

Evaluation of Claim Management Practice Employed by Local Road Contractors in Ethiopia

BY
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ADVISOR: WUBISHET JEKALE (Dr.Eng, Ass. Prof.)



A thesis submitted to
the School of Graduate Studies of Addis Ababa University
in partial fulfillment of the requirements for the Degree of
Master of Science in Construction Technology and Management

June 2017

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Management in Road Construction Projects in Ethiopia**

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Addis Ababa Institute of Technology Department of Civil and
Environmental Engineering**

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Contractors in Ethiopia**

MSc Thesis

By

Abel Shawel

December 2016

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DECLARATION

I declare that this thesis entitled “**Evaluation of Claim Management Practice Employed by Local Road Contractors in Ethiopia**” is my original work. This thesis has not been presented for any other university and is not concurrently submitted in candidature of any other degree, and that all Sources of material used for the thesis have been duly acknowledged.

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Abbreviations

ADB African Development Bank

ADR Alternative Dispute Resolution

AIA American Institutes of Architects

BaTCoDA Building and Transport Construction and Design Authority

BOQ Bill of Quantity

BOT Build operate transfer

DRB Dispute Review Board

DRE Dispute Review Expert

ERA Ethiopian Roads Authority

FIDIC 'Fédération Internationale des Ingénieurs – Conseils

ICE Institute of Civil Engineers

JCT Joint Contracts Tribunal

MoWUD Ministry of Works and Urban Development

PPA Public Procurement Agency

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3.4 Pilot Study

A pilot study was conducted to evaluate the questionnaire. A sample of 5 experienced persons was contacted to evaluate the questionnaire. Generally, it appeared that respondents had no difficulty to understand and can easily complete the questionnaire. Minor modifications to the questionnaire were carried out accordingly.

Abstract

The significantly increasing number of construction claims indicate the need for the implementation of an effective construction claim management. Claim is a specific requirement of one contracting party for time extension for completion and/or additional payment that could be notified to the other contracting party on the base of an event or circumstance that is foreseen in a contract clause or otherwise in connection with the contract.

Construction claims have high impacts on the project's cost and time performance that the contractor should establish the effective claim management in their organizations. Claim management is a system for monitoring and assessment of risks, variations and their economic impact for the purpose of claim preparation and enforcement. And it is also a system for the early solution of problems, obstruction and complications.

Claim management is becoming a crucial subject given the recent economic situation in the construction.

The fact that the contractor is able to claim in conformity with the contract is a question of survival. Nowadays, it is very important to be able to implement claim management in a construction company quickly and efficiently. This research aimed at presenting the key concepts of construction claims, and construction claim management, focusing on the contractor's point of view and the researcher sought to discover current practice employed by Ethiopian local road contractors in claim management analyzing the relevant literature, theory and recommended claim management process. In addition, a questionnaire survey was done to assess the efficiency of the contractors in managing their claims. Also as a method of improvement measures the researcher tried to set forth various mechanisms which can assist in the advancement of the current practices of claim administration or management.

In terms of research methods, the author chooses a quantitative method using a given set of questions to gain answer from experts, and finally the result from this research can help the contractors improve their weakness and maintain their strengths of their claim management process.

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CHAPTER 1

1.1 Background

In the most recent years, the Ethiopian construction industry has witnessed a remarkable progress. The demand for housing, infra-structure and hydropower projects lead to the appearance of mega projects which were complex and of great value. With this complexity came the need for fast tracking which usually results in rework, change orders, delays and site modifications. Accordingly, there was a need to have proper contracts put forward to allocate the risk between the owner, the contractor, and the consultant.

The majority of construction projects comprises of binding agreements or contracts that are drawn up for the sake of minimizing conflicts and disputes at the execution level or post completion of these projects. These contracts are usually signed between the two main parties: an Employer or Owner and a Contractor who undertakes the execution of that particular project. Such a contract includes general clauses and specific clauses which govern the relationship between the Employer and the Contractor.

In the Ethiopian road construction sector for the international contract, FIDIC or “Federation Internationale des Ingenieurs Conseils” is the known form of contract used to administer construction contracts. Many of the clauses included in road construction contracts are directly extracted from FIDIC which Employers greatly rely on in Ethiopia.

FIDIC acknowledges an additional involved party which is known as the Engineer. The Engineer’s essential role is to administer the contract impartially between the Employer and the Contractor. Once the works are awarded to the Contractor through the proper form of a letter and signing of a contract document, the contractor engages within a duration of 14 days in providing what is defined by (FIDIC,1987) as clause 14 baseline program. This work program is a very crucial document that is subsequently used to evaluate delay caused, regardless of the party responsible, and becomes the basis on which the claim put forward by the contractor against the client or vice versa is substantiated. The process involves the investigation of the reasons behind the delay whereby a comparison is conducted between the impacted program and the baseline to determine the amount of time the contractor might be entitled to.

According to Kartam, 1999 completing a project on schedule is a difficult task to achieve in the uncertain, complex, multiparty, and dynamic environment of construction projects .[37]Because of this,

the industry is always open to disputes. It is common for the claimant pursuing claim for work or services for defective work, delayed completion, changes of scope, etc. The number of construction claims and disputes has been increasing and has become a burden to construction industry. [41] Even with the most expert understanding of construction contract and the most reasonable risk-allocation system, claims will continue to present problems if they are poorly managed in practice. It is very important for contractors to submit claims according to the steps specified in the contract conditions, provide a detail of the additional costs and time, and present satisfactory evidence.

Construction claims in Ethiopia are common in almost every road construction project and are direct results of the rapid growth in the construction industry. Therefore, the occurrence of claims is a commonality perceived in many road construction projects and can be attributed to a set of factors which can cause considerable delays in a project and consequently result in a rapid increase in that project costs.

A survey of construction claim management practices in Ethiopia by Girmay (2003) and Abdissa (2003) showed that the lack of awareness of claims of on-site people is considered the major problem of claim management.

In addition the Ethiopian construction industry lacks an appropriate guidance or training on the handling of claims on international contracts.[28] And other problems associated with claim management vividly seen by Abdissa (2003) during his study on the local contractors were:

- a) Lack of experience in processing claims
- b) Lack of knowledge of legal aspect of claims
- c) Lack of awareness of claims and
- d) Deficiency of detail pre contract planning. In general the study shows that claims management in Ethiopian construction industry is at very low and infancy stage and need great input for improvement.[1] The inadequacies of supporting evidence, stemming from unaware project personnel as well as improperly designed documentation systems, are also the most serious shortcomings causing loss of opportunity to recover incurred damages. So that all management level in the construction pay more attention to these aspects in order to have an effective claim management system.

According to Kululanga 2011, Claims management is the process of employing and coordinating resources to progress a claim from identification and analysis through preparation, and presentation, before it proceeds to negotiation and settlement.[40] The key objective of the claim management process

is to resolve certain problems in an effective and efficient manner. Avoiding litigation and arbitration in claim settlement is one good practice that successful contractors must keep in mind.[50]

For the contractor, it is a good to establish an effective claim management system so that he can be aware of the potential adverse effects and has opportunity to take proper action to protect the project or reduce losses in advance instead of simply complying with clients' claims.

The contractor's claim management system should be able to notify as well as substantiate the claim to the employer by using the data collected by his representative or claim personnel when certain types of claims occur in the project. Moreover, this system should be able to help the contractor prepare claim documents against the employer and prevent claims filed against him. In general contractor's management level to pay more attention to these aspects for having an effective claims management system.

This research aimed at presenting the key concepts of construction claims, and construction claim management, focusing on the contractors' side. In addition, a questionnaires survey was performed to assess the current practice and efficiency of the road contractors in managing their claims.

1.2 Statement of the Problem

Construction claims and disputes can occur in both public and private projects, and also in small and large projects. In reality almost all construction projects of considerable contract values and significance face delays and cost overrun. This is due to the fact that during certain phases or all phases of a project, certain constraints are imposed by the Employer, Engineer or the Contractor's ineffectiveness which lead to the occurrence of delays. So an effective claim management system in construction companies have high impact on the projects' cost and time that deserves serious attention.

However in Ethiopia the general lessons on claim management practices of road construction companies, the increasing incidence of claims and disputes imply that, the current claim management process and practice are ineffective in meeting the road construction industry requirements. Hence, there exists a need for an overall step-by-step procedure for claims management and administration which is essential for achieving proper resolutions and for preventing claims from developing into disputes. They also need to be prepared and well-versed in how to identify, prepare, defend, and present a claim. For this reason, the claim management process should be understood by all project parties, especially the contractor so that they know how to present claims in a way that ensures receiving their rights.

The aim of this paper resides with providing a better insight on the process of claim management and provision of guidelines on how contractors should practice and manage the claim effectively and properly.

1.3 Aim and Objectives

The main aim of this study is to explore how construction claims are managed and substantiated by road contractors in Ethiopia by providing better insight of the current status of claims management. In order to facilitate the research aim, the following objectives have been drawn up:

- 1- To investigate claims management practices and identify the problems related to the current practices experienced by the local road contractors.
- 2- Reviewing and investigating the various types of claims faced in the road construction industry.
- 3- To identify the areas related to claim process that can be effectively improved.
- 4- To recommend how to improve claim management processes in local road contractors in Ethiopia.

1.4 Scope of the Research

The scope of the research is limited to the study of claim management and targets the road construction sector in Ethiopia and is based on ongoing and recently executed road construction projects by different road construction companies mainly focuses on grade one and two contractors and involves three main stakeholders who form parties in a construction contract, which are the contractor, the employer, and the consultant. The focus of the research has therefore been limited to the FIDIC form of contract for local projects, which are gaining wide acceptance in the management and administration of international and local projects.

The importance of this research lies in the fact that it provides guidance to Contractors on the methods by which contractual claims are substantiated and consequently managed in the road construction sector.

1.5 Research Questions

Certain research questions have been raised from the main conceptual framework and literature related to claims management and substantiation process in the construction projects. These questions are as follows:

- 1-What are claims and why do they need to be managed by road contractors in the construction industry?

- 2- What are the shortcomings of the current claims management and substantiation practices?
- 3-What are the essential components required for the proper substantiation of a claim in road construction projects?
- 4-How often did any road contractor face major obstacles to prompt or timely settlement of claims for extensions of time and cost claims?
- 5-What are the reasons for failure to provide timely notice of a claim to the other party?
- 6- What are the elements of well-structured claims management?
- 7-What are the key elements to a successful claim presentation?

By addressing the above mentioned research questions, the framework of this research can be structured to ensure an effective approach to the implementation of claims management in road construction projects, and the successful accomplishment of the aim of this study. The questions will be further investigated in chapter 4 which includes the analysis of responses.

1.6 Research Structure

This research work has been structured into five main chapters. The first chapter includes a background of the Ethiopian road construction industry and how construction claims appear and are submitted by contractors. It also includes a review of the main aim and objectives of this research and the statement of the problem.

Chapter two of this dissertation is the literature review chapter. In this chapter, various opinions written by scholars in the field of claims and claim management processes in construction works are reviewed. Various types of claims and problems related to claim management are also investigated from the points of view of different writers based on the definition of claims. Chapter three includes the methodology used to fulfill the research requirements and the approach used. The nature of this study will be quantitative, since it will include questionnaires only with claims experts, construction engineering professionals, office engineers and project managers.

Chapter four includes the analysis of the data collected by the means of questionnaire.

Chapter five is the last chapter of this dissertation and comprises of the conclusions and recommendations. In this chapter, further and future suggestions and insights are also given to scholars who intend to complement the findings of this study in further refined or detailed forms.

CHAPTER 2

2. Literature Review

In this chapter, a review of literature on the topic of the study is presented and it is the former works that are relevant to the research and presents an extensive study of claims, claim management sub processes and the types of claims identified by various scholars in an attempt to seek what previous scholars have found and theorized. Moreover, a look into concepts related to construction claims such as contracts, construction law and managerial approaches to claims is important and cannot be overlooked while describing construction claims and claim management.

In this chapter, claims are initially defined. After understanding the concept of claims, further description on types of claims is presented. With this understanding of claims, more insight is given into the process of claims management and substantiation by reviewing the various essential tools and factors as identified by claim specialists, which have contributed to the enhancement of claims management in the current practices in construction projects.

2.1 Introduction

The Ethiopian government is investing billions of birr every year in new facilities to improve the infrastructure of the country. Infrastructure development has been phenomenal in the country. The role the construction industry plays in socio-economic development is significant. The industry is a distinct sector of the economy, which makes its direct contributions to economic growth. [46] In view of this, the construction industry is considered the largest industry in Ethiopia. Yet, it is also very complex and the most fragmented industry as it involves multidisciplinary participants and several stake holders. Today, construction projects are the subject of more delay and claims than in any other time in history. Claims appear to hinder the completion of construction and cause delays in delivering projects.

Construction claims are considered by many project participants to be one of the most disruptive and unpleasant events of a project. [32] Today, construction projects are the subject of more claims than in any other time in history. The high competition has forced contractors to bid projects with minimum profits in order to stay in business. In addition to their multiparty nature, projects are becoming more complex and risky. This has placed an added burden on contractors to construct increasingly

sophisticated and risky projects with less resources and profits. Under these circumstances, it is not surprising that the number of claims within the construction industry continues to increase. [32]

Claims are requests or demands for payment of money or request for time extension or both to which a contractor believes, rightly or wrongly, he is entitled. In the context of civil engineering contract, a claim normally means a demand by a contractor for payment of an item or items of work carried out by him on behalf of the employer for which a readily identifiable amount cannot be ascertained under the terms of the contract.[30]They result as a consequence of various factors. Some of them are due to incomplete information in the initial tendering documents, unforeseen circumstances, inadequate contract administration, and lack of knowledge of contract documents or legal provisions. Currently there has been a significant occurrence of claim cases in major local and international contracts in Ethiopia. Some have been handled by international arbitration. This shows that claims do occur and will continue to occur. But how do we handle claim cases? What needs to be done?[28]

The key objective of the claim management process is to resolve a certain problem in an effective and efficient way. Avoiding litigation and arbitration in claim settlement is a good practice that the successful contractors must keep in mind. [22] Naturally, all project participants have a keen interest in avoiding and minimizing the problems that lead to claims. Sizeable claims harm both the owner and contractor. An owner may suffer loss of income, problems with funding or delayed occupancy. A contractor may face financial instability due to the loss of payments. It is wise for anyone involved in the industry to become familiar with the claims management process.[56] The concept of claim management is not new but has been lacking is the methodology that can help construction managers assess the level of effectiveness in their construction claim process. The need for such a structured instrument for auditing construction contractors' claim process cannot be overemphasized for the purpose of reducing time and cost increase.

Construction claims are contractor's legal rights of contract and it is also the legal means to maintain economic interests. Along with the development of market economy, the construction company needs to pay more attention to claim management. The challenge under these circumstances is to find efficient ways of preparing, evaluating, and settling claims.

Project owners need to follow an overall comprehensive step-by-step procedure for tracking and managing the claims submitted by contractors. Once a claim has been presented, the owner and contractor can come to an agreement concerning the claim and thereby, create a change order or a modification, or they may disagree and create a construction contract dispute. The complexity and long-

term nature of construction projects, combined with influence from other unforeseeable factors, make claims inevitable in the construction process. [23]

Moreover, a look into concepts related to construction claims such as contracts, construction law and managerial approaches to claims is important and cannot be overlooked while describing construction claims.

In this chapter, claims are initially defined. After understanding the concept of claims, further literature describing the types of claims is presented. With this understanding of claims, more insight is given into the process of claims management and substantiation by reviewing the various essential tools and factors as identified by claim specialists, which have contributed to the enhancement of claims management in the current practices in construction projects.

2.2 Construction Contract

Based on Black Law Dictionary [26] “Contract is an agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law”, while Oxford Dictionary of Law [45] mentioned “Contract is a legally binding agreement. Agreement arises as a result of “offer and acceptance”, but a number of other requirements must be satisfied for an agreement to be legally binding”. Construction Contracts Dictionary [16] mentioned that “Contract is a legally binding agreement formed when one party accepts an offer made by another and which fulfills the conditions”.

Besides the above definitions, (John Adriaanse 2007) said that “A variety of factors makes a construction contract different from most other types of contracts. These include the length of the project, its complexity, its size and the fact that the price agreed and the amount of work done may change as it proceeds”.

The construction contract is unique in that it seeks to provide for a specific remedy in the event of any breach of the terms and conditions within its framework and/or for a contractual entitlement in respect of specified events. Therefore, it is essential that the parties and those who represent them fully comprehend the terms of the contract and the remedies available to them under it.[47]

Construction contracts may be formed between a contractor and a proprietor, between a contractor and subcontractors, between a principal and a designer, and so on. The relationships, both contractual and otherwise, between the various parties in the building process have become complex and in many cases quite obscured. It is likely that some co-ordination and contractual problems are bound to occur, resulting in claims and disputes.[59]

A variety of factors make a construction contract different from most other types of contracts.

These include the length of the project, its complexity, its size and the fact that the price agreed and the amount of work done may change as it proceeds.

Because the contractual relationships between the parties to a construction contract are not likely to become less complex in the future, every effort should be made to minimize the number of claims and disputes and the impact they may have on the cost of the project. To achieve this, the parties to a contract should know the legal principles governing the formation of contracts. They should also have better appreciation of contract conditions and their interpretation and a greater awareness of the implication of inequitable allocation of risks and the need for more efficient and effective procedures for administering contracts [59]. Construction professionals are not lawyers and therefore should not attempt to act as their own lawyers. However, construction professionals must have a thorough understanding of the customary practices and underlying legal principles involving contract construction. Virtually every action taken by a contractor, construction manager, or engineer /architect in a construction site has legal implications. Thus construction professionals must understand the contractual consequences of their activities and be able to recognize when legal advice should be secured.

2.3 Conditions of Contract

Contract is based on some conditions established. Garner stated that “Conditions is a future and uncertain event on which the existence or extent of an obligation or liability depends; an uncertain act or event that triggers or negates a duty to render a promised performance” [26]

According to Henkin 2005 “The Conditions of contract is intended to regulate the relationship between the parties to the contract; it defines the parties and their responsibilities to each other as well as their responsibilities for various aspects of the contract. [31] In several standards conditions of contract, the liabilities of each of the parties and the respective risks to be taken by them are usually implicit in the defined responsibilities, but because of the complexity it is preferable to those liabilities to be explicitly defined”. In this case FIDIC Conditions of Contract explicitly defined all liabilities of the parties and also supported by the so called “claim management rules” in order to avoid disputes.

The General Conditions of Contract for public sector projects currently used in Ethiopia vary from PPA to FIDIC Conditions of Contract for Works of Civil Engineering Construction published by Federation Internationale des Ingenieurs Conseils,

The use of standardized conditions of contract in public sector construction contract in Ethiopia will make the parties get familiar to the contract, reduce the unnecessary effort in the procurement process and improve the efficiency in the contract administration activity. The use of standardized conditions of contract will be advantageous for both the employer and the contractor since the parties need not spend too much time in examining the conditions of contract of different projects. [54]

Conditions of contract could be national (local) or international. Standard conditions in the domestic scene have been written by public implementing offices such as BaTCoDA, MoWUD and PPA. International practices show that either of the following entities can issue their own contract forms. For instance, financing institutions such as the World Bank, ADB, and European Investment Bank etc. prepare contract forms according to their financing guide lines. Besides, professional associations including AIA, FIDIC, ICE and JCT have their own conditions of contract.

