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***ASSESS THE EFFECTIVENESS OF TECHNICAL EVALUATION PROCESS IN
SELECTING BUILDING CONTRATROR IN ADDIS ABABA.***

**A PROJECT WORK SUBMITTED TO ADDIS ABABA UNIVERISITY SCHOOL OF
COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
AWARD OF THE DEGREE OF MASTER IN PROJECT MANAGEMENT:**

BY:

ASCHALEW YOHANNES

ADVISOR:

ABDURAZAK MOHAMMED (PhD)

JULY, 2021

ADDIS ABABA, ETHIOPIA

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DECLARATION

I, the undersigned, declare that this study entitled as “**Assess the Effectiveness of Technical Evaluation Process in Selecting Building Contractor in Addis Ababa**” is outcome of my own effort and study. This study has not been submitted for a degree in any other university. It is submitted to school of commerce at Addis Ababa University in partial fulfillment of the requirements for the degree of Master in Project Management. All sources of materials used for the research have been duly acknowledged, cited and referenced.

Name: Aschalew Yohannes

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Date of submission: -----

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
ASSESS EFFECTIVENESS OF TECHNICAL EVALUATION PROCESS IN
SELECTING BUILDING CONTRACTOR IN ADDIS ABABA

BY: ASCHALEWY YOAHANNES

APPROVED BY BOARD OF EXAMINERS

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External Examiner	Signature	Date
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ABSTRACT

The objective of this study was to assess the effectiveness of technical evaluation process in selecting building contractor in Addis Ababa. The conceptual framework was designed by considering technical evaluation process as dependent variable and technical evaluation criteria, procurement ethical standard, basic procurement principle as independent variable. The data were obtained by closed-ended questionnaires consisted of 37 questions with five-point Likert scale. Both Descriptive and inferential statistics were used to analyze the data and interpretation of the results. Pearson Correlation analysis shows that there was statistically significant positive relationship between all independent variable; technical evaluation criteria, ethical standard, and basic procurement principle and dependent variable; technical evaluation process. Moreover, the regression result revealed that technical evaluation criteria, ethical standard, and basic procurement principle were found to have their own positive and significant effect on technical evaluation process. Basic procurement principle was found to be the most predictor of technical evaluation process. Technical evaluation criteria and ethical standard had also significant contribution in predicting technical evaluation process in their respective order. The mean score result of basic procurement principles, procurement ethical standards and technical evaluation criteria are 3.86, 3.80, and 3.73 respectively and the mean score result of assessment of general opinion of respondents about technical evaluation process is 3.77. In general, the technical evaluation process is not carried out at the required effectiveness level and the researcher concluded that the technical evaluation criteria, ethical standard, and basic procurement principle could have positive significant effect on technical evaluation process.

Key words: Technical Evaluation Process, Technical Evaluation Criteria, Ethical Standard, Basic Procurement Principle.

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CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Research

Effective management of construction projects is crucial for the successful achievement of project objectives. Starting from initiation to execution and closeout stages of construction projects, those parties involved directly or indirectly in the project have to play their significant role to achieve the ultimate objectives of the project. Among the major stakeholders of the projects, Contractors play a major part. In recent years, in public projects, it has become increasingly necessary to select a contractor not only by price but also by construction quality.

Performance of construction projects is often associated with the successful selection of the contractor. The selection of construction contractors is very often conducted during tendering. Tendering allows a client the option of awarding a contract to the business that offers the lowest price and the shortest construction cycle, but it usually does not allow for a clear evaluation of a tender. Simultaneously, there are an increasing number of procedures in which the price is used as a decision factor for selecting a tender.

In recent years, the majority of clients have used this strategy. On the other hand, the findings of the study demonstrate that the cheapest tenderers frequently fail to complete the project. Accepting the lowest price is the root of most project completion issues, because decreasing the price almost always means lowering the quality. In some circumstances, this is correct. Because of the aforementioned circumstances, it is critical to correctly assess the contractor's competencies. The researcher analyzed in selecting the most suitable contractor for a construction project is a crucial decision for owners and project managers.

Over the past 20 years, the dominant procurement process in the construction industry has been the competitive 'low-bid procurement process (Amirhosein Jafari 2013). The low-bid process, on the other hand, has been unable to deliver the desired results on its own. The evaluation based on the low price is a critical issue in project delivery (Topcu, 2004 as cited in Amirhosien, 2013).

Low-quality work, claims, litigation, and increased project management costs may all result from this form of review (Darvish et al., 2009).

The qualification has become one of the more common ways to deal with shortcomings of the low-price system. Qualification is a pre-tender process that aims to assess the capability and competence of potential bidders through screening of contractors according to a given set of criteria (Russell & Skibniewski, 1997 as cited in Berjis, 2012). This is used as an instrument to select a group of competent contractors who can successfully finish the project by ensuring the bid winner can deliver the contract.

In practice, the contractor selection procedure can be broken down into two stages. The first stage is the process used to identify those contractors who are the technical capacity to carry out the project and the second stage is the stage where the tendering document of each contractor, who qualified in the first stage, compared against each other to select the one with lower price submission.

The two-stage selection process can be done in two approaches based on the preference of the client. The first approach is inviting a large number of contractors to submit technical information required by the procuring client, then a shortlist of contractors is drawn up, based on a set of predetermined criteria. It is called the pre-qualification stage. The second approach is “two-envelop system”. This is an approach which entails submitting qualification and Tender documents at the same time, in separate envelopes. In the second approach, the qualification (technical) document submitted by the contractors is assessed and evaluated based on predefined criteria to select those contractors who satisfy the minimum average points allocated to pass the first stage. Those contractors who scored above minimum passing point at first stage will qualify for the second stage of the tendering process.

The goal of using non-price criteria when evaluating tenders is to empower contracting authorities to maximize their value for money by choosing the best combination of quality and price for contracts where quality can vary. Separating technical and financial offers ensures that:

- Higher-priced, higher-quality offers that provide better value for money will be considered fairly.

- Increase competition where the use of separate technical and financial offers is indicated in the tender notification, it signals to potential contractor that a broader range of offers will be considered.
- It can also act as an indicator of the contracting authority's commitment to fair evaluation. This should attract more offers than a procedure where the lowest price is the only criterion.

1.2 Construction Industry of Ethiopia

Any country's development is dependent on the construction industry. Especially a developing country, like Ethiopia, where consecutive economic growth has been registered, demands high rate of investment and consequently the need for construction of adequate public facilities to serve the development of the country. The contribution of the sector to the overall economic development of a country is significant (EEA, 2007). It is among the major economic activities for the development of social, political, and economical welfare of the society. Didenko and Konovets (2008) indicated that the construction industry is one of the most used examples of project-based industries.

Ethiopia's construction sector is one of the most robust in Africa. Conditions are ripe for a surge in building across the country. The updating and building of new infrastructure links, residential developments and so on is of considerable interest to the Ethiopian Government. Indeed, development of these areas features heavily in the nation's Second Growth and Transformation Plan (GTP II)

Ethiopia has registered a remarkable growth, over the last 11 years there has been increased investment on the development and expansion of various infrastructure projects. Among the major development construction of road infrastructure, real estate developments, and condominium housing projects are some of the examples. public infrastructure development projects account the significant portion of the investment outlay on construction activities. Its contribution to the GDP at constant price has increased from Birr 2, 853,336,000 to Birr 8,185,747,000 at an average annual growth rate of 12.43%. Similarly, the percentage share of the construction sector to GDP at constant price has increased from 4.5% in 2000/01 to 5.8% by 2009/10 MUDC, (2012).

A 2020/21 fiscal year allocation also indicates allocation of higher portion of the country's annual budget. Capital spending is for 54 percent of government spending (Birr 131 billion out of Birr 240 billion), demonstrating Ethiopia's continued high outlays for public investment activity.

1.3. Budget allocation of Addis Ababa City Administration for construction projects

In 2007, the city government created a strategy plan for the years 2008/09 through 2012/13. The development strategy was created in response to public demand, the country's Plan for Accelerated and Sustainable Development to End Poverty (PASDEP), and the federal program for urban development and governance.

Table 1.1: Addis Ababa city administration annual capital and operation budget from year 2007 to 2014

Fiscal Year	Total budget	Operating budget	Capital budget	Capital budget in %
2006/2007	5,166,530,000	1,141,260,000	4,025,270,000	71.91
2007/2008	6,721,150,000	1,454,880,000	5,266,270,000	78.35
2008/2009	8,841,100,000	2,436,380,000	6,404,720,000	72.44
2009/2010	6,112,450,000	2,363,120,000	3,749,330,000	61.34
2010/2011	9,431,540,000	3,744,790,000	5,686,750,000	60.30
2011/2012	11,836,340,000	4,104,410,000	7,731,930,000	65.32
2012/2013	16,040,100,000	5,380,050,000	10,660,050,000	66.46
2013/2014	20,041,110,000	7,904,070,000	12,137,040,000	60.56
Total	84,190,320,000	28,528,960,000	12,137,040,000	66.11

From the above table 1.1, it is understood that from the year 2007 to 2014 the share of the capital budget of Addis Ababa City Administration ranges from 60% to 78.35% from the year 2007 to

2014- and the 8-years average is 66.11%. This indicates that much of the city administration budget has been allocated to the capital budget.

Table 1.2: Addis Ababa city per capita spending compared to other regions (2008/09); Source: - Addis Ababa City Public Expenditure Review, July 2010

	Per capital expenditure			Share of Capital Expenditure (%)
	Recurrent	Capital	Total	
Addis Ababa	575.6	1,634.9	2,210.6	75
Tigray	286.7	70.0	356.7	19.6
Amhara	221.5	42.1	263.6	16
Oromia	206.4	50.8	257.2	19.8
SNNPR	161.0	45.2	206.3	21.9
Harari	642.7	206.8	849.5	24.3
Dire Dewa	529.6	277.6	807.2	34.4

Table 1.2 above shows that Addis Ababa City Administration allocates More budget as compared to any other region of the country. Three-fourth of the budget of the city administration is allotted to capital expenditure. Therefore, proper management of this huge amount of budget is very critical to bring about the intended economic and social development of the community living in the city as well as citizens of the country.

1.4 Problem Statement

The contractor prequalification decision-making process is based on various factors that need critical evaluation. Contractors who bid for projects, work, goods, and services in the construction industry have to provide predefined information regarding their competency that helps the client to decide to select a qualified contractor. Inputs from owners and consultants (based on agreements between the two groups about a particular criterion) could influence decisions during the qualification process.

The contractor qualification process requires input from varied qualitative and quantitative information. Construction projects are risky, and there are always uncertainties present for each project. A systematic, contractor-qualification process would reduce the risks and uncertainties. The early stage of the bidding process is the qualification phase.

The qualification process can affect business success, which means that the effectiveness of the resulting output is based on decision inputs. Hatush and Skitmore (1997) explained the necessity of contractor selection.

Bubshait et.al, 1996 as cited in Mohammed, 2013 stated that bid evaluation is one of the most vital functions in project management. Contractor selection affects the project's success or failure. They also said that a successful bid-evaluation system benefits both owners and contractors. With a proper bid-evaluation system, owners would be able to select competent, financially capable, and experienced contractors.

The basic principle of evaluation work must be strictly conducted on a basis of impartiality and fairness, with due attention to considerations of economy, efficiency, transparency, and non-discrimination among eligible bidders, which are general principles lay down by Procurement Act Guyana, 2009.

This study assesses practices for the contractor bid qualification process in Federal projects as well as, based on findings, proposes process improvement to bring about a more fair and transparent system in the contractor's qualification evaluation process.

