagueness	Pearson Correlation	.780**	.395**	1	.430**	***.628*****
	Sig. (2-tailed)	.000	.000		.000	***.000***
Lack of Support	Pearson Correlation	.605**	.389**	.430**	1	***.504*****
	Sig. (2-tailed)	.000	.000	.000		***.000***
Project Delay	Pearson Correlation	.674**	.599**	.628**	.504**	1
	Sig. (2-tailed)	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

Survey Result, 2022

Contrasting the multiple regression analysis, simple correlation analysis attempts to quantify the direction of association between two variables. Accordingly, an assessment of the correlation matrix between all the independent variables and project delay consequences are positively related.

Using correlational analysis, this study found that there is a substantial association or relationship between poor planning (r=.674; .000) and road project delay consequences or impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). It implies that poor planning the cause of project delay. Within its first highest correlation value, it implies that it is the most cause of project delay in bid evaluation phase.

This study employed correlational analysis and it found that there is a substantial association or relationship between poor engagement (r=.599; .000) and project delay consequences or impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). it has positive relationship with project delay impacts. It suggests that evaluation delay is the cause of project delay in bid evaluation phase.

This study engaged in correlational analysis and it found that there is a substantial association or relationship between vagueness of documents and procedures (r=.628; .000) and project delay impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). Like this study, Mulenga (2015) found that it has positive relationship with project delay impacts as it expected that miscommunication would aggravate project delay. Within its second highest correlation value, it implies that it is the most cause of project delay in bid evaluation phase.

Mulenga (2015), on its survey asked the respondents to rank the effects of construction projects schedule overruns in Gauteng. The results obtained included: extension of time, cost overruns, loss of profit, disputes, poor quality of work due to hurrying the project, creates stress to the client, acceleration losses, bad reputation with contraction team, claims and delay in getting profit by the client were the top ten effects.

Using this analysis, this study found that there is a substantial association or relationship between lack of top management support (r=.504, .000) and project delay impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). In line with this study, Bhawani et al (2021) perceived it has positive relationship with project delay impacts. Within its moderate correlation value, it implies that it is one of the most causes for project delay impacts in bid evaluation phase.

4.7.2. Multiple Regression Analysis

Multiple regression is a flexible method of data analysis that may be appropriate whenever a quantitative variable (the dependent or criterion variable) is to be examined in relationship to any other factors (expressed as independent or predictor variables). Relationships may be nonlinear, independent variables may be quantitative or qualitative, and one can examine the effects of a single variable or multiple variables with or without the effects of other variables taken into account (Stephanie. 2018).

4.7.2.1. Assumptions and Diagnostic Test

Efforts conducted to test normality, multi collinearity, autocorrelation, and test for average value. The assumption test was done based on theoretical and empirical multiple regression concepts. The test results show that the normality, Multi collinearity, autocorrelation, and test for average value of the error term were met the assumptions of regression analysis.

Multi collinearity Test

The VIF detects multi collinearity by measuring the degree to which the variance inflated. A VIF greater than 10 thought to signal harmful multi collinearity as suggested by Frost (2017). Problem may arise when two or more predictor variables correlated.

Coefficients

Table 14: summary of collinearity statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Poor Planning	.285	3.506
	Poor Employee Engagement	.742	1.348
	Vagueness	.388	2.579
	Lack of Support	.619	1.616

a. Dependent Variable: Project Delay

Source: Survey result, 2022

The Variance inflation factor (VIF) checked in all the analysis, which is not a cause of concern according to Stephanie (2018) who indicated that a VIF greater than 10 is a cause of concern. The basic assumption is that the error terms for different observations are uncorrelated (lack of autocorrelation).

Normality Test

Table 15: summary of descriptive statistics

Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Poor Planning	171	-.996	.186	.484	.369
Poor Employee Engagement	171	-.753	.186	.392	.369
Vagueness	171	-1.186	.186	1.126	.369
Lack of Support	171	-.641	.186	.129	.369
Project Delay	171	-.819	.186	.242	.369
Valid N (list wise)	171				

Source: Survey result, 2022

This study used the descriptive statistic of Kurtosis and Skewness statics calculation. Moreover, demonstrates that the distribution is normal because Kurtosis and Skewness are in between -2 and +2. Thus, data is normally distributed and had a reasonable variance to use subsequent analysis. From the finding on the histogram test on normality, the study found that significance in both test were less than 0.05 which is leads to the rejection of the null hypothesis that data on

the all variables were not normally distributed this is an indication that data on the variables were normally distributed.