According to Perry (1995) cited in Rameezdeen and Rajapakse (2007) the use of standard forms of contract also helps to manage and mitigate project risks, as risks which may be overlooked under the pressure of tight project deadlines are likely to have been addressed during the multitude of document reviews by industry experts. Such standard forms of contract are intended to reduce the inefficiencies associated with the repeated drafting and reviewing of contracts, and to facilitate a greater sense of partnership between contractors and employers.[51]

2.4 Claims

Construction claims are found in most of construction projects. A claim is the seeking of consideration or change by one of the parties involved in the construction process. [5]The rising complexity of construction projects, the price structure of the industry, and the legal approach taken by owners and contractors has led to a substantially increased volume of claims.[41]

Contract claims can arise from numerous sources and causes. A contractor may or may not be entitled to claim for and recover costs, losses, expenses or damages, for certain causes depending entirely on the particular terms and conditions of the contract entered into.

According to Girmay (2003) in a way claims are inevitable in construction projects. They may occur when the terms and conditions of the contract change in such a way that the contractor is unable to recover expenses and profits. In other cases, when the provisions of the contract documents and specifications lack clarity, a correct interpretation of the documents may result in extra expenditure, which a contractor is forced to cover through claims.[28]

In some cases, where the form of contract transfers the risks to the employer rather than to the contractor, the contractor may be tempted to claim. Such occurrences happen depending on the form of procurement of the services. In the traditional form of procurement of services, where the employer provides the designs and specifications (prepared through a consultant) to the tenderers, the successful tenderer may not assume the responsibility for the completeness of the documents and hence may tend to claim for extra time and money, depending on the discrepancies that he may discover in the contract documents. Being aware of this, the FIDIC form of contract provides a number of clauses that entitle the contractor to claim for extra time and money.

In the other form of contract, such as the BOT, and fixed fee forms of contract, the design and construction of the projects is largely the responsibility of the contractor. The risk is then transferred from the employer to the contractor, with the result being lesser likelihood of the occurrence of claims.

The traditional form of procurement of services has an inherent tendency to be claim prone. Being a widely used form of procurement of services in Ethiopia, claims tend to occur rather frequently in the traditional procurement of services form of contract.

The causes of claims in construction projects are many and varied. Depending on the particularities of the site and geographic location they may have differing causes and impacts. In a nutshell claim components include entitlement, damages and relief. The rejection of whole or part of the claim by one of the contracting parties or initiating a counter claim against the claim triggers dispute.

Considering claim issues the definition, classification and cause of claims and claim management process generally used in the construction industry are addressed in this section.

2.4.1 Definition of claims

In all construction contracts, claims and the right to claim play a significant role in the contractual relationship between the employer and the contractor. Curiously, for such a fundamental aspect of the contract, no express definition appears in the typical standard form of construction contract and it is rare to find a definition of ‘a claim’ in reference texts or authorities on construction contracts. A claim is defined in The Oxford Companion to Law as a general term for the assertion of a right to money, property, or to a remedy.[47]

According to Levin (1998) a construction claim is defined as a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of contract terms, payment of money, and extension of time or other relief with respect to the terms of the contract.[41]

And Vincent.P-Smith and D said that claims are a general term for the assertion of a right to money, property or a remedy. In the context of construction industry, claims means, a demand by a contractor for extension of time or for an extra payment of an item of work carried out by him on behalf of the employer for which a readily identifiable amount cannot be ascertained under the term of contract. [61]

Some scholars have written profoundly on the topic of claims in construction. Among these scholars is Scott (1991) who defined claims as “the assertion of a right”. [55] And Monsey (1993) have said that construction claims are “change orders which have not been accepted by the various parties of the contract” [45]. And according to Wubishet (2006) a construction claim is a demand for payment of additional compensation, adjustment of the parties' respective contractual obligations, or any other change with regard to the contractual conditions or terms. [66]

However, the most technical definition of claims is the one presented as the assertion of an alleged right by a claimant, commonly by the contractor requesting additional time and/or payment as direct result or circumstance implied in the terms and conditions of the contract. [13]

It can be inferred from the former definitions that claims, with respect to Contractors, involve a request for extension of time or additional monies on account of obstructions engendered during the execution of the scope of works covered under the contract and which may not be considered as a breach or failure on behalf of the Contractor. The term "construction claim" is commonly used to describe any application by the contractor for payments not under the ordinary contract payment provisions, as when the contractor confronts additional costs and/or delays. Once a claim has been presented, the owner and contractor can come to an agreement regarding the claim and, thereby, create a change order or a modification, or they may disagree and create a construction contract dispute.

It is clearly evident that, despite the new innovations in administering construction contracts, the circumstances that cause claims on most contracts will continue to appear.

Similarly, in the Ethiopia, construction projects are frequently faced by delays and obstacles which tend to be very similar to the ones perceived in global construction projects. These delays usually result in undesirable results such as claims, disruption and disputes which tend to be time exhausting and of considerable costs which may be solved only through litigation. With the frequent occurrence of claims, it becomes prudent to study claims management and substantiation as a daily practice in the life cycle of projects.

2.4.2 Causes of claims in construction

Contract claims can arise from numerous sources and causes. A contractor may or may not be entitled to claim for and recover costs, losses, expenses or damages, for certain causes depending entirely on the particular terms and conditions of the contract entered into. There are also many reasons for claims to arise on a construction project. Deviations from performance requirements among contractual stakeholders whether it is related to completion time, or construction cost, or the fulfillment of its quality and its intended purpose, or safety, health and environmental consequences can cause claims in construction contracts. In addition unforeseen political, economic, social and technological uncertainties can also be the major factors causing claims. [21]

In general, construction claims occur because of the following:

Documentation

- Late issue of drawings
- Inadequate information on, or errors and/or inconsistencies contained in drawings
- Frequent reissue of drawings
- disputes relating to the precedence of documents where inconsistencies arise
- Insufficient plans and specifications;

The site

- Late or insufficient possession of site
- Incorrectly set out information provided by principal
- Disputes with adjoining principals (injunctions etc.)
- Changed site conditions (misrepresented or unexpected)
- Poor management and administration of the construction site;

Execution of works

- Imposed changes on contractor's construction methods
- Changes relating to the requirements of statutory authorities
- Defective workmanship or materials.
- The work becomes impossible to perform;

Subcontracting

- Late assignment of nominated subcontracts nominated by the employer which the contractor is obliged to appoint as a sub-contractor.

- Default by nominated subcontractors.

Time

- Changes in the order and sequence of the works
- Delays caused by the principal or the principal's agents
- Delays caused by weather, and other causes outside the contractor's control
- Accelerated completion
- Loss of productivity.
- Delays in construction and completion of the contract;
- Delays in the delivery and supply of materials;

Payment and adjustments of contract sum

- Variations, including whether or not an item is a variation and disputes over value of variations.
- Delayed completion
- Adjustments to measured quantities and/or relevant applicable rates
- Late of 'under-certification' of progress payments by resident engineer
- Late payment by principal
- Inconsistencies in interpretation of cost adjustment formulas
- Deduction of liquidated and ascertained damages by the principal.
- Weather which slows down or prevents construction from proceeding;

And other reasons like

- Owner requested changes;
- Conflicts between those involved in the construction of a project;
- Termination of the contract by the owner or the contractor;
- Failure to adequately schedule and coordinate the work; and
- Failure of parties to cooperate with each other in the performance of the work.[63]

By considering the above points claims in construction projects tend to have a set of causes for their occurrence and effects. The contractor needs to identify these causes carefully so as to substantiate his claim in the right way. The causes of claims in construction projects are usually known and pre-identified. If these causes are not evoked by the contractor, then they do not fall under his liability. Longbottom and Rawling (2008) summarize the causes of claims into a few which can be either

excusable like act of God (e.g. earthquake), variation, late information, inclement weather, compensable such as variations, discrepancies in information, late information and postponement of project both like variation, discrepancies in information and postponement of project. [42]

Table 2. 1 Type of event resulting in a claim [42]

Event/Cause	Excusable	Compensable
Act of God (e.g. earthquake, Inclement weather)	✓	
Discrepancies in information	✓	✓
Variations	✓	✓
Postponement of project	✓	✓
Late information	✓	✓
Inspection/tests	✓	✓
Antiquities	✓	
Employer's direct contractors	✓	✓

A direct outcome of claims as mentioned earlier would be completion schedule delay, assuming the Contractor is able to establish his entitlements to additional time post contract expiry. If the claim is managed appropriately, the contractor can further ensure the award of cost compensation. The strong link between claims and time delays can also result in cost escalation. In other words, the increase in the amount of money required to construct the project far beyond the initial allocated budget. [36]

Both time and cost claims in fact can lead in most situations to undesirable consequences. On the level of relationships between the contracting parties, they can have a very undesirable effect. This is attributed to the fact that in most occasions, claims have a relevantly high tendency to cause disputes, conflicts and alienation between the various key stakeholders or contract parties. Consequently, disputes in most situations result in expensive and remorse proceedings like arbitration and litigation. [14] Since unresolved claims are the basis for the existence of construction disputes.

According to (Wubishet, 2006) Causes for claims may be the occurrences of deviations from the promises made under the construction contract during the performance of the Construction Contract.

These deviations may reflect themselves in terms of or in relation to:-[66]

- completion time;
- construction cost;
- quality performance; and

- safety requirements

And the assertion of the following factors may also cause claims.

- Poor or unclear tender and/or contract documents;
- Poor or inadequate administration of responsibilities by stakeholders; and
- Unforeseen or uncertain situations during execution of the Construction Project;

The following categories of factors may also contribute to the emergence of claims.

- Changed conditions;
- Additional works;

Abd El-Razek et al. (2007) showed in his research, Investigation into the causes of claims in Egyptian building construction, through expert interviews. Three causes were found to be the vital few that are responsible for about 80% of causes. These causes are:

- 1."variations initiated by owner / consultant" (almost half of all causes);
- 2."inferior quality of design, drawings and / or specifications" (about 21% of causes);
- 3.And "delays of approval of shop drawings, instructions and decision making"(nearly 8%).[2]

In summary of the above, claims in construction projects are direct causes of time overrun. With the schedule overrun, cost escalation can consequently appear leading to disputes and conflict between the various contract parties. These consequences come as a result of certain events and causes identified by various scholars in the field of claims and project management.

In light of such complexity of time and cost factors resulting of claims, the contractors need to consider the implementation of claims management as a well-structured discipline along with other project management relevant areas of knowledge.

2.5 Types of Claims

There are various methods of classifying construction claims into categories. These methods can be placed into two groups. The first group classifies claims into two basic types by the objectives of claims. They consist of:

1. Claim for extra time to complete the contract
2. Claim for extra money arising out of the contract, and
3. Claim for both time and money

Claims tendered by contractors versus employers usually fall under four different categories which are contractual claims, common-law claims, quantum merit claims and ex-gratia claims [13]

The second group categorizes claims by considering their legal bases; Chappell (1984) classified claims into three major types:[13]

1. Contractual claims

Contractual claims are the claims that fall within the specific clauses of the contract, typically ground conditions, valuation, variations, late issue of information, and delay in inspecting finished work. Such types of claims form the largest part of claims and the terms of the contract define the situations in which they may be made and how they may be handled. For example the employer may institute a design change, and if such an unforeseen event occurs there is a procedure set out in the contract whereby the contractor may claim restitution by submitting a straightforward contractual claim.[28]

2. Ex-contractual claims

Ex-contractual claims (or extra-contractual claims) have no specific grounds within contract but are the results of breach of contract, which may be expressed or implied. An example of an ex-contractual claim is extra work incurred as a result of defective material supplied by the employer.

These claims are those which are either not made under the conditions of contract or are those allegedly made under them but considered legally unenforceable by the employer on the basis that they do not fall within their provisions. [30]Such claims are invariably concerned with the recovery of damages and even though they may be outside the scope of the contract, they are nevertheless subject to resolution within it. [28]

3. Ex-gratia claims

Ex-gratia claims are the claims in which there is no ground existing in the contract or the law, but the contractor believes that he has moral grounds: additional costs incurred as a result of rapidly increased prices.[12]An ‘Ex-gratia’ claim might be made to recover cost incurred by the contractor, the expenditure of which gave benefit to the employer, but for which there are no grounds for recovery under the contract.

Similar to the above works, Chappell (2005) classified claims into contractual claims, common law claims, quantum meruit claims and ex-gratia claims. Common law claims are claims for damages pursuant to breach of contract under common law and/ or legally enforceable claims for breach of some other aspect of the law such as tort or breach of copyright or breach under statute.

4. Quantum meruit claims

In addition, quantum meruit claims provide a remedy where no price has been agreed. The word “Quantum Meruit” is a legal Latin term, which may be translated as “what is deserved” or “what is

worth”. An obligation to pay on a quantum meruit may be imposed by law (1) where work has been carried out under a contract, but no price has been agreed, (2) where work has been carried out under a contract believed to be valid, but actually void, (3) where there is an agreement to pay a reasonable sum, and (4) where work is carried out in response to a request by a party, but without a contract. In other words, this can be termed “a claim in quasi-contract” or “a claim in restitution”. [12]

The last group was proposed by Adrian (1988). He classified claims into four major types In order to facilitate the calculation of damages of claims:[3]

a. Delay claims

This type of claim arises when a contractor is not able to perform his work during the time that he planned to do the work. The important causes of delay claims are increase in the cost, material shortages, new delivery and packaging systems, and new technology with regard to drawings and specifications. Delay claims are often characterized as the easiest to quantify and calculate.

b. Scope-of-Work claims

Scope-of-work claims are sometimes vague about the liability issue of the claim. As to the damages, this type of claim is less deterministic than delay claims. It is seldom independent of the other types of claims.

c. Acceleration claims

Acceleration claims, or productivity loss claims, usually occur as the result of a delay or scope-of-work claim when a contractor is required to perform his tasks in a time period less than initially planned or to utilize different or additional resources to speed up its production system.

d. Changing-site-condition claims

“Changing-site-condition” or “differing-site-condition” refers to physical conditions at the job site which differ materially from the conditions expressed in the construction contract or the conditions that normally could be expected in a job of that type.

Whenever there is delay, disruption or a change in circumstances or in the scope of the work, there is bound to be an effect on expenditure or income, either for the contractor, the employer, or both. Subcontractors may also be affected. In some cases the risk is borne by the contractor (or subcontractor) and in others it may be borne by the employer. Where there is a breach of contract, or where there is a contractual provision to claim loss or damage, one party may have a claim against the other. [52]

2.6. Claims within the Provisions of the Contract

Contractual claims are the claims that fall within the specific clauses of the contract, typically ground conditions, valuation, variations, late issue of information, and delay in inspecting finished work.

They arise and are dealt with under the provisions of the contract. Such types of claims form the largest part of claims and the terms of the contract define the situations in which they may be made and how they may be handled. For example the employer may institute a design change, and if such an unforeseen event occurs there is a procedure set out in the contract whereby the contractor may claim restitution by submitting a straightforward contractual claim.[28]

These claims arise out of specific provision of the contract and are dealt with under it by the engineer. Since they arise under the contract, they are commonly called contractual claim.[1]

The most common claims that tend to emerge in the construction industry in Ethiopia are contractual claims which take place for various reasons.

Such claims are based on a clause or clauses in the contract which specifically allow the contractor to put in a claim in certain decreed circumstances. [13]

In construction projects, the tendency for the occurrence of claims in construction projects is high, given the fact that most projects are shifted towards the fast track approach. Thus, contractual claims can be further divided to include extension of time (EOT), prolongation and acceleration claims. These three types of contractual claims are the most common in occurrence in Ethiopia. With the review of each type of claim, a clear vision can be then established on claims management and substantiation of each type.

2.6.1 Extension of Time (EOT) Claims

All modern building and engineering contracts contain provisions for extensions, of time in the event of delay. The nature of the work and the environment in which the work is carried out are such that it is almost inevitable that events and circumstances will cause completion of the work to be delayed beyond the original completion date. Notwithstanding, claims for extensions of time probably cause more disputes than any other contractual or technical issues. Major obstacles to prompt settlement of claims for extensions of time claims are:-

- The erroneous assumption that an extension of time is automatically linked to additional payment;
- Late, insufficient or total lack of notice of delay on the part of the contractor;
- Failure to recognize delay at the appropriate time and maintain contemporary records;

- Failure to regularly update the program so that the effects of delay can be monitored against a meaningful 'program of the day';
- Poor presentation of the claim to show how progress of the work has been delayed; [52]

The extension of time claims occurs in projects where time risk is passed on to the contractor executing the project. Intrinsicly, delays beyond the speculated time of completion in the contract may result in the contractor having to bear liquidated damages (LD) as a penalty of the delay. However, if these delays are caused by the client, it is important for the contractor to assure he claims for adequate additional time beyond the date of the contract expiry. [94] Moreover, extension of time claims help reduce or mitigate liquidated damages and establishment of the contractor's right to additional cost for the period granted post contract expiry.

Where so ever liquidated damages are concerned, it is important to note that if the extension of time granted by the Employer covers the total of the delay period, then the contractor is no more liable for this delay. On the other hand, if the extension of time granted by the Engineer and Employer compensates a period less than the full period of the delay or reasonable time required for completion, then the period difference remains the liability of the contractor. In other words, it is imperative for the contractor to demonstrate his entitlement by the proper methods of substantiation for additional time in order to rightfully transfer all liabilities to the Employer or other parties responsible for the occurrence of delays.

When the Contractor has to submit his EOT claim to the Employer and Engineer, certain factors have to be taken into consideration.[27] These factors are amalgamated in five main points which are crucial to any EOT claim. These are:

- 1- The status of the material if extension of time arises.
- 2- The source of causation or event which calls for EOT.
- 3- The relevancy of the cause of claim to the contract documents.
- 4- The potential effect of the delay on the overall work progress.
- 5- Likelihood of the event having impact on the specified date of completion of various dates of completion if the contract implies more than delivery date.

Once the claim is ready and submitted by the Contractor, the next step will be to present the claim inclusive of certain elements. These elements or claim structures are stipulated by Thomas, 2001 as follows:[57]

- Detailed description of the cause of delay and any supporting contractual provisions in the contract which are being relied upon for the request for EOT
- Dates of when the delay occurred and the total time interval of delay
- The date of the formal notification of delay to the Engineer/ Employer and the supporting document of notification
- Appendices to the EOT claim which include all the backup documents and records.
- A cause and effect study of the delays.
- Diagrammatic exemplification demonstrating the position of the baseline program, with respect to the new dates of completion taking into consideration the arising delays.
- Delay analysis showing the effects of the delay on the critical path and effects on the float per activity and total float.
- A formal statement requesting an EOT with full substantiation and supporting documents.[57]

The process of estimating time in EOT claims is considered a cumbersome process for a Contractor. This is due to the fact that many complex factors are usually involved in the preparation of EOT claims. Finally and upon the submission and receipt of the claim from the Contractor, the Engineer has to reply to the Contractor's claim expressing content or discontent within a period of 42 days based FIDIC on after receiving the claim or the particulars it is supported by. Hereabout, the roles of the Engineer and the Employer come into place, in which FIDIC identifies the onus put on the Engineer in his duties to assess Contractor's claims.

