



ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**ASSESSMENT OF THE CAUSES AND IMPACTS OF CLAIM IN BUILDING
CONSTRUCTION PROJECT MANAGEMENT OF LOCAL CONTRACTORS:
THE CASE OF COMMERCIAL BANK OF ETHIOPIA IN ADDIS ABABA CITY**

BY

TENSAYE MELKA

JUNE, 2023

ADDIS ABABA,

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**THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE
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ADDIS ABABA


ETHIOPIA

**ST MARY UNIVERSITY,
SCHOOL OF GRADUATE STUDIES,
FACULTY OF BUSINESS**

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DECLARATION

I hereby declare that the project work presented in this document is my original work and has been done on the guidance of my advisor Misraku Molla (PhD).and that it has not been submitted partially; or in full for any educational qualification in any other university/institution. All sources of materials used for the thesis have been acknowledged accordingly.

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Date: _____

CERTIFICATION

This is to certify that Tensaye Melka has carried out this project work on the topic entitled **“ASSESSMENT OF THE CAUSES AND IMPACTS OF CLAIM IN BUILDING CONSTRUCTION PROJECT MANAGEMENT OF LOCAL CONTRACTORS: THE CASE OF COMMERCIAL BANK OF ETHIOPIA IN ADDIS ABABA CITY”** under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the award of Degree of Masters of Arts in Project Management.

Misraku Molla (Dr.)

Signature: _____

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as university advisor.

Advisor

St. Mary's University, Addis Ababa

Signature

JUNE, 2023

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ACRONYMS

SPSS: Statistical package for Social Science

CBE: Commercial Bank of Ethiopia

EOT: Extension of time

BCBA&QM: Building construction business analysis and quality management

PM: Project Management

ABSTRACT

The purpose of this study is to assess the project management practices in causes and effect of claim in Commercial Bank of Ethiopia building construction Office. On this study a descriptive case study design was adopted. While the sampling technique is quota sampling technique, Participants of the study are all project management team members of the organization, contractor and consultants that have been involved on different projects owned by the organization and data is collected through interview, and questionnaires. The analysis is done qualitatively by relating the results with literatures and quantitatively using percentage, frequency and mean. For the mean value the researcher adopted previous literature style in order to categorize the mean value. The findings of the study revealed that among knowledge area assessment almost all of them are at low level of mean value except project quality management. In light of other knowledge areas the organization perform project quality management in a better way. The main objective of this study is to assess the main causes and effect of clam and how it could be mitigated or reduced or even avoiding claim in building construction projects. Lack of suitable project management methodology, interference and late decision making by the top managements and lack of project management practices are the major challenges that the organization face during the assessment. Therefore, to alleviate these prevailing implementation challenges the organization should adopt a standard Project Management (PM) methodology for its projects, decision on basic matters on time that hardly affects the project progress, diversify funding partners, and conduct need assessment of beneficiaries.

To conclude the main reason for claim in project construction management is poor site coordination. The main internal factors that lead to price escalation in CBE were found to be engineering and construction complexities, lack of proper procurement methods, unclear contract terms, project schedule changes and inaccurate estimation, the high global demand for construction materials, focal concerns and requirements and currency change rate fluctuation are found to be major external factors. The main impact of claim in CBE are design and work order changes, to prevent this, its suggested that any design ,schedule and other issues should be specified in the contract before the project begins to ensure a clear understanding between the parties.

Key words: project management, project claim management

CHAPTER ONE: INTRODUCTION

This chapter is introductory part of the entire study. It provides some insights about the ground and assumptions where the study is conducted. It states background, statement of the problem, objectives, significance, scope, limitation, and organization of the study. Accordingly, it begins with background of the study.

1.1. Background of the Study

Construction is an important measure of economic development in both developed and developing countries. Despite its ups and downs, the industry continues to play an important role in supporting economic growth. According to a recent assessment, the sector remains one of the most important and expanding sectors in Ethiopia's economy. The construction industry's poor management causes delays, which increases project costs and time, as well as the risk factor, customer displeasure, and safety concerns, among other things. As a result, completing the project on schedule and within budget is impossible without the claim. Due to the volatility of building projects, the customer received claims to reimburse the contractor for the extra cost and time required to finish the project. (Shaikh et al., 2020).

The claims' primary impact is the delay and expense overruns in construction projects. Ineffective claim management also has an impact on the budget, schedule, and success of building projects. Controlling claims also minimizes delays and disputes and assures the smooth completion of construction projects. (Ansari, R., et al., 2022).

In order to stay in the construction industry, contractors submit project prices that are under budget. As a result, the contractors took a risk by constructing dangerous projects with little resources and funds. As a result of this circumstance, the number of claims from the contractor has been steadily growing. According to (Bakhary et al., 2015). The increasing number of claims suggests the need for the establishment of an effective construction claim management system. When a claim is made, the client and contractor should establish a consensual settlement of the claims and therefore create the change order of the modification otherwise, the contractor has the right to use the contract dispute procedure.

Cost inflation claim and time extension is a major issue in Ethiopia's building sector. Price increases occur for a variety of reasons, and their waves have produced disagreement between customers and contractors on project cost differences. According to empirical research, price escalation in building projects over the contract implementation term was caused by increases in construction material prices and fluctuations in the foreign currency exchange rate in Ethiopia. Proper consideration to these uncontrollable dangers at the early planning phase greatly increases the possibility of reducing any flaws during the building stage. (Abebe, Yehulum & Jain, Deekshith, (2023).

This study aims to examine the major factors that lead to claim and how they impact the building project construction industry and moreover to recommend possible mitigation measures based on findings in the case of commercial bank of Ethiopia.

1.1. Statement of the problem

In present-day building projects need the use of latest construction techniques, technical equipment, competent personnel, and vast quantities of modern construction materials. As a result, a great deal of money is required and invested in order to complete the project. Furthermore, because the building industry is risky, thus much money is at threat. Unless the project is effectively implemented in terms of quality, money, and schedule, its failure may cause major (moral as well as financial) harm to the contractual parties.

However, most projects revealed that they are not finished within the expected time, money, and, in some cases, within the stipulated quality. Price escalation claim is also viewed as a major issue that impedes project development since it reduces the contractor's profit, resulting in massive losses that put the project in jeopardy. This issue is caused by a sluggish economy, a lack of managerial abilities, poor planning, rising material prices, and other factors. To that end, it is critical to make every effort to complete such a research, to discover the previously described elements, and to address all of the weak areas and from all angles, establishing particular priorities in order to avoid claim and pricing disputes.

The recent, exceptional price hike has had a wide-ranging impact on the building sector. The contractor and subcontractor community has undoubtedly complained about reduced or abolished profit limits, as well as large project losses. Abebe, Yehulum & Jain, Deekshith. (2023). cost escalation has a variety of consequences, the most significant of which is that, as previously said, price escalation renders both the contractor and the customer unprofitable.

Price escalation claim in commercial bank of Ethiopia is boldly restricted which means the organization does not tolerate or give any price adjustment even in this uncontrolled inflation Due to this the organization has been facing different consequences since, now an then.. Some of the consequences are the contractors run out of the project without giving any notice, the project is taken from the organization by the municipalities, and inflation is increasing even after the contractors have asked for cost claim before the administrative could give a solution to it.

There are abundant researches that were reviewed which studied the problems being faced by local contractors. The intention of this research is to assess those factors that cause claim .In many instances, those reasons mentioned above are directory or indirectly related to the proper project management. However, claims in building projects continue to be a bottleneck to project completion.

1.2. Research Question

1. What are the impacts of claim on construction projects?
2. How do different factors lead to claim in building construction?
3. What are the impacts of claim on construction projects?
4. How can claim and price escalation be avoided?

1.4. Research Objectives

1.2.1. General Objective

The general objective of this study is to assess the main causes of clam and how it's affecting a building project construction industry owned by Commercial Bank of Ethiopia.

1.4.2. Specific Objective

1. To investigate the impacts of construction claim on the construction projects.
2. To examine different factors lead to claim in building construction projects.
3. To assess the impacts of claim on construction projects.
4. To investigate on how claim and price escalation be avoided.

1.5 Significance of the study

The study of this paper has great advantage for the contractor, the client and for the construction industry as a whole. Because the study can determine those factors that can effects on the project implementation. Therefore this study is to take an urgent measure to attain the goals of the building construction projects of commercial bank of Ethiopia according to the objective. The study invites further scholars in the field to conduct additional research because it is not exhaustive. It can also help researchers who wish to do more research focused at identifying and analyzing the aspects that can have a significant impact on the implementation of building construction projects.

1.6 Scope and Limitation of the study

The research will be limited to CBE-owned construction projects in Addis Ababa city exclusively. The parties engaged will be limited to the teams presently working on the project and those who have worked on past projects completed by local contractors.

The major challenge of this study was on the data collection from respondents which took so much time because the respondents were busy on filling the questioners. Due to limitation of time on the study all the respondents were not able to participate in the questioner and interview and they also took time to analyze the given data by the respondents. Since the research only assess projects owned by the CBE the study area is only limited on the organization so the conclusions to be found may not possibly represent other projects owned by public and projects financed by other commercial banks which are not bounded by this study. Furthermore only project managers (client), consultants and contractors who have direct day to day relationship to the projects are included as respondents of the questioners which makes the study specific and bounded in some area.

1.3. Organization of the study

The research work consists of five chapters. The first chapter introduces the background of the study, followed by statement of the problem, research questions, and objectives of the study, significance of the study, scope of the study and organization of the thesis. The second chapter deals with literature review. In this regard, the theoretical and empirical Literatures are reviewed.

Chapter three which is the research methodology part covers research design, research type, sampling techniques and data collection tools. And chapter four which is data analysis and findings part reveals findings and analysis from both qualitative and quantitative data collected from the instruments are analyzed and described exhaustively. The last chapter, chapter five that is the summery finding, conclusion and recommendation part concludes and recommends.

CHAPTER TWO: LITERATURE REVIEW

This chapter presents a critical review of the research work that was done by various scholars in the area of claim in building construction projects. This includes theoretical review, empirical review and conceptual frame work.

2.1. THEORETICAL LITERATURE REVIEW

Project is defined as a temporary endeavor undertaken to create a unique product or service. Temporary means that the project has a definite ending point, and unique means that the product or service differs in some distinguishing way from all similar products or services (PMI, 2013) A construction claim is the assertion of a right that needs either extra time or payment by either party of the contract (usually the contractor) for reimbursement of losses caused by the failure of the other party to uphold their portion of the duties as outlined in the contract. Extra money or an extension of time (EOT) are frequently used as forms of compensation. Construction claims are frequently the consequence of efforts undertaken by customers, contractors, and subcontractors to fulfill their objectives and goals and improve their benefits.