Test for Autocorrelation

Table 16: Result of Durbin Watson

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.763[a]	.582	.572	.567	1.552

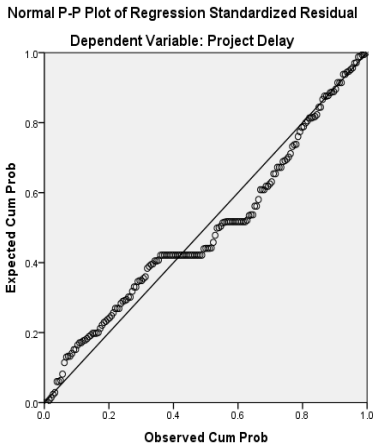
a. Predictors: (Constant), Lack of Support , Poor Employee Engagement, Vagueness, Poor Planning

b. Dependent Variable: Project Delay

Source: Survey result, 2022

If the observations have a natural sequence in time or space, the lack of independence called autocorrelation. Assumption that is made of the multiple linear regressions disturbance terms is that the covariance between the error terms over time (or cross-sectional, for that type of data) is zero. To test the presence of autocorrelation the popular Durbin-Watson Test employed in this study. The Durbin-Watson statistic is 1.55, representing that the residuals are uncorrelated; therefore, the independence assumption met for this analysis (Frost, 2017).

Linearity Test



Source: Survey result, 2022

Figure 5: Normal P-plot

The mean value of response variable (Y) is a straight-line function of the independent variables, X' A violation of this assumption may indicate that there is a non-linear relationship between the response and explanatory variables. In consequence, the linear regression model may not be applicable or fitted to the data under consideration. Therefore, the graph below shows that the regression can run.

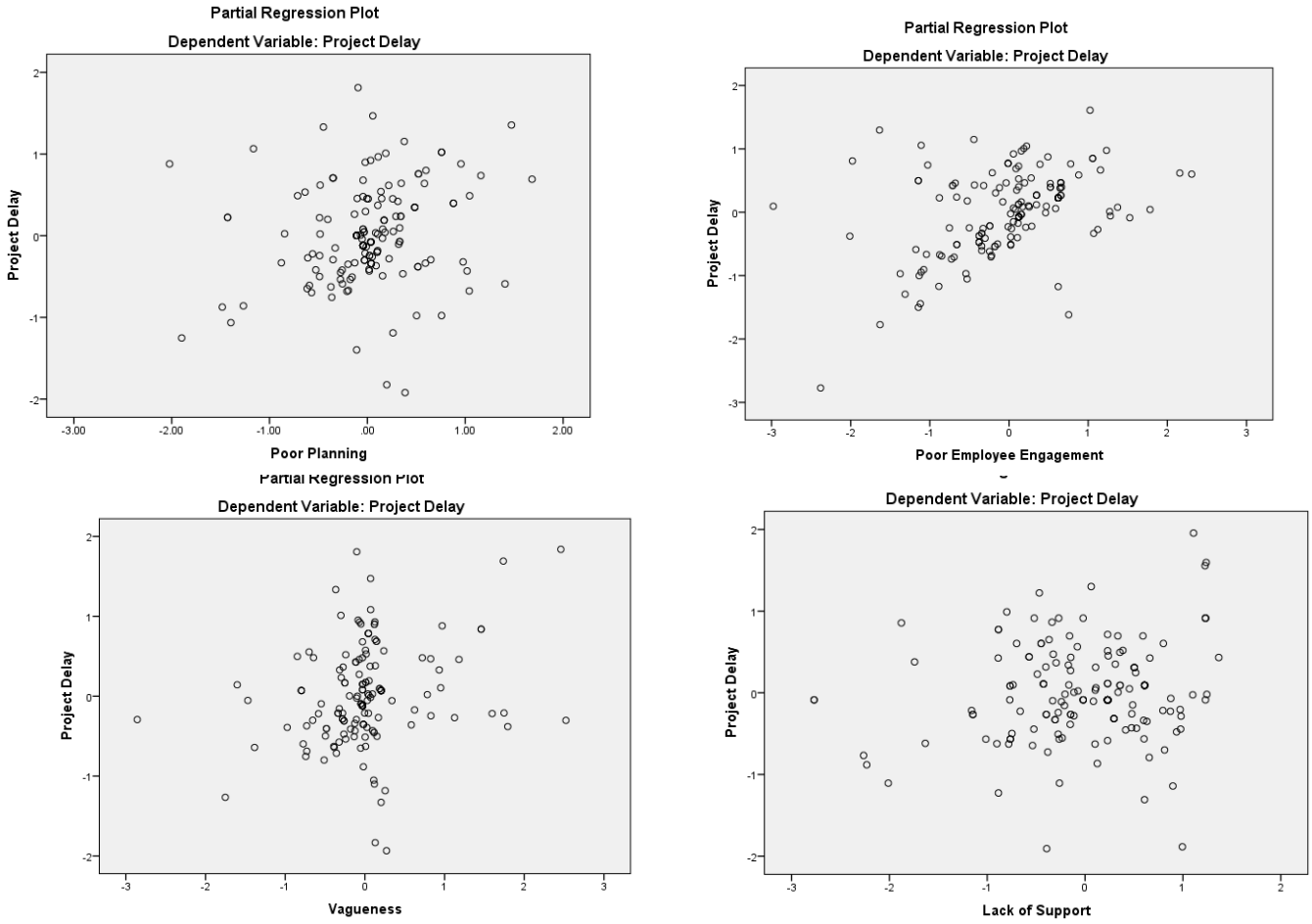


Figure 6: Scatter Plot

Source: Survey result, 2022

When the homoscedasticity assumption has been met, the residuals will present as being randomly scattered around the horizontal line depicting ri =0. The above figure portrays the test result of a residual plot demonstrating a relative equal clustering of residuals along the horizontal line in a rectangular shape therefore; the homoscedasticity assumption seems to have been met. It refer to homogeneity of variances that is, all of the treatment groups have the same variance. The