1.5 Research questions

1. What are the criteria used to select qualified construction contractors?
2. Which prequalification criteria is the most critical in selecting contractors for a particular project?
3. What is stakeholders' opinion regarding comprehensiveness of technical evaluation criteria in use for evaluation process to select qualified and competent building contractor?
4. Assess the level of application of Ethical standard on technical evaluation process in selecting qualified and competent building contractor?
5. Assess the level of application of basic procurement principle on technical evaluation process in selecting qualified and competent building contractor?

1.6 Objectives of the Research

1.6.1 Main Objectives

To assess the effectiveness of qualification (technical) evaluation practice in selecting contractors of building construction project.

1.6.2 Specific Objectives

- To identify qualification criteria used in selecting competent construction contractors.
- To assess the application of basic procurement principles during the process of technical evaluation process in selecting building contractors.
- To assess the application of procurement ethical standards during the process of technical evaluation process in selecting building contractors.

1.7 Significance of the Study.

The ultimate objective of the qualification process is to select the most qualified and competent contractors among those who exhibited interest to participate in tendering in a particular project. The qualification process has to be carried out based on fairness and impartiality manner to ensure transparency, efficiency, and effectiveness, and avoid discrimination. This can be achieved by the joint effort of all stakeholders involved in the project activities and by creating a conducive environment by developing comprehensive policy and procedures on how to manage and coordinate the process of tendering. Also, those involved in the tendering process play a vital role in the effective management of the procurement process.

This research will allow government officials and policymakers to review the existing laws and regulations regarding tendering process to incorporate the findings to fill loopholes existing in the public procurement documents.

Hence, this study will come up with identifying the level of effectiveness of the process of qualification of building construction projects in Addis Ababa and helps professionals, decision-makers, policy designers, and practitioners to look for the best policies, methods, and qualification process, and managing to get best out of it.

It will also help in identifying loopholes and propose areas that require improvement in the existing policies, regulations, and proclamations and contributes to the enhancement of the public

procurement by identifying the responsibility and accountability of each player of the construction industry and help to play their role for the achievement of projects by creating the fair and impartial working environment.

1.8 Scope of the Study

This study focuses on Building projects that have been under construction 2018 G.C within Addis Ababa. Geographical location and the time frame are systematically framed to include projects that have been under construction. This helps to obtain up-to-date data that can portray the current technical evaluation practice in the process of selecting the most qualified and competent building contractor. As it is mentioned earlier, the most commonly used tendering approach in public projects is a two-envelop system.

Employee involved in building projects undertaken within Addis Ababa city by the Federal Government are selected to be participated in the survey because in most cases, construction projects undertaken by the Federal government might have huge budget allocations. The economic and social impact of these projects is immense and consumes a considerable portion of the city administration's annual budget. The successful completion of these projects has a greater impact on the citizen in several aspects. As a result, from the initiation to completion and closeout stage, projects must be managed properly by all stakeholders involved in the development and execution of the project. The Finding on the technical evaluation process practice is believed to indicate the practice of the industry in the building sector.

Time and budget constrain made it impossible to include all sub-cities of city administration. To make it feasible, only 4 sub-cities were selected to be considered in the research work. Also, scope is determined by considering those who part take in the project with project cost more than 110,000,000. This amount of project cost is selected based on the Ministry of Urban Development and Construction Contractors licensing document. The table below shows the threshold for category and grade of contractors.

Table 1.3: Threshold of project cost with respect to category and grade of contractors; Source: - Federal Urban Development and Construction Minister

Categories	Grade	Amount in Millions		
		BC	RC	GC
(GC, BC, RC)	1	≥ 210	≥ 300	≥ 350
(GC, BC, RC)	2	≤ 210	≤ 300	≤ 350
(GC, BC, RC)	3	≤ 160	≤ 225	≤ 270
(GC, BC, RC)	4	≤ 110	≤ 154	≤ 185
(GC, BC, RC)	5	≤ 54	≤ 76	≤ 100
(GC, BC, RC)	6	≤ 27	≤ 38	≤ 45
(GC, BC, RC)	7	≤ 11	≤ 15	≤ 18
(GC, BC, RC)	8	≤ 5.4	≤ 7.5	≤ 9
(GC, BC, RC)	9	≤ 3	≤ 4.2	≤ 5
(GC, BC, RC)	10	≤ 1	≤ 1.5	≤ 1.8

1.9. Limitations of the study

Technical evaluation process is one of the critical milestones in the implementation of projects. If not managed appropriately with established rules and regulations, it opens doors for fraud and corruption and consequent failure of the project. In the case where such unethical acts used to be practiced, it is difficult to obtain valuable information to hide the wrong act of those individuals and groups participated in the process. Therefore, obtaining relevant and reliable information regarding the subject matter might not be easy and needs coordinated effort. The shortage of time and budget needed to conduct the research are the limitations that might be faced in the process of the research work. Whilst a significant number of researches were conducted the abroad, very few researches were conducted locally related to the research topics and this might also be one of the limitations regarding secondary data sources.

CHAPTER TWO

Literature Review

2.1. Introduction

The successful execution of contracts for a large building, civil engineering, supply and installation projects, and major complex custom-made equipment, complex or unique services requires that contracts are awarded to competent contractors, usually based on competitive tendering procedures. The main purpose of prequalification is to select those contractors/suppliers, whose qualifications and experience would minimize the risk of non-performance under the proposed project (ERBD, 2012).

Requirements for qualification of contractors are related to credibility, knowledge, and experience, qualifications of the persons proposed to perform the contract, technical capabilities, and financial and economic condition of the contractor. Verification of fulfillment of these requirements is carried out every time for each public procurement procedure and is connected to the need for submitting adequate documents. In Ethiopia also, requirements are generally similar. However, national legislation sets requirements for qualification with certain differences

The survey conducted by COAA Prequalification Subcommittee indicates that implementing best practices and a standardized process will lead to improved identification of qualified contractors for specific work, and reduced costs, resources, and time to complete each prequalification (COAA, 2013).

According to this survey, the two main reasons why firms prequalify their contractors are to:

1. Minimizes risk
2. Reduces the cost associated with procurement

Since one of the main goals is to reduce costs, it is critical to implement a streamlined prequalification process that does not require high out-of-pocket costs and is not resource intensive

The construction project must be managed effectively. The demands from clients and competition have been growing rapidly and these demands directly contribute to the physical construction of the project Ronak Dave, (2017). The selection of a proper construction contractor increases the

chances of successful completion of a construction project. So, it is very critical to select an appropriate contractor in the process of construction management. The selection of construction contractors is very often conducted during tendering.

The selection of a qualified contractor is influenced by external and internal factors. It is, in some cases, the economic situation and the competition are crucial environmental factors. External factors such as the contract, characteristics of the client, company experience, and project characteristics are very influential. Characteristics of the company, benefits and project financing are taken as internal factors in many works of literature. Analyzing these factors in selecting the most competent and qualified contractor for a construction project is a decisive decision for owners and project managers.

Construction projects are complex and require appropriate management in all their stages. Tendering is one of the critical phases in the process of project implementation. The selection and evaluation of contractors play an important role and need great care, especially for public construction projects that are conducted by the government, Eryana et.al, (2013). Contractor evaluation and selection are significant for government organizations responsible for the success of the construction process. Choosing a competent contractor is important to deliver construction project success.

The contractor's prequalification criteria affect the quality performance of civil engineering projects in different ways, Akinmusire, (2017). According to Akinmusire, (2017), the level of influence of each prequalification criteria on the quality performance of a construction project varies from one and another. Some of the contractors' prequalification criteria are weak indicators while some proved to be strong predictors of quality performance of construction projects. Emphasis should be on the strong predictors of quality performance because they have a significant impact on the project. Performance

Some researchers even consider the procurement a separate stage of the project Othman, (2016). The importance of procurement comes from the main criteria which affect the success of the project: cost, quality, time, safety, and how the project meets the envisaged purpose (American Institute of Architects). Therefore, it is key to award contracts for competent and qualified contractors who are sufficiently capable of the proper performance of the contract. Several works

of literature reflect selection of an appropriate contractor as one of the most critical factors of project success.

2.2. Qualification Process

Bid evaluation and qualification of the contractor is a decision-making process that takes place within the overall procurement process. It examines and develops a variety of adequate and essential decision-making factors along with the participation of several decision-making groups (Aje and Ogunsemi, 2006 as cited in Ottoman, 2016). Qualification of the contractor is a central process in a construction project. It evaluates a contractor's capability to complete projects effectively and might ensure meeting project objectives. Qualification of the contractor helps a client to select the right contractor for the project, and good for the contractor to identify any weaknesses of the company as he can then improve upon them. Thus, the ability to select potential contractors from a larger pool would result in the final selection of the right contractor as top-quality contractors will be identified and qualified tendering process.

Qualification is a preliminary stage in the bidding process where it is determined if a bidder can meet the specific qualifications required to complete the construction project. During the qualification process, potential contractors, are screened based on factors such as experience, financial ability, managerial ability, reputation, work history, etc. According to the “guide to Construction prequalification” of the office of Construction qualification of Columbus, qualification is part of a two-phased procurement process, which enables public awarding authorities to limit the "bidding pool" to potential bidders and licensed construction trade subcontractors who have been deemed responsible and provisionally responsible, per national code, to be awarded a contract and to perform work.

US Department of Transportation Federal High Way Administration (2014), defines Prequalification as an assessment of financial responsibility and ability to perform a certain type of work. Public owners are increasingly exploring ways to include non-price factors, both qualitative and quantitative, in the procurement process to motivate contractors not only to improve their performance during construction but equally as important, to build value into the end products.

2.3. Factors affecting bidding strategy in construction Process

Many factors influence the bidding strategy. These factors of decision making in bidding incorporate into three broad groups of factors i.e., internal, external, and environmental factors. The internal factors are those related to the company such as experience, resources, capabilities, etc. External factors, outside the company, include the number of bidders, bidding risk, type of project, cash flow requirements, etc. The environmental factors as social and economic conditions, availability of another project, availability of qualified labor, availability of qualified staff, availability of equipment Ronak et.al (2017).

2.4. Qualification and Bid Evaluation Criteria

There is a lot of literature written by various researchers on contractor's qualification criteria and their process. qualification and bid evaluation procedures involve different types of criteria to evaluate the overall suitability of contractors such as General, technical, managerial, and financial criteria, financial stability, managerial capability, and organizational strength, technical expertise and experience of comparable construction Relevance of experience, size of the firm, and safety record Kevin Parmar et.al (2017) and summarized as shown in the table below. The qualification criteria were assessed based on the related sub-criteria. Selection criteria may vary in emphasis according to the characteristics of the project (M. Salama1et.al, 2019). Below table 2.1 displays the list of fundamental criteria and sub-criteria under each category, Plebankiewicz, as cited in Peoria, 2015.

Table 2.1: Contractor’s Qualification and Bid Evaluation Criteria

Financial soundness	<ul style="list-style-type: none"> ➤ Financial stability ➤ Credit rating ➤ Banking arrangements and bonding ➤ Financial status
Technical ability	<ul style="list-style-type: none"> ➤ Experience ➤ Plant and equipment ➤ Personnel ➤ Ability
Management capability	<ul style="list-style-type: none"> ➤ Past performance and quality ➤ Project management organization ➤ Experience of technical personnel ➤ Management knowledge
Health and safety	<ul style="list-style-type: none"> ➤ Safety ➤ Experience modification rating ➤ OSHA Incident rate ➤ Management safety accountability
Reputation	<ul style="list-style-type: none"> ➤ Past failures ➤ Length of time in business ➤ Past owner/contractor relationship ➤ Other relationships

As it can be seen in Table 2.1, most of the criteria are evaluated based on the evidence provided by the contractors for each prequalification criterion. Prequalification criteria, such as financial capacity, occupational health, and safety and technical ability are assessed by the evidence that is provided by the contractors such as credit rating, banking arrangement, bonding, and financial status for the issue of financial capacity; occupational health and safety incident rates for the health and safety performance of the contractor, a questionnaire is another method for the occupation health and safety performance; equipment by the resources and tools for the technical ability.