Due to heavy market rivalry, contractors are often forced to present proposals for projects with low profit margins in order to remain competitive. As a result, contractors are under increased pressure to execute projects while getting lesser wages. In this instance, there is a great likelihood that the contractor would fail to please the customer owing to divergent expectations and goals, resulting in disputes.

Construction claims have been recognized as one of the most stressful and unpleasant project times by many project participants. They might lead to a long court struggle or,

worse, bankruptcy. Other elements that contribute to claims include inadequate project planning, scope changes, change orders, errors, and omissions. Owners can detect potential claim scenarios by understanding the various types of building claims.

2.1.1 Types of Construction Claims

According to EK Zaneldin (2020) the following seven sorts of claims are thought to be the most typical types of construction claims as a result of the various theories tested: Claims are I. Compensation Claim, II. Price Escalation Claim, III. Change in site condition, IV. Accidents, V. Workplace Change,

It happens when unplanned occurrences push a project's completion date over its initial deadline. Production and money will be lost if building is delayed. An incident outside the contractor's control, such as incorrect designs, poor weather, a pandemic, or an earthquake, might also be to reason.

I. Compensation Claim

When a construction project causes damage to the business premises or any surrounding property, a claim is filed. In these cases, the customer who suffered property damage may hold the contractor liable for the loss by filing a claim for damages against the contractor.

II. Price Escalation Claim

Price escalation claims arise when the expected project budget increases as a result of completing the assignment early or on schedule. Customers file claims because they are responsible for paying the expenditures connected with the faster service.

III. Change in site condition

When the actual status of the project site differs from what the client stated in the contract, the potential of a different site conditions claim emerges.

IV. Accidents

When accidents occur on construction sites, it is possible to file a claim if site safety requirements were not followed. The disaster may have affected both construction workers and bystanders.

V. Workplace Change

This is one of the most common accusations in the construction industry. This claim is submitted after the project has already begun and the contractor receives a change order from the client.

When the client and the contractor disagree on what is and isn't covered by the contract, a conflict arises.

2.1.2 Factors causing construction claim

In the construction sector, there are many disputes between the various participants, most of which result in claims. The reasons for construction claims are mentioned below after taking into account the opinions of industry specialists such as seasoned contractors, customers, designers, and consultants.

a) Delay in supply of drawings, handing over the site, supply of materials, payments, the commencement of work, and completion:

According to Chaudhary and Timothy Whealy (2022) in a construction contract, the contractor typically has a deadline or time limit to finish the scope of work that was initially agreed upon. Contractors are often exposed to the danger of their employers assessing damages should they fail to do so. In most cases, the amount of damages is predetermined and is frequently referred to as delay liquidated damages. A contractor can prevent or lessen its exposure to damages in the event that a project's completion is delayed by making a claim that demonstrates their right to an extension of time (or "EOT"). Such a claim must, in addition to meeting a number of procedural requirements, show the causal relationship between the delaying event and the stipulated

b) Due to design errors:

According to Dosumu Oluwaseun Sunday and Clinton O Aigbavboa (2017) they have determined that design error is the primary cause of variation. There aren't many empirical research, though, on how much variance costs as a result of design flaws. Therefore, the purpose of this article is to examine the significant design flaws that produce variation and the factors that contribute to construction variation in order to assess the influence of design errors on variation cost.

c) Due to a change in work scope

Any modification to a construction contract that alters the contractor's scope of work is referred to as a "change order" in the industry. The majority of change orders alter the work specified in the contract terms (which typically results in an increase in the contract price) or vary the time frame in which the contractor must perform the job, or both. The owner and contractor must both concur on all conditions for there to be a legitimate modification order. Luke J. Farley, Sr (2018).

d) Due to ambiguities in contract documents

According to (chan etal,2021) A construction contract is a mutually agreed upon and signed document by the contracting parties and plays a significant role in controlling and preventing disputes in a project. The main purpose is to develop a framework to assess sources of ambiguity in construction contracts for comprehensive referencing and early detection of potential root causes of claims and disputes. This is addressed by developing a hierarchical concept map, representing well-rounded sources of contract ambiguities through a comprehensive analysis of the literature, the study found that incomplete and/or redundant information in the contract documents are the core reasons for conflict between contracted parties. Therefore, proactive identification of sources of ambiguity in contract documents by the general contractor and owner and attentive preparation of contract documents to avoid contradictory information/terms, missing information, or vague clauses can minimize the potential lengthy and costly litigation process at the court level.

e) Due to quoting low rates in the tender:

It is a lose-lose procurement approach to give consideration to a low bid over contractor performance. Unfortunately, both owners and contractors alike tolerate the practice of low bids. The focus on the lowest bid, according to owners, ensures that they obtain a fair price. Low bidding, however, is a zero-sum game. Owners frequently sacrifice performance to save money when they lower bid prices. And any paper savings are typically lost in change orders midway through the process. The "low bid wins" concept needs to be reframed and the construction industry needs to be educated again Scott Peper (2022).

f) Due to the extension of time (EOT)

One of the main purposes of extension of time clauses in contracts is to preserve the effectiveness of the liquidated damages provisions for the employer's benefit. Extension of time (EOT) clauses are found in most standard forms of contracts and allow for a modification of the scheduled Practical Completion date due to unforeseen circumstances. According to the author, the fourth most frequently reported problem in a building project is time extension. Additionally, he stressed the need of adhering to a contract document before filing an appeal or claim and the contractor's right to choose an EOT if it is specified in the contract document. Thus the basic idea of an EOT claim is established. Nahu Brainmah (2021) identified various delay analysis techniques that have been created to date and also studied the advantages and disadvantages of each method from a wider perspective. Delays and disruptions are frequent in construction projects with numerous stakeholders and complexity. In order to provide the project enough time to be finished, delays lead to requests for extensions of time (EoT). It is challenging and time-consuming to prove the necessity of EoT. It was discovered that the key records and documents with the highest level of significance for proving requests for extensions of time are time impact analyses, which demonstrate the potential effects of changes before implementing them, change of work notices, claim registers, program updates, minutes of daily, weekly, and meeting, and daily progress reports. Concurrent delay, concurrent delay, and concurrent delay are the three main contested issues related to demands for

time extensions in construction contracts. Lack of a delay notice from the contractor as required by the contract, approval of a time extension request, insufficient effort to mitigate the delay, and a weak explanation of the impact of the delay event on the project schedule. To improve the knowledge and abilities of project administrators and managers for efficient claim management and administration, regular training is necessary. Okereke, Reuben & Mohammed, Zakariyau & Eze, Emmanuel. (2021).

g) Due to poor quality of construction work and the use of the wrong equipment

Poor quality in building projects is high and increasing. Poor quality can increase the cost of a building by up to more than 50% and can delay a project by up to 50%. AbdulLateef Olanrewaju and Hui Jing Alice Lee; 2022. Abdul Lateef Olanrewaju and Hui Jing Alice Lee, 2022. A structure, a fabric, a service, or any facility may be of poor quality. The maintenance lifespan of the structure will be shortened by flaws that develop during any of the design and construction phases. The time between one repair and the one before it or the prior repair is known as the maintenance span. Olanrewaju (Olanrewaju et al., 2021b) highlighted that the systemic maintenance management framework intends to extend the maintenance life of the buildings. Building availability, performance, and maintenance costs will all suffer from a shorter maintenance cycle.

h) Due to accident

There are many different types of construction accidents that can cause injuries on a building site. If it is not your fault you could ask for a compensation claim. Compensation claim allows you to claim compensation for accidents that occur on a building site that weren't your fault. Construction accidents can happen when employers are negligent in their duty of care. Some of the most common building site accidents include:

- Falls from height, for example, from ladders and scaffolding
- Objects that fall from height
- Manual handling accidents

- Defective machinery accidents
- Moving vehicle accidents, such as forklifts and dump trucks
- Welding and chemical burns
- Electric shock injuries
- Not wearing safety shoes and hail mate.

i) Due to natural calamities

Every level of the construction business is severely understaffed, from field labor to project management and engineers. The considerable amount of reconstruction that must be done. This will have a detrimental effect on subcontractor default insurance, which general contractors use to protect themselves when a subcontractor doesn't do a good enough job. Subcontractors have consistently taken on more work than they can effectively handle, which has put a major burden on their finances and reduced their performance. Michael R. Pesch (2018).

j) Due to an increase in material/fuel cost

We need to reassess how contractors may better manage the risks connected with these concerns in light of recent developments about fuel pricing and material availability. As a beginning point, it's critical to realize that the contractor will bear the risk of material availability or price changes in his contract barring extreme and unforeseen circumstances, typically ascribed to an "act of God." This is so that a contractor may accomplish his scope of work to his satisfaction and provide a price. In this sense, the contractor must plan ahead and account for all of his expenditures associated with completing the task he quotes.

Therefore, unless the contract clearly states otherwise, the contractor is responsible for assuming the risk of these changes. If costs rise, the contractor may not ask for a raise unless his contract specifically provides for such payments.

Regarding the availability of materials, a contract's estimate of risk is consistent. Steel for use in building and salt for use by winter maintenance contractors are two recent examples of resource shortages. In general, contractors who agree to undertake a specific scope of work must do so, and they accept the risk that they may be unable to do so for whatever reason. Contractors should be aware that a lack of materials may affect their capacity to complete the job by Robert Kennaley (2008).

k) Due to weather conditions

Extreme and unanticipated weather conditions frequently cause project completion delays. This is due to the fact that inclement weather frequently results in lost productivity, resource waste, considerable project delays, and ultimately financial losses for both the project owner and the contractor. Construction contracts typically contain weather-related terms that specify when and how much responsibility for dealing with the effects of bad weather will be shared or paid for. Setting precise and measurable parameters for aberrant weather, however, is difficult due to disagreements over what constitutes "normal" or "average" weather. There is little and incomplete research on the impact of weather on construction production. As a result, practitioners cannot rely on reliable techniques to arbitrate and assess contract disputes involving weather. Claims are likely to surface and intensify in these circumstances. It is suggested to use a stochastic model to assess the impact of the weather during the execution phase.

2.1.2 Causes of Construction Claim and price Escalation

It has been suggested by several theories that the cause for claim and price escalation on building construction has been conclusively interrelated. For instance delay could cause both time extension claim and price escalation claim. Which results in loss of project for the client and less profit for the contractor. Therefore different scholars demonstrates the causes of claim and price escalation as follows.