homoscedasticity assumption tested through the visual examination of the same residual plots of the standardized residuals and predicted values depicted in the assumption of linearity. When the homoscedasticity assumption has been met, the residuals will present as being randomly scattered around the horizontal line depicting ri =0. The study found the test result of a residual plot demonstrating a relative equal clustering of residuals along the horizontal line in a rectangular shape, therefore, the homoscedasticity assumption seems to have been met.

Error Term

Test for average value of the error term is zero (E (ut) = 0); the first assumption required is that the average value of the errors is zero. Therefore, since the constant term (i.e. α) was included in the regression equation, the average value of the error term in this study is expected to be zero.

4.7.2.2. Multiple Regression Test Results

Table 17: Regression test results model summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.763[a]	.582	.572	.567

a. Predictors: (Constant), Lack of Support , Poor Employee Engagement, Vagueness, Poor Planning

Source: Survey result, 2022

The above table portrays the result of multiple regression test and its measurement is made by inferring the value of R^2 to explain the magnitude of the effect of the independent variable on the dependent variable. Here below exemplified are the linear regression of five independent variables and dependent variable. As exposed in the above table, the overall bundle of determinant factors of the five independent variables were 58.2 % (R^2 = .582) explained the dependent variable. This suggests that 58.2% of project delay impacts depend on the independent variables while the remaining 41.8 % determined by other unaccounted factors in this study.

Table 18: Regression test result ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.269	4	18.567	57.792	.000[b]
	Residual	53.332	166	.321		
	Total	127.602	170			

a. Dependent Variable: Project Delay

b. Predictors: (Constant), Lack of Support , Poor Employee Engagement, Vagueness, Poor Planning

Source: Survey result, 2022

As the second table shows the result F= 57.792, it can be concluded that the combination of determinant factor have positive effect on project delay which is statistically significant. Thus, this study rejects the null hypothesis. F-test used to determine whether any one of the predictor variable is related to explanatory variable in model equation. From the above Table 13, it is evident that F significance value is less than .05 thus; at least one independent variable is linearly related to dependent variably thereby proving the validity of model equation.

Table 19: Regression test result coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.658	.231		2.844	.005
	Poor Planning	.196	.081	.227	2.415	.017
	Poor Employee Engagement	.326	.057	.333	5.718	.0001
	Vagueness	.229	.069	.267	3.309	.001
	Lack of Support	.112	.058	.123	1.928	.046

a. Dependent Variable: Project Delay

Source: Survey result, 2022

The regression equation gives us two unstandardized slopes, both of which are partial statistics. OLS unstandardized coefficients can be interpreted as a one unit increase in X is associated with a coefficient sized increase (decrease) in Y. Standardized coefficients are the estimates resulting from an analysis carried out on variables that have been standardized so that their variance is 1.

This means that they are in "standard deviation" terms or units and compared to each other. While unstandardized coefficients literally tell us the change in Y for every 1-unit change in X. It also stated that the model summary table reports the strength of the relationship between the independent and the dependent variable. From this multiple regression table, this study found similar results, as there is a positive and significant effect of poor planning (.017) on project delay impacts. This study employed multiple regression tables and it found there is a positive and significant effect of poor engagement (.0001) on project delay impacts. Using multiple regression tables, this study found that there is a positive and significant effect of vagueness (.001) on project delay impacts. This study used multiple regression tables and it found there is a positive and significant effect of lack of top management support (.046) on project delay impacts.

4.8. Qualitative Analysis

The qualitative research response of the respondents through face-to-face interview presented below in generalized terms. Data collected from the respondents claimed that, bid evaluations in road projects generally delayed. One of the team leaders/Director/Lead Engineers, quoted as for the question of ''Are there delay problems in relation to tender evaluation and how often they occur'', replied as

''*More than 95% projects face evaluation delay* ……''.

CoST (2016) found that the public procurement process often delayed for different reasons. Such delays may damage the Procuring Entity's reputation and are a waste of scarce public resources; additionally, contracts not awarded on time and these results in poor delivery of public goods and services. The common delay cause includes delay in Preparing Technical Specifications, Scope of Work, or Terms of Reference caused usually due to lack of expertise in preparing these documents, or not realizing the extent of the information and research that may needed to complete them.