2.6.2 Prolongation Claims (and time-related costs)

Qualifying delays on the critical path will usually support a claim for prolongation costs for the period of delay (if such delays are matters which give rise to additional payment). For the purposes of claims for additional payment, the term 'qualifying delay' means delay which brings with it the right to additional payment (some qualifying delays for extensions of time, such as adverse weather conditions, do not normally give rise to additional payment).[52]

Most claims result from the project designer's inability to fully provide for all eventualities, which mean that changes will be made to the contract as it proceeds and, where these involve additional work, adjusted payments will be necessary. Disagreements on the level of these payments will be a typical source of claims. As well as changes to the payments made, these variations may also result in delays to the works and where these delays have a knock-on effect on the project as a whole, they may give rise to

extra costs. These costs result from the contractor's additional presence on site, generating additional overhead costs for the extended period.

Followed by the justification of the claim, the succeeding challenge is to propose the quantum of the claim, by including both the direct costs and delays resulting of the unpredictable circumstances and their accumulative effects.[53]In other words, the concept of EOT and prolongation cost are strongly linked with each other. After the EOT claim takes place and is approved through the Engineer expressing his consent and granting the Contractor additional time for completing the project, prolongation claims develop. Therefore, prolongation claims are usually formulated towards the end of the project and that is constantly the period when prolongation claims are formulated by the Contractor. [33]One of the most important formulas used by Prolongation claims managers in estimating offsite overheads is the one identified by (Thomas, 2001) as Hudson's Formula . This formula represented below is very commonly used by many of the claims specialists: [57]

$$OSO = (X/100) X (C/P) X (D/1)$$

OSO = Off-set overheads

C = Contract sum

P = Contract period in working days

D = Period of delay in working days.

X = Overhead percentage may include Overhead and Profit.

The other costs referred to herein include all the costs which the Contractor incurred during the period of prolongation beyond the expiry of the original contract period endorsed by the two parties. The costs of prolongation may vary from project to project and depend on the circumstances imposed on a particular project or situation. Some of these costs may include cost of direct and indirect staff, labor, tools and plant and site expenses.

2.6.3 Acceleration Claims

Acceleration by definition means the process of taking measures to compensate for time loss by attempting to complete the scope by specified durations or as a remedial recovery of delays .[27] Such measures usually have a tendency to increase the overall cost of the project. On the other hand, acceleration can be defined as the process of increasing the speed and thus, in the context of construction contracts, an early closeout. [13] However, the question raised in the case of acceleration is "finishing before what?" The completion can be either before the contract end date or before the excusable delay duration exceeding the contract time limit.

In the event of delay to the progress of the works, the employer, or the contractor, may be faced with deciding whether, or not, there are good grounds to accelerate the progress of the works to bring about earlier completion (to the whole, or part of the works).

From the employer's point of view, acceleration may be advantageous in the following circumstances:

- where it is essential to achieve completion by an earlier date for commercial reasons;
- where there may be substantial savings in escalation costs as a result of earlier completion;
- Where the actual loss to the employer for late completion is greater than the liquidated damages which may be recovered from the contractor.

From the contractor's point of view, acceleration may be advantageous if he is in culpable delay and the cost of acceleration is less than the cost of prolongation. [57]

Acceleration measures come around in projects where high risk, time contingency loss, disruption and exposure to more delays exist.

Keane and Caletka (2008) categorize acceleration to be either instructed or constructive. [38] On the other hand, Green street et al. (2005) state that instructed acceleration refers to the actual acceleration at the contractor's discretion and may provide the basis for increased costs. And constructive acceleration takes place in the situation where the contractor has experienced delay, but has not yet been granted an extension of time. [29]

Acceleration tends to take place in the event of certain situations. Scholars like Chappell (2011) point out these circumstances as follows: [13]

- Through mutual understanding and consent among the contract parties, conditionally if such measures are called for in the contract upon the decisive directive of the Engineer.
- Based on unilateral good intentions by the Contractor in an attempt to mitigate the delay.
- By substantial proof by the Contractor that acceleration is the only choice opted for considering the situation.

Regardless of the reasons which cause acceleration to occur, projects costs will be increased. These are usually presented by the Contractor to the Employer in the form of a claim. Once the acceleration measures are justified as being constructive and fall as part of the mitigating time factor, the Contractor will be eligible to claim his costs for the measures he has taken. These costs to which the Contractor is usually entitled are classified as five different costs, such as Cost for extra manpower and plant due to the loss of productivity resulting from exaggerated thrust of resources and machinery, cost of extra logistics needed or additional working hours (i.e. airfreight), cost of expanding site services and

facilities, other costs seen necessary to expedite works and Staff and engineering overtime and incentives.

2.7 Claims Management/ Construction claim management /

Claims may arise at all times until completion of the works and even later. Handling of claims may require management, technical and economic skills and experiences during the whole contract period. It is thus fundamental to establish an effective and continuous claim management for the site, which must be enabled to identify, initiate, prepare, submit and negotiate claims of all kind and matter. [7]

The word “Management” means the process of dealing with or controlling people or things. [19]When combined with the meaning of the word “Claim” defined by Arditi and Patel (1989), [5]the term “Construction Claim Management” can be interpreted as the process of dealing with or controlling the seeking of consideration or change by one of the parties involved in the construction process.

Cox (1997) considered variation and claim management as part of both employers’ and contractors’ risk management which should begin even before the start of construction. [18]

In order to deal with or control the claims effectively, parties concerned with them should establish good construction claim management processes in their organizations. Construction claim management process comprises six sub-processes:

1. Claim Identification
2. Claim Notification
3. Claim Documentation
4. Claim Analysis
5. Claim Preparation
6. Claim Negotiation

According to Axel-Volkmar Jaeger (2010) in the FIDIC-A Guide for Practitioners Claim identification and initiation followed by claim preparation, submission and negotiation are critical issues, in particular because parties to a contract must usually comply with claim procedures and delays. Claims may arise at all times until completion of the works and even later. Handling of claims may require management, technical and economic skills and experiences during the whole contract period. [7]

It is thus fundamental to establish an effective and continuous claim management for the site, which must enable to identify, initiate, prepare, submit and negotiate claims of all kind and nature.

The importance of claims management does not only exist in the fact that this field of management is part of project management, but because it is an integral component of the contractor’s business

strategy. With the existence of high risk in construction projects, claims are considered as an efficient path for the contractor to reduce the risk of loss in the engineering project's implementation process; various risks concealed in engineering project's implementation process, like economic risks, contract risk, and natural condition risk as well as construction's risk.

The concept of claims management can be defined as the process of deputing and managing resources to advance a claim from identification and analysis through preparation, and presentation, to negotiation and settlement.[53]Hence, it is prudent for the Contractor to establish a well-structured claims management whether in house or through appointing a third party specialist to work as part of his team. This team can then identify claims and prepare them in an initial step before the final negotiation and settlement.

The claim management process like any other system undergoes a life cycle. This life cycle has been identified by (Levin 1998) to follow a standardized form which is illustrated below in Figure 2.1 to contain seven processes leading to claims management such as Recognition and identification, Notification to engineer and the client, Systematic and accurate documentation, Analysis of time and cost impact, Pricing, Negotiation, And Dispute resolution and settlement. [41]

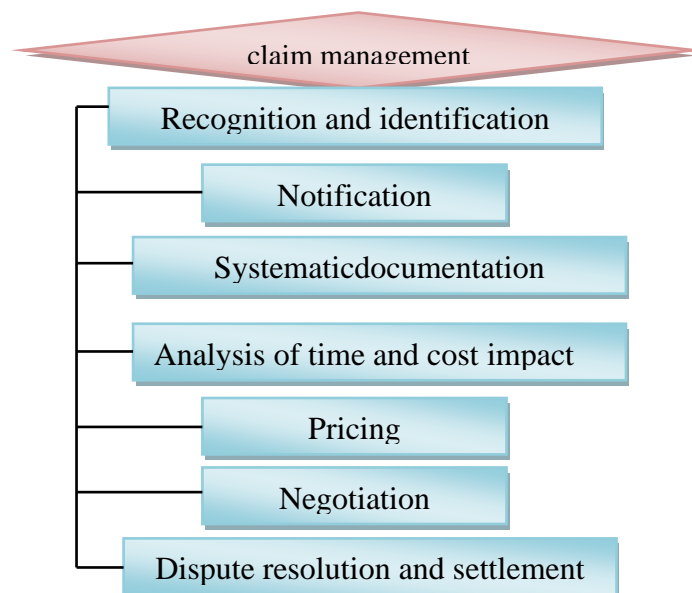


Figure 2. 1: Claims Management Lifecycle

On the day to day claims management process, certain tasks need to be considered by the Contractor's claim management team involved. According to Apete and Cavaliere (1992) there are three main tasks identified which are necessary for the claim handling process such as:-

- The initial challenge is to decide on the quality and quantum of resources actually needed for the handling claims.
- Exercising monitoring and control over the handling process of claims by ensuring the implementation of remedial acts if and when found necessary.
- The last task is to specify Claim handling process procedures, which includes training and means of research and development in the field.[4]

In the management of claims, one of the indispensable dimensions of a proper claims management system is good planning. As per Winch and Kelsey (2005) project planners have basic and fundamental duties which are common in almost all construction projects. These duties as stipulated as being the recognition of the full site construction work program, the entire procurement logs , necessary dates which affect procurement of material such as design data, the drawings preparation and submission by the contractor and finally the duty of approving these drawings and submittals in timely manners by the Engineer .[64]

Strategy is another vital dimension in respect to claims management. In a simplified construct, strategy is looked on as a consolidative approach which can link the intended purpose with the course of action. In consolidated claims management, the idea of developing a claim is strongly linked to procedures and mechanisms of claims development and substantiation. According to Kerzner (2001) one of the earliest stages of strategy is to implementing a strategic planning process by the apprehension of the general surrounding environment where the strategy will be executed. The environment in this case is each project aside. In other words, the strategy for claims management can be set project wise with the support of the top management to handle each claim depending on the environment in which it is situated. [39]

Teams and team awareness are the last identified essences of claims management. This is ascribed to the fact that teams who hold extensive experience are needed to tackle complicated work which may require tools such as innovation, creativity , and an abundance of knowledge bring about positive effects. Features such as creativity and abundance of knowledge increase the teams' awareness towards proper reporting of claims drivers to the management. In conclusion effective team practices which ensure the

team worked towards achieving its goals and is open receptive to collaboration with other teams is therefore an advantage for the management of claims. [8]

2.7.1 Claim Identification

Identification of a claims situation is the first and most important phase of the entire claims process. One cannot remedy a problem unless it is known to exist. Most claim situations, however, arise out of subtle differences in field conditions, from job site delays or as a result of differences of contract interpretation. In these and in all other instances, a claim situation must be recognized and identified as soon as it occurs.[21]So it is prudent to recognize the situation and deal with it in a realistic, positive and sensible manner. This is much better than trying to brush things under the carpet until the end of the job - for fear of upsetting the friendly contractual relationship. [62]

Construction claim recognition and identification involves “timely” and “accurate” detection of a construction claim. It is the first and critically important ingredient of the claim process. [40]And Callahan (1998) viewed the ability to recognize an emerging problem that could lead to a dispute, and allowing for this problem to be dealt with early as the most important part of dispute avoidance. He also presented the techniques used to anticipate or identify disputes at an early stage are. [11]

- Preconstruction meeting,
- Project meeting,
- Construction scheduling,
- Bid evaluation/ comparison,
- Project cost/ payment forecasting,
- Regular review of project documentation, and
- Proactive problem management at meetings.

Early identification of a potential claims by a contractor can be essential to successfully prevail on a claim. Key project personnel must take a proactive role in the early recognition of potential claims. These individuals should be in the best position to evaluate the progress of the work and any developing problems. Beyond being familiar with the project itself, however, project personnel need to have a basic understanding of the terms and conditions of the contract documents.

2.7.2 Claim Notification

Claims are usually subject to claim notices. It is common practice for a first set of contractual rules to provide the contractor’s obligation to give notice. A second set of provisions states the consequences

resulting from failure to do so. Under most internationally used standard forms of contract the giving of notice is a condition precedent of an entitlement to a claim irrespective of the extent to which the contractor is under an obligation to inform the Engineer or the Employer of all relevant news. According to Sub-Clause 20.1 FIDIC the Contractor shall give a notice of a claim if he considers to be entitled to any extension of the Time for Completion and/or any additional payment. He shall do so as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance giving rise to the additional payment or extension of Time for Completion. By doing so he shall describe the event or circumstance giving rise to the claim. [7]

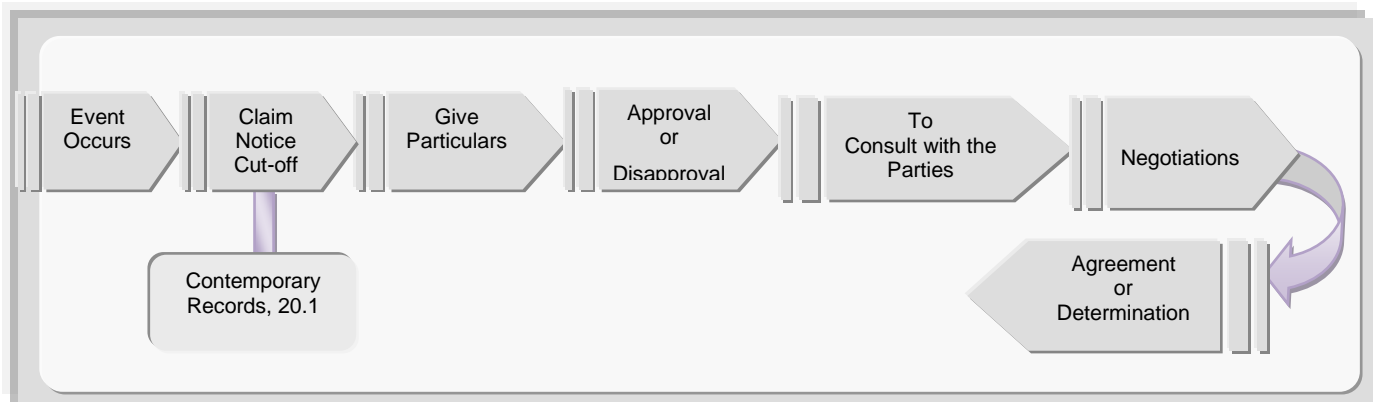


Figure 2. 2 According to FIDIC Early warning and claim notice

Providing timely notice in writing of a dispute is essential to the success of a construction claim. The notice should include: details of the disputed item or issue, the circumstances which gave rise to the claim, what a party is claiming for, and an indication that further work is being conducted under protest if further work is to be done. [63]

Notifying the other party about the claim is required by general contract provisions. The notification period of time is prescribed in the signed contract to alert the other party about the claim.

Construction claim notification involves alerting the other party of a potential problem in a manner that is non-adversarial. Time limit requirements are very crucial and critical. An initial letter of a claim notice should be concise, clear, simple, conciliatory, and cooperative. It should indicate the problem and alert the other party of the potential increase in time or cost. [40]

If the contractor considers himself to be entitled to any extension of the time for completion and/or any additional payment, under any clause of these conditions or otherwise in connection with the contract, the contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. Time limit requirements are normally specified in contracts. For example, the Conditions of

Contract for Construction (First Edition), prepared by Fédération Internationale des Ingénieurs-Conseils (FIDIC) requires the contractor to notify the employer within 28 days after he became aware or should have become aware of the event or circumstance. However, in the case of claims filed by the employer, no time limit is specified. [24]

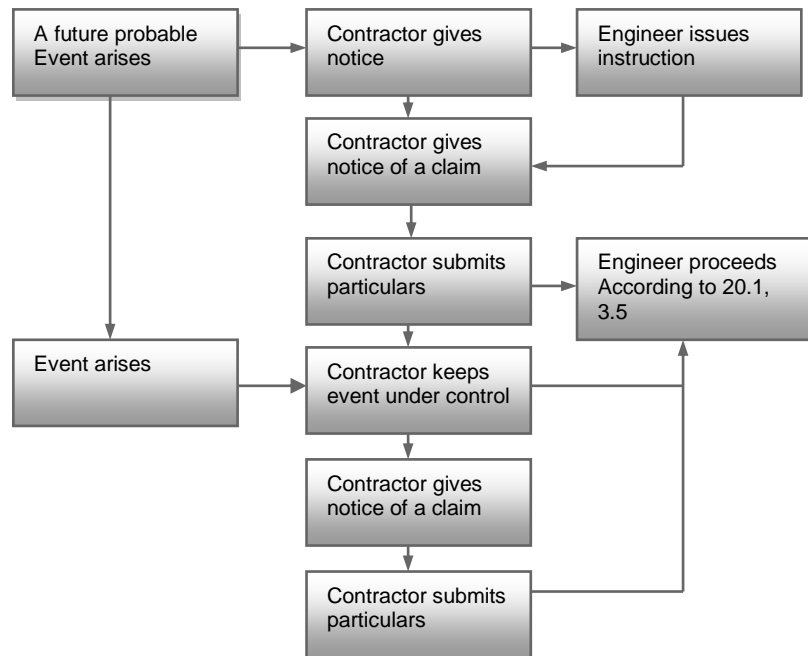


Figure 2. 3 Claims' procedure [7]

2.7.3 Claim Documentation

Records and documentation play a very important role in the settlement of contract claims and the basis of any strong claim management system greatly depends on the presence of a well-structured documentation system. When the contractor's claim team meets up to prepare the project claim, the first step they take is to read the documentation available and the level of detail these documents bear. [9]The documents may include and are not limited to the delivery notes, personal diaries, minutes of meetings, reports, progress photos at various stages, correspondence and a variety of other sources in the site. [55] According to Ingram (2004) it is of high importance that records are kept from the start of a project, especially if the likelihood of claims occurrence exists. An overall maintenance of such records is likely to speed the financial and time related claims formulation and substantiation.[33]

Moreover, Keane and Caletka (2008) assume that with the establishment of good record keeping grounds, the administrators of the contract are often able to access fundamental information swiftly enough to act upon the emergence of problems instantly.[38] Consequently, this information is needed for the proper backup of claims for EOT and cost by the contractor, and simultaneously proper

assessment by the Engineer. According to Jergeas and Hartman (1994) construction contractors should always file necessary records. [35]Furthermore, according to Adrian (1988) some technologies such as camera and recording devices can be alternatives for documenting important claim information.[3]However, there is a lot of evidence that the importance of record management is not realized as much as it should be. And records available on sites seldom allow the as-built schedules to be constructed easily.[55]Based on Pogorilich (1992) daily reports are often given the least amount of attention although they may be the most important document on the projects.[50] Too often daily reports are prepared with minimal details and are subsequently ignored by management.