Cost escalation is the word for a change in the price of a specific commodity or service over a set time period in a specific economy (Ahmed et al. 2018). Cost escalation is

unavoidable in major construction projects due to the possibility of rising construction material, labor, equipment, and energy costs, among other risk factors, which could cause delays and financial instability. It's imperative to keep in mind that precise planning and design are required for construction projects. The success of any project hinges on thorough planning and precise cost projections. To make sure the project is finished on schedule and within budget, this should be regularly examined and monitored.

These essential principles are commonly ignored by project managers in the construction industry today, which results in cost hikes and time-consuming problems. Cost escalation is the adjustment or settlement of the contract component's unit price and includes labor, construction supplies, and equipment (Broto et al. 2017). The industry's contribution to the economy is frequently outweighed by the cost growth. Escalation and contingency expenses, which are viewed as hazardous funds and need to be prepared to handle the issue in the future (Muya et al. 2013), include excessive charges since the actual cost, which is higher than the budget amount, was underestimated.

Finding the elements that lead to cost escalation and then taking the appropriate steps to limit or reduce them are crucial for the project's successful completion. Cost overruns and scheduling adjustments always have an influence on customer satisfaction and planned objectives).

The adjustment or settlement of the contract component's unit price comprises cost escalation, which also covers labor, building supplies, and equipment (Broto et al. 2017). The building industry's bad cost behavior is blamed for price increases. An international problem is poor cost behavior (Rahman et al. 2019). On the subject of cost escalation, multiple studies have been done by various scholars. (Broto et al., 2017) researched approach-based models for forecasting project cost escalation.

Al Malki and Alam (2021) listed the following reasons for claims: late payments to contractors; change or variation orders; insufficient due diligence before bidding; late approval of shop drawings; and insufficient time for bid preparation.

Iskandar, Hardjomuljadi, and Sulistio (2021) highlight project delays, ambiguous definitions of contract papers, and contractor delays in completing work as the grounds of claims.

Change orders, contract ambiguity, project acceleration, project delay, more work time, and differing site circumstances in design vs. on-site, according to Shrestha and Neupane (2021), were common reasons of claims.

As stated by Noushad et al. (2021), the following factors contributed to claims: modifications to a project's scope and description, delays in the execution of the project, a delay in receiving the site, and work clearances.

Accordingly those theories by different scholars has been demonstrated. Due to their theories causes of claim and price escalation could be among the contractor or/and the client.

2.1.3 Effect of claims on project performance

One of the challenges that any building project could experience is claims. Work stoppage, time extensions and payment delays could result from this (Malki & Alam, 2021). The quantity and frequency of claims increase along with the complexity and magnitude of construction projects, which has a negative effect on the construction sector (Alqershy & Kishore, 2021).

By risking stakeholder relationships, project execution, and project outcomes, claims have a negative impact on a project's supply chain (Stamatiou et al., 2019).

As a result given these facts, it is not unexpected that the number of claims in the construction industry is increasing. By comprehending the various types of construction claims, stakeholders can identify prospective claim scenarios. This acknowledgement could help in the recovery of damages and safeguard stakeholders against losses.

2.1.4 Requirements for claim

For the claim to be successful, it has to fulfill valid requirements such as Reta, Ashenafi. (2019).

- Substantive requirements

Which include substantiating or justifying the claim by precisely stating applicable legal laws and/or contract terms.

- Procedural requirements

Provide for serving the required previous written notice to the contract's designated party. The loss of the substantive claim in whole or in part may result from failure to comply with the procedural obligation.

- Requirements for Proof

Submitting the pertinent records that substantiate the assertions being examined.

2.1.5. Claims Process

1. Claim intimation/notification: The claimant must submit the written intimation as soon as possible to enable the insurance company to initiate the claim processing.
2. Documents required for claim processing. ...
3. Submission of required documents for claim processing. ...
4. Settlement of claim.

2.1.6. Types of claim process

There are two kinds of claim settlement techniques these are

- Replacement cost settlements: covers the restoration and replacement cost
- Actual cash value settlements: This thoroughly depends on the depreciation type and offers the depreciated cost of the item.

2.1.7. Preventive Measures to Avoid Construction Claims

To avoid the complicated procedure of construction claims, contractors must take preventative measures to reduce the risk of getting caught up in costly litigation.

Construction-related conflicts in construction contracts can be avoided by implementing the following measures.

- i. Contracts with clear terms and conditions protect all parties from legal conflicts. Good contracts include a fair allocation of risks among all parties, which helps to reduce risk and the frequency of legal issues.
- ii. Allow adequate time for the design team to create complete and exact specifications, bills of quantities, and drawings with no or minimal errors and inconsistencies.
- iii. During building, the contractors emphasize the safety of the workers and the property of the project. As a result, resolving safety problems and lowering injury risks may be addressed through the use of a construction safety Program.
- iv. Maintain proper project records in a timely way, including timesheets, diary entries, reports, pictures, labor records, job site equipment, weather and its influence on progress, construction progress, and so on.
- v. The contractor should sign change (variant) orders before initiating any modification on work on the construction site.
- vi. The contractor should maintain the quality of his work by hiring skilled staff and employing appropriate management methods.

2.1.8. Settlement methods to resolve claims

There are four basic settlement methods used to resolve claims

- 1) Negotiation; 2) mediation; 3) arbitration; and 4) litigation.

1) Negotiation.

Meetings between opposing parties, who are typically the contractor and the owner's representative, can aid in the early resolution of a dispute. Owners typically take their time examining claims, delaying any necessary corrective action. If a settlement cannot be reached, the case is taken out of the parties' control and sent to mediation or arbitration.

2) Mediation

When negotiations break down, parties may use a mediator to settle their dispute. The mediator's job is to reconcile the parties. To resolve the conflict, efforts are undertaken to come to a consensus. The mediator may describe or clarify the differences. Each side has a better understanding of the other's stance as a result. A mediator may also offer advice and even put forth a final solution. However, the mediator is unable to make a final, legally binding decision. Therefore, disputing parties are not compelled to abide by the mediator's ruling.

3) Arbitration

The parties to the dispute may resort to arbitration if they are unable to settle it through dialogue or mediation. Although they avoid it at all costs, arbitration may be the only option available to settle conflicts. Each party tries to persuade the arbitrator that their viewpoint is valid after the arbitrator is selected. The hearing is not concluded until each side has had an opportunity to fully state their case. The arbitrator renders a final, legally binding decision following the hearing.

4) Litigation

The disputing parties may choose to file a lawsuit if they cannot agree on the arbitrators, if one or more arbitrators choose to recuse themselves from the case, if it is impossible to move further with the arbitration, and there is no agreement between the parties in this regard. Even if disagreeing parties detest going to court to settle their differences, it can be their only option at this point. Any judgment entered in this case is conclusive, enforceable, and cannot in any manner be contested.

2.1.9. Factors Causing Price Escalation

A better understanding of the price escalation factors is achieved through understanding the forces driving each factor or where the factor originates. With this understanding it is possible to design strategies for dealing with these price escalation factors.

2.2 EMPERICAL REVIEW

The nature of construction projects is complex, complicated and time taking as it involves several parties and require the integration of various work components such as structural, architectural, electrical, sanitary and mechanical to operate as a single unit (Shah et al. 2014). Moreover, the nature of construction projects needs a highly specialized designs, precise plans and specifications, high-risk construction methods, efficient administration, complete supervision, and tight collaboration. As a result, claims are almost inevitable in the industry. Al-Qershi, Mohammed. T. & Kishore, R. (2017) concluded from their study that the most leading claim source is related to the owner/ owner's representative factors and the major causes of claims are: - Delay in handing over site, variation between actual and original quantities, excessive change orders by owner, delay of shop drawings approval by owner's representative, change scope of the project, slow decisions from owner, delay caused by the contractor, delay in payments to contractor, design error or omissions and unforeseen ground conditions by all parties whereas variation orders/extra-work claims, delay claims and disruption claims were the major types of claims in the Indian construction industry.

Study conducted by Hadikusumo & Tobgay 2015 at the university of science, Malaysia stated that the various identified causes of claims were combined into five (5) broad groups: (i) Differing/adverse site conditions, (ii) Delay from project participants, (iii) Changes in design and specifications, (iv) Force majeure (e.g., floods) and (v) Omissions and/or ambiguous contract provisions and the dominant cause of claims was from differing site conditions that covers 55% of claim amount followed by delays of project participants, changes in design and specifications, force majeure and omissions in contracts with coverage's of 17%, 16%, 9% and 3% respectively.

According to a case study by Abd El-Razek et al. (2007). Amongst all causes of the claim, three of the causes represent almost 80% in the construction industry: – delays of instructions, shop drawings approval and decision making (8%), drawings and / or specifications (21%); and variations initiated by the client or consultant (50%).

A study by Anita Rauzana & Tripoli (2019). On construction claims showed that the main causes of claims were design changes and additional works carried out by the

clients/owners, whereas contractor claims often took the form of additional costs, and claim settlement methods. Construction contractual management.

2.3. KNOWLEDGE GAP

A knowledge gap is the discrepancy between what a worker is aware of and what their employer needs them to know. Simply put, when a person has a task to do but is unsure of how to execute it, they have a knowledge gap. Knowledge gaps are a result of the unequal allocation of resources throughout society. Individuals with ample resources have better access to education and, as a result, learn more quickly than those with limited resources.

The term "knowledge gap" in research describes issues in a given topic that have not yet been addressed. Empirical research are unable to fully explain a phenomenon, leading to a knowledge gap. A knowledge gap is discovered using a novel approach of study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

The aim of this research was to assess the cause, effect, prevention and interrelation between claim and price escalation in building construction implemented by local contractors in the case of commercial bank of Ethiopia. In this section the research design and choices of data collection and analysis have been justified.

3.2. Study Area Description

Commercial Bank of Ethiopia (CBE) is one of the largest commercial bank in Ethiopia with more than 1200 branches across the country and more than 35000 employees under it. CBE also has many departments holding inside of it as a main wing and supporting wings. The organization is also know from its construction buildings around the nation.

The Commercial Bank of Ethiopia Headquarters is a skyscraper in Addis Ababa, Ethiopia that was completed on 13 February 2022 and became the tallest building in Ethiopia. It

serves as the headquarters of the state-owned Commercial Bank of Ethiopia, the country's largest bank. It also is the tallest building in all of East Africa.