The majority of the interviewees described causes of delay in tender evaluation due to ERA include Requesting clarification related to performance of bidders and supporting document, Shortage of time depending on number of bidders and complexity of the work, as it is a part time job there is high work overload on evaluators which can cause delay on the analysis and approval of the bid ,interferences of the top management on the evaluation process, Urgency of the

project can make to give priority for early bids and not to prioritize lately received bids, number of projects through one indorsing committee has its own impact for evaluation delay due to the need of review time, misrepresentation of facts/ documents like audit reports, past experience, progress.

The majority of the interviewees described causes of delay in tender evaluation due to the bidder are submission of bid document that is incomplete or noncompliance, unreasonable /invalid/ unnecessary complaint, late response for additional document and clarification and approval of their submittals for foreign bidders the documents may not be interpreted and mostly not authenticated to the respective authority, miss presentation of invalid documents, not cleared and incomplete bid submission.

Other causes of bid evaluation delay outside the control of both parties are Political issues, Late response from the corresponding body such as banks and insurance to approve guarantees, for bidders those who doesn't work with ERA are requested a proof from previous clients to crosscheck experience and performance and their late response can be a cause of delay which takes longer time. For non-government funded projects delay response from project sponsors such as World Bank and European Union for no objection of pre-qualification and bid evaluation results. Delay in response from foreign affairs on approval of performance evidence for foreign companies previous or ongoing projects. Some times for new bidders having a project in era waiting for final performance of bidder (especially for foreign bidders) can be necessary.

4.9. Discussion

This study aimed to find out the effects and causes of delay in bid evaluation of road project and recommend ideas as mitigation strategies to reduce the problem. Thus, the results of this study are discussed below based on the objectives and hypothesis that rose in chapter one and two respectively.

4.9.1. Poor Planning

This study tested the bid evaluation delay on road projects; it employed correlation analysis and found that there is a substantial association or relationship between poor planning (r=.674; .000) and road project delay consequences or impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). From this multiple regression table, this study found

similar results, as there is a positive and significant effect of poor planning (.017) on project delay consequences. The result of the regression analysis shows that it has positive and significant impact on it; consequently, the stated alternative hypothesis is accepted. The finding agrees with results of previous researches. Tweneboah & Ndebugri (2017) found similar results and poor proficiency of job contracts, delivering of poor quality goods, delaying of benefits to the beneficiaries and nurtures elements of corruption in the tendering process. The processes of tendering especially tender planning impacts on duration it takes for the execution of works, goods, or services to be delivered, the quality and also cost of the works, services or goods acquired. Thus, this study concluded that there is a positive and significant effect of poor planning, as key determinants of tender evaluation delay on projects under ERA.

4.9.2. Poor Employees Engagement

This study employed correlational analysis and it found that there is a substantial association or relationship between poor engagement (r=.599; .000) and project delay impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). In addition, this study employed multiple regression and it found there is a positive and significant effect of poor engagement (.0001) on project delay impacts. Lack of expertise manpower to prepare the documents and disengaged employees are burned out. It made through lack of freedom to make their work exciting and the organizations should focus on retention as an outcome of three HR focus areas such as employee motivation, career growth & remuneration, and compensation. Thus, this study concluded that there is a positive and significant effect of poor employee engagement, as key determinants of tender evaluation delay on projects under ERA.

4.9.3. Vagueness (Vague Documents and procedures)

This study engaged in correlational analysis and it found that there is a substantial association or relationship between document vagueness (r=.628; .000) and project delay impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). Using multiple regression tables, this study found that there is a positive and significant effect of vagueness (.001) on project delay impacts. They also needed to prepare the solicitation, biding or tender document and if they are not completed ahead of schedule the procurement process is delayed before, it is started. This study concluded that there is a positive and significant effect of vagueness, as key

determinants of tender evaluation delay on projects under ERA. CoST (2016) mainly found that there is lack of clarity on proposals, due to this fact the approval process elongated since the projects are large scale, which needs sound approval.

4.9.4. Lack of Support of Top Management

Using this analysis, this study found that there is a substantial association or relationship between lack of top management support (r=.504, .000) and project delay impacts (Sig. (2-tailed) .000 with correlation is significant at the 0.01 level (2-tailed). This study used multiple regression table and it found there is a positive and significant effect of lack of top management support (.046) on project delay. Seniors support is compulsory of various stages in the procurement process. Because of the complexity, nature of the procurement in road construction the role of top management is significant and their support, participation, and fast decision making is highly required in the procurement rules. Procurement needs negotiation and delays resulted when a negotiation takes longer than anticipated (Bhawani et el 2021). Thus, this study concluded that there is a positive and significant effect of lack of support of top management, as key determinant of tender evaluation delay on projects under ERA.