As Francis, (2016) cited the work of Watt et.al, (2010), Organizational experience, Project management expertise, tender price, technical expertise, past project performance, company standing, method/technical solution, client contractor relations, and workload are stated as the contractor selection criteria in Australia.

2.5. Principles of Good procurement.

Most country use common general principles in public procurement. These are:

1. Value for money (economy, efficiency, and effectiveness);
2. Non-discrimination (fairness);
3. Transparency; and
4. Accountability and Ethical Standards. The same principles are used in Ethiopia.

Economy: The purpose of procurement is to give the public body best value for money. Value implies right price, right quality, right time, right place, and right quantity. The basic point is the same: the ultimate purpose of sound procurement is to obtain maximum value for money.

Efficiency: Efficiency infers practicality, especially in terms of compatibility with the administrative resources, organizational capabilities of the purchasing entity and its procurement personnel with the planned type and volume of procurements.

Effectiveness: Effectiveness means the extent to which the entity is able to procure goods, works and services of quality, in a timely and most economical manner.

Fairness: Good procurement is non-discriminatory, impartial, consistent, and therefore reliable. It offers equal opportunity for all interested contractors by providing a level playing field on which to compete and thereby, directly expands the public body's options and opportunities for getting value for money.

Transparency: Good procurement establishes and then maintains rules and procedures that are Accessible, predictable and unambiguous. It should be fair and seen to be fair.

2.6. Public Procurement Proclamation of Ethiopia

According to Public procurement Proclamation No. 649/2009 of Ethiopia, the followings are the general qualification criteria. To participate in public procurement, candidates must qualify by meeting the following criteria and such other criteria, as the public body considers appropriate for a particular project. All list of qualifications listed in the proclamation are not considered in this

research work however, only qualification criteria that are relevant to the selection of construction contractors are list herein.

- Candidate must possess the necessary professional and technical qualifications and competence, financial resources, equipment and other physical facilities, managerial capability, experience in the procurement object, reputation, and the personnel, to perform the contract;
- They have to have the legal capacity to enter into the contract;
- that they are not insolvent, in receivership, bankrupt or being wound up, their business activities have not been suspended, and they are not the subject of legal proceedings for any of the foregoing;

The proclamation document also states how the procurement process has to be carried out to create fair and non-discriminatory competitive environment. These criteria have to be set forth in the bid documents or other documents for solicitation of proposals, and shall apply equally to all candidates. At the same time the prequalification evaluation of candidates is done in accordance with the criteria and procedures set forth in the documents. The public body disqualify a candidate, at any time, when false, inaccurate and incomplete documents are found within the submitted documents for the purpose of prequalification.

2.7. Specific qualification Criteria for selection of contractor in Ethiopia's Context.

Within the general framework of procurement principles, every country develops its prequalification criteria to select qualified and competent contractor taking its context into account. The criteria might vary in type and weight given to it depending on the context of each country. Among many factors contributing to this variation of qualification criteria for selecting contractors through the process of procurement are economic development and social culture of a particular country. These two factors take the lion share in determining the type of qualification criteria. Besides to these, type of project is another factor that determines these criteria for a particular project.

As a matter of facts, Ethiopia also has customized and developed its qualification criteria within the framework of internationally accepted procurement principles.

According to Procurement directives of the Federal Government of Ethiopia, the following qualification criteria are used in selecting qualified and competent contractors.

General experience: - This is a total year experience of the company in the construction industry. According to the Federal Government procurement directive it is applied only for contractors under category five and above. This criterion is not considered for contractors under category six to ten. A minimum of 2 years on industry experience is required to qualify for the tender process.

Experience in similar projects: - According to Article 3(7) of the directives, similarity of project is assessed based on the number of high-rise the contractor built in the past ten years and completed 70% and above estimated amount of the project under the bidding process.

Financial capability: - shows the profitability of the company in the past five years and financial audit report must be prepared by legally registered auditing firm and presented with qualification document. This also has to be confirmed by the revenue collecting government office.

Annual Turn-over: -The amount of money collected from ongoing project for work executed by the construction firm under contractual obligation. It is calculated as follows.

Estimated cost of project = a

Estimated project duration = d in months

Minimum expected turn-over = t

Therefore, $t = \frac{a}{d} \times 12$

Personnel: - Based on the nature and complexity of the project the manpower required to a particular project is determined by the project owner or his representative and the contractor provides official documents that assure the personnel will be available on the project.

Machinery and Equipment: - The contractor provides document showing availability of owned or rented machinery and equipment required by the project. Type and number of equipment and machinery required by the project is determined by the client or client representative.

2.8. Comparison of Contractors' qualification criteria between Ethiopia and Western countries.

In table 2.1 above the types of qualification criteria used by western countries are broader than that of Ethiopia. Both countries use financial and technical capabilities as a qualification criterion for the selection of qualified and competent contractors. Besides these western countries used additional criteria such as management capability, Health and safety management, and reputation. These criteria have a great impact on the selection of qualified and competent contractors and have a consequential impact on the performance of the project. From this one can infer that project management is not given due attention in the construction industry of Ethiopia. And as a result, lot of researches indicate that most of the construction project is not completed on time and within the budget. Health and safety management is the most area of project management disregarded by Ethiopia's industry stakeholders. This is also indicated by overlooking not to be considered as qualification criteria in selecting a competent construction contractor.

2.9. Code of conduct in Public Procurement in Ethiopia.

According to the Ethiopian Federal Government Procurements and property administration Proclamation 649/2099, the main objectives of the proclamation regarding public procurement are:

- To achieve better transparency, efficiency, fairness and impartiality in public procurement
- To enable the utilization of the large sum of public money spent on procurement in a manner that ensures greater economy and efficiency.

To ensure the achievement of the above stated objectives, the proclamation prescribes the ethical standards to be followed by individuals and groups who involved in the process of public procurement. Among these ethical standards those which are related to this research work are presented here under.

- Notifying any actual or possible conflict of interest and isolate oneself from any processes involving such conflict;
- giving candidates equal opportunity of competition and performance;
- To keep in secret any confidential information concerning the public body, candidate or supplier which he/she came to know on account of his/her duty;

- Rejecting any gift or offer of an employment opportunity or anything of monetary value or service;
- To report to the law enforcement agencies any intended or completed action of corruption and contribute to the effort to fight corruption and malpractice;
- To demonstrate concern to public resource and property.
- Any candidate or supplier shall have to refrain from any act contravening the process of public procurement and property disposal.
- candidate shall have the responsibility not to give directly or indirectly gifts of any kind in the form of inducement, not to promise to give gifts with an intention to influence the decision or action of the head or staff member of the public body or persuade the public body to change its established practice of procurement and property disposal;
- The candidate shall have responsibility not to offer employment opportunity or anything of monetary value or service with an intention to mislead a procurement proceeding
- The candidate must not present a falsified document or not to withhold information he/she should have disclosed;
- The candidate must not to connive with another candidate in an act of false competition in order to get unfair advantages;

Table 2.2: Public procurement code of conduct can be summarized in table as follows.

Code of conduct	Description
Serving the public interest	Maintaining public's trust and confidence and demonstrating the highest standards of professional competence, efficiency and effectiveness,
Transparency and accountability	Using powers and resources for the public good, in accordance with the law and government policy.
Integrity	make decisions and act without consideration of their private interests
Legitimacy	Administer the laws and government policy, and to exercise legitimate administrative authority under delegation. That power and authority should be exercised impartially and without fear or favor.
Fairness	Make official decisions and take action in a fair and equitable manner, without being affected by bias or personal prejudice.
Responsiveness	Serve the legitimate interests and needs of the government, public organizations, other civil servants, and citizens in a timely manner.
Efficiency and effectiveness	Obtain best value in expenditure of public funds, and avoid waste and extravagance in the use of resources.

2.10. Schematic representation of Technical Evaluation process as practiced in Ethiopia.

There are a number of activities involved in the process of tender document preparation. Among these activities, determination and weighting technical evaluation criteria are play a major role in selecting qualified and competent contractor.

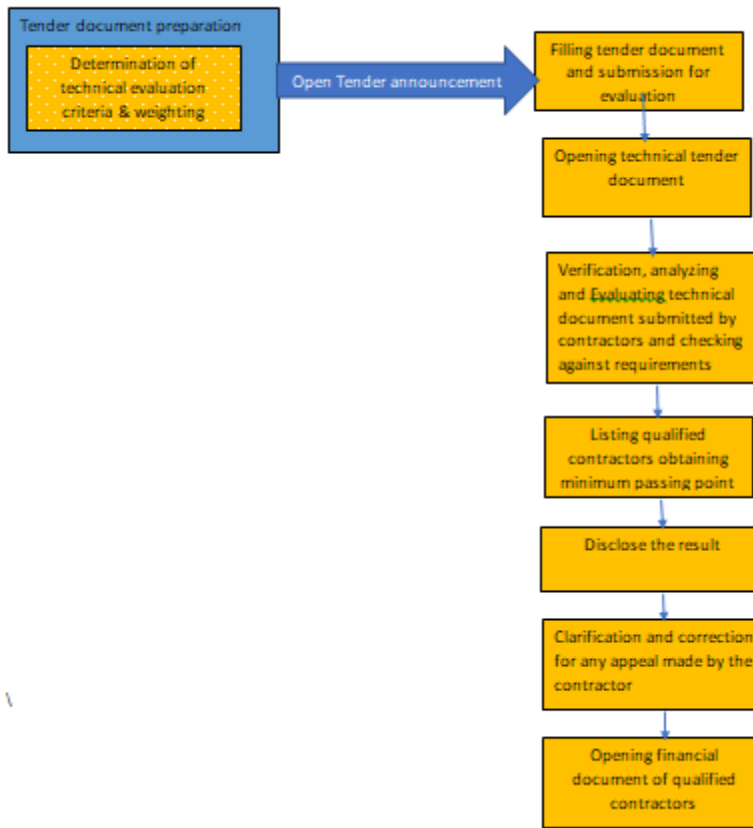


Figure 2.1: Schematic representation of Technical Evaluation process as practiced in Ethiopia.

Determination of technical evaluation criteria and weighting depend up on the type and complexity of the project, and culture of the organization responsible for identifying the criteria. One might give higher value for the same technical criteria that is given least value by another organization.

2.11. Effectiveness of qualification Process: -

Effectiveness is a measure of a process’s ability to produce desired results or effect that can be qualitatively evaluated. It refers to a qualitative output of some process to measure the degree of achievement of goals or requirements associated with the given process.

Contractor selection process is the most important client decision in a construction project. This is because performance of the project is dependent on the capabilities of the contractor organization assigned to do the job Vermeulen, (2012). The selection process therefore is expected to have strong influence on the eventual success of the construction project, which on its turn is determined

by many aspects. Therefore, effectiveness of qualification evaluation process can be measured by whether the most qualified and competent contractor is selected based on the basic principle of procurement, such as fairness, transparency and efficiency,

Process effectiveness serves as one of the main sources of information for making well-founded decisions on better process management. In particular, it allows decision makers to:

- Measure process performance
- Develop better management strategies and tactics.
- Plan for improvements.
- Conduct further process evaluations.