2.7.3.1 Record Keeping

Obviously, the extent of record keeping required for a particular construction job will depend on the type of contract. However, some record keeping will be required in any case because it is:

- Required by law.
- Required by the terms of the contract.
- Needed to control the on-going work.
- Needed as data for estimating future work.
- Needed for preserving the contractor's rights under the contract.

The first item may be ascertained by referring to the authorities having jurisdiction over the place of the work. The second may be determined by a thorough reading of the contract documents, both in terms of the administrative requirements contained in the general and special conditions, and the technical requirements contained in the specifications. The third, fourth and fifth items are for the contractor to decide, and depend largely on his disposition. [60]

According to Enshassi (2009) the contractor needs to ensure that the owner gives their instructions in the form of written requests to the contractor. This would provide support (if needed) to the contractor's claims. Overall, the problem of claim documentation stems from the lack of appreciation by site staff of the importance of record keeping. This results in poor quality of site records which in turn impacts on the contractor's ability to recover the compensation in making the claim. Recording new instructions during project execution may still be overlooked by site staff that proves to be costly in due course. [22]

One of the most important tools for proper documentation management is the use of daily records from the site team, particularly if these documents were signed by the consultant. The absence of these reports has caused the head office team to lose contact with the events that happen on site, and accordingly,

were unable to handle claim situations. Equally important to the site daily records is the contractual awareness of the site team.

2.7.3.2 A Typical Set of Records

As per Wideman R. M., (1990) a good set of records that might be kept on a fair sized construction project could well include the following files. Note that these files are assembled into blocks of like subject matter. This approach greatly facilitates ease of filing and subsequent recall. [62]

- Original Contract Tender Documents.
- Issued for Construction set, and all subsequent revisions.
- Instructions to contractor.
- Contemplated Change Notices issued by the owner, Change Estimates, and Change Orders received.
- Shop drawings, originals, all revisions and re-submissions.
- Daily time records.
- Daily equipment use.
- Daily production logs, e.g. concrete pours etc.
- Material Delivery and Use Records, including expediting.
- Progress Payment Billings under the contract.
- Contract Milestone Schedule or Master Schedule.
- Short Term Schedules and up-dates.
- Original tender estimate.
- Actual Cost Reports, weekly or monthly
- Productivity Reports/Analyses.
- Inter-office correspondence, including memos and faxes.
- Contract correspondence.
- Minutes of Contractual Meetings.
- Minutes of technical Meetings.
- Requests for information.
- Notice of claims for delays and/or extra cost by contractor.
- Consultant Inspection Reports.
- Accident Reports.

- Daily diary or journal entries.
- Notes of telephone conversations.
- Progress Reports, weekly, monthly or quarterly.
- Progress photographs.
- Any other reports, such as special consultant reports.

According to Turner (1995) aspects of record keeping in context to claims management as 5 major areas which need to be considered as part of a proper claim support documents. These are: [58]

1- Accumulating comprehensive records of the relevant documents and data which may help in a retroactive analysis.

2- Daily, weekly and monthly issuance of progress reports inclusive of:

- The work progress containing figures, facts and dates.
- Descriptions of the conditions at site such as the weather circumstances.
- Delays in deliveries, hold-ups due to Employer interference.
- Requests for information and the dates of reply by the Engineer.

3- Emails, phone conversations and verbal directives made by the Employer or his representative the Engineer.

4- Minutes of Meetings which should not be allowed to pass unanswered or uncommented since silence on a matter of dispute will result in moving the burden on to the contractor.

5- Photographs which include dates and time of the photos pose an essential source of substantiation, especially when these are taken at various stages of the project.

The frequent practice among contractors tends to neglect the essentiality of maintaining proper records. As such, improper record keeping can, in many instances, result in the loss of important project data or history of events which has occurred in the lifecycle of the project. This information may not be needed at that phase of the project, but will be required towards the end when claims are presented and require further substantiation.

2.7.4 Claim Analysis

There are various literatures concerning the calculation procedures of the time and the cost impacts caused by the events leading to the rights to claim. These can be grouped into two major categories: time impact analysis (or schedule analysis) and cost impact analysis.

There are several schedule analysis techniques. The main differences of these techniques are their input schedules. Some techniques require as-planned schedules, while others require as-built schedules. Updated schedules are also the input for some schedule analysis techniques.

2.7.5 Claim Preparation

Preparing claims is a complex process based on information which must be collected, managed and if necessary shared with others. It is strongly recommended to start preparing claims registers and collating relevant information, documents, data and facts from day one of the project, which means from the day of the date of receipt of the tender invitation, because claim relevant events may even arise before the submission date which are no more relevant for the tender but which may affect cost and time for completion. [7]

The purpose of this sub-process is to give the other party in the contract a substantive description and details of the extra costs incurred or to be incurred due to a contract change. This detailed cost description is necessary for understanding, negotiating, and justifying extra contract costs.

A claim presentation should be logically built up, well organized, and factually convincing. Thus, a claim should be written in a format that emphasizes the fact that a contract requirement was breached and demonstrates that the resulting damage was caused by the other party's acts. Claim proposals should be separated into two sections, the entitlement and the quantum. The former section should have legal and factual bases while the latter should provide the estimated recovery of the claim. [40]

Similar to claim notification sub-process, time limits for submitting claim proposals are normally specified in contracts. Sub-clause 20.1[Contractor's Claims] of the Conditions of Contract for Construction (First Edition) requires the contractor to submit final claim proposals within 28 days after the end of the effects resulting from the event or circumstance that the contractor considered himself to be entitled to. In the case that such event or circumstance has a continuing effect; the contractor has to notify the engineer the accumulated delay or amount claimed and the further particulars. However, there is no time limit in case of the employer's claims. [24]

2.7.6 Negotiation of Claim

Claims and dispute clauses in most contracts have provided several opportunities to negotiate and resolve potential construction conflict and claims they have arisen to become disputes.

A structured negotiation preparation includes:

- (1) Ascertaining that all information is current and complete.

(2) Minimizing the scope of negotiation beforehand so that insignificant points should not precipitate a violent argument and disrupt progress.

(3) Knowing one's weaknesses and trying to utilize weak points by conceding them in return from the other party.

(4) Foreseeing problems and

(5) Anticipating the opposition's next move. [20] If an agreement cannot be reached and any party believes his position is correct, he should propose an alternative dispute resolution method. If this fails, the choice remaining is to take the matter to court.

According to Enshassi (2009); firstly, Negotiation involves two parties who agree to communicate with each other and make decisions. The parties reach an agreement which is a modification to the contract. Secondly, Claim negotiation plays an important role in resolving claims, preventing disputes, and keeping a harmonious relation between project participants. Most project managers consider negotiation as the most time and energy consuming activity to claim management. Thirdly, The most economical, practical, simplest and fastest method of settling claims is negotiation where in this process, the two parties involved discuss the problem and try to compromise on the claim.[22]

According to Elghandour, (2006) in his study for Problems associated with claim negotiation that the main are "conflicts arising during negotiation", "poor negotiation skills", and "insufficient evidence to convince other parties". It is believed that these three problems are somehow intrinsically linked; lack of negotiation skills will impact on the ability of the contractor to convince the owner, and hence conflicts may arise. The level of skill, experience and knowledge needed in this step cannot be over-emphasized as it would lead to the success or failure of the claim. In construction generally, the task of negotiation is usually assigned to the "in-charge" project manager or site engineer, who may not be skilled negotiators. Obviously, there is a need to develop staff negotiation skills to avoid facing difficulties and potential conflicts arising at some stage in negotiation with the client. Weakness to do so may end result in losing the claim. [21]

If the contractor has a valid case, given notices in accordance with the contract, kept accurate contemporary records and presented his case in a logical and professional manner, he will be starting from a position of strength. If a valid claim is not accompanied by these essential ingredients, the recipient will have little difficulty in finding reasons to reject it.

Whatever the merits of the claim, the initial responses will usually concede very little. The contents of the response may be positive, giving cause for optimism, or it may be totally negative, rejecting every aspect of the claim.

The former will enable both sides to move forward, whilst the latter will form a barrier to any early progress to resolve the matter. If there is no response at all, or if a negative response cannot be countered by some means of opening a dialogue, the contractor may have little option to commence proceedings. If he has not already obtained advice before submitting the claim, the contractor should obtain the advice of experts before taking a decision to initiate formal proceedings.

If the response is positive and negotiations commence, then both parties may be able to settle the matters reasonably quickly. The contractor must be wary of employers who are merely going through the motions with no intention to settle at a reasonable figure. [52]

2.8 Contract Administration

Contract Administration falls under the broader concept of Construction Administration which involves all the day to day duties of which are monitoring the communications, business systems, procedures, responsibility, authority, duties of all of the parties, documentation requirements, construction operations, planning, scheduling, payment administration, change orders, extra work, dispute procedures, claim handling, negotiations and administrative closeout.[25]

For any construction contract to be professionally administered, the Engineer is considered as a key player. The duty of the contract administration is usually assigned by the Employer to the Engineer or the Architect. Both the Employer and Contractor look to the Architect to be an impartial interpreter of the contract documents and the meaning of the documents if unclear or found disputed. [65]

According to Ndekugri (2007) in addition to the duties assigned to the Engineer, he is considered as a neutral and independent party who as a professional is trained to maintain a balance between the Employer and Contractor. Hence, fairness is an essential characteristic which the Engineer should practice and have the freedom to express.[49] Discretion is another relevant feature the Engineer should be allowed to exercise impartially when giving his decision, opinion and consent [10] Otherwise, contractors who sense a lack of impartiality on the part of the architect may claim that the owner and the architect have entered into a conspiracy to maliciously defeat their honest attempt at getting paid.[65]In conclusion, the contract administration role played by the Engineer is of great importance. Needless to say, the Engineer has constantly to remember that like other stakeholders, he operates under the project

management which is important to demonstrate commitment to ethical and professional conduct. Such commitment ensures aspects like integrity and fairness in the assessment of both the Employer and Contractor's rights under the provisions of the contract.

2.9 FIDIC Views on Claims

2.9.1 The FIDIC Provision regarding Claims

The FIDIC Provision regarding Claims; the (FIDIC Harmonized) standard form of contract of detailed provision for the compensation of a contractor's direct loss and provision for employer of damages for delay in completion and it also set out the specific procedure which must be followed. The provisions that may give rise to claims by the contractor and employer claim for damages for delay are:-

Clause 8.4 Extension of Time for Completion The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- (a) A Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- (b) A cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- (c) Exceptionally adverse climatic conditions,
- (d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- (e) Any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site. If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub- Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

Clause 13.7 Adjustment for Change in Legislation The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the

Contractor in the performance of obligations under the Contract. If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) Payment of any such Cost, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

Clause 14.8 Delayed Payments; if the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its subparagraph (b)) of the date on which any Interim Payment Certificate is issued. Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency. The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy. If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply. The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping

and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer. Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect: (a) This fully detailed claim shall be considered as interim (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer. Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Contractor, the Engineer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time. Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

According to Christopher R (2005) essentially, a Contractor may assert two types of claims under or relating to a FIDIC contract:

First, there are “contractual” claims, that is, claims which the Contractor is entitled to assert by virtue of the specific provisions of the contract and, second, there are “legal” claims, that is, claims which the Contractor may be entitled to assert under the law governing the contract, the most obvious one being breach of contract. [18]

A. “Contractual” Claims

Since the first edition of the FIDIC Red Book was published in 1957, the FIDIC contracts have contained provisions entitling the Contractor to claim additional money or time (or both) from the Employer when the Contractor encounters specifically defined unforeseeable conditions.

The 1999 edition of the Red and Yellow Books each contain about 30 sub-clauses specifying events which, should they occur, will entitle the Contractor to claim from the Employer. The Silver Book, which places greater risk on the Contractor, contains only about 20 such sub-clauses. [17]

Table 2. 2 Summarized clauses related to claims as per FIDIC [17]

Sub-Clause Title	Contractor’s Entitlement
1.9 [Red Book only] Delayed Drawings or Instructions	Contractor may claim extension of time, Cost and reasonable profit if Engineer fails to issue a notified instruction or drawing within a reasonable time
2.1 Right to Access to the Site*	Contractor may claim extension of time, Cost and reasonable profit if Employer fails to give right of access to Site within time stated in the Contract
4.7 Setting Out	Contractor may claim extension of time, Cost and reasonable profit for errors in original setting-out points and levels of reference
4.12 Unforeseeable Physical Conditions	Contractor may claim extension of time and Cost if he encounters physical conditions which are Unforeseeable
4.24 Fossils*	Contractor may claim extension of time and Cost attributable to an instruction to Contractor to deal with an encountered archaeological finding
7.4 Testing*	Contractor may claim extension of time, Cost and reasonable profit if testing is delayed by (or on behalf of) the Employer
8.4 Extension of Time for Completion*	Contractor may claim extension of time if completion (<i>see</i> Sub-Clauses 8.2 & 10.1) is or will be delayed by a listed cause
8.5 Delays Caused by Authorities*	Contractor may claim extension of time if Country’s public authority causes Unforeseeable delay
8.9 Consequences of Suspension*	Contractor may claim extension of time and Cost if Engineer instructs a suspension of progress
10.2 Taking Over of Parts of the Works	Contractor may claim Cost and reasonable profit attributable to the taking over of a part of the Works
10.3 Interference with Tests on Completion*	Contractor may claim extension of time, Cost and reasonable profit if Employer delays a Test on Completion
11.8 Contractor to Search*	Contractor may claim Cost and reasonable profit if instructed to search for cause of a defect for which he is not responsible

12.3 [Red Book only] Evaluation	Contractor's entitlement to new rates or prices for work whose quantity has been changed or which is varied
12.4 [Red Book only] Omissions	Contractor may claim a Cost which, although it had been included in a BoQ item, he would not recover because the item was for work which has been omitted by Variation
13.2 [Red Book only] Value Engineering	Contractor may claim half of the saving in contract value of his redesigned post-contract alternative proposal, which was approved without prior agreement of such contract value and of how saving would be shared
13.3 Variation Procedure*	The Contract Price shall be adjusted as a result of Variations
13.7 Adjustments for Changes in Legislation*	Contractor may claim extension of time and Cost attributable to a change in the Laws of the Country
14.4 Schedule of Payments*	If interim payment installments were not defined by reference to actual progress, and actual progress is less than that on which the schedule of payments was originally based, these installments may be revised
14.8 Delayed Payment*	Contractor may claim financing changes if he does not receive payment in accordance with Sub-Clause 14.7
16.1 Contractor's Entitlement to Suspend Work*	Contractor may claim extension of time, Cost and reasonable profit if Engineer fails to certify or if Employer fails to pay amount certified or fails to evidence his financial arrangements, and Contractor suspends work
16.4 Payment on Termination*	Contractor may claim losses and damages after terminating Contract
17.1 Indemnities*	Contractor may claim cost attributable to a matter against which he is indemnified by Employer
17.4 Consequences of Employer's* Risks	Contractor may claim extension of time, Cost and (in some cases) reasonable profit if Works, Goods or Contractor's Documents are damaged by an Employer's risk as listed in Sub-Clause 17.3
18.1 General Requirements for Insurances*	Contractor may claim cost of premiums if Employer fails to effect insurance for which he is the "insuring Party"
19.4 Consequences of Force Majeure*	Contractor may claim extension of time and (in some cases) Cost if Force Majeure prevents him from performing obligations
19.6 Optional Termination, Payment and Release*	Contractor's work and other Costs are valued and paid after progress is prevented by a prolonged period of Force Majeure and either Party then gives notice of termination
19.7 Release from Performance	If it becomes impossible or unlawful to perform contractual obligations, Contractor may be released and can claim as in 19.67

This list is based upon, Christopher R. [17], a list contained in *The FIDIC Contracts Guide*,

The sub-clauses in the new Red Book which entitle the Contractor to claim additional money or time are listed below (when a sub-clause applies to only one of these two Books, this is specified, and when a Sub-Clause is marked with an asterisk, this indicates that it is also contained in the Silver Book):

In each of the FIDIC contracts typically states that, having given a notice to the Engineer under the relevant Sub-Clause:

- (1) The Contractor is entitled “subject to Sub-Clause 20.1 [Contractor’s Claims]” to an extension of time and additional payment and that
- (2) After receiving the notice, the Engineer “shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters”.

2.9.2 Claims procedure in FIDIC

a) General Claims Procedure [Sub-Clause 20.1]

How to process the claim by the parties who are engaged in the construction industry as follow: In Clause 20 Claim, Disputes and Arbitration; FIDC 1999 Sub-Clause [Sub- Clause 20.1] provides for the following procedure:

- (1) If the Contractor considers himself to be entitled to an extension of the Time for Completion and/or additional payment under any clause of the Conditions or otherwise, the Contractor must give notice to the Engineer as soon as practicable and “not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance” giving rise to the claim.

The Contractor has merely to give a bare notice of claim within 28 days. A one- or two-sentence letter will do. The Contractor does not need to state the amount or time claimed nor the contractual basis of the claim nor provide any supporting documents. [17]

If the Contractor fails to give such notice of claim within 28 days: “the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim” [Sub-Clause 20.1].

Each notice of claim under Sub-Clause 20.1 must be in writing and properly delivered (*see* Sub-Clause 1.3). In addition, it must be listed in the monthly progress reports which are required to accompany the Contractor’s applications for interim payment certificates pursuant to Sub-Clause 14.3.

- (2) When the Contractor gives such a notice under the Sub-Clause, he is required, to “keep such contemporary records as may be necessary to substantiate any claim” and the Engineer is authorized to monitor the Contractor’s record-keeping and/or instruct the Contractor to keep additional contemporary records [Sub-Clause 20.1].

- (3) Within 42 days after the Contractor became aware, or should have become aware, of the event or circumstance giving rise to the claim, or within such other period as the Engineer may approve, the Contractor is required to send to the Engineer “fully detailed claim” which includes “full supporting

particulars of the basis of the claim and of the extension of time and/or additional payment claimed”. If the event or circumstance giving rise to the claim has “a continuing effect: (a) this fully detailed claim shall be considered as interim;

(b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and

(c) The Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

(4) Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Contractor, the Engineer must respond “with approval, or with disapproval and detailed comments”. He may also request any necessary further particulars “but shall nevertheless give his response on the principles of the claim within such time”. [17]

(5) The requirements of Sub-Clause 20.1 are expressly stated to be “in addition to those of any other Sub-Clause which may apply to a claim”. Thus, the Contractor must comply with the claims procedure provided for in Sub-Clause 20.1 in addition to the requirements of the clause in the contract which may have given him the substantive right to claim.

(6) Sub-Clause 20.1 further provides in part that:

“If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim...”

Thus, the extension of time or additional payment is required to take account of any damage the Employer may have suffered as the result of the Contractor’s failure to comply with the claims procedure in the contract.