Table 20: Summary of hypothesis

Variables	Hypothesis	Sig.	Decision
Poor Planning	There is a positive and significant effect of poor planning, as key determinant of tender evaluation delay on projects	***.017***	Supported
Poor Employee Engagement	There is a positive and significant effect of poor engagement, as key determinant of tender evaluation delay on projects	***.0001***	Supported
Vagueness of documents and procedures	There is a positive and significant effect of Vagueness of documents and procedures, as key determinant of tender evaluation delay on projects	***.001***	Supported
Lack of Support of top management	There is a positive and significant effect of lack of support of top management, as key determinant of tender evaluation delay on projects	***.046***	Supported

Source: Survey result, 2022

CHAPTER FIVE
SUMMARY OF KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presented the discussion of key data findings, conclusion drawn from the findings and recommendations. The conclusions and recommendations drawn were focus on addressing the objective of the study.

5.1. Summary of Key Findings

This study found that

- There is high status of tender evaluation delay on projects under ERA.
- There existed a positive and significant effect of poor planning, as key determinant of tender evaluation delay on projects under ERA.
- There existed a positive and significant effect of poor employee engagement, as key determinant of tender evaluation delay on projects under ERA.
- There occurred a positive and significant effect of vagueness of documents and procedures, as key determinant of tender evaluation delay on projects under ERA.
- There existed a positive and significant effect of lack of support of top management, as key determinant of tender evaluation delay on projects under ERA.

Concerning the effects/ consequences of delay in tender evaluation, according to open-ended questions and interview surveys made with managers and directors who have direct involvement with the process of bid evaluation process the following are identified effect of the delay:

- Delay from schedule: time overrun.
- Additional cost (cost overrun) can be occurred due to cost update, price adjustment, inflation, foreign currency exchange rate.
- Fail to achieve ‘’value for money’’ principle
- Bid cancelation and rebidding: this can cause discouragement and additional work load to the staff, cancellation of funds from project sponsors like World Bank and European Union, problem relate to budget utilization,

- Negative impression to era
- Source of grievance by peoples will be benefited and are impacted by the project.
- Loss of the most qualified candidate

5.2. Conclusions

The study concluded that there is high status of tender evaluation delay on projects under ERA. This delay in tender evaluation can cause tender cancellation and rebidding and in the implementation stage, it causes many delay consequences. Then bid evaluation delay is a major source of project delay and it is required for every project stakeholder to work together by implementing different mitigation strategies concerning poor planning, employee engagement, vagueness of document and procedures and top management support to reduce the problem. Accordingly, this study concluded that, there existed a positive and significant effect of poor planning as key determinant of tender evaluation delay, there existed a positive and significant effect of poor employee engagement as key determinant of tender evaluation delay, there occurred a positive and significant effect of vagueness of documents and procedures as key determinant of tender evaluation delay and there existed a positive and significant effect of lack of top management support as key determinant of tender evaluation delay on projects under ERA.

5.3. Recommendations

- This study suggests that bid evaluation committee members spend large portion of their time besides their regular job on bid elevation, due to a massive size of bid documents. The practices in the workplace can affect their attitude and ultimately their bid evaluation performance. Measure of engagement i.e. involvement and enthusiasm has linked to employee turnover, satisfaction-loyalty, safety, productivity and profitability criteria (Harter, Schmidt, & Hayes 2002). The good work environment, basic incentives and pay for over time works, frequent training and development, provision of clear set of policies and procedures and cordial supervisor and co-worker relation are the key factors driving employee engagement. Therefore, organizations including ERA have to create comfortable working environment where employees enjoy their document analysis.

- This study suggests that bid evaluation planning, scheduling and calculating should be improved with digital or information system technologies to avoid delays in bid evaluation and for assignment of appropriate evaluation members. The scheduling time associated with evaluators working and meeting time should be improved as well. Research findings indicate that planning is not done appropriately. Procurement planning and scheduling software should be investigated and used by the organization in order to avoid postponement, deferment and rescheduling, extension and delay.

- Bid evaluation is mainly seen as the most important part of procurement function since its effectiveness affect the price, quality, delivery reliability and availability of the products. Proper bid evaluation would contribute to reduce product and material costs whilst ensuring a high degree of quality. This study therefore, suggests that projects should implement an efficient appraisal for the successful procurement.

- As per the survey results found through open ended questions and interviews, the following recommendations are given for effective and efficient tender evaluation process:
    - Promotion of professionals participated in tender evaluation with Continuous training and updating them with new procurement directives, laws and financial rules.
    - Tender analysis committee (TAC) should do the evaluation with commitment at available place, time given for evaluation has to be obeyed, complaint has to be responded on time.
    - Tender analysis committee (TAC) is mostly formed with three individuals consisting 1 lead, 1 senior and 1 junior engineer but it is recommended as a criteria one of them should be trained on tender evaluation.
    - There should be opportunities for participation of seminars on worldwide practice.
    - There should be a trend of periodic trainings, lesson learnt and knowledge sharing program with seniors on public procurement guide lines and technical skills.
    - Empowering tender analysis and endorsing committee with support, incentives, training and availing proper documentation of previous evaluations from managers.
    - Upgrading consultants and contractor’s capacity by providing training on preparation of tender document and briefing ERA biding practice and public procurement rules.