2.12. Benefits of qualification process

The qualification process is of advantage to tenderers and employers alike.

- The qualification process enables tenderers who may be insufficiently qualified on their own to avoid the expense of tendering or to enter into a joint venture which may have a better chance of success.
- Enables employers to assess the interest generated by the project among qualified firms, and to make any necessary adjustments to the procurement process (including, in particular, the conditions of contract – sharing of risk, payment terms, liquidated damages or completion times, in the event that only an insufficient number of applications are received;
- Reduce the amount of work and time involved in evaluating tenders from unqualified Contractors or suppliers;
- To encourage local firms to form joint ventures with other local or international firms, Thereby benefiting from their resources and experience, and
- To eliminate or reduce significantly problems associated with low prices submitted by Tenderers of doubtful capability.

2.13. Conceptual Framework

Based on the literature review the following conceptual framework is developed to systematically address the research question to meet the objectives of the research by collecting relevant data grounded on the identified dependent and independent variables. Under each variable, there are several sub-variables that are discussed in the literature parts. As it can be seen from the conceptual framework diagram selection of a qualified and competent contractor is dependent on the types of qualification criteria selected for a particular construction project. The weight assigned for each Criterion depends upon the type of project, the complexity of the project, and the value given by the client to the criterion which he thoughts critically affects the performance of the project. Therefore, before passing the evaluation process of the qualification criterion, it has to be ensured that these criteria are selected following the procurement principles and code of ethics stated in the regulation documents. The framework also shows that the procurement process has a greater effect on project performance. Proper management of the procurement process has a positive effect on the performance of the project and at the same time if it is not handled in the right way, it affects the project performance adversely.

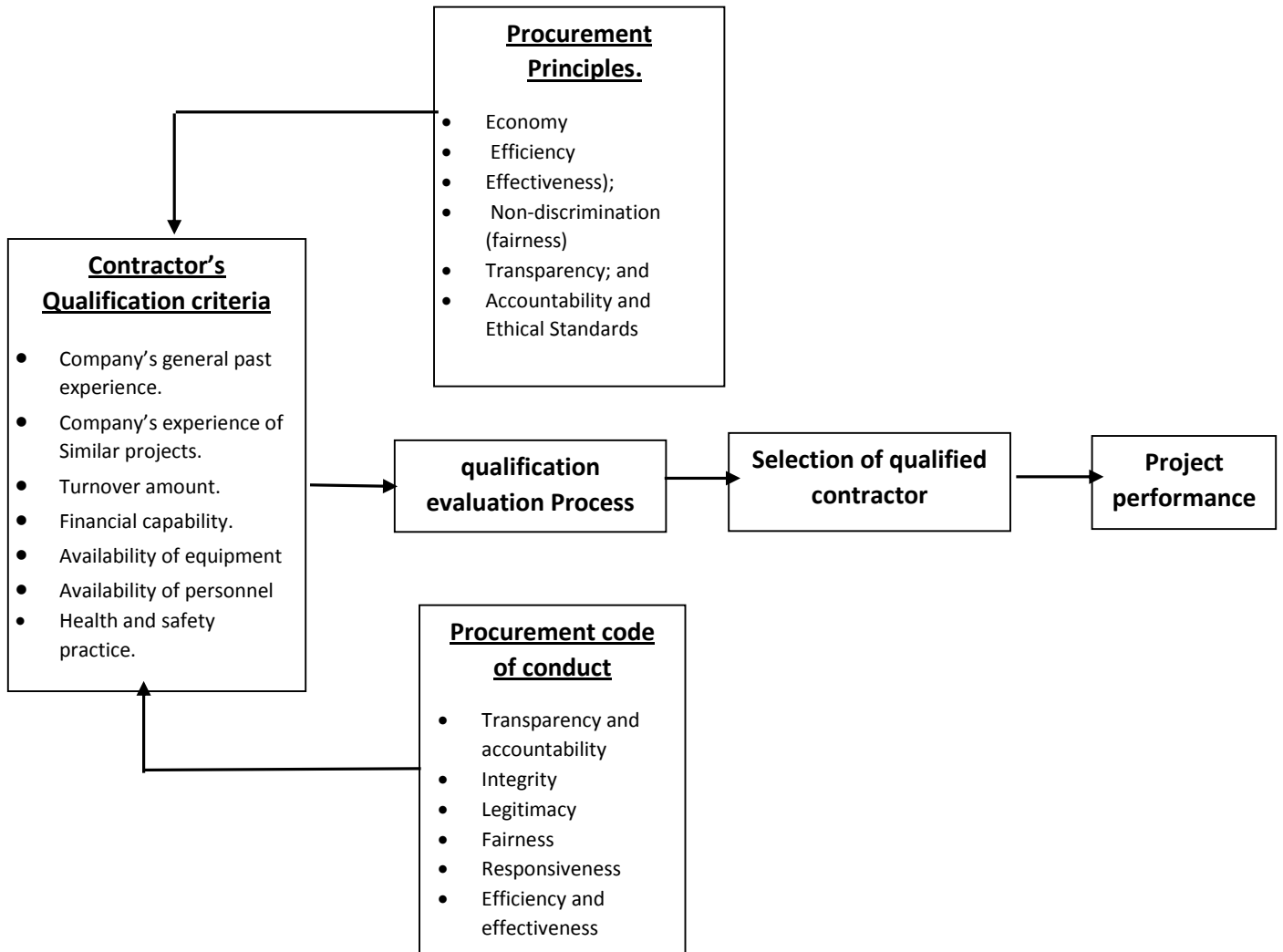


Figure 2.2: Conceptual framework.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

Research methodology should reflect the understanding of the researcher in order to extract valuable results of studies using various methods available, in single or combination form, or even from scratch. The methodology is a plan of action that shows how the problems will be investigated, what information will be collected using which methods, and how this information will be evaluated in order to draw findings and provide recommendations. The research follows some steps and procedures when conducted. Once the problem statement has been formulated, it should clearly portray the kind of data that will be required, and the type of analysis that would be most appropriate to analyze the data.

This discusses the research's methodology and design, the research population and samples, the questionnaire design, the data-collection process, and the statistical data analysis. The content validity and the pilot study will also be presented in this chapter.

3.2. Description of Research Area

According to the National Bank of Ethiopia (NBE), construction accounts for half of all the nation's industry and it is expanding rapidly. Data from the NBE also suggests that during 2013/14 the building sector grew 37%. Industrial activity accounted for 15% of Ethiopia's total output. And 7.5% of Ethiopia's total GDP during this period.

GTP II includes major objectives to be achieved over the five years. As such, the goals for the building industry are:

- Improve the industry's capacity in a sustainable way
- Ensure efficiency and effectiveness of construction contract procurement and management
- Develop internationally competent contractors alongside design and construction consultants
- Improve availability of raw materials and machinery in the construction industry
- Implement new technologies and construction methods in short, Ethiopia has big plans for construction.

Ethiopia's government is expanding its capital. It was announced in June 2015 that 12 towers, each with 12 stories, will be built in Addis Ababa. 42 of the country's 132 federal institutions will be housed here. Projected costs for this development are expected to reach around \$24 million

The construction industry as a whole is moving forward at a terrific pace in Ethiopia. Moreover, international companies are required for their expertise, knowledge, and product quality to help lead the country further along the path to success.

3.3. Research Design

The blueprint for achieving research goals and answering questions is known as a research design (Cooper and Schindler, 2006). Exploratory research, descriptive research, and causal or explanatory research were the three types of study (Saunders, Lewis, and Thorhill, 2009). Exploratory research studies try to define a problem for further examination, with a focus on the generation of new ideas and insights. Descriptive studies, on the other hand, are concerned with describing the features of a single person or a group of people. Causal or explanatory studies are ones in which the researcher investigates hypotheses about causal correlations between various variables. The purpose of an explanatory research design is to investigate a scenario or an issue in order to explain the relationship between variables (Saunders, Lewis, and Thorhill, 2009). As the goal of this study was to investigate the causal relationship between the independent variable (technical evaluation criteria, ethical standard, and basic procurement principle) and the dependent variable (technical evaluation process), the investigation was carried out following the design of descriptive research.

3.4. Research Approach

The approach used in this study was quantitative. The practice of collecting numerical data using established approaches and then using statistical tools to extract insights from it is known as a quantitative research methodology (Manu Bhatia, 2018). Because the data gathering instrument, a questionnaire, is optimal for this method, the study has taken a quantitative approach. Quantitative research is advantageous because it allows the researcher to collect objective and quantifiable data, which can then be used in statistical methods and establish a relationship and causality between variables.

3.5. Sampling Design

3.5.1. Target Population

Addis Ababa has ten sub cities. Population of the study is the total number of professionals who are working in public office situated in Addis Ababa and participated in one way or the other in the process of technical evaluation process in selecting qualified contractors. Time and financial constraint make difficult to include all professionals working in all sub cities. Among the 10 sub cities of Addis Ababa city administration 4 sub-cities were selected using random sampling. Each sub-city is coded and randomly 4 sub-cities are drawn. According to the draw, Arada, Bole Kolfe Keraniyo and Lideta sub-cities with a code CS-8, SC-1, SC-6 and SC-10 respectively were drawn to be considered for the second stage of samplings. Professional who are working in the above four sub-cities are taken as a population of the research and estimated to be 152.

Table 3.1: - Coding Addis Ababa Sub-cities for random sampling purpose

S. N	Sub-City	Code for sampling
1	Bole Subcity	SC-1
2	Yeka sub-city	SC-2
3	Akaki sub-city	SC-3
4	Kirkose Sub-city	SC-4
5	Nifase Silk sub-city	SC-5
6	Kolfe Keraniyo Sub-city	SC-6
7	Adiss Ketama Sub-City	SC-7
8	Arada Sub-city	SC-8
9	Gulele Sub city	SC-9
10	Lideta Sub-city	SC-10

3.5.2. Sampling and sample Size Determination

The sample of the research is determined using a two stages sampling technique. In a Two-stage sampling design, the population is partitioned into groups, like cluster sampling. The clusters are the first stage units to be sampled, called primary or first sampling units. The second-stage units are the elements of those clusters, called sub-units, secondary, or second sampling units. Two-stage sampling is used when the sizes of the clusters are large, making it difficult or expensive to observe all the units inside them.

A staged cluster sampling is used and in the first stage among the 10 sub-cities the sampled sub-cities were selected and in the second stage of sampling individuals who have been involved in process of technical evaluation process in one way or the other were selected. In the second stage, random sampling will be used to identify individuals who would participate in the survey. Engineers, architects, and other professionals who have direct involvement in the technical evaluation process were included to participate in the survey. The number of professionals to be included in the survey were taken proportionally from the contractor, Consultant, Client, and regulatory body.

The following formula is used to determine sample size (Yamane, 1967)

$$n = \frac{N}{1+N(e^2)}$$

Where:

n = sample size

N = population size,=152

e = significance level

Taking the significance level e= 0.05 and the population size N=152, the sample size of the research is determined to be 110.

3.6. Sources of Data

In order to assess the effects of technical evaluation criteria, basic procurement principles, and ethical standards on the technical evaluation process in selecting building contractors in Addis

Ababa, the researcher used both primary and secondary data. Secondary data was also used by the researcher, such as relevant journal papers, books, and a company profile.