The notice of claim alerts the Engineer and the Employer to the fact that the Employer may have to pay the Contractor additional money or grant him an extension of time by reason of a specified event or circumstance. The requirement to keep contemporary records is intended to ensure that there will be contemporary documentary evidence to support the claim. Once a notice of claim has been given, the parties can then agree on the particular contemporary records the Contractor must keep, avoiding future argument, and there may still be time for the Engineer to instruct alternative measures to reduce the

effects of the claim. When claims are notified early, they may be resolved early, in the interests of both parties.

The Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

b) Claims Determination by the Engineer [Sub-Clause 3.5]

Both the standard form of claims clause (e.g. Sub-Clause 2.1) and the general claims procedure (Sub-Clause 20.1) provide that, after the Engineer has received a notice of claim, the Engineer (or the Employer) “shall proceed in accordance with Sub-Clause 3.5 [Determinations]”.

Sub-Clause 3.5 in the Red Books provides, in its entirety, as follows:

“Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].”

As can be seen above, Sub-Clause 3.5 provides that the Engineer shall, after consulting each party in an endeavor to reach agreement, make:

“a fair determination [of the claim] in accordance with the Contract, taking due regard of all relevant circumstances.”

The Engineer (or the Employer) is required to decide the claim in a balanced way, taking account of the interests of the Contractor and the Employer. Any such determination by the Engineer (or the Employer) must be accompanied by “supporting particulars” (Sub-Clause 3.5.) and “shall not be unreasonably withheld or delayed”. [24]

2.9.3 The Role of the Engineer in claims assessment

On one hand the Engineer has a number of functions in which he acts, either expressly or impliedly, as the agent of the Employer. On the other hand, both parties to the contract agree, at the time of entering into the contract, that the Engineer is to perform certain determination/certifier functions under the contract.

The Engineer (or Employer's Representative) is thus a very powerful person who is also referred to as a decision-maker, a function which requires a certain degree of impartiality and fairness from him.

In certain occasions of Contractors claims the Engineer may perform in restricted way articulated for him in the contract.[13]Moreover, most forms of contracts such as FIDIC call for a significant role for the Engineer to play in the assessment of claims and evaluation. The Engineer or a consultant designated by the owner is responsible for deciding the outcome of the contractor's claim. [6] Once the claim is tendered by the contractor, the architect will become the advisor to the owner and impartial arbiter of the construction documents during this period. [65]

In most situations, the determination of the Architect becomes influential and maybe taken into consideration by the claimant and Employer, if the claim is settled amicably. Otherwise, the process is then referred to other methods of dispute resolution which have been validated such as formal arbitration and litigation .[15]According to Itani (2009) the role of the Engineer under the Red book of FIDIC as far as claims procedures are involved in figure 2.4. The figure is self-explanatory on the proceedings of claims submission under FIDIC contract forms: [34]

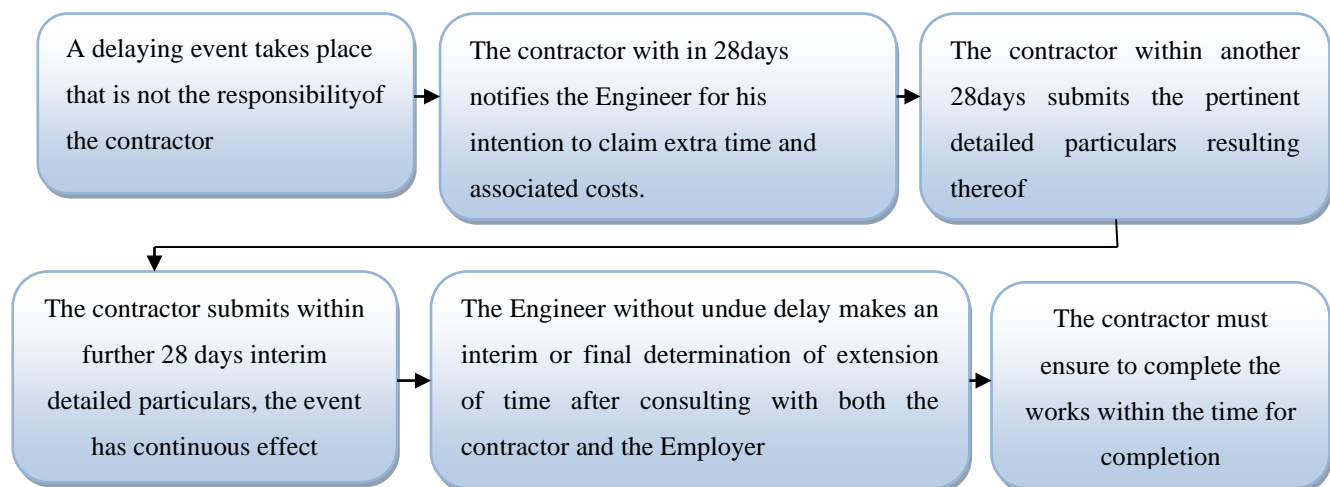


Figure 2. 4: General Sequence of Claims Procedure under the Red Book. [34]

In modified versions of FIDIC, the Engineer is not authorized to practice the right to agree or determine the extension of time or additional cost to which the contractor is entitled to in event of excusable delays. [69] Thus, the Engineer is no longer the determinate party and the direct contract parties have to exercise other forms of dispute resolution techniques which are known as Alternative Dispute Resolution techniques (ADR).

Traditionally disputes were initially determined by the Engineer within 84 days of reference, then by arbitration under ICC Rules (Sub-Clauses 67.1, 67.3 FIDIC, 4th edition 1987). Arbitration had to be noticed within 70 days of Engineer's decision or after the period for such decision had expired (Sub-Clause 67.1). The 1999 series of the Books, following the Orange Book 1995, has changed this dispute resolution system. The Engineer is no longer a quasi-arbitrator and has been replaced in so far by a Dispute Adjudication Board (Sub-clauses 20.2, 20.4). If any dispute arises the parties to the contract may refer it to the Dispute Adjudication Board. A nomination procedure for the appointment of the DAB members is ruled in Sub-clause 20.2. The DAB has full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer. [7]

ADR may start with direct negotiation, conciliation and mediation or winding up in arbitration to litigation. [15]

CHAPTER 3

3. Research Methodology

3.1. Introduction

Research methodology is a way to systematically solve the research problem and research methodology shall identify the research basis, research hypothesis or questions, research design and research analysis. According to Marczyk et al. (2005) research methodology and research design are sometimes incorrectly used interchangeably, they are distinct concepts with well-defined and circumscribed meanings. Research methodology refers to the principles, procedures, and practices that govern research, whereas research design refers to the plan used to examine the question of interest. “Methodology” should be thought of as encompassing the entire process of conducting research (i.e., planning and conducting the research study, drawing conclusions, and disseminating the findings). [43] By contrast, “research design” refers to the many ways in which research can be conducted to answer the question being asked.

This chapter describes the methodology that was used in this research. The adopted methodology to accomplish this study uses the following techniques: review of literature that related to claim management process in road construction projects, the information about the research design, research population, research sample size, research location, questionnaire design, statistical data analysis, and pilot study.

Accordingly this chapter covers the research methodology followed to achieve the ultimate goal of the research to draw up findings in a way to make conclusions and to forward recommendations.

3.2. Research Design

This study was carried out based on the literature review and questionnaire survey with seven phases.

The first phase of the research is thesis proposal included identifying and defining the problems and establishment objective of the study and development research plan.

The second phase of the research included a summary of the comprehensive literature review. The third phase of the research includes afield survey which was conducted with contractor, consultant and client project managers, project engineers, and top and middle management engineers.

The fourth phase of the research focused on the modification of the questionnaire design, through distributing the questionnaire to pilot study, where expert academic, contractors, consultant and client management engineers were contacted.

The purpose of the pilot study was to test and prove that the questionnaire questions are proper for the subject, addition or omission some questions and it is clear to be answered in a way that help to achieve the target of the study. In addition, to ensure that all information received from expert panel would be useful in achieving the research objective. Modification has been conducted based on the results of the pilot study.

The fifth phase of the research focused on distributing questionnaire. This questionnaire was used to collect the required data in order to achieve the research objective. 96 for 32 contractor's and 21 for 7 consultants and owner questionnaires were distributed to the research population, but 78 questionnaires filled by contractor (81.25%), and 13 consultant and owner questionnaires (61.90%) were received.

The sixth phase of the research was data analysis and discussion. Statistical Package for the Social Sciences was used to perform the required analysis.

The final phase includes the conclusions and recommendations

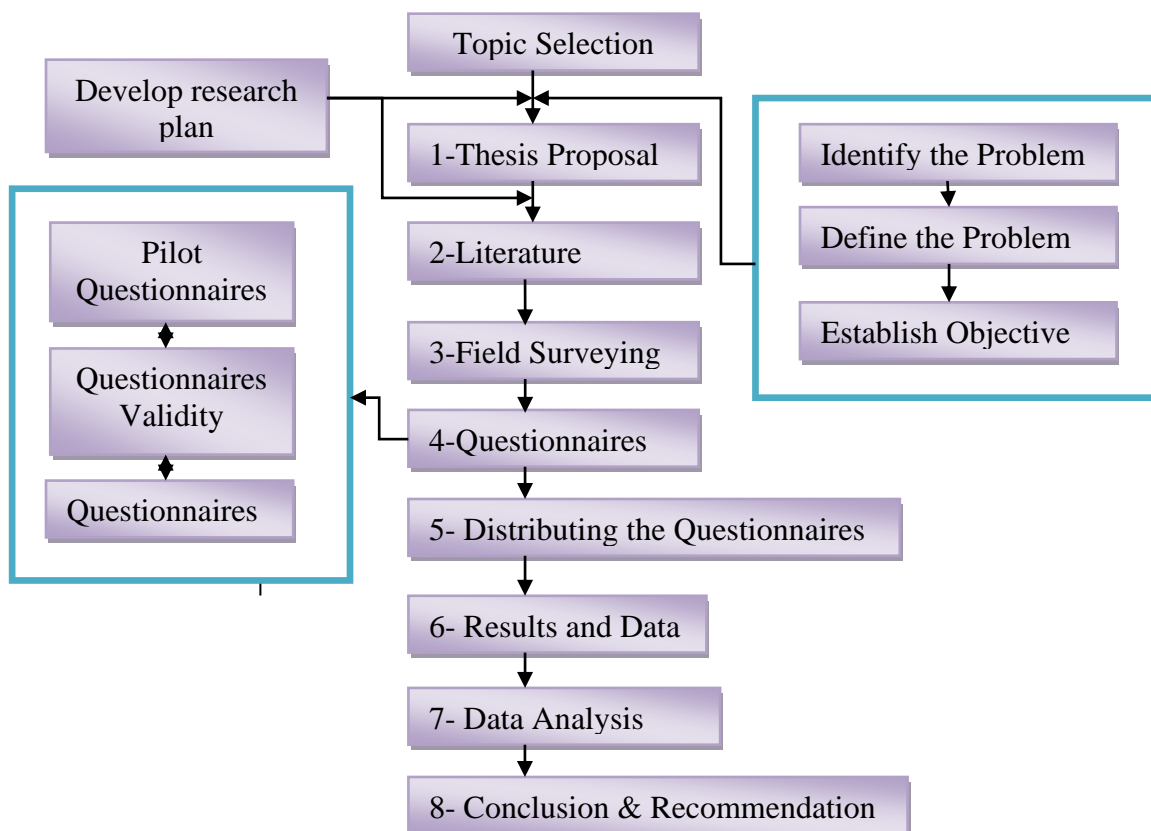


Figure 3. 1: Flow chart of Methodology

3.3. Data Collection Methodology

In order to collect the needed data for this research, preliminary resource which is distributing questionnaires on study population in order to get their opinions about current practice in claims management, claim problems related to current practice, implementation of claim sub processes in claim management, Common points that are included in claim notice, claim types that are encountered in road construction projects in Ethiopia were collected. In addition we use the secondary resources in collecting data such as books, journals, statistics and web pages.

3.4. Research Population

The term population refers to the aggregate or totality of all the objects, subjects or members that conform to a set of specifications. In quantitative studies, the researcher identifies the population to be studied during the planning phase. A smaller population can be studied more extensively at a fixed cost than a larger population, so it is important to decide what population is really of critical importance.

In this research population was drawn from three parties which are participating in Federal road construction projects in the last five years, Contractor, owner Ethiopian road authority (ERA), and consulting firms. Also attempts have been made so that the samples drawn from the population are representatives.

This research targets 32 contractor companies and 6 consultants and one public owner. The Owner is ERA and the consultants are employees of ERA. In this research the first population was the road contractors who were involved in road construction in the last five years and classified under first and second grades in the road work fields by the construction industry in Ethiopia. The target group was engineers, claim experts, contract administrators, supervisors and decision makers who are involved in road construction within the contractor's, consultant's and owner's companies.

Contractors who are registered under the third, fourth and fifth classes were neglected due to the low practical and administrative experience of their companies in road construction works besides most and major road projects executed in the last Five years has been executed by first and second class contractors as required by owners and clients.

3.5. Sample Size Determination

The sample is a small proportion of total population that represents this population. The objective of the sampling is to provide a realistic means of enabling the data gathering and processing the components of

the research to be carried out to ensure that the sample has a good representation of the population. The samples were selected randomly from each type of the target groups (contractors, owners, and consultants). Statistical equations were used in order to calculate the sample size for both.

The following equation was advised by statistical expert and was used to determine the sample size of the population. [48]

The required sample size is determined using the following expression.

$$SS = \frac{Z^2 * P * (1-P)}{C^2} \quad \text{Equation 3.1}$$

Where;

SS = Sample size

Z = Z-score/value/ from Z-score table (1.65 for 90% confidence level)

P = percentage picking a choice, expressed as a decimal (0.50 used for sample size needed)

=Proportion of the population with claim management and completed and 80% projects progress

C = margin of error (+or -5%)

With confidence level 90%, marginal error + or -5% and proportion of the population 0.164 as it is the most forgiving number and ensures that the sample will be large enough and the sample size is found to be 149.

$$SS = \frac{1.65^2 * 0.164 * (1-0.164)}{0.05^2} = 149$$

Correction for Finite Population:

$$SS_{\text{new}} = 1 + \frac{SS}{1 + \frac{SS-1}{POP}} \quad \text{Equation 3.2}$$

Where pop is the population = 149; (class1 is 29 and class2=3) match the proposed classes contracting companies.

$$SS_{\text{new}} = 1 + \frac{149}{1 + \frac{149-1}{32}} = 27$$

Where pop is the population = (7 owner; ERA and consultants in road construction).

$$SS_{\text{new}} = 1 + \frac{149}{1 + \frac{149-1}{7}} = 7$$

The variables were determined on the basis of availability of parties who were involved in road construction in the last five years for conducting the research work. The respondents included in the survey comprised a total of 96 respondents which were from 32 contractors and 21 from 7 consulting offices and client.

To ensure good representation of each stratum, the percentage of representation within the strata was calculated as shown in Table 3.1.

Table 3. 1 Classification of sample size of contractor and owner

Title	Population	Sample size	Distributed questionnaire	No of respondents	Response rate
Contractor	32	27	96	78	81.25%
Owner and consultants	7	7	21	13	61.90%

3.6. Research Location

The research was carried out in the Ethiopia, which consists of nine regions. The contractors involved in this research are 1st and 2nd grades in general construction (Gc) and road construction (Rc), who participated in road construction projects in different regions and Owner and consultants. Post title distributed as follow: Managers of organization/ company, project managers, project /senior engineers, office engineer, claim experts and planning engineers.

3.7. Pilot Study

The pilot study provides a trial run for the questionnaire, which involves testing the wordings of question, identifying vague questions, testing the technique that is used to collect data, and measuring the efficiency of standard invitation to respondents. [48] It is usual practice that the survey instrument should be piloted to measure its validity and reliability and test the collected data. The pilot study was conducted by distributing the arranged questionnaire to the selected experts having experience in the same field of the research to acquire their remarks on the questionnaire. Six experts representing two panels were contacted to assess the questionnaire validity. The first panel, which consisted of five experts (contractors owners, and consultants), was asked to verify the validity of the questionnaire topics and its relevance to the research objective. The second panel, which consisted of one expert in statistics, was asked to identify that the instrument used was valid statistically and that the questionnaire was designed well enough to provide relations and tests among variables. Expert comments and suggestions were collected and evaluated carefully. All the suggested comments and modifications were discussed with the study's advisor before taking them into consideration. At the end of this process, some minor changes, modifications, addition, omission were introduced to the questions and the final questionnaire was constructed and was ready for distribution to targeted communities.

3.8. Questionnaire Design and Content

According to the review of literature and after interviewing experts who were dealing with the subject at different levels, all the information that could help in achieving the study objectives were collected, reviewed and formalized to be suitable for the study survey and after many stages of brain storming, consulting, amending, and reviewing executed by the researcher with the supervisor, a questionnaire was developed. The questionnaire was provided with a covering letter which explained the purpose of the study, the way of responding, the aim of the research and the security of the information in order to encourage high response.

The questionnaire design was composed of five sections to accomplish the aim of the research, as follows:

1. Section A: General; firm / organization profile.

This section is to obtain the information about the respondents. The questionnaire includes the following:

- Respondent title in company / organization.
- Number of years that you have experience in the construction industry.
- Number of years that your organization /company have experience in construction.
- Direct involvement with the claims arising in your project
- Seminars or training sessions related to claims management

2. Section B: Claim management practice based on different claim processes in road construction projects in Ethiopia.

This section is to obtain the information on different issues related to claim management practices in road construction projects from the perspective of contractors.

There are fourteen categories in this section such as problem occurs in claim management process, different types of claims, acceptance of claims submitted, common errors in the presentation of claims, Failure to provide timely notice of a claim to the other party, key elements to a successful claim presentation, Major obstacles to timely settlement of claims and requirements in claim notice identified. And about claims Substantiation and presentation that focuses particularly on claim substantiation such as to identify essential components that required to the proper substantiation of a claim, Necessary activities to make a claim sufficiently substantiated during the construction phases, Team members who contributes to the case development in claim presentation, and Factors that considered during substantiating claims to the consultant in road construction projects in Ethiopia

The respondents were asked to rank the individual points based on frequency of occurrence according to their own judgment and working experience. The questionnaire is mainly based on Likert scale of five ordinal measures from one (1) to five (5) according to level of frequent. Each scale represents the following rating:

- (5) = Very high contributing, Strongly agree, Very Frequent ,Very often, Very high
- (4) = High contributing, Agree, Frequent, Often, High
- (3) = Medium contributing ,Neutral, Medium ,Sometimes, Medium
- (2) = Low contributing, Disagree, Rare, Rarely, Low
- (1) = Very low contributing, strongly disagree, Never ,Not at all, Very low

The survey questionnaire was conducted to determine the point of view of the studied population sample regarding the claims causes and types. Seven pages questionnaire accompanied with a covering letter. The covering letter explained the aim of the research and states that the results of the questionnaire would be used to improve the ability of clients and contractors to identify and recognize the claims causes, types and the claims avoidance steps and advices. A close ended and open-ended questionnaire was used for its advantages. These advantages of a close-ended questionnaire are such as it is easy to ask and quick to answer, they require no writing by either respondent. Besides, open-ended questionnaire is advantageous as the respondents share their own opinions and benefits from their experience and knowledge to enrich the research.