5.4. Limitations of the Study

There were limitations such as unavailability of data related to bid evaluation delay and unwillingness to provide those data affected this study and its data collections operations. For the most part, some sampled respondents were discouraged to provide data, as they were unable to relate how the research would assist them directly or indirectly. Respondents had been ultimately convinced through discussion about the aim of the study, its academic capabilities, and benefits from it. The secrecy bid policy in an organization affected the research and the researcher generated in introduction letter from the university to the engineering procurement directorate in order to avoid doubt and to enable them to disclose much information concerning bid evaluation. There was tight project work schedule due to that shortage of time and too much stress encountered by the researcher. Due to an availability of research materials, shortage of time, lack of cooperation from some of respondents, secrecy policy and other constraints the study was limited to covering bid evaluation the whole picture of delay in bid evaluation and its effect on projects in the road sector in Ethiopia as a whole.

5.5. Suggestions for Further Research

It is recommended that future studies should focus on internal and external bid evaluation delay and ethical and employee perception towards bid evaluation. Future studies may assess the practical significance to construct a bid evaluation index system characterized for public procurement. This study proposes to evaluate the capabilities of contractors and to assess the general evaluation indicators and evaluation methods. This study looked at four independent variables namely poor planning, poor employee engagement, vagueness, and lack of support of top management. The researcher recommends further research to investigate the other factors that affect the efficiency of bid evaluation process. Equally, further research needs carried out in other entities and in other sectors to ascertain whether these findings are universal.

REFERENCE

Abayneh Wolde. (2019), Assessment of Bid Evaluation Process for Construction Projects: Case of Ethiopian Shipping and Logistics Services Enterprise. Addis Ababa University, college of business and economics.

A. K. Mishra. (2022). Effect and remedies of bidding trend in road and bridge projects

Abdalla SA. (2014), Procurement process and its effect on the effectiveness/performance of procurement functions in the organization: the case of Ministry of information, culture, tourism, and Sports- Zanzibar.

Adnan Enshassi1, and Zuhairmodough.(2012). Case studies in awarding the lowest bid price in construction projects

Aibinu Et.al. (2002), The effects of construction delays on project delivery in Nigerian construction industry.

Anteneh Worku. (2018). Assurance report on reactive disclosure of project and contract information of Debre-Markos university

Asian Development Bank (2015), Asian Development Bank Procurement guidelines.

Asmerom Taddese, Hagos Abdea and Kasiem Seid. (2016). Aggregation, analysis and synthesis of disclosure and assurance report of construction projects. Covered by Construction sector transparency initiative (cost – Ethiopia)

Beatrice N. Ayoti. (2012). Factors influencing effectiveness in tendering process in public sector: the Case of Nyeri County, Kenya

Ben, Wheatland (2015), Public procurement planning and corruption" Transparency International, transparency International,

Bhawani Dhakal. (2021). Assessment of delay factors and its impacts on selected road construction supervised by department of road

Bhawani Dhakal.et.al. (2021), Assessment of Delay Factors and its Impacts on Selected Road Construction Supervised by Department of Road in Dhakal

Binyam Letarge, Emer t. Quezon, Olente c. Macarubbo.(2016). Evaluation on the performance of lowest responsive bid contract and the quality of materials used on governmental building projects in jimma town

Chebii Michael Kimutai.(2013). Effects of tendering procedures on quality of rural access roads in Elgeyo Marakwet County, Kenya

Construction Sector Transparency Initiative (CoST-Ethiopia).2016, Study report on Aggregation, Analysis and Synthesis of Disclosure and Assurance Reports of Construction Projects Covered.

Creswell, JW, 2014, Research Design: Qualitative, Quantitative, and mixed methods Approaches (4^{th} ed.), Sage publications, Inc.

David Asante and Helena Mary Boakye.(2019). Influence of top leadership on procurement management in technical universities, Ghana

ERAs Contract Procurement and Project Design Preparation BPR study group. 2007. "Causes for a time overrun"

Erik Eriksson. (2011), effects of procurement on construction project performance

Ethiopian roads authority. (2014). Bid evaluation report and recommendation for award of contract for construction works of Debrebirhan-Ankober road upgrading project.