3.7. Questionnaire Design

The questionnaire is a common technique used to collect data. It has been widely used for descriptive and analytical surveys to find out the facts, opinions, and views (Nahum, 1998 as cited in Abdal-Hadi 2010). It improves confidentiality, strengthens internal and external validity, makes analysis easier, and saves resources. It enables the researcher to collect a large amount of data within a short period and also provides an opportunity for respondents to give frank, anonymous answers. The questionnaire was constructed in a straightforward and easy-to-understand manner so that respondents may answer freely. Furthermore, the usage of a questionnaire was deemed critical to the research because it gives reliable information on the study.

The questionnaire was designed to determine the effectiveness of the technical evaluation process in selecting a qualified and competent building contractor. It comprises 2 sections. The first section collects the information about the respondent's, experience, job title, opinion about the contractor's qualification evaluation processes. The second section comprises a five-point Likert scale: (1) strongly disagree, (2) disagree, (3) Neutral, (4) agree, and (5) strongly agree, was adopted to judge effectiveness of technical evaluation process to select contractor. The questionnaire outlines the items identified as issues associated with measuring the effectiveness of the technical qualification process in selecting qualified building contractors. Based on conceptual framework of the research, the questionnaire was developed to investigate in relationship between dependent and independent variable. A range of questions were included in the questionnaire that can measure the effectiveness of technical evaluation process with regard to the three independent variables, such as basic procurement principles, procurement ethical standards and technical evaluation criteria. To get a general opinion of the respondent regarding the technical evaluation process in practice seven questions were included in the survey and this result is compared against the result obtained from the three-independent variable. This increases the reliability of the result obtained from the research work. Positive questions are used in questionnaire survey to reduce complication in analysis and make it easy of understanding of the result.

3.8. Method of Data Analysis

Data analysis was done using a detailed statistical analysis; a determination of the relative importance index and rank; the result will be compared to neighboring countries. The data acquired analyzed through comparison of different sections. However, for the questionnaire survey of owners, contractors, regulatory body and consultant analysis of variance will be performed to determine the difference in opinion of these groups. Analysis of variance (ANOVA) allows for comparison of two or groups to determine if any differences exist between the means of the populations. ANOVA allows for testing of many populations simultaneously without inflating the chances of error. The result obtained from case study will be equated against the result of questionnaire survey and interview to see whether there is matching between theoretical and practical aspects of technical evaluation practice in selecting building contractor.

Level of confidence or α (alpha) will be calculated in assessing the validity of data. This value is often set at 0.05, which means that there is only a 5% likelihood that the observed phenomenon occurred by chance. In other words, you are 95% confident that Mendehall et al., 2009 the observed phenomenon is true. The lower the α , the more stringent the test. The desired level of confidence is determined in advance and is an input to the analysis. Throughout this study, $\alpha=0.05$.

The results of the surveys will focus on the prequalification process and criteria. Evaluation of the technical evaluation process includes its benefits, limitations, efficiency, and. qualification criteria are compared to the literature for benchmarking purposes. Finally, the viewpoints of owners, contractors, regulatory body and consultant are compared and significant values will be discussed.

3.9. Model specification

Model specification can be defined as the existence of formally stating a model and it shows the explicit change of theory into mathematical equations. The following model was proposed for the purpose of running multiple linear regressions that is necessarily to test the statistical significance level of independent variable on dependent variable in selected building contractors in Addis Ababa.

Research Model,

$$TEP = \alpha + \beta_1TEC + \beta_2ES + \beta_3BPP + e$$

Where TEP= is dependent variable (technical evaluation process)

α = Constant

β = (Beta value) coefficient of slope of regression model

TEC= Technical evaluation criteria

ES= ethical standard

BPP= basic procurement principle

e=error term

3.10. Pilot study

The pilot study assesses the applicability of the process and research instrument, and it is instrumental in the success of the main study. In this context, a pilot study was conducted on fifteen participants employed in client, contractor consultant, and regulatory organizations. The purpose of conducting the pilot study with these participants was to comprehend the extent of the questionnaire to engage participants and extract viable information.

3.11. Validity and Reliability

3.11.1. Validity

The validity, on the other hand, refers to whether an instrument measures what it is supposed to measure, given the context in which it is applied (Babbie and Mouton, 1998; Bless and Higson Smith, 1995). To assure validity, questionnaires were designed based on previous studies and review of related pieces of literature.

3.11.2. Reliability

According to Kothari (2004), reliability relates to consistency, with internal consistency referring to the correlation of replies to each question in the questionnaire with the responses to the other questions in the questionnaire.

Cronbach's alpha is one of the most often utilized markers of internal consistency. The Cronbach's alpha coefficient of scales, according to Pallant (2005), should be at least 0.70, and the higher the better. Therefore, as shown in the table below, the results for the reliability test of Cronbach's Alpha Coefficients are above 0.7. Therefore, it can be concluded that each variable represents a reliable and valid construct.

Table3.2 Measurement of reliability Analysis Source: own survey, 2021

Variable	Cronbach's Alpha	No of Items
Technical Evaluation Criteria	0.873	9
Ethical Standard	0.776	14
Basic Procurement Principle	0.807	7
Technical Evaluation process	0.799	7

3.12. Ethical Consideration

The researcher assures the ethical undertaking of the research by adhering to the following ethical standards of doing research. Informed consent, Voluntary participation, Confidentiality, and anonymity of respondents. Before data collection, letters will take from the concerned administrative bodies of Addis Ababa University School of Commerce. The public clients, Contractors, and other participants under the study will be also informed about the study and a formal letter shall be obtained. During data collection, each respondent was informed about the purpose, scope, and expected outcome of the research, and appropriate consents is taken from the respondents. Those who were not willing to participate are excluded from the study. To establish anonymous linkage, only the codes, not the names of the respondents and construction companies and public offices, will be registered on the questionnaires.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND DISCUSSION

4.1. Introduction

This chapter presents the data screening and data cleaning processes needed to prepare the dataset for statistical analysis. In this regard, the chapter discusses the response rate; descriptive analysis on both independent and dependent variables; the result of tests of assumptions; influence of independent variable over dependent variable was examined.

4.2. Response Rate of Respondent

A total of 110 questionnaires were distributed and out of which 100 (90.9%) were returned on time, while 10(9.1%) of the respondent did not return the questionnaire. Therefore, 100 questionnaires were served as a source of data for analysis.

4.3. Demographic Profile of Respondents

This section presents a descriptive analysis of the personal profile of the respondents. The personal profile includes profession, education level, and years of experience in the construction industry. The demographic characteristics of those respondents are summarized in Table 4.1 below.

Table 4.1: demographic characteristics of respondent

	ITEM	FREQUENCY	PERCENT	CUMMULATIVE PERCENT
Profession	Civil Engineer	34	34	34
	Construction manager	26	26	60
	Architect	28	28	88
	Procurement Expert	5	5	93
	other	7	7	100
	Total	100	100	
Educational Level	Diploma	5	5	5
	Degree	54	54	59
	Masters	41	41	100
	Total	100	100	
Experience	Less than 5 years	14	14	14
	5-10 years	38	38	52
	10-15 years	27	27	79
	More than 15 years	21	21	100
	Total	100	100	
Type of organization the respondent worked for	Client	23	23	23
	Contractor	47	47	70
	Consultant	25	25	95
	Regulatory	5	5	100
	Total	100	100	

	ITEM	FREQUENCY	PERCENT	CUMMULATIVE PERCENT
Point of view the respondent represents	Client	12	12	12
	Contractor	50	50	62
	Consultant	27	27	89
	Regulatory	11	11	100
	Total	100	100	
procurement stage the respondent involved in	Development of Project procurement directives, procedures and/or manuals	10	10	10
	Preparation of contractor's technical qualification document	43	43	53
	Contractor's technical qualification evaluation process	34	34	87
	Auding Contractor's technical qualification process of projects.	5	5	92
	Filling bid Document	8	8	100
	Total	100	100	

	ITEM	FREQUENCY	PERCENT	CUMMULATIVE PERCENT
For how long you involved in the project procurement process.	Less than 2 years	29	29	29
	3-5 years	54	54	83
	5-10 Years	13	13	96
	above 10 years	4	4	100
	Total	100	100	
the existing contractor's evaluation criteria are all-inclusive and gauging?	Yes	23	23	23
	No	77	77	100
	Total	100	100	
Which of the following criteria is best in selecting qualified contractor?	Company's past Experience	31	31	31
	Experience of similar project	24	24	55
	Financial capability	34	34	89
	equipment and machinery	2	2	91
	Personnel	9	9	100
	Total	100	100	
Which technical qualification criteria are mostly given the highest points in practice?	Company's past Experience	25	25	25
	Experience of similar project	40	40	65
	Financial capability	22	22	87
	equipment and machinery	2	2	89

	Personnel	7	7	96
	Managerial capabilities	4	4	100
	Total	100	100	
Who prepares technical evaluation criteria for a particular project?	Client	14	14	14
	Contractor	8	8	22
	Consultant	73	73	95
	Regulatory	5	5	100
	Total	100	100	
What is the essence of Company's past experience as technical evaluation criteria?	Existence of operational system within the organization.	27	27	27
	Just to know the number of years the organization involved in the industry.	33	33	60
	To indicate the experience the owner has in the industry	36	36	96
	To show the extent of organizational partnership with project stakeholders	4	4	100
	Total	100	100	

The above table 4.1 presents the demographic information of the respondents. Considering the profession of the respondents, 34 (34%) of the respondents are civil Engineers, 28(28%) of the respondent are Architect, 26(26%) of the respondent are construction managers, the rest of the

respondents (12%) are procurement expert. This indicates that the majority of the respondents in the study were civil Engineers.

About the educational level of the respondents, the largest portions, 54 (54%), were first degree holders, 41 (41 %) of them were Second Degree or Master's Degree holders, and 5(5%) of them were College graduates with Diploma. This reveals that the majority of the respondents participated in the research work are first-degree holders.

In terms of work experience or service years, the majority 38 (38%) of the respondents have experience between 5 and 10 years, 27 (27%) of the respondents have industry experience between 10 to 15years, 21 (21%) of the respondents have more than 15 years of experience, and the rest 14 (14%) of the respondents have less than 5 years of experience. In general, 65% of the respondents have related industry experience between 5 to 15years.

The table also reveals the type of organizations the respondent worked in. The majority, 47 (47%), of respondents worked in construction company, whereas 25(25%) of the respondent worked for consulting firm, 23 (23%) of the respondent worked for clients, and the rest 5 (5%) worked as a regulatory body.

The questionnaire also examined the point of view the respondent represents and the majority i.e., 50(50%) represents contractor's view and 27(27%) represent consultant's point of view, the rest 23% represent the client and regulatory point of view.

Regarding the procurement stage at which the respondent engaged in, the majority of respondents, 43(43%), involved in the Preparation of the contractor's technical qualification document whereas 34 (34%) of respondents were involved in the Contractor's technical qualification evaluation process, 10 (10%) of respondents involved in the development procurement directives, procedures, and/or manuals. The rest 13 (13%) respondents involved in the filling of bid document and Auditing Contractor's technical qualification evaluation process of projects.

Out of years of their general work experience, the respondents were asked to indicate the number of years they are involved in the project procurement process. The result indicates that the majority of respondents i.e., 54 (54%) for 3-5 years and 29 (29%) of respondents took responsibility in the project procurement process for less than 2 years and 13 (13%) of respondents have 5-10 Years of

particular experience of project procurement process and the rest of respondents, 4(4%), have above 10 years of experience in the project procurement process.