The researcher used Likert quintuple criterion to measure and examine the answers of questionnaire questions. The answers were limited to the following classifications: Ordinal scale is a ranking or rating data that normally uses integers in ascending or descending order. The numbers assigned to the agreement or degree of influence (1, 2, 3, 4, and 5) doesn't indicate that the interval between scales is equal, nor do they indicate absolute quantities.

Table 3. 2 Likert Scale of Evaluation

Classification	Very low	Low	Medium	High	Very high
Degree	1	2	3	4	5

Classification	Never	Rare	Medium	Frequent	Very frequent
Degree	1	2	3	4	5

3.9. Relative Important Index (RII)

The relative important index and the mean values were used in this research. Egemen and Mohamed (2005) explained that the relative index technique has been widely used in construction research for measuring attitudes with respect to surveyed variables. Several researches used the relative important index in their analysis. Likert scaling was used for ranking questions that have an agreement levels. The respondents were asked to give their perceptions in group of questions on five-point scale (1, for the strongly disagree to 5 for the strongly agree), which reflects their assessment regarding the factors causing delay in construction projects. The importance index was computed using the following equation:

Formula Relative importance Index =

$$N = \frac{\sum w}{AN} = \frac{(5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1)}{5n} \dots \dots \dots \text{Equation 3.2}$$

Where W is the weighting given to each factor by the respondent, ranging from 1 to 5, (n_1 = number of respondents for strongly disagree, n_2 = number of respondents for disagree, n_3 = number of respondents for neutral, n_4 = number of respondents for agree, n_5 = number of respondents for strongly agree). A is the highest weight (i.e. 5 in the study) and N is the total number of samples. The relative importance index ranges from 0 to 1. The main factors which are used in analysis were the mean and the percentage weight. The analyzed data was finally presented using descriptive methods for easy interpretation of data.

3.10. Limitation of the study

Claim management is very diverse and wide topic. Not all practices and problems can be discussed and not all perspectives can be included as the research is focusing on the contractor's point of view. Also the methodology followed need to be more diverse and more in-depth which would be difficult as the information required is confidential. The limitation of this study is that due to the small number of clients and consultants compared to the number of contractors the views of their engineers are not taken into account. Also in this study claim analysis techniques were not included due to the time constraint.

Limitations that can lead to future research include three primary issues. First, this study will take place within the frame of reference of one branch (Contracting firms) of road construction industry and the respondent of consultants and client are very small as compared with contractor's respondents, as a result the analysis has combined all groups of respondents in order to obtain significant result. Second, this study will examine only local road construction companies in Ethiopia construction industry. Third,

due to the researcher's focuses on having high quality and credible answers which could only be obtained from experienced people; the selected projects for this study are general and road contractors with categories of grade I & II and who have been involved in the road construction in the last five years in Ethiopia assumed to satisfy this requirement. The other limitation of the study was the lack of willingness of professionals to complete and return the questionnaire which took too long than expected.

3.11. Summary

In order to achieve the objectives of the study, the research methodology has been established. This study was carried out based on literature review, and questionnaire survey.

CHAPTER 4

4. Analysis and Discussion

4.1. Introduction

This part of the research deals with the analysis and discussion of the data gathered from the desk study and questionnaire survey. The results from the desk study and questionnaire survey will be presented, interpreted and analyzed in detail in this part. In light of the results obtained from the analysis limitations of the local contract forms will be reviewed. Finally discussions will be made on the basis of the findings and limitations observed.

4.2. General Information about questionnaire

Data of questionnaire survey were collected from professionals of 32 road contractors, 6 consultants and one client which is ERA. They were asked to provide information related to the current practices in claim management, problems encountered, and give suggestion on how to improve the claim management. They were also asked to provide information related to types of claims, acceptance of claims submitted, common errors in the presentation of claims, Failure to provide timely notice of a claim to the other party, key elements to a successful claim presentation, Major obstacles to timely settlement of claims and requirements in claim notice identification, team members contribution to the case development in claim presentation, and Factors that are considered during substantiating claims to the consultant in road construction projects in Ethiopia.

4.3. General information analysis Results

4.3.1. Respondents

Table 4.1 shows the profile of respondents in terms of their experience in the construction industry. 19.78 % have less than 5 years of experience, 53.85 % have an experience between 6-10 years, and 26.37% from the companies have an experience more than 10 years. That indicates about 80.81% or the majority of respondents had served the industry more than 6 years.

This suggests that majority of the respondents have been in the industry for a considerable number of years and are ideally suited to provide comments and answers on any issues dealt within this survey and their opinions are expected to reflect the real industries claim management situation in road projects enhancing the research objectives as these companies have enough experience in execution and

managing construction contracts for long time. Thus, information gathered is reliable enough to meet the needs of this research.

Table 4. 1 Profile of respondents in terms of their experience

Item No.	Years of experience	Contractors/cons/client	
		N	%
1	0 to 5 years	18	19.78
2	6 to 10 years	49	53.85
3	Over 10 years	24	26.37
	Total	91	100

4.3.2. Respondent Position

Table 4.2 shows the respondents position as follow:27.47 % were project managers, 24.18 % were office engineers, 17.58% were construction engineers, 7.69 % were claim engineers , 9.89% were planning engineers and 13.19% were site engineers ,quantity surveyors and others.

So more than 60% of participants were project managers, construction and office engineers, who work as project management team that gives variety in the samples which enhance the results.

Table 4. 2 Organization or company and respondent position

Item No.	Position	Client/cons/client	
		N	%
1	Project manager	25	27.47
2	Office engineer	22	24.18
3	Construction engineer	16	17.58
4	Claim engineer	7	7.69
5	Planning engineer	9	9.89
6	other engineer	12	13.19
	Total	91	100

NB:-Project engineers/RE are considered as PM

4.3.3. Respondents involvement in claims

Table 4.3 shows the respondents involvement in claim issues as follow: 74.73 % were involved in the handling of claim issues raised where as 25.27 % were not involved.

So most of the participants had direct involvement in handling claim issues that gives a successful approach and a productive boost to the results

Table 4. 3 Respondents involvement in claim

Item No.	Involvement	Cont/cons/client	
		N	%
1	yes	68	74.73
2	No	23	25.27
	Total	91	100

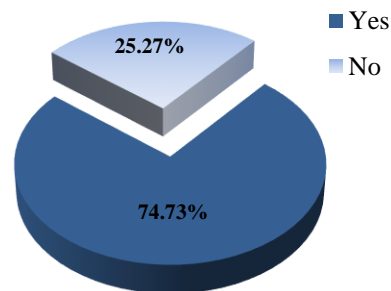


Figure 4. 1 Respondents involvement in claims

4.3.4. Respondent certification

Table 4.4 shows the respondents certification in claim as follow: 28.57 % hold certificates in claim management with short term local trainings such as Contract administration and claim management, Project management and dispute resolution mechanisms and Claim management and handling while 71.43 % do not.

So most of the participants have not acquired certification in handling claim giving a positive feedback on the result, it shows that claim management was done mostly with past encountered experiences and knowhow without a wide range technical knowledge, hence attention should be given to some degree in certification training programs to give motivation, to raise conceptual understanding and for technical reference and as a job aid to assist the work.

Table 4. 4 Certification related to claim

Item No.	Certification	Cont /cons/client	
		N	%
1	yes	26	28.57
2	No	65	71.43
	Total	91	100

4.3.5. Respondent participation in claim management seminars

Table 4.5 shows the respondents' participation in seminars and training for claim management as follows: 56.04 % have attended seminars and training sessions in claim management with short term trainings such as Contract administration and claim management, project management and construction claims and Claim management and handling and others, while 43.96 % did not.

So in comparison a greater number of the participants though not certified had taken training and have been involved in seminars that give improved knowledge and additional view point for specific issues within a short period of time resulting in a more close accuracy in the results.

Table 4. 5 Participation in seminars and trainings related to claim

Item No.	participation	Client/cons/client	
		N	%
1	yes	51	56.04
2	No	40	43.96
	Total	91	100

4.4. Claim management questions analysis results

4.4.1. Problems in Claim Process

This section presents the problems associated with the claim management process in road construction projects in Ethiopia. It concentrates on the 5 stages of claim process; identification, notification, examination, documentation, presentation and negotiation.

4.4.1.1. Identification

According to the respondents shown in table 4.6, the main problem in identification of claims is “lack of awareness of site staff to detect claim”, “insufficient contract knowledge by site staff” and “inaccessibility of documents used for identifying claim. Of all the problems listed, the respondents agree that “ambiguous line of responsibility as to who should detect claims” and “ambiguous procedures in claim identification” posed the least problems in identification of claims.

It is predictable that matters relating to skills and awareness of staff are raised to be the most severe problem in the claim identification process. Site staffs are expected to understand contract provisions as agreed and signed by the contracting parties. They need to read and value the contract condition before embarking on a new project.

Usually, they will only refer to the relevant contract clauses when problems occur during the construction project.

They should be alert on the changes of work, claims and variation order instruction. The lack of awareness, skills and knowledge of site personnel may cause loss of chances for the rights to declare a claim.

Table 4. 6 Problems in Identification of Claims

Item no.	Problems in identification of claims	Sum N	Mean	RII %	Rank
1	Lack of awareness of site personnel to detect a claim.	91	3.80	76.04	1
2	Insufficient contract knowledge of site personnel.	91	3.76	75.16	2
3	Inaccessibility of documents used for identifying a claim.	91	3.11	62.20	3
4	Insufficient time and difficulties in detecting any problems due to high workload.	91	3.07	61.32	4
5	Ambiguous procedures of claim identification.	91	3.02	60.44	5
6	Ambiguous line of responsibility as to who should detect a claim.	91	2.88	57.58	6

4.4.1.2. Notification

In claim notification, most of respondents agree that “Failure to follow conditions of contract (like notify as per the time table specified in the contract).”, “Inadequacy of the documents attached along with claim notice”, “Inaccessibility of supporting documents needed for notice” and “Notices submitted by claimants not being deliberately well organized with a standard form” as the major problems.

The notification process provides the notified party with the opportunity to review the condition and take action to resolve or mitigate its impact. If either the contractor or the project manager becomes aware of a claim event, the other party must be immediately notified. Claim notifications need to be done in writing and as detail as possible. In the preparation of supporting documents for claim notification, good documentation system and accurate site records are very important. Procedures of notice preparation need to be spelled out clearly and understood by parties involved. In addition, site staffs need to have good communication skills so that proper instruction can be given, received and understood.

Table 4. 7 Problems in notification of claims

Item no.	Problems in notification of claims	Sum N	Mean	RII %	Rank
1	Failure to follow conditions of contract (like notify as per the time table specified in the contract).	91	4.14	82.86	1
2	Inadequacy of the documents attached along with claim notice	91	3.67	73.41	2
3	Inaccessibility of supporting documents needed for notice	91	3.59	71.87	3
4	Notices submitted by claimants are not deliberately well organized with a standard form	91	3.40	67.91	4
5	Insufficient time to thoroughly prepare the notice due to high workload	91	2.89	57.80	5
6	Prescribed time for notice in the contract is too short	91	2.57	51.43	6

4.4.1.3. Examination

The next process is examination of claims, from the Table below, it can be seen that “unavailability of records used to analyze and estimate the potential recovery”, “Lack of legal and contract knowledge to establish the base on which the claim stands”, “Unrealistic formula used to evaluate the impacts and calculate damages.” are the top three problems experienced by the contractors.

Respondents indicated that record availability is very important in analyzing and estimating the expenses of claims. In this process, the contractors need to be aware of the need to check the required files and to estimate their claim’s cost by presenting accurate documents to the owner. Therefore, it is advisable for the contractors to examine claims recovery and support it by providing precise related documents. Lack of legal/contract to establish strong reasons on which the claim stands also add to the problems in claim examination process. Knowledge and awareness in law and contract amongst the contractors need to be highlighted.

Unrealistic formula used to evaluate the impacts and calculate damages still contributes to the problems in this stage and proper action is needed in order for it to improve and use realistic and standard formulas.

Table 4. 8 Problems in examination of claims

Item no.	Problems in examination of claims	Sum N	Mean	RII %	Rank
1	Unavailability of records used to analyze and estimate the potential recovery.	91	3.87	77.36	1
2	Lack of legal and contract knowledge to establish the base on which the claim stands.	91	3.75	74.95	2
3	Unrealistic/lack of standard formula used to evaluate the impacts and calculate damages.	91	3.57	71.43	3
4	Ambiguous procedures for claim examination	91	3.21	64.18	4
5	Insufficient time to thoroughly examine claim due to high workload.	91	2.89	57.80	5

4.4.1.4. Documentation

Documentation as previously was indicated plays an important role in the claim process. As seen below “Poor record-keeping system and inaccessibility of documents when needed”, “Lack of awareness on documentation and recording of events”, “Lack of document control system and inaccurate recorded information” had the most significant effect in the process of claim management as is agreed by majority of the participants.

Implementation and utilization of a documentation system serves to ensure adequate control and monitoring of project and building an accurate and complete record of job condition and problems and their impact on the works. Most site personnel take this process lightly and as burdensome nevertheless, since it almost invariably determines the success of the claim so the importance cannot be overemphasized.

Clear, factual and accessible documentation assist in decision and monitoring more objectively. Within progression of time absence of documents can lead to disputes hence documentation serves as the basis for a fair and adequate settlement.

Table 4. 9 Problems in documentation of claims

Item no.	Problems in documentation of claims	Sum N	Mean	RII %	Rank
1	Poor record-keeping system and inaccessibility of documents when needed.	91	4.04	80.88	1
2	Lack of awareness on documentation and recording of events	91	3.68	73.68	2
3	Lack of document control system and inaccurate recorded information	91	3.58	71.87	3
4	No standard form used to record the data during construction.	91	3.49	69.77	4
5	Some information and instruction are not kept in writing	91	3.01	60.22	5

4.4.1.5 Presentation

Well prepared and documented claims are successful than those that lack foundation, analysis and justification. The participants have stated “Insufficient skilled staff in preparing a claim submission”, “Inaccessibility of relevant documents to submit along with the claim”, “Poor communication in presenting a claim” play major roles in presenting claim.

A claim must be presented in a professional manner with sufficient details including the basis, calculation and evidence in order to save time, cost and effort of the claimant and defendant. In presenting a claim analysis should include a review of compliance with procedural requirements and available documentation to support the claim. Applicable law should also be analyzed.

The project management and contract management professionals should have basic knowledge about the meaning, evaluation and preparation of claim and additional skilled and experienced staff should be considered in claim management to effectively assess and deal with relevant issues.

The overall goal of claim presentation should be to provide sufficient facts to support entitlement within a reasonable time. In preparing a claim submission Review of records and documents as well as definition of scope outlined in the contract provision is necessary. But as agreed below with the lower realization of the importance of documentation and ineffective record keeping is leading to the unavailability of supporting documents for claim presentation causing unsuccessful claims.

Table 4. 10 Problems in presentation of claims

Item no.	Problems in Presentation of claims	Sum N	Mean	RII %	Rank
1	Insufficient skilled staff in preparing a claim submission.	91	3.80	76.04	1
2	Inaccessibility of relevant documents to submit along with the claim.	91	3.70	74.07	2
3	Poor communication in presenting a claim.	91	3.44	68.79	3
4	Insufficient time to thoroughly prepare claims due to high workload.	91	2.81	56.26	4
5	No standard format of a claim submission.	91	2.76	55.16	5
6	Ambiguous procedures in preparation of claim presentation.	91	2.35	47.03	6

4.4.1.6. Negotiation

How we approach the negotiation of claim will determine the effectiveness of the result. The preparation and presentation of factual supports is pre requirement for this stage. According to the participants reviews “Disagreement arising during negotiation”, “Unsatisfactory evidence to convince other parties.”, “Poor negotiation skills” take a major percentage in a failed or unsuccessful negotiation.

In negotiating a claim it is equally important to anticipate arguments but the main point is to focus the attention on objectively evaluating which will lead to much more profitable result for the resolution. If technical issues are involved, consideration should be given to involving the opinion or assistance of independent experts.

In many situations contractors lose their claim as a result of insufficient amount of documentation evidences and as a result, affecting their position during claim negotiation and also affecting the relationship between the parties.

Other than a well prepared and presented claim document negotiation requires acknowledge of the contacts involved and their correct legal interpretation, a creative approach to problem solving and finding solutions and accurate conveyance of claim position are needed as a negotiation skill for early settlement so specified experienced professional personnel are required which is lacking with in this industry. The most critical element of any negotiation is the willingness of both sides to enter with an open mind and be willing to make concessions as required to reach a settlement acceptable to both parties controlling costs and reducing the potential for litigation.

Table 4. 11 Problems in negotiation of claims

Item no.	Problems in negotiation of claims	Sum N	Mean	RII %	Rank
1	Disagreement arising during negotiation.	91	3.82	76.48	1
2	Unsatisfactory evidence to convince other parties.	91	3.62	72.31	2
3	Poor negotiation skills.	91	3.32	66.37	3
4	Adversarial relationship with other parties.	91	3.20	63.96	4
5	Inadequate time due to high workload.	91	2.68	53.63	5
6	Difficult to settle without any litigation or Arbitration.	91	2.57	51.43	6

4.4.2. Type of Claims

The contractors and owner were asked regarding their points of view about the frequency of construction claim types that happen in road construction projects in Ethiopia. The first claim type is contractual claims. The following Table below shows the statistical results for all types of claims.

As shown in Table the contractor respondents rank, in the first position “Contractual claims type “with a relative index value of (83.52%) or about more than three quarters of the overall claims occurred in one project. This means that Contractual claim types cause a very high conflict between owner and contractor, and has a high important effect on the project. And most contractors agree that “Contractual claims” significantly affects their activities and results claim.

This emphasizes the importance of good preparation of the construction contract at the beginning of the project. The well-prepared construction contract can help both the project owner and the contractor settle the changes that occurred before they become claims or disputes, which consume more time and cost from both parties to solve.

On the other hand, the extra-contractual claim also has high level of effects on the project, which can be seen from the table it’s relative index (64.84%). This implies that the contractors need to be familiar with the law, regulations, and other standards of works related to the work as much as to deliberately scrutinize the contract documents. This helps the contractors efficiently avoid or settle the changes that occurred.

Table 4. 12 Types of Claims Frequency

Item no.	Types of Claims	Sum N	Mean	RII %	Rank
1	Contractual	91	4.18	83.52	1
2	Ex-Contractual	91	3.24	64.84	2
3	Quantum Merit	91	2.43	48.57	3
4	Ex-Gratia	91	2.09	41.76	4
5	Claim in tort	91	1.68	33.63	5

4.4.3. Difficult sub process to implement during claim management

From the survey the most difficult sub process of the claim management found by the participant where “Claim negotiation” at 74.95%, “Claim identification” at 70.11% and “Claim Documentation” at 69.01%. As has been discussed on problems in each claim processes major changes/improvements are need in the claim management.