CBE also has about 5 completed projects in the capital city, about 32 under design projects across the nation and over 20 projects under construction. This construction projects include branch offices, district, stadium, clinic, training centers and data centers. Among these projects my study lies on the completed projects that are located on Addis Ababa city.

3.3. Research Process

The strategy followed in this research was first started with problem identification which has been done through unstructured literature review, archival study and informal discussion with colleagues and professionals in the sector; and then the research design was formulated. Then data and information sources were determined based on the formulated research design. On the basis of the data and information sources the research

Instruments were decided; and available documentary sources relevant to the research were reviewed. The review includes books, journal and articles, internet sources.



Figure 1: Flow chart of research process

Finally, after an in-depth review of literature and desk study, a questionnaire was designed and Distributed to contractors, consultants and the client (CBE) to get their professional opinion based on their experience. Upon obtaining the desired data, checking and sorting of data has been done. The data were then analyzed for cross-checking the validity and conformity of the information obtained through the overall research work. This was followed by thorough discussions in order to draw a conclusion and to forward recommendations based on the findings of the study.

3.4. Research design

This research technique is a descriptive research methodology that combines quantitative and qualitative data collection to provide us precise and relevant data. Descriptive survey design, an efficient study technique, engages the subjects who are the focus of the study's goal. The initial method of data collection is qualitative and quantitative data would be used to further establish the information gathered from the qualitative data. For the qualitative interviews have been employed alongside reports submitted form contractors. For the quantitative report questionnaires are distributed for respondents to help in the information. It was attempted to collect data from the relevant population (CBE,

consulting firms and contractors) to evaluate the perception of different stakeholders on the issues.

3.5. Research type

This research uses descriptive research method which involves the collecting of both qualitative and quantitative data using techniques like surveys and observational studies. Interviews and questionnaire will be used for primary data collection and investigation reviews, references to books, journals, literatures, and research frameworks will be used for secondary data collection.

3.6. Sampling Technique

Several Researchers have chosen the study participants based on their close proximity to the initiatives and their expertise as development, awareness, and involvement specialists therefore a quota sampling technique is used to choose representatives. A convenience survey is a specific type of quota sample.

However, selecting respondents only based on availability issues is the only way to guarantee that all participant types are gathered in a certain amount. The research decides in advance that a certain minimum percentage of specific people will be surveyed. The population of the study includes the main parties of Building construction projects which are PM, office engineers, site engineers & supervisors who are involved in the construction projects. The study population covers employees with engineering educational background and engaged in Building construction projects at BCBA&QM. The total building construction projects currently being built only in Addis Ababa by CBE are found to be 5. Of three different parties namely clients, contractors and consultants involving in the construction projects 31 available participants out of 5 project sites was selected (10 from contractors, 11 from clients, 10 from consultants) and taken as a sample. To determine sample size of the study, the researcher used a method developed by Yamane (1967:886) in which having 95% confidence level and an assumption for the margin of error to be 5%.

3.7. Sample Size

A sample size should be large enough to sufficiently describe the phenomenon of interest, and address the research question at hand. But at the same time, a large sample size risks having repetitive data. The goal of qualitative research should thus be the attainment of saturation. Fisher et al, (1991) showed that the sample size can be calculated using the following equation:

Using the formula for sample size determination for a finite population where $n/N < 0.05$,

Where- n_i = Initial sample size

$$n_i = \frac{NZ^2pq}{d^2(N-1) + Z^2pq}$$

N = The total population

Z = the degree of confidence at the 95% level = 1.96

P = Population proportion/Prevalence = 0.5

$q = 1-p = 0.5$

d = Margin of error (5%) = 0.05

n_f = Final sample size after correction factor

Therefore, substituting the respective values:

$$n_i = \frac{68 \times (1.96)^2 \times (0.5)^2}{0.05^2 \times 51 + 1.96^2 \times 0.5^2}$$

$$n_i = 58 \rightarrow n_i/N < 0.05 \rightarrow 58/68 = 0.85 > 0.05$$

$$n_i = 58 \rightarrow n_i/N < 0.05 \rightarrow 58/68 = 0.85 > 0.05$$

So using the correction factor, $n_f = n_i / (1 + n_i/N)$ if $N < 10,000$

$$\rightarrow n_f = n_i = 58$$

$$\rightarrow n_f = n_i / (1 + n_i/N) = 58 / (1 + 46/52)$$

$$n_f = 31$$

Therefore, the $n_f = 31$ workers

3.8. Data collection

The study will use both questionnaires and interviews to collect primary data. Senior engineers from the bank's construction management division are being interviewed in order to improve the research's findings. A variety of techniques will be used to gather secondary data. In this context, CBE project management offices will be used to report on the history and status of projects and moreover project management reporting, various investigations, book conferences, journals, literature reviews, and research frameworks will be considered to get secondary data.

3.8.1. Questionnaire

Questionnaire have the benefit of being easy to administer, allowing for the conduct of courses, requiring no prior research training, and guaranteeing anonymity. Due to its ability to be used by a vast number of people, questionnaires are an important tool for data collection. To protect the responders' anonymity, a permission agreement is given.

The purpose of a questionnaire is to collect information from respondents about their attitudes, experiences, and opinions. We can gather quantitative and/or qualitative data with questionnaires. Open or closed questions can be found in questionnaires, and occasionally both types are used. Answers to open-ended questions can be as detailed or as general as the respondent chooses. Respondents have a selection of predefined responses to pick from while answering closed questions.

Symmetric Likert scale will be used to organize the questions which give freedom for participants to select among the given responses in a fair and symmetrical manner in either direction.

Two stages make up the Likert scale: In the first step, the assertion is put to the test to see if anyone agrees or disagrees. After then, the second stage queries the respondent's level of apprehension regarding the response to the assessment of claim and price escalation in project management in the Case of Commercial Bank of Ethiopia. Questionnaires will be provided for these reasons, using a Likert scale to analyze a questionnaire is regarded as one of the finest ways. The Likert scale comes in a five and seven point format. According to the needs of the research, the scales might be employed. A five-point Likert scale will be employed in this study. A frequency indicator and a severity indicator will be employed, respectively.

Table 1: Likert scale for frequency

Category	Rarely	Sometimes	never	Often	Always
Rating	1	2	3	4	5

Table 2: Likert scale for severity

Category	Strongly disagree	Disagree	neutral	agree	Strongly Agree
Rating	1	2	3	4	5

3.8.2. Interview

An interview is a great method for gathering data since it ensures that the respondents reply to questions, allows for deeper discussion of challenging topics, and enables a more thorough investigation. The framework of the interview is cut in half. There are numerous pre-set questions on the interview's stage. This interview method does not entirely rely on exact adherence to the agenda.

The questions listed on the calendar are typically left open so that respondents can add comments. Interviews with specialists who have experience working in CBE's building project department will be performed.

3.8.3. Secondary data

Secondary data will also be used as a source of information. The information gathered during the interview will be strengthened as a result of this. Reports, complaints made regarding issues encountered, requests for time extensions, and meeting minutes will all be used to gather secondary data. In addition to the interview, information gathered through secondary data will be coded and turned into quantitative data.

3.9. Data analysis

3.9.1. Analysis of Interview - Relative Importance Index

The relative importance of the quality criteria at work is assessed using the Relative Importance Index (RII). The used Likert scale points are equal to the weighting factor (W) that the respondent assigned to each factor.

Researchers in the fields of construction and facilities management frequently utilize the Relative Importance Index (RII) to analyze structured questionnaire responses for information including attitudes that are measured ordinals.

$$\text{Relative importance index} = \frac{5 n_5 + 4 n_4 + 3 n_3 + 2 n_2 + 1 n_1}{A * N}$$

$$A * N$$

Where,

n5 = number of respondents for strongly agree

n4 = number of respondents for agree

n3 = number of respondents for neutral

n2 = number of respondents for disagree

n1 = number of respondents for strongly disagree

A= Highest Weight

N= Total Number of Respondents

3.9.2. Analysis of Interview – Coding

To review the interview there will be coding. Coding is often used in grounded theory research, but can also be used in other high-quality methodologies like text data interpretation. The recovered codes may be used for quantitative or qualitative analysis.

Open coding is a technique used for finding, exposing, and labeling concepts that are hidden inside text data and can be used to describe a phenomenon. In order to identify distinct instances, thoughts, acts, perceptions, and pertinent exchanges that are categorized as in vivo codes, the research will line-by-line analyze the textual data. Each idea has a connection to a specific text segment (coding unit) for added validation.

Higher-order categories are then created by combining related notions. While concepts may be context-specific, categories are often broad and generalizable, and in a grounded theory, categories eventually develop into constructs.

1. Listen to or read transcripts, then decide what you think.
2. Read the detailed transcripts and sentence or phrase codes again.

- There is something in the content coded that relates to other books.
 - Knowledge-based details that are pertinent.
 - Information that the interviewee specifically highlighted as relevant.
3. Determine whether codes are acceptable, then build categories by combining codes.
 4. Label each category and choose which ones to keep, along with their connections.
 5. Categories can be arranged into a hierarchy in this stage, if necessary.
 6. Publish the findings and debates.

3.10 Validity

According to Creswell (2009) validity is one of the strengths of qualitative research and is based on determining whether the findings are accurate from the standpoint of the researcher, the participant, or the readers of an account. Terms abound in the qualitative literatures that address validity, such as trustworthiness, authenticity, and credibility. The degree to which a concept is precisely quantified in a quantitative investigation is known as validity. Reliability, or the accuracy of an instrument, is the second criterion for evaluating the quality of a quantitative study. In other words, the degree to which a study tool consistently produces the same results when applied to the same circumstance repeatedly. When performing or evaluating research, it's critical to take the validity and dependability of the data gathering tools (instruments) into account.

3.11. Reliability

As stated by Mohamed (2013) one of the main requirements of any research process is the reliability of the data and findings. In the main, reliability deals with the consistency, dependability and reliability of “the results obtained from a piece of research”. Obtaining similar results in quantitative research is rather straightforward because our data are in numerical form. However, in qualitative approaches to research achieving the identical results are fairly demanding and difficult. It is because the data are in narrative form and subjective. TA measure's consistency is related to its reliability. An individual taking a test designed to gauge motivation ought to provide somewhat consistent answers each

time. Although a dependability estimate cannot be provided with precision, it can be obtained through a variety of methods.