The respondents were asked whether the existing technical evaluation criteria used in selecting competent and qualified contractors are comprehensive and 77 (77%) responded that existing contractor's evaluation criteria are not all-inclusive and gauging. The remaining 23(23%) of the respondent agreed that the existing technical evaluation criteria are all inclusive and enables to identify the most competent and qualified contractors for a particular project.

For the questions "which technical criteria is most important in selecting competent and qualified building contractor" 34 (34%) of respondent agreed with financial capability of the construction company is most important and stood first out of the list of technical evaluation criteria. Company general experience comes next with 31 (31%) and experience of similar project with 24 (24%) of. The rest of respondent 11(11%) says Personnel and equipment and machinery are least important technical evaluation criteria in identifying the most competent and qualified building contractors in Addis Ababa.

Regarding the body that prepares the technical evaluation criteria for a particular project, majority of respondent 73 (73%) says Consultant prepares technical evaluation criteria. 14 (14%) says clients prepare technical evaluation criteria. The rest 13 (13%) of respondent says contractor and regulatory prepare technical evaluation criteria for a particular project.

From the response obtained from the respondent, company general experience is selected as the second most important technical evaluation criteria next to financial capability of the construction company. To know what really understood by "general company experience" by those stakeholders who involved in the project procurement and technical evaluation process, the respondents were given a choice to indicate their understanding. The result obtained from the questionnaire indicates that there is no common understanding among the respondent.

Majority of respondents 36 (36%) says it is used to indicate the experience the owner has in the industry. 33 (33%) of respondent says it used to Just to know the number of years the organization involved in the industry. 27 (27%) of respondent says it used to indicate existence of operational system within the organization. The rest 4 (4%) respondents concluded it is used to show the extent of organizational partnership with project stakeholders such as suppliers, sub-contractors, clients,

project sponsors etc. From this one can understand that there is no common essence for “company past experience” among stakeholders who involved in the project procurement and technical evaluation process as one of the major technical evaluation criteria in selecting qualified and competent building contractor. Consequently, not having common understanding about what each technical criteria to evaluate about the competency of the construction firm ends up in ambiguity and ineffectiveness of the technical evaluation process in selecting competent and qualified contractor.

4.4. Descriptive Analysis of Independent and Dependent Variable

To investigate the perception of the respondents regarding technical evaluation criteria, ethical standard, basic procurement principle, and technical evaluation process: the researcher summarized the independent and dependent variable using frequency, mean, and standard deviation by means of a 5-point Likert scale. The 5- point with their numeric value: 1: Strongly Disagree; 2: Disagree; 3: Neither agrees nor disagrees, 4: Agree, and 5: Strongly Agree.

As shown in the table 4.2 below, a technical evaluation criterion is analyzed using nine questions with a mean score of 3.73 and a standard deviation (SD) of 0.537. The ethical standard was assessed using fourteen questions; with a mean score of 3.80 and a standard deviation (SD) of 0.530. The basic Procurement principle assessed using seven questions with a mean score of 3.86 and a standard deviation (SD) of 0.552. Finally, the Technical Evaluation process assessed using nine questions with a mean score of 3.77 and a standard deviation (SD) of 0.554.

Table 4.2: - Descriptive Statistics of variables

Aspect	statistics	minimum	maximum	mean	Std.dev
Technical Evaluation criteria	100	1	4.67	3.73	.537
Procurement Ethical Standard	100	1	4.21	3.80	.530
Basic Procurement principles	100	1	4.29	3.86	.552
Technical Evaluation process	100	1	4.43	3.77	.554

Source: own survey, 2021

Thus, a mean score between 1 and 2.33 shows low agreement, a mean score between 2.34 and 3.67 suggests (medium) agreement, and a mean score of 3.68 or higher indicates good agreement in this study's descriptive analysis (Zaidatol et al., 2012).

According to Marczk et al. (2005), the mean of the following variable: technical evaluation criteria, Procurement ethical standard, basic procurement principle, and technical evaluation process is greater than 3.67, indicating that the majority of respondents strongly agrees with the given statement.

4.5. Correlation Analysis

Correlation analysis was used in this study to determine the strength of the correlations between the independent variable (technical evaluation criterion, Ethical Standard, and Basic Procurement process), and the dependent variable (Technical Evaluation process). In order to evaluate this relationship and for the purpose of this study, Pearson correlation analysis was used to provide evidence. The relationship between the variables is obtained through Pearson product-moment correlation coefficient "r". The value of Pearson product-moment correlation coefficient "r" normally varies between -1.0 to 1.0. The coefficient (r) revealed the magnitude and direction of relationships. The sign indicates whether there is a positive correlation (as one variable increase,

the other also increase) or negative correlation (as one variable increase, the other decrease) and it also shows the intensity of the relationship. Correlations are perhaps the most basic and most useful measure of association between two or more variables (Marczyk et al., 2005).

As per Marczyk et al., (2005) correlations of .01 to .30 are considered as weak, correlations of .30 to .70 are considered as moderate, correlations of .70 to .90 are considered as strong, and correlations of .90 to 1.00 are considered as very strong.

Table 4.3: Correlation coefficients between dependent and independent variables

		Technical evaluation process	Technical Evaluation Criteria	Ethical standard	Basic procurement principle
Technical evaluation process	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	100			
Technical Evaluation Criteria	Pearson Correlation	.621	1		
	Sig. (2-tailed)	.000			
	N	100	100		
Ethical standard	Pearson Correlation	.628	.704	1	
	Sig. (2-tailed)	.000	.002		
	N	100	100	100	
Basic procurement principle	Pearson Correlation	.626	.686	.759	1
	Sig. (2-tailed)	.000	.000	.000	
	N	100	100	100	100

Source: own survey

The above table shows the overall relationship between the independent variable (technical evaluation criterion, Ethical Standard, and Basic Procurement process), and the dependent variable (Technical Evaluation process). Based on the correlation matrix the results indicate there is a

positive and significant correlation between technical evaluation criteria and the technical evaluation process ($r= 0.621, p<0.01$). Ethical standard has a positive and significant correlation with the technical evaluation process ($r= 0.628, p<0.01$).and finally there is a positive and significant relation between the basic procurement principle and the technical evaluation process. Generally, the above correlation result shows that all the independent variables had a moderate level of correlation to the dependent variable in selected building contractors in Addis Ababa, and all variables statistically significant with each other.

4.6. Multiple Regression Analysis

Multiple regression analysis allows assessing the relationship between one dependent variable and the number of independent variables or predictors (Pallant, 2005). Multiple regression also tells that how much of the variances in the dependent variable can be explained by independent variables.

According to Ballance (2004), the correct use of the multiple regression models involves that several critical assumptions be satisfied to apply the model and establish validity. Before running out multiple regression analysis, the researcher has conducted the required preliminary assumptions that the data must meet to make the analysis reliable and valid. The following assumptions of multiple linear regressions were tested using SPSS.

4.6.1. Normality assumption test

The term "normality" refers to a symmetrical, bell-shaped curve with the largest frequency of scores in the middle and smaller frequencies at the extremes. The normality test is used to see if the error term is distributed properly. As a result, the accompanying histogram depicts the normality test for the data used in this study, which clearly shows that error terms are normally distributed.

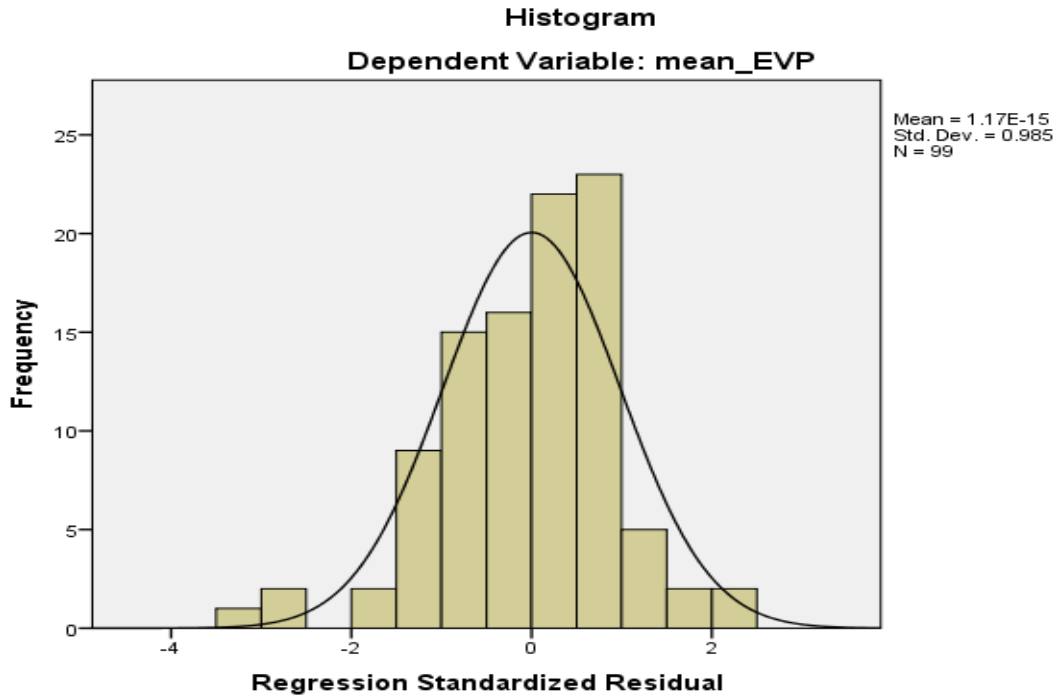
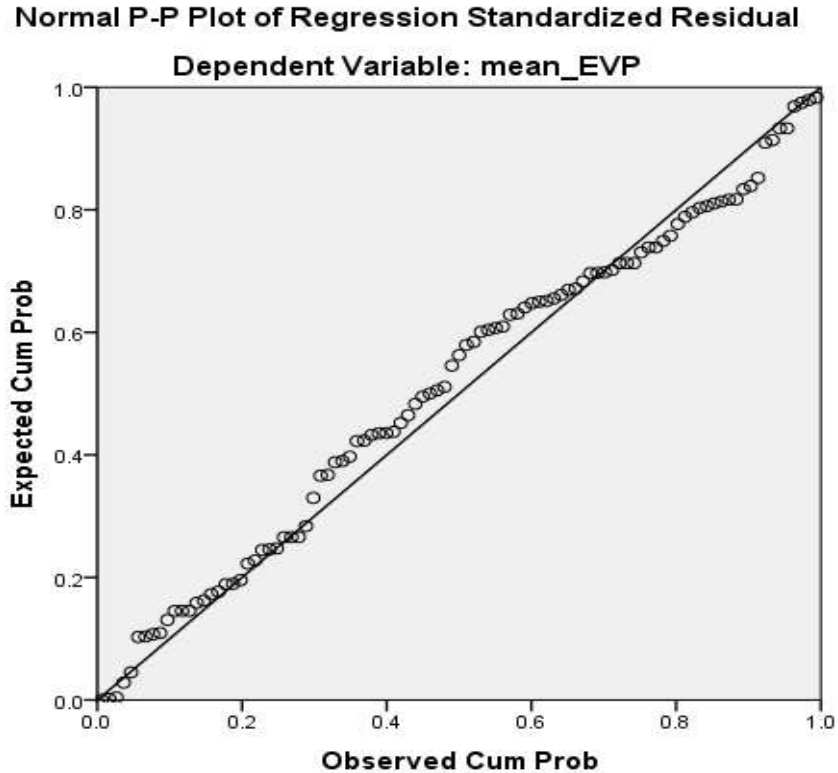


Figure 4.1: normality assumption test

4.6.2. Linearity assumption test

The dependent variable is defined as a linear function of the independent variable or predictor variable in a linearity assumption test (Balance, 2004). The assumption of linearity was checked by making scatterplots of the relationship between the independent and dependent variables. The connection between the independent variable and the dependent variable was confirmed to be linear by visually inspecting the scatterplot created by SPSS, as shown in the figure below.