Table 4. 13 Difficulty of Sub processes of claim management

no.	Sub processes	Sum N	Mean	RII %	Rank
1	Claim Negotiation	91	3.75	74.95	1
2	Claim Identification	91	3.51	70.11	2
3	Claim Documentation	91	3.45	69.01	3
4	Claim Analysis	91	3.38	67.69	4
5	Claim Preparation	91	3.04	60.88	5
6	Claim Notification	91	2.87	57.36	6

4.4.4. Common points that are included in claim notice

As was discussed that the timely notice of claim is needed the contents of the claim notice is also as equally important. The claimant should make sure the construction contract clearly defines items which will be able to recover additionally each and every delay incurred should be well documented during the course of the project. Notice should be given implicating the delay its impact to the party with which it is in contract with as is stated in the condition of contract. As was collected from the survey “What a party is claiming for”, “The circumstances which gave rise to the claim”, “Contract provisions related to the claim” are considered the most important contents that must be included in a claim notice compared to the others. In the practices that are ongoing with the claim management having a well know how on contract documents and documentation of the construction for reference and evidence are still lacking which shows the contract administration process needs improvement.

Table 4. 14 Contents of claim notice

Item no.	Sub processes	Sum N	Mean	RII %	Rank
1	What a party is claiming for	91	3.93	78.68	1
2	The circumstances which gave rise to the claim	91	3.69	73.85	2
3	Contract provisions related to the claim	91	3.51	70.11	3
4	Details of the disputed item or issue	91	3.03	60.66	4
5	An indication that further work is being conducted under protest if further work is to be done	91	2.78	55.60	5

4.4.5. Reasons for failure to provide timely claim notice

“Lack of knowledge of legal and contractual aspect of claims”, “Lack of experience in processing claims”, “Failure to follow conditions of contract” rank the top three problems that are seen that lead to failure in the timely notice of claims with 74.07%, 69.67% and 66.81% respectively as was observed by the participants. Failure to provide timely notice of claim prevents any claim from subsequently being advanced. This applies to all parties to the construction contract. Requirement that must be met in order to establish liability must be familiarized with from the condition of contract for success of claim. The level of knowledge/understanding of the overall claim process and its legal aspect are low hence it is logical to provide some short-term on the job training on legal aspect of claim for every contracting party.

Table 4. 15 Timely claim notice

Item no.	Common failures	Sum N	Mean	RII %	Rank
1	Lack of knowledge of legal and contractual aspect of claims	91	3.70	74.07	1
2	Lack of experience in processing claims	91	3.48	69.67	2
3	Failure to follow conditions of contract	91	3.34	66.81	3
4	Deficiency of detail pre contract planning	91	3.04	60.88	4
5	Lack of awareness of claims	91	2.90	58.02	5

4.4.6. Essential components required for proper substantiation

“Clarity being in its body and therefore not permitting the reader or the assessment team to question the facts recorded” is the most essential requirement in substantiating claim as agreed by respondents with 76.26% .A clear, descriptive presentation of claim with factual supportive document is as we have been discussing so far an important aspect in claim management however the production of information is often of insufficient quality to enable an effective investigation in to issues to be taken in retrospect. Too much information and also too little

information are both ineffective presentation in claim. “Delay analysis being one of the most vital elements needed for substantiating EOT and cost claims” is also essential requirement as seen below with 70.26%. The selection of a suitable analysis method depends heavily on availability of data, familiarity of analyst and clear specification in the contract concerning the treatment.

Table 4. 16 Components required for proper substantiation

Item no.	Essential components required for proper substantiation	Sum N	Mean	RII %	Rank
1	Clarity should be in its body and therefore does not permit the reader or the assessment team to question the facts recorded.	91	3.81	76.26	1
2	Delay analysis is one of the most vital elements needed for substantiating EOT and cost claims.	91	3.55	70.26	2
3	It should have supporting documents such as recording facts, notices, and instructions for the proper substantiation of claims	91	3.32	66.37	3
4	Accessing all the necessary documents needed whenever needed easily	91	2.88	57.58	4

4.4.7. Necessary activities during construction phases to make a claim sufficiently

Substantiated

The top three important pre phases to sufficiently substantiate claim as described by the respondents are “Well written contractual letters”, “Send Daily records to the engineer daily”, “Taking enough photographs or keeping track of some of the changes” this are all included in documentation and recording as well as notification processes throughout the progress of claim. It is an issue that is seen in many project which think that a verbal agreements make the construction easier and faster making claim management harder and regarded as indicator of poor documentation .But a poorly drafted contractual letters can also often present as many difficulties in relation to ambiguity and certainty as a verbal agreements.

Daily recording of the actions done by all parties on the construction site is necessary, not only for confirming that work is done according to specification, but also for analyzing any claims. As is familiar great number of factors can affect the construction progress, to keep up with this changes and the execution of each work and also to have construction history for future projects reference detailed and precise recording must be documented and made available to the other parties. Recordings should be

time indicating, descriptive, aided with picture as pictures is worth a thousand words. Site records, however are often incomplete and inaccurate which must be taken with a serious caution.

Table 4. 17 Pre-required activities for substantiation

Item no.	Essential activities pre-required for proper substantiation	Sum N	Mean	RII %	Rank
1	Well written contractual letters.	91	3.54	70.77	1
2	Send Daily records to the engineer daily	91	3.44	68.79	2
3	Taking enough photographs or keeping track of some of the changes	91	3.12	62.42	3
4	Documentation and maintenance of records	91	2.93	58.68	4
5	Forecasting claim issues	91	2.43	48.57	5

4.4.8. Key elements to a successful claim presentation

From the responses given on the survey “Detailed description of the cause of delay and supporting contractual provisions in the contract”, “Dates of when the delay occurred and the total time interval of delay”, “The date of the formal notification of delay to the Engineer/ Employer and the supporting document of notification”, “A formal statement requesting an EOT and /or cost with full substantiation and supporting documents” most likely affect claim presentation. Claims are nearly always must be prepared by reference to the conditions of contract. Pricing the claim and supporting the calculation is every bit as important as establishing liability. The document should specify the specific amount claimed and include detailed analysis with relevant supporting documents.

Table 4. 18 Key elements to a successful claim presentation

Item no.	Key elements	Sum N	Mean	RII %	Rank
1	Detailed description of the cause of delay and supporting contractual provisions in the contract	91	3.86	77.14	1
2	Dates of when the delay occurred and the total time interval of delay	91	3.77	75.38	2
3	The date of the formal notification of delay to the Engineer/ Employer and the supporting document of notification	91	3.74	74.73	3
4	A formal statement requesting an EOT and /or cost with full substantiation and supporting documents.	91	3.65	73.03	4
5	Appendices to the EOT and cost claim which include all the backup documents and records.	91	3.42	68.35	5

6	A cause and effect study of the delays.	91	3.03	60.66	6
7	Delay analysis showing the effects of the delay on the critical path and effects on the float per activity and total float.	91	2.86	57.14	7
8	Diagrammatic exemplification demonstrating the position of the baseline program, with respect to the new dates of completion taking into consideration the arising delays.	91	2.71	54.29	8

4.4.9. Team member that contributes to the case development and consequently successful

Claim presentation

The concept of claim management can be defined as the process of deputing and managing resources to advance a claim from identification and analysis through preparation, and presentation, to negotiation and settlement. Hence, it is prudent for the claimant party to establish well-structured claims management whether in house or through appointing a third party specialist to work as part of a team. As is shown below the participant have stated that mostly the office engineer and project manager are the only members to contribute which shows the lacking in claim management in our industry.

Team and team awareness are identified essence of claims management. This is ascribed to the fact that teams with experience and abundance knowledge bring out positive effects which increases awareness towards proper management. In conclusion effective team practice ensuring the team to work towards achieving its goal and being receptive to collaborate with other teams is advantageous for the management of claim.

The common understanding is that claims need to be handled at managerial level only and the construction teams have little to contribute. The misconception of duties and roles of team members is recognized by the deficiencies that impact record keeping and timely notification. Hence it is essential for each individual in the organization of a project to be aware of his/her duty with regards to claim and the management is obliged to clarify this issue.

Table 4. 19 Team member that contribute to claim case development

Item no	Involvement of team members	Number of respondents		% age of respondents	
		Yes	No	Yes	No
1	Claim expert/ Engineer	35	56	38.46	61.54
2	Planning engineer	42	49	46.15	53.85
3	Appointed third party expert	22	69	24.18	75.82
4	Project manager	80	11	87.91	12.09
5	Office engineer	84	7	92.31	7.69

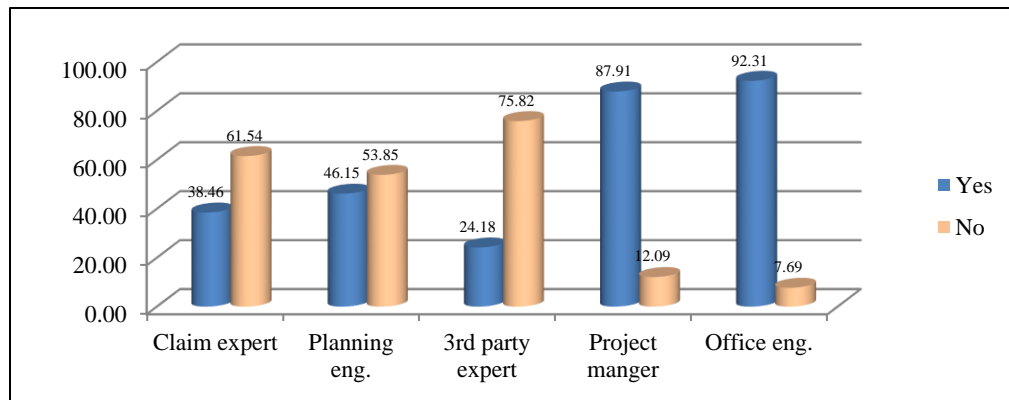


Figure 4. 2 Team members' involvement in claim

4.4.10. Common errors in claim presentation

As is seen below “Error in logically built up, well organized, and factually convincing”, “Missing general contract provisions in the claim presentation”, “Missing important evidences to provide” are chosen by the participant to be the most common error encountered in the claim process that might lead to longer claim evaluation process and/or unsuccessful claim which influences both parties. Often contractors are unsuccessful in presenting a claim because the historical account is unclear because of the poor contract administration. It is extremely important that a proper program of record keeping and fact retention be implemented in order to successfully capture all fact which are relevant to a claim with careful analysis of the scope, the schedule, particularly the contract documents and the provisions of the law. A claim has no chance of success if not grounded in the contract therefore awareness of the condition documents are also essential.

Table 4. 20 Common errors in claim presentation

no.	Common errors	Sum N	Mean	RII %	Rank
1	Error in logically built up, well organized, and factually convincing	91	3.51	70.11	1
2	Missing general contract provisions in the claim presentation	91	3.32	66.37	2
3	Missing important evidences to provide	91	3.27	65.49	3
4	Typographical errors	91	2.70	54.07	4
5	Wrong records attached during claim presentation	91	2.45	49.01	5

4.4.11. Factors to be considered in claim submission

Claims must be properly constituted and documented that is proper legal entitlement must be established, cause and effect must be clearly demonstrated by contemporaneous records and additional cost /delay incurred must be backed up by full supporting documents. It is important to state precisely about contractual basis of the claim, state clearly the event or events pertaining to the claim and with reasons, responsibilities and effect on progress as a whole. As is agreed below by the respondents and as we have been discussing so far this issues are basics in the claiming process needing development.

Table 4. 21 Factors for claim submission

Item no.	Essential factors considered in claim submission	Sum N	Mean	RII %	Rank
1	The source of causation or event which calls for EOT and Cost.	91	3.82	76.43	1
2	The relevancy and of the cause of claim in the contract documents.	91	3.64	72.86	2
3	The potential effect of the delay on the overall work progress.	91	3.04	60.71	3
4	The status of the material if extension of time arises.	91	2.86	57.14	4
5	Likelihood of the event having impact on the specified date of completion of various dates of completion if the contract implies more than delivery date.	91	2.79	55.86	5

4.4.12. Use of claim specialist

Majority of the construction industry in this country does not employ or have a claim specialist as is agreed with the participants with almost all (87.91%) saying there is no use of specialist in their organizations. Indicating the knowhow of the use of claim specialist in the industry is very low showing the overall concept of claiming has still a long way to go.

The specialist provides support to project management and contracts department providing experienced insight in preparation, coordination and administration ,facilitates quality handling and resolution establishing timely and accurate claim by maintaining an effective document of activities which not only is useful in the claim process but also in the general construction and completion of the project.

Table 4. 22 Claim specialist assistance in the organization

Item no	Response	Respondents in number	Respondents in percent
1	Yes	11	12.09%
2	No	80	87.91%

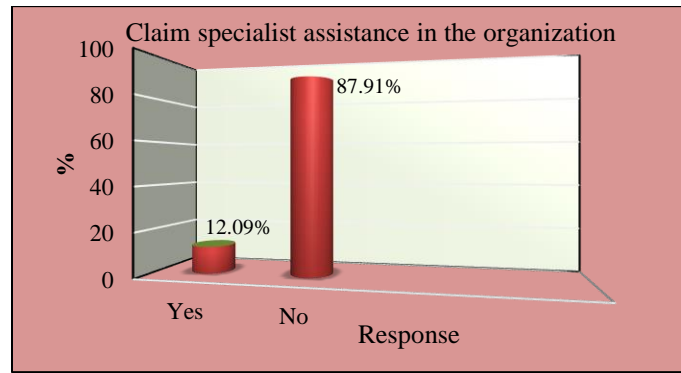


Figure 4. 3 Claim specialist assistance in the organization

4.4.13. Acceptance of claim submitted

The respondents have stated that out of the claim submitted the degree of acceptance in the claim process claims that request time extension has the highest acceptance probability at the highest relativity of 75.16%. Time extension claim only require addition of time on the completion of the project which does not incur additional budget on the client which they tend in approving. And since at the start of the contracting the scope of works are not fully analyzed increment and addition in the works are most often seen. Having adequate plans and specifications is a fundamental requirement for construction projects necessary to reduce uncertainty in the work which generally leads to remedial and an increase in the number of changes in the work that reduces the productivity and efficiency of a project, and increased chance of construction claims, especially time claims. Additional cost claim take the second acceptance rate though mostly not followed through due to the fear of the contractors future relationship with the client.

Table 4. 23 Claims Acceptance

Item no.	Claims submitted	Sum N	Mean	RII %	Rank
1	Time extension	91	3.76	75.16	1
2	Additional cost	91	2.68	53.63	2
3	Time extension and cost	91	2.48	49.67	3

4.4.14. Major obstacles to timely settlement of claim

Settlement of claim with in time faces obstacles of “Failure to recognize delay at the appropriate time and maintain contemporary records”, “Poor presentation of the claim to show how progress of the work has been delayed”, “Late, insufficient or total lack of notice of delay” as is seen in the result below with a larger percentage.

Providing claim without addressing the primary requirements as recognizing when a potential claim arises with timely notice in accordance to the contract, determining facts and evidence, establishing causation ,calculating damages in accordance with the contract harm the credibility of claimants.

Most local contractors do not give notice of their intent for claim when the problem arises. They claim when they encounter shortage of money and time which even though the claim is meritorious might affect the chance of success. A need for overall step by step procedure for claim analysis and administration is therefore crucial for achieving proper resolution and for preventing claims from developing into disputes.

Table 4. 24 Obstacles to timely settlement of claim

no.	Major obstacles	Sum N	Mean	RII %	Rank
1	Failure to recognize delay at the appropriate time and maintain contemporary records	91	3.67	73.41	1
2	Poor presentation of the claim to show how progress of the work has been delayed	91	3.54	70.77	2
3	Late, insufficient or total lack of notice of delay	91	3.40	67.91	3
4	The erroneous/wrong assumption that an extension of time is automatically linked to additional payment	91	3.25	65.05	4
5	Failure to regularly update the program so that the effects of delay can be monitored against a meaningful 'program of the day'	91	2.93	58.68	5

CHAPTER 5

5.1. Conclusion and Recommendation

This research aimed to explore the current practice of local road contractors in claim management by studying common procedures and points related to claim management distributed into two stages and provides conclusions based on the findings from the distributed questioners. It also contains practical recommendation to improve construction claim administration process and techniques that help in mitigating those claims.

In the beginning the problem was first defined with the objectives and aims of the research which was followed by an in-depth study of the previous researches, studies and scholars view of the claim management and related topics. After understanding the present problem and available resources a brief analysis was done on road construction projects in Ethiopia and the required assessment method that will be followed. After choosing the methodology for data collection and analysis along with the assessment method; the data was analyzed as described in the methodology while understanding and deducting generalizations regarding the problems at hand and testing them through a statistical assessment. The research outcomes have been obtained after analyzing the literature review and the questionnaire that is the most fundamental part which focuses on drawing the conclusion and recommendation.

5.2. Conclusion

One of the key criteria of any research success will be whether a set of clear conclusions drawn from the data collected exist. Likewise, the conclusions for this research have been deduced after the analysis of the questionnaires that responded by involved parties in road construction projects in Ethiopia. Furthermore, the data and documents obtained from different literatures performed as secondary sources of data which helped draw the following conclusions:

1. Among the different types of claims which are Contractual claims, Ex-contractual claims, Ex-gratia claims and Quantum Meruit claims; the statistical analysis of this thesis witnessed that contractual claims have the highest ranking of occurrence evidently contractual claims affect their projects causing a very high conflict with their owners.

2. The degree of difficulty of implementation among the different sub processes of claim management shows that claim negotiation, claim identification and claim documentation to be the top three formidable processes.
3. Lack of timely notification of claims following the conditions of contract or legal and contractual aspects of claims along with the description of the claim, the basis which it stands on and the supporting documents attached which in many cases results in a loss of entitlement. This failure in many cases was attributed to the insufficient experience and lack of knowledge the claimant has about procedures of a successful claim.
4. Project management teams are often not fully aware of the procedures needed to develop claims and other team members within the contractor's organization lack awareness. This may be attributed to the fact that few of project management professionals attend trainings on claim handling process and management resulting in an increasing lack. Also there exists a misunderstanding that the involvement of team members in claim management should mostly be appointed to the office engineer and project managers only.
5. Lack of proper substantiation of claims caused by poor contract administration that includes a descriptive, clear, well analyzed and factually convincing supportive document can result in high expenditure through deputing consultants in claims and delay in the processing of the claims of the Contractor through erroneously organized and illogically built up unconvincing claim presentation. This can also be a result of unavailability of a well written contractual letter with a properly kept daily record and photographic data to track the project changes.
6. The large portions of the contractors in the study did not incorporate the use of claim specialists in their projects. However the use of 3rd party specialists who have more experience in claim management than other practitioners could be helpful in preparing and negotiating claims. Also many of the personnel directly involved with claims are not certified or do not have proper training in that field but develops their knowledge through experience. Although experience is enough; claims are very complex and intense topics requiring in-depth understanding of their natures.
7. Time extension claims had a better degree of acceptance by the owners than cost claims and this is mainly due to inclination of not pursuing cost claims for the fear of contractors' future relationship with the client.
8. being unaware of reasons behind and situations creating delays caused by lack of awareness and contract knowledge; resulting failure to conserve contemporary records.