Cronbach's α is the most commonly used test to determine the internal consistency of an instrument. In this test, the average of all correlations in every combination of split-halves is determined. Instruments with questions that have more than two responses can be used in this test. The Cronbach's α result is a number between 0 and 1. The Cronbach's alpha value for all items suggested that the data collected through questionnaires is reliable and can be used for further statistical analysis. Therefore, the score supports the presence of good internal consistency among the items and promised the reliability and acceptability of the study items.

Table 3: Reliability statistics:

Reliability Statistics	
Cronbach's Alpha	N of Items
0.951	50

3.11. Ethical considerations

According to Pritha Bhandari (2021) a set of rules that direct your study designs and procedures are known as ethical considerations in research. When gathering data from people, scientists and researchers must always abide by a set of ethical principles.

Understanding real-world occurrences, researching efficient therapies, examining habits, and enhancing lives in other ways are frequently the objectives of human research. There are important ethical considerations in both what you chose to research and how you conduct that research. These factors contribute to

- safeguarding research participants' rights
- improve the validity of research
- keep your academic or scientific integrity

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1. Introduction

In this chapter, the collected data is presented, analyzed and interpreted. The data was collected through questionnaire and interview a total of 35 questionnaires were distributed to all the Project team members, project managers and supervisors and 33 were returned which accounts 94.28% percent response rate. The results and discussion below is divided in two parts corresponding to the interview the Results will be discussed along with the secondary data by using block by block comparison Method. The discussion will include the responses with regards the previously stated Variables in addition with regards to the research questions and also the sections of the Questionnaire. These divisions can help tackle one question at a time.

4.2. Respondents' Demographic Characteristics

The study sought information on aspects of respondents' background, particularly, gender distribution, age distribution, educational level and experience of the population filling the questionnaire. This helps to decide simply to include respondent's information participated in the research. Therefore the corresponding table (table 4.1 below) shows the result from the questionnaire collected.

Table 4; Respondents Demographic Characteristics

Description		Frequency	Percent
Gender	Male	17	54.8%
	Female	14	45.2%
	Total	31	100%
Age Distribution	20-25	-	None
	25-30	20	64.5%

	31-40	6	19.4%
	40 and above	5	16.1%
	Total	31	100%
Work Experience	< 5 years	10	32.3%
	6-10 years	11	35.5%
	10-15 years	4	12.9%
	15 years and above	6	19.4%
	Total	31	100%
Position	Client	11	35.48%
	Consultant	10	32.26%
	Contractor	10	32.26%
	Total	31	100%
No. of project	< 5 projects	10	32.26%
	6-10 projects	13	41.94%
	> 10 projects	8	25.81%
	Total	31	100%

4.3. Results

The participants of the research were asked to give their opinion on how the causes of claim in a project management practices affect the overall projects of the commercial bank of Ethiopia undertaken by the local contractors located in Addis Ababa city and only participated on the organizations building projects. The respondents were given options on a rate of 5-point Likert's scale with 1= Never, 2=rarely, 3=Sometimes, 4=Often, 5= Always. The collected study data was analyzed using descriptive statics such as Frequency, mean and Percentage and standard deviation as shown below in the table. Where: Frequency (f) = Number of respondents who agreed on the corresponding rating. Mean = Average rating given by respondents. Percentage (%) = Percentage of

respondents to be agreed from total respondents Standard deviation= tell how measurements for a group are spread out from the mean.

From the above Demographic result using a likert scale it was able to be calculated from 31 respondents 17 respondents were male and 14 respondents were female and from the age distribution most of their respondents range from 25-30 on the first place and 31-40 age group takes the second rank with a percentage of 19.4%.

According to the above table most of the respondents have an experience of 6-10 years which is 35.5% and next ranks less than five years which is 32.26% from the same table the least respondent takes place with a percentage of 19.4% with an experience of above 15 years. This makes the result more reliable accurate since the data is collected from more experienced respondents.

Since the research is made from the client side meaning the client is the commercial bank of Ethiopia it would not be accurate if only questionnaire is distributed among the organization only so it's been found appropriate to distribute both the questionnaire and interview papers for contractors and consultants. As a result among the 31 respondents 11 clients with a percentage of 35.48%, 10 contractors and 10 consultants with both a percentage of 32.26% each have participated on the research paper which makes the distribution even and accurate.

Among the respondents 13 of them have involved for 6-10 projects which takes the highest rank with a percentage of 41.94% and the second rank goes to less than five projects with a percentage value of 32.26% with 10 respondents in it and the least is 8 respondents with a percentage value of 25.81%.

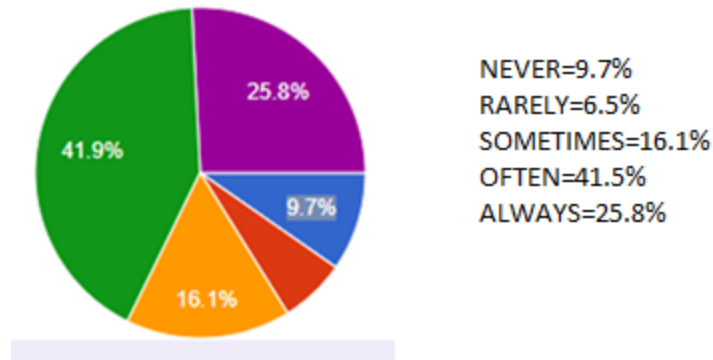


Figure 2: Price escalation claim

According to the above pie chart presented depends on the respondents that have participated on both the questionnaire and the projects. The result looks like most of the respondents (41.9%) often face price escalation on the projects they have been enrolled in next rank goes to respondents who faces price escalation always with a percentage of 25.8% and the least respondents face price escalation rarely with only a percentage of 6.5%. From this result we can analyze that a price escalation is a major factor in the causes of claim.

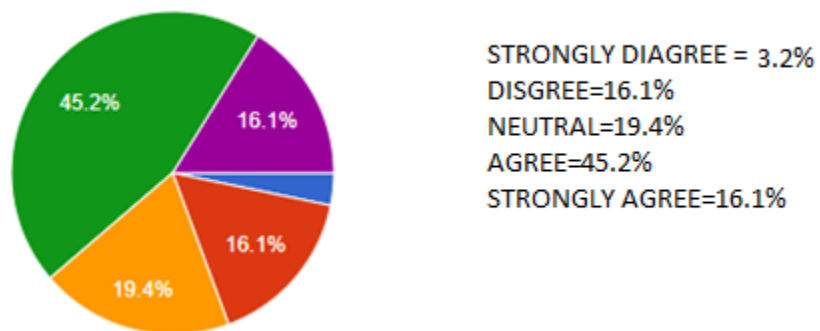


Figure 3: contractors are causes of claim

Most of the time it's believed that cause of claim mainly arise from the contractor depending on this a question was asked if the respondents agree on this as a result The above pie chart is the result of the respondents according to the result collected and

presented 45.2% have agreed this means that some of the consultants and also contractors have agreed on the case since they are also part of the respondents. On the contrary very few respondents (3.2%) of the respondents strongly disagree.

4.4. Correlates of causes of claim

The following is a brief description of the results from data analysis on these factors in each group. The most preferred causes of claim are chosen when the RII result is between 0.27 and 0.66.

Table 5: Results for causes of claim

Causes of Claim	Mean	Standard deviation	Relative important index(RII)
Lack of expertise	3.23	0.805	0.55
Sequence of work directed by owner	3.29	0.973	0.54
Delayed approvals of schedules and change orders.	3.26	0.930	0.35
Inadequate scheduling clauses.	3.71	1.131	0.46
Drawings not indicating work interfaces.	3.35	1.142	0.53
Lack of expertise in schedule management	3.03	1.048	0.59
Quality control	3.58	1.119	0.48
Inadequate record keeping.	3.19	0.873	0.56
Inadequate schedule updates and progress monitoring.	3.29	0.783	0.54
On-site coordination.	3.68	0.791	0.66
Job progress meetings.	3.52	0.851	0.50
Noncompliance with specifications	3.00	0.856	0.60
Non adherence to site	3.48	0.811	0.50

instructions.			
None updating of schedules.	3.45	0.925	0.31
Reluctance to cooperate and coordinate.	3.65	1.018	0.27
Failure to meet milestone dates.	3.26	1.094	0.35
Noncompliance to permit requirements.	3.90	0.870	0.42

From the table above it is been observed that “on-site coordination” is the causes of claim that appears always that all the three sides (client, contractor and consultant) agrees upon.in this case lack of coordination among the three parties is the major factor causing claim among the consultants, contractor and clients with a relative importance index value of (RII=0.66) based on the results. “Noncompliance with specifications “this means that not working in accordance with the specification or misunderstanding the specification is also another major factor causing claim. This is ranking second with the relative importance index value of (RII=0.60) and on the third place is “Lack of expertise in schedule management” with the relative importance index value (RII=0.59).most of time lack of expertise in a scheduled management is a common problem but not yet been solved. The least factor that causes claim in our table “Reluctance to cooperate and coordinate” with a relative index of (RII=0.27). But this doesn’t mean it’s not a major cause of claim it’s only less in accordance with the data that’s been collected.

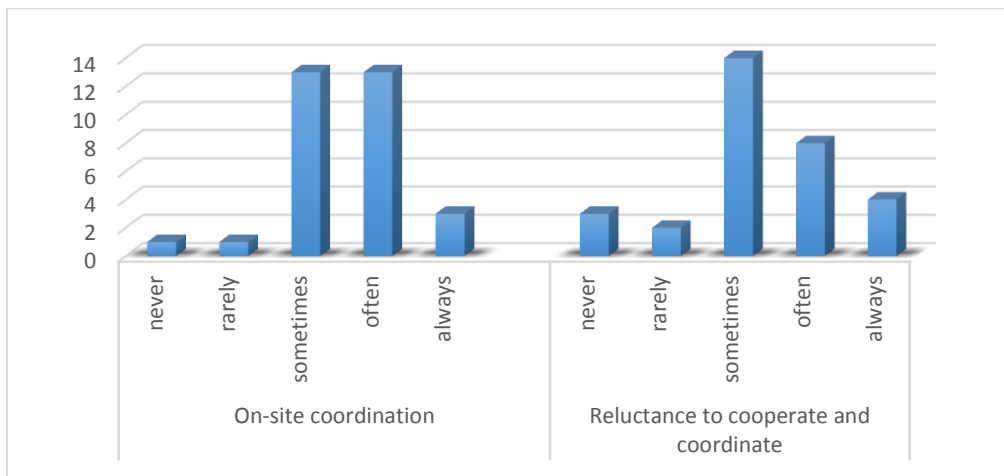


Figure 4: causes of claim with high and low relative importance index

4.5. Correlates for causes of price escalation

The following is a brief description of the results from data analysis on these factors in each group. The most preferred causes of price escalation are chosen when the RII result is between 0.33 and 0.59.