Figure 4.2 linearity assumption tests



4.6.3. Multicollinearity assumption test

Multicollinearity occurs when the independent/predictor variables are significantly correlated. The occurrence of a very high correlation between the study's independent variables, referred to as Multicollinearity, is a major assumption that applies to multiple regression analysis (Burns, 2008). This may result in an inconsistent effect, in which the regression model fits the data well but none of the predictor variables has a meaningful effect on the dependent variable's prediction. Multicollinearity was tested in this study using tolerance and Variance of Inflation Factor statistics. According to Andy (2006), a tolerance value of less than 0.1 nearly often indicates a major collinearity problem. Burns (2008) also states that a VIF value greater than 10 is also a concern there was a serious collinearity problem.

As indicated in the table below in this study, all of the independent variables (technical evaluation criterion, Ethical Standard, and Basic Procurement principle) were found to have a tolerance of more than 0.1 and a VIF value less than 10 which indicates that there is no problem of Multicollinearity.

Table 4.4: Result of Multicollinearity test

Coefficient		
Model	Collinearity statics	
	tolerance	VIF
Technical Evaluation Criterion	.524	1.907
Ethical Standard	.364	2.748
Basic Procurement Principle	.477	2.098
Dependent variable: Technical Evaluation Process		

Source: own survey

4.6.4. Homoscedasticity Assumption Test

The homoscedasticity assumption states that errors have the same variance at all levels of independent variables. This suggests that the variables' errors are evenly distributed. When all values of the predictor variable have the same variance around the regression line, this is obvious. Visual inspection of a plot of the standardized residuals by the regression standardized predicted value can be used to verify homoscedasticity. The ideal distribution of residuals is for them to be randomly distributed around zero (the horizontal line). When the to scatter isn't even, it's a sign of hetroscedasticity; prominent violations include fan and butterfly shape. The researcher used SPSS to produce a scatterplot of standardized residuals versus standardized predicted values to test homoscedasticity and concluded that heteroscedasticity was not a significant issue, as seen in the figure below

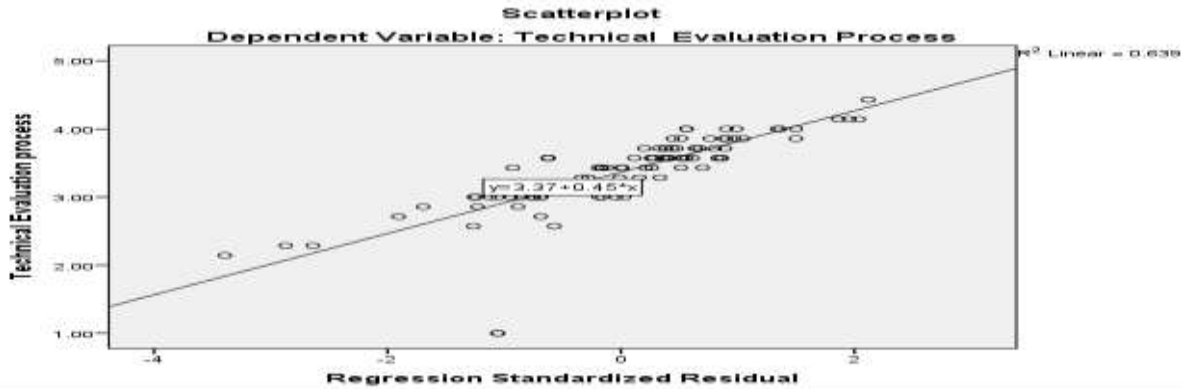


Figure 4.3: Homoscedasticity Assumption Test

4.6.5. Independent of Residuals Assumption Test

This is essentially the same as claiming that the observations (individual data points) are unrelated (uncorrelated). The Durbin-Watson statistic is used to determine whether or not residuals are independent. The Durbin-Watson statistic has a range of values from 0 to 4. As a general rule, if the Durbin-Watson value is close to 2, the residuals are independent (not correlated), and values below 1 and above 3 are causes for concern and may render the analysis invalid.

Table 4.5 independent residual assumption test

Model	R value	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.601	.361	.341	0.449	1.647
Predictors: (Constant), technical evaluation criteria, basic procurement principle and ethical standard					
Dependent Variable: technical evaluation process					

Source: own survey

In this case the Durbin- Watson statics showed (Durbin-Watson = 1.647). The result falls between 1 and 3, the researcher assumed independence of residuals assumption is satisfied.

4.6.6. Model summary

As indicated in the table below, model summary table, “R” represents the value of multiple correlation coefficients. The “R” column represents the value of R, the multiple correlation coefficients; R-value of 0.601 indicates a strong correlation between the independent variable (technical evaluation criteria, ethical standard, and basic procurement principle) and dependent variable (technical evaluation process). The "R Square" column represents the R² value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables. as shown from the table, the R² value of 0.361 indicates that 36.1% of the variation in the technical evaluation process can be explained by independent variables (technical evaluation criteria, ethical standard, and basic procurement principle). The remaining 63.9 variations are explained by the stochastic error term meaning that 63.9% of changes in the technical evaluation process changes are explained by factors that are not explained in the model.

Table 4.6 model summary

Model	R value	R Square	Adjusted R Square	Std. Error of the Estimate
1	.601	.361	.341	0.449
Predictors: (Constant), technical evaluation criteria, ethical standard, and basic procurement principle.				
Dependent Variable: technical evaluation process.				

4.6.7. ANOVA model fit

When comparing the mean scores of more than two variables, an ANOVA analysis is typically utilized. Because it evaluates the variation across variables and determines whether the entire regression model is a good fit for the data, it's also known as analysis of variance (Pallant, 2005). The below table of this study shows that the value of R and R² found from the model summary is statistically significant at (F= 23.466, p=.000)

Table 4.7 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.301	3	4.767	23.466	.000 ^b
	Residual	19.502	96	.203		
	Total	33.803	99			
a. Dependent Variable: technical evaluation process						
b. Predictors: (Constant), technical evaluation criteria, ethical standard and basic procurement principle						

Source: own survey

4.6.8. Regression coefficient

Table 4.8 regression coefficient, Source: own survey

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.558	.339		1.646	.103
	Technical evaluation criteria	.272	.120	.249	2.270	.025
	Ethical Standard	.226	.151	.205	1.499	.013
	Basic procurement principle	.296	.127	.280	2.334	.022
a. Dependent Variable: technical evaluation process						

Standardized Coefficients

The standardized coefficients can help you figure out which of the independent variables is most relevant. They're utilized to compare the effects of different independent variables on the dependent variable. As a result, the standardized Beta coefficient may be used to determine the intensity of each independent (predictor) variable's influence on the criteria (dependent) variable. As a result, the regression coefficient explains how a unit of change in the independent variable causes an average amount of change in the dependent variable.

Thus, as indicated in the regression coefficients table above, the basic procurement principle is the most contributing factor in the technical evaluation process with a beta value of (B= .280), followed by technical evaluation criteria with a beta value of (B= .249) and ethical standard (B= .205) that the variables are making signs to the prediction of the technical evaluation process. As it can be seen from the regression coefficient table, the independent variable (technical evaluation criteria, ethical standard, and basic procurement principle) had a statistically significant contribution to the technical evaluation process at a 95% confidence level and $P < 0.05$

Unstandardized Coefficients

Unstandardized coefficient denotes the change in the dependent variable with a unit change in the independent variable. But they are not comparable in terms of impact on the dependent variable. The study used the following multiple regression model to establish the statistical significance of the independent variables on the dependent variable.

$$TEP = \alpha + \beta_1TEC + \beta_2ES + \beta_3BPP + e$$

Where TEP= is dependent variable (technical evaluation process)

α = constant, β = (Beta value) coefficient of slope of regression model

TEC= Technical evaluation criteria, ES= ethical standard

BPP= basic procurement principle, e=error term

$$TEP = 0.558 + 0.272TEC + 0.226ES + \beta_30.296BPP + e$$

The constant value ($\alpha = 0.558$) shows that technical evaluation process would be 0.558 if other variables (technical evaluation criteria, ethical standard, and basic procurement principle) of the

model were zero. On the other hand, a beta coefficient of 0.272, 0.226, and 0.296 indicates that if there is one unit increase in technical evaluation criteria, ethical standard and basic procurement principle leads to increase in technical evaluation process of selected building contractor here in Addis Ababa by 27.2%, 22.6%, and 29.6% respectively. In addition, the error term (ϵ) estimate was assumed to be zero.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of findings with respect to the study objectives, conclusions and recommendations of the study

5.2. Summary of Finding

The main objective of the research is to assess the effectiveness of technical evaluation process in selecting competent and qualified building contractors in Addis Ababa. Data was gathered by distributing questionnaires to a pre-determined sample of employees working in Construction Company, consulting firm, client and regulatory offices. A total of 110 questionnaires were sent out to respondents, and 100 of them were returned, yielding a 91.9% response rate. Cronbach's alpha was determined to have an overall value of =0.894 and the overall internal consistency test of research equipment were found to be in the "excellent" reliability range.

The demographic profile of respondents indicated that the majority of the respondents are civil Engineers which accounts 34 (34%) of the total respondent. Regarding educational level of respondents, largest portions 54 (54%) were Bachelor's degree holders and the majority of respondent 38 (38%) have work experience of 5 and 10 years and the majority 47 (47%) of respondents worked in construction company. Concerning the point of view the respondent represents; the majority of respondent represent 50(50%) of the respondent represent contractor's point of view. Majority of respondents 43(43%) has been involved in the Preparation of the contractor's technical qualification document with 54 (54%) of the respondent having 3-5 years of experiences in procurement process. The majority of respondents 77 (77%) do not agree about the existing contractor's evaluation criteria are all-inclusive and gauging. 34 (34%) of the respondent agreed that financial capability of contractor is the most important technical evaluation criteria in selecting qualified and competent building contractor. The result indicates, (73%) of the respondent, that technical evaluation document in selecting building contractor is prepared by consultant. A company's experience is one of the technical evaluation criteria in selecting qualified contractor, majority of respondents 36 (36%) says it used to indicate the experience the owner has in the industry.

The descriptive statistical analysis, an overall frequency, percentages and mean score was computed for each independent variable (technical evaluation criteria, ethical standard and basic procurement principle) and dependent variable (technical evaluation process). The study revealed that the mean score for the measures of basic procurement principle was relatively high (3.86), followed by ethical standard (3.80) and the technical evaluation criteria score a mean of 3.73. On the other hand, the mean score of the technical evaluation process (3.77) implies that respondents agreed highly on the technical evaluation process measures.

Pearson correlation coefficients were determined to obtain information about the relationships between the dependent variable (technical evaluation process) and independent variable (technical evaluation criteria, ethical standard, and basic procurement principle). According to the study, each independent variable and the dependent variable have a positive and statistically significant relationship. Based on the Pearson correlation analysis result, all the independent variables: technical evaluation criteria ($r=0.621$, $p<0.01$), ethical standard ($r=0.628$, $p<0.01$), and basic procurement principle ($r=0.626$, $p<0.01$) had a moderate level of positive correlation with the technical evaluation process in the selected building contractor and all variables statistically significant with each other.