9. There is a lack of consideration given to the importance of proper record keeping and documents management for justification of the claim, which in many instances, leads to loss of valuable information and consequently to a poor presentation of delays. Also some companies have a record keeping system that cannot be easily accessed or requires time by the individuals directly involved with the claim. While other companies do not have a proper record keeping system which leads to lack of important documents and proofs therefore, to the loss of entitlements of the contractor.

10. Improper approach to negotiation of claims caused by a poor presentation with insufficient skilled staff and lack of satisfactory evidence to convince other parties usually results in disagreement during negotiation.

11. As per the respondents related to stages that are claim identification, claim notifications, claim examination, claim documentation, claim presentation and claim negotiation the findings highlight on the need for a good documentation and record keeping system with a competent site staff that can recognize a claim during project execution. Keeping appropriate project information is an essential part of project monitoring and reporting. It also appears that a standard and transparent procedure should be put in place whereby contractors would be able to follow in order to properly manage a claim. In addition, staff awareness, training in how to document and submit a well-supported claim, and negotiations with clients are becoming a necessity.

12. No significant advancement has been observed in construction claim management practices, lack of awareness of claims of on-site people and lack of appropriate guidance or training on the handling of claims on international contracts in Ethiopia from Abdissa's (2003) study on local contractors which were also further listed as

a) Lack of experience in processing claims

b) Lack of knowledge of legal aspect of claims

c) Lack of awareness of claims and

d) Deficiency of detail pre contract planning. In general the study shows that claims management in Ethiopian construction industry is at very low and infancy stage and need great input for improvement.

5.3. Recommendations

The recommendations set out for this research have been derived in a manner which makes them feasible, tangible and can be acquired as steps and procedures project managers and construction claims practitioners may follow in order to manage their claims.

The purpose of the following recommendation is not to deeply address areas that need improvement but the intention is only to point out some major issues that need consideration to enhance the current practice of claim administration or management in road contractors in Ethiopia. It indicates what the current road construction companies can learn from construction claims processed on the reviewed projects.

1. Contractors should be accustomed to the different types of claims which are: contractual, ex-contractual, Claims in Tort, Quantum Meruit, and Ex-gratia claims to be able to detect the rest types of claims other than contractual claims as they arise and consequently recover the losses.
2. There exists a need to improve the fulfillment of the predeceasing requirements to the difficult sub processes of claims which are claim negotiation, identification and documentation.
3. The Contractor should clearly understand valid claims or what to claim and not to claim, procedures to claim; otherwise he may lose his time and money raising invalid claims.
4. A well organized, descriptive, early and formal notification of delays to the Engineer and Employer are necessary since contract forms call for the necessity of timely notifications.
5. A lot of coordinated effort to present sufficiently well organized and persuasive claim substantiation which can clearly depict the chain of the events of construction activities resulting the delay should be put in place.
6. The Contractor's Project management team has to establish a strategy on how claims need to be handled once they arise. This can be achieved by involving key personnel in the project through the process of Claim handling as well as continuous reporting to top management.
7. A proper construction record management system is needed to be improved in order to support the companies claim management system and act as a backup to the document manager, who on his part may retrieve documents easily and whenever needed. Also all claim data should be recorded timely and completely in order to be the inputs of the claim management system and project staff members should also be trained on how to effectively perform documentation works.
8. Avoidance of alienation, disputes and sources of reciprocal hatred with the Engineer and the Employer are found to be necessary in claims management. This can be achieved by creating partnership

and keeping channels of communication and negotiation open at all times. Also as far as the acceptance of a justified claim is concerned there exists a need to understand that claims are not ways and means of acquiring an extra profit but an instrument of recovering lost entitled interests.

9. The lack of trained manpower involved in the claim administration of the projects as well as of Construction Company has been a key problem and the most significant portion for the failure of handling claims more prudently or realistically. Not only has this contributed to the lack of a proper administration of the claims but has also contributed indirectly to discouraging contractors to claim more. Hence a much more coordinated effort to recruit a claim expert or to train involved professionals' need to be carried out. This needs to be achieved through a frequent introduction of engineering and claim management courses both at the undergraduate and postgraduate levels, with an emphasis on and in relation to construction law, contract administration and claim management.

10. The level of awareness of the effects of claim events and especially of unrecorded events needs to be increased. This can be done by implementing a system of management for claim events and identifying risks that may be associated with all types of claim events.

11. The analysis indicates that the claimant usually shows weaknesses to submit claims which are clear, easy to understand, well organized and composed of all necessary documents constituting complete evidences as per condition of contract. Therefore they should give serious attention to those things when they want to raise claim.

12. Contract, an agreement between two or more persons or organizations, has both express and implied terms. The implied terms mainly depend upon the law of the country at which the construction is executed. Therefore, both employers and contractors have to understand both express and implied terms of the contract before signing an agreement. However, it was found that most contractors have less understanding of legal aspect of claim. Hence it is logical to recommend that some short-term on the job training have to be given on legal aspect of claims for every contacting party.

In general the study shows that claims management practice in road construction industry in Ethiopia is at very low and infancy stage and need great input for improvement. At last the writer would like to recommend that since the subject of claim management is very wide and could not be totally addressed by one M.Sc. thesis; further detail study is required to address current problems and practice of claim management and to suggest solutions.

Finally, Ethiopian road construction industry needs more research to improve contractors' knowledge and attitudes towards claims and claim management process. Claims are useful tools that enhance

fairness and effective control of the parties' obligations while claim management leads the project parties to fair and successful projects.

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Structured Questionnaire

Dear Respondent

I am a student at AAIT - Graduate Studies - Department of Civil and Environmental Engineering major Construction Technology and Management; I am conducting a study about “*Evaluation of Current Practice Employed by Local Contractors in Claim Management in Road Construction Projects in Ethiopia*”. In order to achieve the objective of the research, gathering information from professionals that involve in claim management process is mandatory. The information you provide will have a significant role in enriching the march of scientific research and the current practice of contractors in claim management in road construction projects in Ethiopia ,the reasons that lead to the emergence of claims and their sources in road construction projects, the types of repeated requests, and thus taken into account while working on the development of claims management in road construction companies operating in the construction industry in Ethiopia. All information will be handled professionally and confidentially, and it will be used for the research purpose only, the data will be used by compiling the total questionnaires, and will not be addressed for private information of the company or institution.

The questions are structured into categories touching on the core of claims management and with minimal time requirement per question.

These three categories are as follows:

- A. General Information Questions
- B. Claims Management Questions
- C. Claims Substantiation Questions

A-General Information Questions

1- Gender

Male Female

2- Years of experience in the construction industry.

0 to 5 years 6 to 10 Over 10 years

3- Please specify your designation during your work in your company/ project?

Project manager Office Engineer Construction Engineer Claim Expert
 Planning engineer If Other, Please specify

4- Do you have direct involvement with the claims arising in your project?

Yes No

5- Are you a holder of any national or international certificate(s) related to project claim management?

Yes No

If yes; please specify the kind of certificate.....

6- Have you ever attended any seminars or training sessions related to claims management?

Yes No

If yes; please specify the kind of training

B-Claims Management Questions

1- Based on your experiences in claim practices, which of the following problems occur in claim administration process? (Please tick your choice in the box) (q imp 4)

5 =strongly agree 4= Agree 3= Neutral 2= Disagree 1=strongly disagree

a) Identification

Item no	Problems in Identification of Claims	5	4	3	2	1
1	Lack of awareness of site personnel to detect a claim.					
2	Insufficient contract knowledge of site personnel.					
3	Insufficient time and difficulties in detecting any problems due to high workload.					
4	Inaccessibility of documents used for identifying a claim.					
5	Ambiguous line of responsibility as to who should detect a claim.					
6	Ambiguous procedures of claim identification.					
	If other problem, please specify below					
7						
8						

b) Notification

Item no	Problems in Notification of Claims	5	4	3	2	1
1	Inaccessibility of supporting documents needed for notice					
2	Failure to follow conditions of contract (like notify as per the time table specified in the contract)					
3	Insufficient time to thoroughly prepare the notice due to high workload					
4	Inadequacy of the documents attached along with claim notice					
5	Prescribed time for notice in the contract is too short					
6	Notices submitted by claimants are not deliberately well organized with a standard form					
	If other problem, please specify below					
7						
8						

c) Examination

Item no	Problems in Examination of Claims	5	4	3	2	1
1	Unavailability of records used to analyze and estimate the potential recovery.					
2	Insufficient time to thoroughly examine claim due to high workload.					
3	Lack of legal and contract knowledge to establish the base on which the claim stands.					
4	Ambiguous procedures for claim examination					
5	No standard formula used to evaluate the impacts and calculating damages.					
6	Insufficient realistic formula knowledge used to calculate damages.					
	If other problem, please specify below					
7						
8						

d) Documentation

Item no	Problems in Documentation of Claims	5	4	3	2	1
1	Some information and instruction are not kept in writing.					
2	Poor record-keeping system and inaccessibility of documents when needed.					
3	Lack of document control system and inaccurate recorded information.					
4	No standard form used to record the data during construction.					
5	Lack of awareness on documentation and recording of events					
	If other problem, please specify below					
6						
7						

e) Presentation

Item no	Problems in Presentation of Claims	5	4	3	2	1
1	Inaccessibility of relevant documents to submit along with the claim.					
2	Insufficient skilled staff in preparing a claim submission.					
3	Poor communication in presenting a claim.					
4	Insufficient time to thoroughly prepare claims due to high workload.					
5	No standard format of a claim submission.					
6	Ambiguous procedures in preparation of claim presentation.					
	If other problem, please specify below					
7						
8						

f) Negotiation

Item no	Problems in Negotiation of Claims	5	4	3	2	1
1	Disagreement arising during negotiation.					
2	Unsatisfactory evidence to convince other parties.					
3	Poor negotiation skills.					
4	Adversarial relationship with other parties.					
5	Inadequate time due to high workload.					
6	Difficult to settle without any litigation or Arbitration.					
	If other problem, please specify below					
7						
8						

2- From your experience, how often have you encountered the different types of claims?

5 = Very Frequent 4 = Frequent 3 = Medium 2 = Rare 1 = Never

It.no.	Types of claim based on their frequency	5	4	3	2	1
1	Contractual claims (arise and are dealt with under the provisions of the contract.)					
2	Ex-contractual claims (claims outside the provision of the contract)					
3	Ex-gratia claims					
4	Claims in Tort (the law of tort regulates a wide variety of unlawful behavior, those related to construction include, nuisance, slander, libel, trespasses and negligence.)					
5	Quantum Meruit: (“as much as it is worth”) claims (claims where work has been done but no contract or price has been agreed.)					
	If other, please specify below					
6						
7						

NB:-Please refer the attached definitions with this questionnaire

3-How often were claims you submitted accepted by the consultant?

5= Very often 4= Often 3= Sometimes 2=rarely 1=Not at all

Item no	Claim Acceptance	5	4	3	2	1
1	Time extension claims					
2	Cost claims					
3	Cost and time claims					

If less than or equal to 3; please write the reasons.....

4- Does your organization deal with claim specialists to assist in the formulation and evaluation of your claims worth before presenting to the Employer?

Yes		No	
-----	--	----	--

If you say yes; Why?.....

If you say no; Why?.....

5- How often have you encountered common errors in the presentation of your company's claim?

5 = Very Frequent 4 = Frequent 3 = Medium 2 = Rare 1 = Never

Item no	Common errors	5	4	3	2	1
1	Typographical errors					
2	Wrong records attached during claim presentation					
3	Missing general contract provisions in the claim presentation					
4	Error in logically built up, well organized, and factually convincing					
5	Lack in providing important evidences					
6	Failing to Submit the claim as per the time table specified in the contract					
	If any other, please specify below					
7						
8						

6-What are the reasons for failure to provide timely notice of a claim to the other party?

5 =strongly agree 4= Agree 3= Neutral 2= Disagree 1=strongly disagree

Item no	Common failures	5	4	3	2	1
1	Lack of experience in processing claims					
2	Lack of knowledge of legal and contractual aspect of claims					
3	Lack of awareness of claims					
4	Failure to follow conditions of contract					
5	Deficiency of detail pre contract planning					
	If any other please specify below					
6						
7						

7 -Based on your experiences in claim presentation, how often did the key elements to a successful claim presentation occur? (Included in claim presentation)

5=Very often 4=Often 3= Sometimes 2=Rarely 1=Not at all

Item no	Key elements to a successful claim presentation	5	4	3	2	1
1	Detailed description of the cause of delay and supporting contractual provisions in the contract					
2	Dates of when the delay occurred and the total time interval of delay					
3	The date of the formal notification of delay to the Engineer/ Employer and the supporting document of notification					
4	Appendices to the EOT and cost claim which include all the backup documents and records.					

5	A cause and effect study of the delays.					
6	Diagrammatic exemplification demonstrating the position of the baseline program, with respect to the new dates of completion taking into consideration the arising delays.					
7	Delay analysis showing the effects of the delay on the critical path and effects on the float per activity and total float.					
8	A formal statement requesting an EOT and /or cost with full substantiation and supporting documents.					
9	If other, please specify below					

8-How often did you face major obstacles to prompt or timely settlement of claims for extensions of time and cost claims?

5=Very frequent 4=Frequent 3=Medium 2=Rare 1=Never

Item no	Obstacles	5	4	3	2	1
1	The erroneous/wrong assumption that an extension of time is automatically linked to additional payment					
2	Late, insufficient or total lack of notice of delay					
3	Failure to recognize delay at the appropriate time and maintain contemporary records					
4	Failure to regularly update the program so that the effects of delay can be monitored against a meaningful 'program of the day'					
5	Poor presentation of the claim to show how progress of the work has been delayed					
	If other, please specify below					
6						
7						

9-Which sub process is difficult to implement during claim management in your construction projects?

5 =Very high 4 = High 3 = Medium 2 =Low 1=Very low

Item no.	Sub claim processes	5	4	3	2	1
1	Claim Identification					
2	Claim Notification					
3	Claim Documentation					
4	Claim Analysis					
5	Claim Preparation					
6	Claim Negotiation					

10- How often did you include the requirement listed below in claim notice?

5=Very frequently 4=Frequently 3=Medium 2=Rare 1=Never

Item no	Common points that are included in claim notice	5	4	3	2	1
1	Details of the disputed item or issue					
2	The circumstances which gave rise to the claim					
3	What a party is claiming for					
4	An indication that further work is being conducted under protest if further work is to be done					
5	Contract provisions related to the claim					
	If other, please specify below					
6						
7						

C-Questions related to Claims Substantiation

1- Based on your experiences in claim substantiation, how often did you implement the following essential components required for the proper substantiation of a claim?

5=Very often 4=Often 3=some times 2=Rarely 1=Not at all

Item no.	Essential components required for proper substantiation	5	4	3	2	1
1	Recording facts are compulsory for the proper substantiation of claims.					
2	Clarity should be in its body and therefore does not permit the reader or the assessment team to question the facts recorded.					
3	It should have supporting documents such as notices, instructions or analyses.					
4	Delay analysis is one of the most vital elements needed for substantiating EOT and cost claims.					
5	Accessing all the necessary documents needed whenever needed easily.					
	If other, please specify below					
6						
7						

2-Did you apply the necessary activities listed below during the construction phases to make a claim sufficiently substantiated in your construction projects?

5=Very often 4=Often 3=some times 2=Rarely 1=Not at all

Item no.	Necessary activities during construction phase	5	4	3	2	1
1	Well written contractual letters					
2	Taking enough photographs or keeping track of some of the changes					
3	Send Daily records to the engineer daily					
4	Documentation and maintenance of records					
5	Forecasting claim issues					
	If other, please specify below					
6						
7						

3- Who are the key team member that contributes to the case development and consequently successful claim presentation in your construction project/company? (Please tick in the box provided below)

Item no	Team member	Yes	No
1	Claim expert/ Engineer		
2	Planning engineer		
3	Appointed third party expert		
4	Project manager		
5	Office engineer		
	If other, please specify below		
6			
7			

4-During submitting your claims to the Employer and Engineer, in what extent have you taken in to consideration the following factors?

5=very often 4=often 3=sometimes 2=Rarely 1=Not at all

Item no.	Factors	5	4	3	2	1
1	The status of the material if extension of time arises.					
2	The source of causation or event which calls for EOT and Cost.					
3	The relevancy and of the cause of claim in the contract documents.					
4	The potential effect of the delay on the overall work progress.					
5	Likelihood of the event having impact on the specified date of completion of various dates of completion if the contract implies more than delivery date.					
	If other, please specify below					
6						
7						

Definition on types of claims

Contractual claims (Claims within the Provisions of the Contract)

Contractual claims are the claims that fall within the specific clauses of the contract, typically ground conditions, valuation, variations, late issue of information, and delay in inspecting finished work.

Claims made under the expressed provisions of a contract fall under this category. They arise and are dealt with under the provisions of the contract. Such types of claims form the largest part of claims and the terms of the contract define the situations in which they may be made and how they may be handled.

Ex-contractual claims (Claims outside the Provisions of the Contract)

These claims are those which are either not made under the conditions of contract or are those allegedly made under them but considered legally unenforceable by the employer on the basis that they do not fall within their provisions [Haswell et. al, 1989, pp172].

An example of an ex-contractual claim is extra work incurred as a result of defective material supplied by the employer.

Claims in Tort

The law of tort (from Tortum-latin for wrong) is concerned with civil duties and relationships.

Tort is a legal term used to describe the various wrongs, which may give rise to civil proceedings, mainly in the form of action for damages. Although the law of tort regulates a wide variety of unlawful behavior, those related to construction include, nuisance, slander, libel, trespasses and negligence. For example, excessive dust, noise, vibration, fumes, seepage, gasses, smoke etc

Quantum Meruit - (“as much as it is worth”) claims

Quantum Meruit claims are claims where work has been done but no contract or price has been agreed. Then it may be claimed that the work should be valued and paid for what it is worth. quantum meruit claim (Harvey, unpub.) A quantum meruit claim may also arise, for example where work is done on the basis of a letter of intent and there is no contractual liability (Smith et. al. pp. 6).

Quantum meruit claims provide a remedy where no price has been agreed. An obligation to pay on a quantum meruit may be imposed by law (1) where work has been carried out under a contract, but no price has been agreed, (2) where work has been carried out under a contract believed to be valid, but actually void, (3) where there is an agreement to pay a reasonable sum, and (4) where work is carried out in response to a request by a party, but without a contract.

Ex-gratia claims

These are claims made with no foundation in the contract or at law but only in a sense of “fairness” or equity. Such claims depend upon ‘ex-gratia’ or ‘kindness payments’ by the employer made in the particular circumstances; sometimes such payments are made to avoid or to terminate claims negotiations or a dispute. An ‘Ex-gratia’ claim might be made to recover cost incurred by the contractor, the expenditure of which gave benefit to the employer, but for which there are no grounds for recovery under the contract.

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