Federal democratic republic of Ethiopia growth and transformation plan ii (GTP II). (2016). national planning commission, Addis Ababa

Fitsum Gebru. 2018. Bid Evaluation Process on Non-Residential Public Building Project, Case Study on Selected Public Building Projects In Addis Ababa

Francis Chelanga Chelimo.2018. Effects of Tendering Process on Services Delivery in Road Construction Sector. A Case of Kerra

Frank A.Manzo. (2004), "unbalanced bids and avoiding disputes relating to them" Ethiopian development research institute

Frost, J.,2017,How to interpret R-squared in regression analysis. Retrieved fromhttp://statisticsbyjim.com/regression/interpret-r-squared-regression/ Accessed on 02 May 2022

George Fekadu. 2013. Impacts of Procurement Process On Contractor Selection in Ethiopian Roads Authority

Hellen Opolot Naluyima. 2016. The Effect of Procurement Management on Project Performance: A Case of the Uganda Millennium Science Initiative Project

Hussain S etal. Perceptions of Construction Project Delay by Local Stakeholders :(17) carried out a study on Rural Residents' Perception of Construction Project Delays in Pakistan and came to result that out of

Ibrahim Worku. (2011). Road sector development and economic growth in Ethiopia

Ismail Ocheng Obongo'o.(2017). Influence of public procurement process on completion of road construction projects in Kenya a case of Nairobi County

Jean-Paul Rodrigue. 2020. The Geography of Transport Systems-Transportation and Economic Development

Julius Caesar and Nathan Kibwami. (2021). Impact of procurement methods and procurement requirements on cost over-run of public building projects in Uganda

Ketema Feleke.(2020), Assessment of employee satisfactions and engagement in commercial bank of Ethiopia west Addis Ababa district

Khan N. 2018. "Public Procurement Fundamentals" Emerald Publishing Limited, Retrieved from https://www.perlego.com/book/546405/public-procurement-fundamentals-pdf

Khisa.N.R .2015. Influence of procurement process on completion of road construction projects in Kenya: a case of bungoma south sub-county

Kothari, C.R, 2014, Research Methodology, Methods and Techniques, Fourth Revised Edition New Age International (P) Ltd., Publishers, New Delhi

Meron Demesew. (2019). Assessment of tender evaluation system for public building project works in Ethiopia

Mulenga Mukuka. 2015. A survey made on ranking the effects of construction projects schedule overruns in Gauteng.

Nabuwufu Catherine.(2021). Ethical dilemmas and bid evaluation process in the ministry of education and sports

Naluyima. H. O. 2016. The effect of procurement management on project performance: a case of the Uganda millennium science initiative project

New Zealand Infrastructure Commission. (2022). international best practice in tender price evaluation

Phoebe Bolton.(2008). The roles and functions of bid committees

Pınar Keskin. 2019. Process Capability Analysis (Pca) Of Tender Evaluation Process in Public Agencies

Robert J.Vance, Ph.d. (2006). Employee engagement and commitment a guide to understanding, measuring and increasing engagement in your organization

Ronak Dave, Kevin Parmar, Brijesh Patel and Prof. Raju Prajapati. (2017).The criteria for contractors' selection and bid evaluation & factors affecting bidding strategy in construction

Samuel Laryea. (2018). Quality of tender documents: Case studies from the UK

Shanko Ayele. 2016. Reducing the Impact of Time Overrun in Road Construction Projects in Ethiopia"

The Ethiopian Federal Government Procurement Proclamation, Proclamation No. 649/2009.Federal Negarit Gazeta, 2009

The European Union's support to the road sector development program.(2020). Procurement manual for the regional roads authorities

Tool kit for Public - Private Partnerships in roads & high ways module 3: Policy and Planning updated 2009

World Bank Group, 2020, Environmental impact assessment of Debre Birhan - Ankober Road Project Ethiopia, World Bank Group Washington, D.C

World bank.(2002). Procurement assessment report (volume ii data and analysis). Addis Ababa Ethiopia

World Bank.2014.Guidelines for Procurement under IBRD Loans and IDA Credits and Grants Goods, Works, and Non-Consulting Services.

ANNEX

Appendix I – Questionnaire

Addis Ababa University School of Commerce
Graduate studies Program

Dear respondents

My name is Kedir Akmell; I am a postgraduate student at Addis Ababa University School of Commerce doing my project work that needs to be conducted in partial fulfillment of MA degree in Project Management.

This questionnaire designed to gather information on assessment of **The Effect of Delay in Tender Evaluation for Road Projects under Ethiopian Roads Administration (ERA)**. Here, i assure you that the information obtained from this questionnaire will be used only for recommendation purpose and your response will be kept confidential in the report.

Dear respondent, please keep in mind that this questionnaire is a self- administered survey. Filling the questionnaire is voluntary and you kindly asked to provide the right answer and provide your genuine opinion; your cooperation is a valuable input for the research findings. Hence, the researcher will present you great thanks in advance.
Best Regards,

Kedir Akmell

Email- kedirakmell@gmail.com

Section I: General Background Information

Direction *- please insert (x) in the box for your appropriate answer your demographic or personal information,*

Gender: Male ☐ Female ☐

Age: Less than 30 ☐ 31 -46 ☐ 47-65 ☐ Above 66 ☐

Education Level: Below High school ☐ Diploma and Degree ☐ Masters ☐ Refused or Others ☐

Marital Status: Single ☐ Married ☐ Divorced ☐ Refused or Others ☐

Your experience in working with road projects

Less than 1 year ☐ About 2 or 3 years ☐ 4 – 6 years ☐ Above 7 ☐

Please indicate your experience with Bid evaluation

Less than 1 year ☐ About 2 or 3 years ☐ 4 – 6 years ☐ Above 7 ☐

Others please indicate _____

For how many years have you practiced in the field (outside of Addis Ababa) road projects ?