Table 6: cause of price escalation

Internal Factors	Mean	Standard deviation	Relative important index(RII)
Delivery/procurement approach	3.29	0.938	0.54
Project schedule changes	3.61	1.022	0.48
Engineering and construction complexities	3.26	1.064	0.55
Poor estimating	4.03	0.948	0.39
Ambiguous contract provisions	3.55	1.060	0.49
External Factors			
Local concerns and requirements	3.48	1.122	0.50
Force Majeure	4.06	0.854	0.39
Change in Legislation	3.48	1.061	0.50
Fluctuation in money exchange rates	3.55	1.179	0.44
Increase in global demand for construction materials	3.39	1.022	0.52
Fluctuation in money exchange rates	3.81	1.046	0.44
Limited capacity of material producers	3.03	1.224	0.59
Local or municipal regulations	4.35	1.018	0.33
Increase in material cost (material fluctuation)	4.03	1.110	0.39
Shortage of labors / skilled workers	3.94	1.181	0.41

There are a lot of factors that cause price escalation both internally and externally and some of them are mentioned above. From the above listed internal factors “Engineering and construction complexities “has the highest frequency to appear always with a relative importance index of (RII=0.55). With a very slight difference of frequency “Delivery/procurement approach” appears to be the second on the table with a relative importance index of (RII=0.54).From the external factors mentioned above “Limited capacity of material producers “happens to appear always with a relative index(RII=0.59)

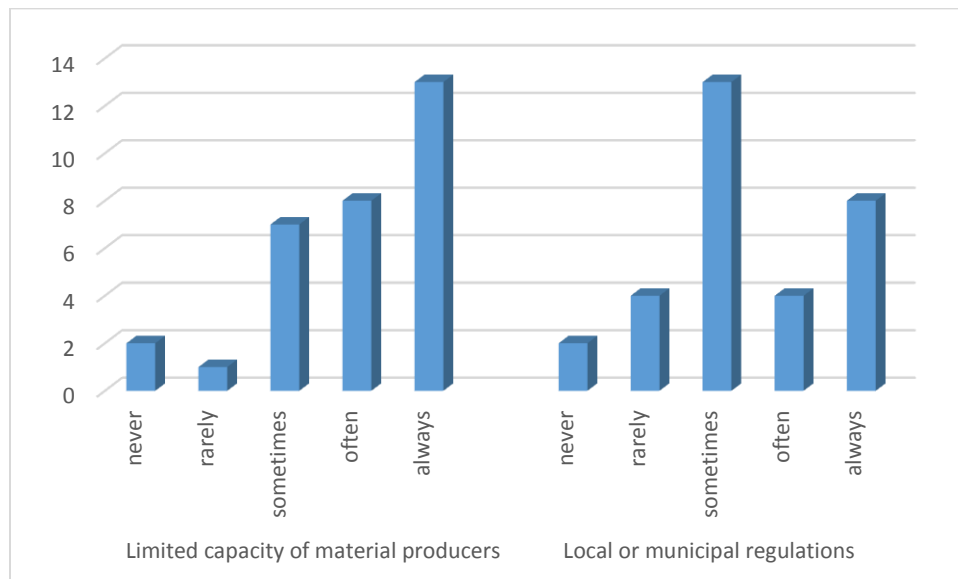


Figure 5: causes of price escalation for higher and lower relative importance index

4.6. Correlates of effect of price escalation

The following is a brief description of the results from data analysis on these factors in each group. The most preferred causes of price escalation are chosen when the RII result is between 0.3 and 0.5.

Table 7: Effect of price escalation

Effects of price escalation	Mean	Standard Deviation	Relative Importance Index(RII)
Delay	3.29	1.189	0.4
Cancelled Projects	4.42	0.992	0.5

Reduced Numbers of Bidders	3.61	1.086	0.3
Dispute among parties	4.42	0.848	0.3

The result from the above table cancellation of projects is the huge” effect of price escalation” in according to the data collected with relative importance index of (RII=0.5) whereas “delay” is in the second rank of effect of price escalation with relative importance index of (RII=0.4).”Dispute among parties” and” reduced number of bidders” appear to be equally affected due to price escalation with the relative importance index off (RII=0.3).

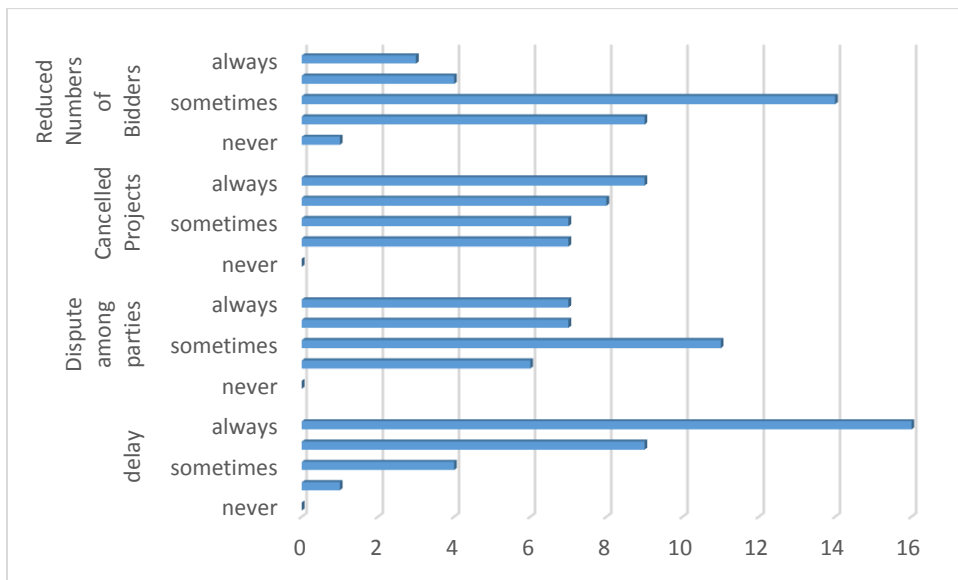


Figure 6: Effect of price escalation

4.7 Correlates of effect of claim

The following is a brief description of the results from data analysis on these factors in each group. The most preferred causes of price escalation are chosen when the RII result is between 0.3 and 0.6.

Table 8: Effect of Claim

Effects of Claim	Mean	Standard Deviation	Relative Importance Index(RII)
Increase project cost	4.32	0.832	0.3
Decrease quality of work	3.61	1.145	0.5
Increase project delays	2.87	1.024	0.6
Loss of profit	3.48	1.061	0.5
Project failure or termination	3.26	0.682	0.5
Increase safety hazards	3.32	0.945	0.5

According to the above table effect of claim due to “The Client responsible of changing in original design. According to this change will be dispute of delay and increasing cost of change”. This effect seem to happen always in relation to the other factors with a relative importance index of (RII=0.6).In this case “Poorly written contracts “looks to happen never with relative importance index of (RII=0.3) and the rest of the effects seem to appear equally with relative importance index of (RII=0.5).

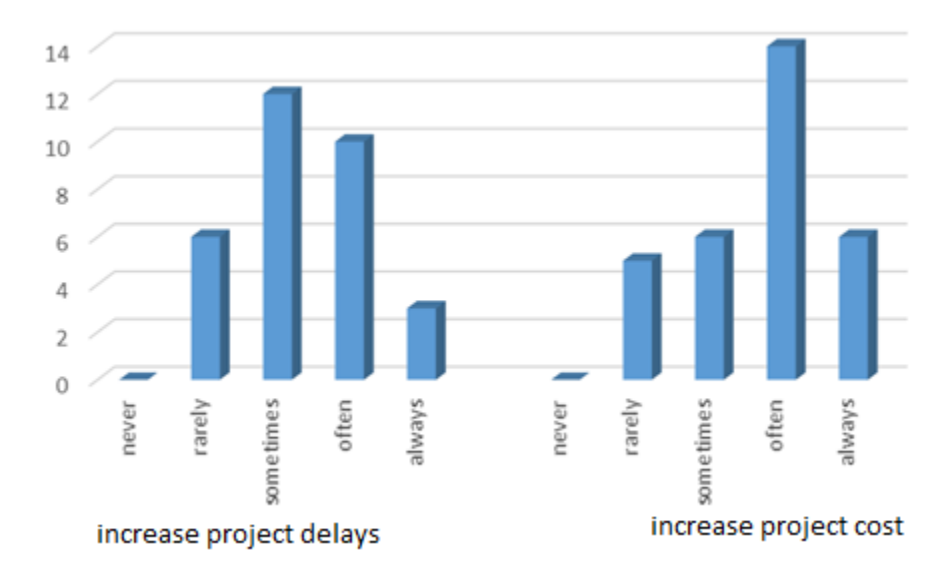


Figure 7: Effect of claim with high and low relative importance index

4.8 Correlates of mitigation method of claim

The following is a brief description of the results from data analysis on these factors in each group. The most preferred causes of price escalation are chosen when the RII result is between 0.4 and 0.5.

Table 9: Project Claim Mitigation Method

Project Claim Mitigation Method	Mean	Standard Deviation	Relative importance index(RII)
Define a project's scope in an unambiguous and detailed manner	4.06	0.680	0.4
Define changes to the contract (scope, cost, time, approval authority, or communication process)	3.68	0.979	0.5
Scheduling of the project and key dates	3.50	0.974	0.5
Process to extend the timeline for key dates and milestones as the project progresses.	3.52	0.811	0.5
Force majeure (suspension of work, and relevant time period)	3.57	0.971	0.5
Define changes to the contract (scope, cost, time, approval authority, or communication process)	3.41	0.747	0.5
Require detailed design, specifications, and drawings, including percentage of completion	3.87	1.147	0.4

Establish a thorough understanding of site conditions at the onset of the project	4.10	1.012	0.4
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From the table above project claim mitigation methods most of them looks to appear equally with relative importance index of (RII=0.5) and (RII=0.4).But mostly “Define changes to the contract (scope, cost, time, approval authority, or communication process)”, “Scheduling of the project and key dates”, “Process to extend the timeline for key dates and milestones as the project progresses” , “Force majeure (suspension of work, and relevant time period)” and “Define changes to the contract (scope, cost, time, approval authority, or communication process)” are some of the mitigation methods that happen to appear frequently.