To see if the independent factors have an impact on the dependent variable, multiple regression analysis was used. R square value from the regression model summary ($R^2 = 0.361$) indicated that 36.1% of the variation in the technical evaluation process of building contractors can be predicted by the independent variables i.e., technical evaluation criteria, ethical standard, and basic procurement principle. This implied that technical evaluation is influenced by 36.1% of the independent variable (technical evaluation criteria, ethical standard, and basic procurement principle) and the remaining 63.9% of the variation of the technical evaluation process can be explained by other variables in selection of qualified and competent building contractor.

The ANOVA test result revealed that the independent variables statistically and significantly predict the dependent variable ($F = 23.466$, $p < .001$). This is to mean that the model is significant and acceptable from a statistical perspective.

The regression analysis results further revealed that the predictor variables of all independent variables i.e., technical evaluation criteria, ethical standard, and basic procurement principle and had a statistically significant contribution to the technical evaluation process at 95% confidence

level since their p-values are .025, .013, and .022 respectively and the significance level for them were less than 0.05 ($p < 0.05$).

5.3 Conclusion

The research work has one main objective and three specific objectives. From the result obtained respective conclusions were given for each objective. The main objective of the study was to assess the effectiveness of the technical evaluation process in selecting building contractor. To measurement of effectiveness of technical evaluation process in selecting building contractor, based on the developed conceptual frame work. Three independent variables, such basic procurement principles, procurement ethical standards and technical evaluation criteria are utilized. Also, general opinion of the respondents was assessed regarding the technical evaluation process effectiveness and the result obtained from the three independent variables are compared against the general opinion of the respondents.

The mean score result of basic procurement principles, procurement ethical standards and technical evaluation criteria are 3.86, 3.80, and 3.73 respectively and the mean score result of assessment of general opinion of respondents about technical evaluation process is 3.77.

Based on the finding, procurement ethical standards have a stronger positive and statistically significant correlation with the technical evaluation process. 3.8 means score result of procurement ethical standard which is equivalent to 76 out of 100 shows that in the process of technical evaluation for selecting qualified and competent building contractor, stipulated procurement ethical standards are not followed properly by those involved in the process of technical evaluation process. This result shows that most of the respondent agreed that process of technical evaluation is not effective regarding procurement ethical standards.

The same is true for basic procurement principles. The mean score of 3.86 for basic procurement principle which is equivalent to 77.2 out of 100 shows that technical evaluation process is not carried out according to the basic procurement principles. That means the process of selecting qualified and competent building contractors is not carried out in line with the established basic procurement principle. With regard to comprehensiveness of technical evaluation criteria currently in use, the mean score results 3.75 indicate that more or less the technical evaluation criteria in use are comprehensive however it also indicates some drawing backs. From the literature, the

comparison made between the local and western countries, managerial capability and health and safety are not considered as a technical evaluation criterion in a local practice.

The result found from the general over view assessment of the respondent regarding the technical evaluation process in selecting qualified and competent building contractors coincides the result obtained for the three independent variables. The mean score of the general over view assessment of the respondent is 3.77 which indicates that respondent's do not believes that the process of technical evaluation is carried out in effective way to meet the main objectives of the procurement. In general, the result obtained from the research indicates that technical evaluation process in selecting building contractors is not effective

Independent variable for the Basic procurement principle and technical evaluation criteria were ranked depending on their correlation level from highly correlated to the last correlated. Relatively technical evaluation criteria were less positively correlated with the technical evaluation process.

From the result obtained it can be also concluded that ethical standard is the most significant independent variable which has significant statistical contribution to technical evaluation process. Next to ethical standard, basic procurement principle is the significant predictors of technical evaluation process and has significant contribution toward technical evaluation process. Technical evaluation criteria can also have positive and significant influence on technical evaluation process at a third level.

In general, the technical evaluation process is not carried out at the required effectiveness level and the researcher concluded that the technical evaluation criteria, ethical standard, and basic procurement principle could have positive significant effect in improving the level of technical evaluation process. This confirmed that all independent variable i.e., technical evaluation criteria, ethical standard, and basic procurement principle have positive significant contribution toward technical evaluation process in selected building contractors.

5.4. Recommendations

- Depending on the findings of the study and conclusions made, the researcher came up with some important recommendations which would help the organization to focus on larger contributor to the level of technical evaluation process from technical evaluation criteria, ethical standard, and basic procurement principle.
- The research had intended to assess the effectiveness of the technical evaluation process in a selected building contractor. Other researchers as a scope for further studies; it is better to add other variables that give influence to the technical evaluation process.
- All stakeholders who have direct and indirect role in the process of technical evaluation process should play their role to bring about the effectiveness of technical evaluation process to increase the performance of project to meet the interest objectives of every stakeholder.

5.5 Future Research Directions

The sample size of this study was limited to 4 sub-cities of Addis Ababa city administration to make the conclusion and recommendation wider and more applicable for more organizations, future researchers should also make their researches in all sub-cities of Addis Ababa by increasing the sample size to broaden empirical evidence in the area.

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APPENDIX I

Questionnaire Survey

Dear respondent,

I am Student of Project Management, at Addis Ababa University School of commerce. As partial fulfillment of the master's degree program, I am undertaking a research on the topic of **Assess the Effectiveness of Technical Evaluation Process in Selecting Building contractor in Addis Ababa.** The research result could be used as an input for decision makers, professionals, academician and other interested groups to play their respective role for the achievement of project objectives.

It is believed that your participation in this research will contribute in achieving the objectives of the research. Thus, the quality of your response towards the question items determines the quality of the research results. Therefore, please answer the questions as thoroughly, objectively and honestly as possible according to the instructions contained in the body of the questionnaire. Finally, I want to assure you that all information provided in this survey will be treated with strict confidentiality and allowed to serve only for the purpose of the research under consideration.

Interested participant of this study will be given feedback on the overall research results after the completion of the research work.

Thank You in Advance for your cooperation!!

Part 1: Demographic Profile of respondents.

A) Please encircle only one that represents you the most appropriately.

1. What is your profession?

- A) Civil Engineer B) Construction manager C) Architect
D) Procurement Expert E) Procurement process Auditor
G) Other-----

2. What is your highest Educational Level?

- A) Diploma B) First degree
C) Master's degree D) PhD degree and above

3. How many years of Experience do you have in the construction industry?

- A) Less than 5 years B) 5-10 years C) 10-15 years D) More than 15 years

4. Type of organization you have worked for. Select all that is applicable.

- A) Client B) Contractor C) Consultant D) Regulatory

5. Whose point of view do you represent?

- A) Client B) Contractor C) consultant D) regulatory

6. What is the longest year of employment in one organization?

- A) 2 years B) 3-5 years C) 5-7 years D) 8-10 E) above ten years

7. Have you ever involved in the project procurement process? If yes, At which stage?

- A) Development of Project procurement directives, procedures and/or manuals
B) Preparation of contractor's technical qualification document
C) Contractor's technical qualification evaluation process
D) Auding Contractor's technical qualification process of projects.
E) Filling bid Document

8. If your answer for question No 7 above is "yes", for how long?

- A) Less than 2 years B) 3-5 years C) 5-10 Years D) above 10 years

9. Do you think the existing contractor's evaluation criteria are all-inclusive and gauging?

- A) Yes B) NO

10. From the following contractor's evaluation criteria which one is best in selecting qualified contractor?
- A) Company's past Experience
 - B) Experience of similar project
 - C) Financial capability
 - D) equipment and machinery
 - E) Personnel
 - F) Managerial capabilities
 - G) Health and safety management
11. Which of the following technical qualification criteria is mostly given the highest points in practice?
- A) Company's past Experience
 - B) Experience of similar project
 - C) Financial capability
 - D) equipment and machinery
 - E) Personnel
 - F) Managerial capabilities
 - G) Health and safety management
12. Who prepares technical evaluation criteria for a particular project?
- A) Client
 - B) Contractor
 - C) Consultant
 - D) Regulatory
13. Who assigns weighting point to technical evaluation criteria for a particular project?
- A) Client
 - B) Contractor
 - C) Consultant
 - D) Regulatory
14. Company's past experience is one of technical evaluation criteria in selecting qualified contractor. What does you think is the real essence in evaluating the organization? you can circle all you think it indicates.
- A) Existence of operational system within the organization.
 - B) Just to know the number of years the organization involved in the industry.
 - C) To indicate the experience the owner has in the industry
 - D) To show the extent of organizational partnership with project stakeholders (such as supplier, sub-contractor, client, consultant).

Part Two: assess effectiveness of technical evaluation process in selection of construction contractors.

From your experience, please express your opinion on the effectiveness of technical evaluation process in selecting building construction contractor Addis Ababa. (Please put a tick mark in the appropriate column according to their degree of rank).

Rank your response: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree.

Independent Variables						
1. Technical Evaluation Criteria		Degree of Rank				
		1	2	3	4	5
1.1	Performance of construction project can be affected by selection of contractor					
1.2	Technical evaluation criteria in use have some ambiguities which opens for biasness and partiality					
1.3	Existing technical criteria are comprehensive in selecting qualified contractor					
1.4	Past experience of the company cannot measure the competency of the company					
1.5	Past experience of the company has relationship with turnover of the employee					
1.6	Employee turnover is high in construction company					
1.7	Performance of construction project can be affected by selection of contractor					
1.8	Ambiguities in the procurement proclamation, directives and manual opens door for unlawful action parties involved in the technical evaluation process					
1.9	In practice, equipment and machinery rental documents are considered in the technical evaluation process.					

2. Ethical Standard					
2.1	Determination of technical criteria is prepared as per professional ethical standards				
2.2	The current practice of technical evaluation process is affected due to interest of personal gain.				
2.3	Technical document preparation is manipulated to Fit-in to a particular contractor's profile.				
2.4	Technical evaluation process can highly be affected by the Client				
2.5	Technical evaluation process can highly be affected by the Consultant				
2.6	Technical evaluation process can highly be affected by the Contractor				
2.7	Technical evaluation process can highly be affected by the regulatory body				
2.8	certification document submitted by the contractor for technical evaluation process are legally certified documents				
2.9	Contractors present their technical document following ethical standards of procurements				
2.10	Contractors involve into unlawful action to be qualified for a tender				
2.11	Contractor manipulate the process of technical evaluation process to be qualified for a project				
2.12	Contractors submit forged technical certification documents for evaluation process				
2.13	Technical evaluation committee evaluate technical documents ensuing professional ethical standards				
2.14	appeal by contractors or concerned parties on the process of technical evaluation process is common				
3. Basic Procurement Principle					

3.1	Technical evaluation document preparation process is done following the basic procurement principles.					
3.2	Personnel involved in the preparation of technical document for tender are fair and free from discriminating.					
3.3	Technical document submitted by a contractor are maneuvered					
3.4	Contractors follow basic principles of procurement while preparing their bid document.					
3.5	Technical evaluation process is free from illegal acts by those involved in the process of tendering					
3.6	Technical evaluation process is conducted according to stipulated legal documents					
3.7	Technical evaluation committee evaluate technical documents fairly and transparently ensuing basic principles of procurement					
Dependent variable						
4. Technical Evaluation process						
		1	2	3	4	5
4.1	Current practice of determination of technical criteria can be manipulated for personal interest					
4.2	Weighting (evaluation points) of technical criteria is given fairly					
4.3	Company experience criteria measure experience of the owner					
4.4	“Key personnel” as a technical evaluation criterion is important					
4.5	Individuals presented by a contractor as key personnel in the technical document are available while executing the project.					
4.6	Employee turnover adversely affects the performance of the performance of the contractor					
4.7	appeal on the result of technical evaluation process is common					