Less than 1 year ☐ About 2 or 3 years ☐ 4 – 6 years ☐ Above 7 ☐

Section II - Concerning the tender evaluation, tender analysis committee (TAC) and tender endorsing committee (TECT) in ERA

Question 1 – How do you perceive and rate the following listed possible bid evaluation delay on road projects?

Please put "X" mark with the answer you choose and note that 1 represents for "Strongly Disagree"; 2 for "Disagree"; 3 for "Neutral"; 4 for "Agree" and 5 for "Strongly Agree".

Item	Level of Agreement				
	1	*2*	*3*	*4*	*5*
Poor Planning					
There is late opening of tenders received.					
Establishment of Tender Analysis Committee (TAC) is late.					
The documents handed over to TAC lately.					
Opening of the tender for financial evaluation and notification of result for bidders is late.					
The time given for technical - post evaluation process is not mostly enough.					
There is late disclosing of the results to successful and unsuccessful bidders.					
Poor Employee Engagement					
TAC takes longer time to prepare evaluation report as evaluators unsatisfied with their career					
Tender Endorsing Committee(TEC) takes longer time to review tender reports due to lack of autonomy which evaluators need to be able to do their job					
There is late submission of financial bid evaluation report by TAC due to lack of enforcement.					
There is late review-approval of bid by TEC due to no reward in ERA					
There is less commitment among technical analysis committee members in evaluating bid					
Engagement of technical analysis committee members on their regular jobs as a regular staff can cause delay on evaluation process					

Vagueness (Vague Documents)					
Bidders, whose bids rejected during process given sufficient time for complaining and Informed in writing within reasonable time,					
Complains on technical-post evaluation result get response in short period					
ERA always receives incomplete biding document					
There is often an arithmetical error in bid documents.					
There is repeated complaint from the bidders					
Late response for evidential proof document can hinder the evaluation process					
Late response for acceptance of correction of errors can hinder the evaluation process					
Lack of Support of Top Management					
Lack of assigning technical expertise to evaluate that can hinder the evaluation process					
Political interference is a cause for evaluation delay most likely					
Lack of permanent trained tender analysis committee can cause evaluation delay					
Lack of assigning skilled labor in bid evaluation committee					
The top management lacks attitude pertaining to public procurement procedure and bid evaluation process.					

Part-III concerning the effect of delay on tender evaluation process of projects under ERA

1. What is the effect of tender evaluation delay on the following factors? Please, indicate the degree to how it affects and rank them according to the impact.

	effects caused due to bid evaluation delay	Degree of the Effect				
		Very High	*High*	*Moderate*	*Low*	*None*
1	There is high time overrun of project.					
2	Project disruptions occurred.					
3	There is high Cost overrun existed in the project.					
4	Cost inflation for labor wages, equipment and materials due to extension of time					
5	There is a high reduction in employment opportunity					
6	Wastages and under-utilization of human resource occurred.					
7	There occurred an additional charges including insurance charges					
8	Reputation of all parties involved were pull down.					
9	Accumulation of the interest rate on the capital of project was occurred.					
10	Loss of confidence in the project by contractor/client was dropped.					
11	Late return of security deposit					
12	Effect to economy in the specific region					

2. Please indicate concerns and causes of delay on tender evaluation process in road projects under ERA and Other issues, if any

_____

_____

3. Dear respondent, what do you think can be done to improve the tender evaluation process practices in ERA?_____

_____

_____

4. Dear respondent, please indicate other effects of tender evaluation delay in ERA.

_____

_____

_____

Thank You!

Appendix II – Interview Guideline

Addis Ababa University

College Of Business and Economics School Of Commence

Graduate Studies in Project Management

Interview guide for procurement and project management directorate, team leaders and directors

1. Position _____

2. Qualification_____

3. Are there **delay problems in relation to tender evaluation** and how often they occur?_____
_____

4. Please list some of **projects (Names) whose tender evaluation process is delayed**.
_____
_____

5. Please, explain the **causes of delay in tender evaluation** due to ERA and due to the bidder.
_____
_____
_____

6. What are the **effects of delay in tender evaluation on procurement** or generally on ERA?
_____
_____
_____

7. What are the **effects of delay in tender evaluation on project success**?
_____
_____
_____
_____

8. Please explain the **practice of tender analysis committee formation** and the proficiency levels of committee members.
_____
_____
_____

Thank you very much!