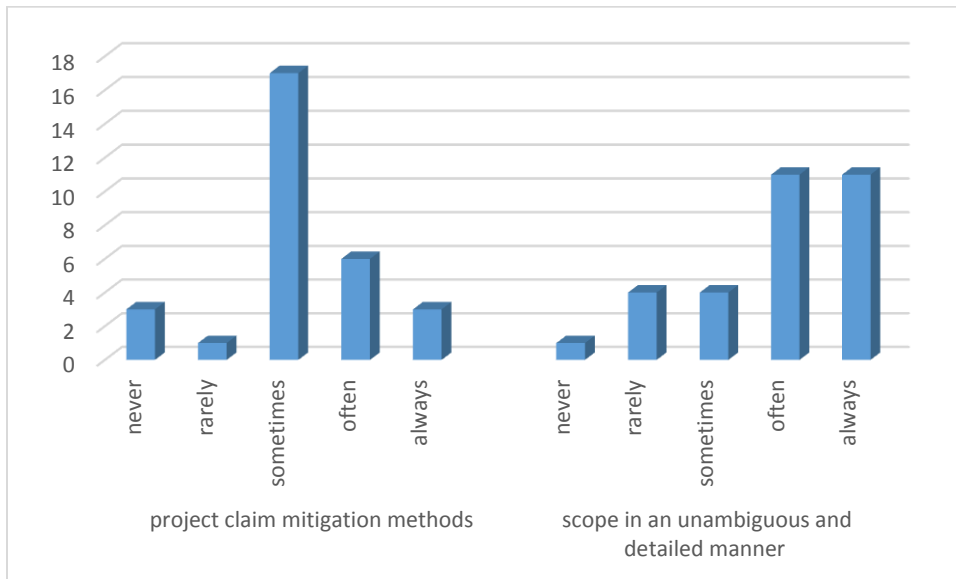


Figure 8: project mitigation method with high and low relative importance index

4.9. Review of interview answers

Interview questions have been distributed among five respondents. From the five respondents four of them have replied. Among the respondents one is the director of the project construction office and also a civil engineer with an experience of 15 years in commercial bank of Ethiopia in project construction office, both the project manager has

an experience of 10 years in the project construction of the commercial bank of Ethiopia and are civil engineers. The last is the manager building construction office and also an architect with an experience of 18 years in the building construction office.

From the respondents point of view most of the claim issues that has been raised according to their experience was due to time extension and cost claim or price escalation. But on the basic ground all of the respondents have agreed that the major types of claim issues in the projects of the commercial bank of Ethiopia was cost and time extension claims.

Even though this are a very huge issue on the process of the construction implementations the commercial bank has boldly closed price escalation issues but time extensions may have sometimes been accepted especially if extension of time is on the contract agreement.

Other than time and cost claim poor specification change order variation are also some of the major types of claim issues in the project implementation process.

According to the respondents Force major due to covid and war, market inflation, material shortage, change order by consultant without client intent, Weather, unforeseen conditions, late site handover, Poor scheduling and management, low bid amount & Delay in timely decision are among some of the causes of claim.

There are some effects encountered on the project implementations and according to the respondents some of the effects are additional cost, termination of project, escalation, dispute, and late delivery of projects, Delay of projects and poor quality of work.

Lately there have been some mitigation methods that have been used and some of the mitigations method are approve time extension that has sufficient evidence, negotiation with the contractor, pre finance, and support by approving LC, Close follow-up on schedules and update timely, pro-active identification of causes of potential claim and timely decision and also Avoiding discrepancies between design and specification, we tried to minimize change order.

Finally some possible plans are made to avoid or mitigate claim issues on the projects implementation. Thus some of the plans are allow price adjustment, support contractors by LC, pre finance and administrative time extension Strengthen supervision and contract administration capability of the department, units and professionals though Claims cannot be avoided but minimized so as we will try to make efficient design and pre construction activities timely.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

This chapter presents the conclusions and recommendations of the research which are based on the results of data analysis and discussion made on the previous chapter. The objectives of the research were to assess the causes and effects claim, to identify problems of price escalation, to assess the mitigation method of claim in project management present price escalation and to forward recommendations which can assist in improving the claim management on commercial bank of Ethiopia. To achieve these objectives, the study used desk study and questionnaire survey as a research instruments. The information gathered from the survey was analyzed using the relative importance index and correlated using spearman's correlation coefficient.

Based on the results from the analysis the following conclusions have been derived and Summarized in accordance with the objectives of the research.

The first objective of this research was to investigate the causing factors that lead to claim in CBE construction projects. To achieve this, a questionnaire survey containing factors that could cause claim which were identified from literatures and desk study were ranked by respondents based on the frequency of occurrence. The results showed that on site coordination, Noncompliance with specifications and Lack of expertise in schedule management are a major factors that could cause claim in project construction management.

The second objective of this research was to assess the causes and effects of price escalation. To achieve this, a questionnaire survey containing factors causing price escalation (i.e. internal and external) were identified from respondents based on the frequency of occurrence. Engineering and construction complexities, Delivery/procurement approach, Ambiguous contract provisions, Project schedule changes and Poor estimation are identified as major internal causes of price escalation in commercial bank of Ethiopia.

Limited capacity of material producers, Increase in global demand for construction materials, Change in Legislation, Local concerns and requirements, Fluctuation in money exchange rates, Shortage of labors / skilled workers, Force Majeure, Increase in material cost (material fluctuation), and Local or municipal regulations are identified as major external causes of price escalation in construction bank of Ethiopian construction project.

The third objective of this research was to examine the effect of claim in building construction. Again to achieve this a questionnaire was distributed among the respondents and a result was achieved. Due to this cancelled projects and delay is the major effect of claim in building construction according to the respondents. Reduced Numbers of Bidders and Dispute among parties contribute equally to the effect of claim in building construction.

The major effects of claim in the commercial bank of Ethiopia results accordingly in descending order with regard of the respondent's response. The first one is "The Client responsible of changing in original design. According to this change will be dispute of delay and increasing cost of change", "these delays represent problems in the contractor's organization such as lack of management or financial capability, sub-contractor caused delays etc.". Misunderstanding between the client and contractor. The contractor believes that he is performing extra work, while the owner believes the work was part of original contract, Different measurement pricing claim, the different measurements in final stages affect the plan of the time and price in the project" and "Poorly written contracts."

Finally the major effects of the mitigation method of claim according to the respondent's responses are "Define changes to the contract (scope, cost, time, approval authority, or communication process)", "Scheduling of the project and key dates", "Process to extend the timeline for key dates and milestones as the project progresses.", "Force majeure (suspension of work, and relevant time period)", "Define changes to the contract (scope, cost, time, approval authority, or communication process)", are some of the mitigation methods practiced highly in descending order whereas the next factors acts next to the above factors accordingly. Therefore" Define a project's scope in an unambiguous and detailed manner", "Require detailed design, specifications, and drawings, including

percentage of completion”, and “Establish a thorough understanding of site conditions at

the onset of the project.” Appears to be the next major mitigation methods of claim in the building construction of the commercial bank of Ethiopia.

5.2. Recommendations

The objective of this research was to generate findings from the hypothesized problems addressed in the literature review through questionnaire survey and interview. In addition, one of the objectives of this thesis was to forward recommendations to improve the administration of Claim in the commercial bank of Ethiopia construction projects based on the finding of the study. Therefore the recommendation will focus in addressing the major problems identified through the research processes.

The other recommendation is to contracting parties in order to focus and discuss continuously on those identified factors and problems during their construction progress meetings for the successful implementation of the CBE building construction projects. In addition they should strongly focus on construction management capacity building to realize the management success (completion of a project within time and budget according to the technical specification). Based on the findings of the research, the following recommendations are expected from key role players in construction projects.

For Clients (CBE)

- The clients should invest their effort in planning phase of the projects. Proper planning of a project in terms of time, cost, quality and resource should be addressed. All the resources required for the construction of a project should be arranged in well manner before commencement of construction.
- Update construction cost estimates based on experience and analysis of construction components (labor, materials, equipment, etc.) i.e. cost estimates should be based on feedback from the experience and understanding of the project conditions rather than on historical data adjusted for inflation increases over each year.
- The clients should determine the required duration of project and impose realistic duration to avoid time and cost overruns.

- The clients are recommended to have technical staff who is able to manage the different Stages of any project and to follow the performance percentages, and also able to compare the actual performance with the planned one.
- The clients should properly anticipate the future price instability and device some Mechanisms to share the risks of escalation.
- Consider price escalation effects seriously by experienced professionals and make a decision on the way that price escalation effect is fairly shared through provision of appropriate price adjustment clauses in special conditions of contract.

For Consultants

- Consultants are advised to hire a qualified technical staff to manage the project in a good way, so he would be able to overcome any technical or management problems that will happen.
- It is also advised for consultant to have high qualification to give suitable instruction in a suitable time and to be able to answer any question stated by contractor to avoid price escalation.
- Study the likely occurrence of price escalation, device mitigation plan and time extension before the project suffers.
- The consultant should continue their regular progress meeting but focus on the effectiveness of each meeting.

For Contractors

- For site management and supervision i.e. administrative and technical staff should be assigned as soon as project is awarded to make arrangements to achieve completion within specified time with the required quality, and estimated cost.
- During execution of a project contractors should focus on planning (work breakdown structure, scheduling, resource allocating, etc.) effort and project managers leading ability which improves effective site management in utilizing

and coordinating man power, equipment and materials towards the success of a project.

- To be aware about construction materials, so they are advised to purchase the Construction materials on time. It is also better for them to have time schedule for material delivery process to the site in order to avoid shortage or lack of materials.
- Adequate qualified technical staff with appropriate experience of the project in order to be able to follow the different technical and managerial aspects of the project.
- Contractors should have enough cash before beginning in any project to avoid the financial problems. Also it is advised to monitor financial spending of the project and payments because any problem in financial aspect will lead to delay and cost escalation.
- The contractor should consider price escalation effects critically before tender submission and should agree on the way that price escalation effects is fairly shared through provisions in conditions of contract.
- Contractors are recommended to have a time schedule that clarifies their needs for equipment and materials in the site, so it would be ready where needed without delay. So they would be able to detect performance in the work and to follow the time schedule continuously.

For All Parties

- Develop a more definitive policy and approach to calculate and minimize the causes of claim and effect. That is establish a consistent guidelines and better project management techniques required for monitoring, forecasting and calculation of the mitigation methods.
- To improve the cost and time overrun of project there needs to be a best practice cost estimation standard that agencies can use to benchmark against and if necessary upgrade their own manuals, processes and procedures in relation to project cost estimation.

- All parties should work together to recover the compensation system and the method of mitigation methods.

For Government

- The government should create an environment of economic stability that is adequate to encourage investors, especially in the production of construction materials to be produced from local materials and production of enough quantity and quality of construction materials in the local market, this will restrict excessive price fluctuations associated with imported construction materials.
- The Ethiopian statistics agency or other regulatory body should collect and publish current indices at a certain period. This to mean every market fluctuation for materials and labor rates should be registered and documented for indices preparation to be suitable for adjustment system by formula method.

For Further Study

In addition current research, the followings are some areas recommended for further studies.

- Develop the current research by increasing the sample size and studying the area more in depth. This makes the data more reliable. If questionnaire is used as a tool for data collection the level of knowledge and level of understanding of the respondents in responding the questions should be put under consideration. Whereas archival records are used as data collection tools, reports of different contracting parties should be reviewed in order to obtain multiple evidences.

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ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**ASSESSMENT OF CAUSES AND EFFECT OF CLAIM IN BUILDING
CONSTRUCTION PROJECT MANAGEMENT OF LOCAL
CONTRACTORS: THE CASE OF COMMERCIAL BANK OF ETHIOPIA IN
ADDIS ABABA CITY**

Dear Sir/Madam,

The aim of this questionnaire is to obtain professional opinion on '*ASSESSMENT OF CAUSES AND EFFECTS OF CLAIM IN BUILDING CONSTRUCTION PROJECT MANAGEMENT OF LOCAL CONTRACTORS: THE CASE OF COMMERCIAL BANK OF ETHIOPIA IN ADDIS ABABA CITY*'.

The study is conducted by Tensaye Melka for the partial fulfillment of MA in Project Management, under the supervision of Dr. Misraku Molla, at St. Mary's University. This Questionnaire is required to be filled with exact and relevant facts as much as possible. All data included in this questionnaire will be used only for academic research purpose and will be strictly confidential. Your answer for the questions included in the questioner is highly important to the findings of the study, thus I kindly request you to provide the right information. If you have any questions or comments, please don't hesitate to contact me.

Thank you in advance for your kind cooperation.

You can reach me by;

Mobile: 0911139526

E-mail: tensayemelka@gmail.com

Tensaye Melka

APPENDIXES

Appendix- A: Questionnaire

Appendix- B: Information of the Projects

Part one: General Information

1.1 . Gender

Male Female

1.2. Age

20-25 25-30 31-40 40 and above

1.3. How many building projects have you been involved in?

Less than 5 projects 6-10 projects More than 10 projects.

1.4 .Years of experience of the respondent:

Less than 5 years from 6 to 10 years

From 10 to 15years Over 15 years

1.5. Type of company that you are enrolled in

Contractor Consultant Client

Part two: Claim in Construction Projects

1) How often price escalation claim could be arose in your experience?

Never Rarely Sometimes Often Always

3) The probability of the effects of a claim on the construction projects are mainly due to the contractors.

Strongly disagree Disagree Neutral Agree Strongly Agree

4) Is there any of your projects that highly faced the effect of a claim?

Yes No

Part three: Cause and Effect of Construction Claim

5. Please indicate how causes of claim might affect the overall projects using stated the following criteria.

1. Never 2. Rarely 3. Sometimes 4. Often 5. Always

Causes of claim indicator	1	2	3	4	5
Lack of expertise					
Sequence of work directed by the owner					
Delayed approvals of the schedules and change orders					
Inadequate scheduling clauses					
Drawings not indicating work interfaces					

Lack of expertise in a scheduled management					
Quality control					
Inadequate record keeping					
Inadequate schedule updates and progress monitoring					
On-site coordination					
Job progress meetings					
Noncompliance with specifications					
Non adherence with site instruction					
Non updating of schedules					
Reluctance to cooperate					
Failure to meet milestone dates					
Noncompliance to meet requirements					

6. Please indicate causes and effect of price escalation claim using the following criteria.

1. Never 2. Rarely 3. Sometimes 4. Often 5. Always

Factors causing and effects of price escalation	never	rarely	sometimes	often	always
Internal factors					
Delivery					

procurement approach					
Project schedule changes					
Engineering and construction complexities					
Poor estimating					
Ambiguous contract provision					
External factors					
Local concerns and requirements					
Force majeure					
Change in legislation					
Fluctuation in money exchange rates					
Increase in global demand for construction materials					
Limited capacity of material producers					
Local or municipal regulations.					
Increase in material cost(material fluctuation)					

Shortage of labor/skilled workers					
Effect of overall price escalation					
delay					
Cancelled projects					
Reduced number of bidders					
Higher project costs					
Dispute among parties					

7. Please indicate the effect of claim using the following criteria.

1. Never 2. Rarely 3. Sometimes 4. Often 5. Always

TYPE OF CLAIM	EFFECT	1	2	3	4	5
CONTRACTUAL CLAIMS	Poorly written claims					
Delay Claims	These delays represent problems in the contractors organization such as lack of management or financial capability ,sub-contractors caused delay etc.					
Change Claims	The client responsible of changing the original design. According to this change will be dispute of delay and increasing cost of change.					

Extra Work Claims	<ul style="list-style-type: none"> • Misunderstanding between the client and the contractor. The contractor believes that he is performing an extra work while owner believes the work was part of the original contract. • Different measurement pricing claims. • The different measurements in final stages affect the plan of the time and price in the project. 					
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8. Please indicate the mitigation method of claim using the following criteria.

1. Never 2.Rarely 3.Sometimes 4. Often 5.Always

Project claim mitigation methods	1	2	3	4	5
Define a projects scope in an ambiguous and detailed manner					
Define changes to the contract(scope, cost ,time, approval authority, or communication process)					
Scheduling of the project and the key dates					
Process to extend the timeline for key dates and milestones as the project progresses					
Dispute resolution process(negotiation, arbitration, mediation and other alternatives method to ligation)					
Force majeure/(suspension of work					

relevant time period)					
Utilize qualified professional					
Require detailed design, specification and drawings, including percentage of completion					
Establish a thorough understanding of site conditions at the onset of the project.					

Interview questions

The following are interview questions for selected respondents on the causes and effect of claim on project management.

1. For which organization you are working?
2. What is your position in the organization?
3. How long have you been working in your organization?
4. What are the major types of claim issues you just faced in your experience?
5. What do you think could be the causes for the claims you experienced?
6. What noticeable effects have been encountered from those claims on the project?
7. What measures have been taken to mitigate / avoid claims from your experience?
8. What possible plans have been set to the future to avoid claim issue's on your organization?

Appendix B information on the projects

Commercial Bank of Ethiopia

Construction Projects

New Construction and Design Projects

S.N	Name of Construction Projects	project type	location	client
	New Construction /completed design stage			
1	Debre Berhan Data Center	New construction	Debre Berhan	CBE
2	Warehouse Building Construction	New construction	Addis Ababa	CBE
3	Bishoftu Branch Construction	New construction	Bishoftu	CBE
4	Woliso Branch Construction	New construction	Woliso	CBE
5	Addis Zemen Branch Construction	New construction	south Gonder	CBE
	Total Sum			
	Design on progress			
1	Dembi Dollo Branch	New construction	Wollega	CBE
2	Gambella Branch	New construction	Gambella	CBE
3	Shambu Branch	New construction	East Wollega	CBE

4	Anger Gute Branch	New construction	Nekemete	CBE
5	Kamashi Branch	New construction	Benshangul Gumuz	CBE
6	B/Goba Branch	New construction	Goba	CBE
7	Yabello Branch	New construction	Borena	CBE
8	Wolkite Branch	New construction	Wolkite	CBE
9	Bonga Branch	New construction	Keffa	CBE
10	Heremata Branch	New construction	Jimma	CBE
11	Old Headquarter Expansion	Renovation	Addis Ababa	CBE
12	Warehouse Design Work	New construction	Addis Ababa	CBE
13	Central Archive Building	New construction	Addis Ababa	CBE
14	Top Management Villa House (2 Block)	New construction	Addis Ababa	CBE
15	Old Headquarter	Expansion and renovation	Addis Ababa	CBE
16	Center of excellence	New construction	Addis Ababa	CBE
17	Banks clinic	New construction	Addis Ababa	CBE
	New Design			
1	Chiro Branch	New	Addis Ababa	CBE

		construction		
2	Bulehora Branch	New construction	Addis Ababa	CBE
3	CBE Stadium	New construction and expansion	Addis Ababa	CBE

Completed and under construction projects

s.no	Name of construction project	Project type	location	client
1	Geda building	Completed	Addis Ababa	CBE
2	Zagwe building	Completed	Addis Ababa	CBE
3	Hedasse building	Completed	Addis Ababa	CBE
4	Addis Ababa branch building	Completed	Addis Ababa	CBE
5	Finfine building	Completed	Addis Ababa	CBE
6	Hawassa district building	Under construction	Hawassa	CBE
7	Adama district building	Under construction	Adama	CBE
8	Gonder district building	Under construction	Gonder	CBE
9	Baherdar district building	Under construction	Baherdar	CBE
10	Mekele district building	Under construction	Mekele	CBE
11	Motta district building	Under construction	Gojam	CBE

12	Woldia district building	Under construction	Woldia	CBE
13	Gida ayana district building	Under construction	Wollega	CBE
14	Hossana district building	Under construction	Hossana	CBE
15	Gelgel beles branch building	Under construction	Gumuz	CBE
16	Bole project	Under construction	Addis Ababa	CBE
17	Addis ababa district	Under construction	Addis Ababa	CBE
18	Debremarkos district building	Under construction	Debre markos	CBE
19	Kake district building	Under construction	Wollega	CBE
20	Ex engineer building	Under construction	Addis Ababa	CBE
21	Butajera district building	Under construction	Butajera	CBE
22	Jinka district building	Under construction	Jinka	CBE
23	Tier iv data center	Under design	Deberberhan	CBE
24	Abiy The new head quarter	Completed	Addis Ababa	CBE

Project that are on the request of land Acquisition

s.no	Name of construction project	Type of project	location	client
1	Semera District building	under land acquisition request	Semera	CBE
2	Assosa District building	under land acquisition request	Assosa	CBE
3	Estie branch office building	under land acquisition request	Gonder	CBE
4	Dabat branch office building	under land acquisition request	Gonder	CBE
5	Nefas Mewecha branch office building	under land acquisition request	Gonder	CBE
6	Abi-Adi branch office building	under land acquisition request	Tigray	CBE
7	Jigiga district building	under land acquisition request	Jigiga	CBE