



JIMMA UNIVERSITY
JIMMA INSTITUTE OF TECHNOLOGY
SCHOOL OF GRADUATE STUDIES
FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING
CONSTRUCTION ENGINEERING AND MANAGEMENT CHAIR

INVESTIGATION ON THE UNRESOLVED CLAIMS IN BUILDING
CONSTRUCTION PROJECTS: A CASE OF SOUTH NATIONS
NATIONALITY AND PEOPLE REGION UNIVERSITIES

A Thesis submitted to School of Graduate Studies, Jimma University, Jimma Institute of
Technology, Faculty of Civil and Environmental Engineering in Partial Fulfillment of the
Requirements for the Degree Master of Science in Construction
Engineering and Management

By

Addis Zeleke Helelo

March, 2022
Jimma, Ethiopia

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March 2022
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DECLARATION

I hereby declare that this Thesis entitled “INVESTIGATION ON UNRESOLVED CLAIMS IN BUILDING CONSTRUCTION PROJECTS: A CASE OF THE SOUTH NATIONS NATIONALITY AND PEOPLE REGIONS UNIVERSITIES” was my original work or composed by myself, with guidance of my advisor, that this work contained herein is my own except where explicitly stated otherwise in the text, and has not been submitted as a requirement for the award of any degree in Jimma University or professional qualification.

Addis Zeleke Helelo

CANDIDATE

SIGNATURE

DATE

As research Adviser, I hereby certify that I have read and evaluated this thesis paper prepared under my guidance by Addis Zeleke Helelo entitled “INVESTIGATION ON UNRESOLVED CLAIMS IN BUILDING CONSTRUCTION PROJECTS: A CASE OF THE SOUTH NATIONS NATIONALITY AND PEOPLE REGIONS UNIVERSITIES” and recommend and would be accepted as a fulfilling requirement for the Degree Master of Science in Construction Engineering and Management

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ABSTRACT

The unresolved claim (UC) refers to that remains without solution and the legitimate request for additional compensation in time and/or costs due to any change or others causes that occurred related to the condition defined by the contract. Construction projects meet the objectives successfully when completed on schedule within the agreed budget, expected quality level according to the specification. If the project is not completed on its allocated time, allocated budget, and required quality, the claim may arise between stakeholders; if this claim is not resolved on time it leads to an unresolved claim. This study focused on the causes and effects on unresolved claims in SNNPR selected five Universities building construction projects. The general objective of this research is to investigate the unresolved claims in University building construction projects. It is particularly focused on South Nations Nationality and People Region specifically at five Universities and the targeted stakeholder are consultants and contractors. This research was the descriptive type. Mixed both Quantitative and Qualitative methods were used to investigate an unresolved claims on building construction projects in SNNPR by designing questionnaires to be distributed purposively for Consultants, and Contractors involved in building construction projects. All necessary data was collected from primary and secondary sources through interviews, questionnaires, and focus group discussions (FGD). The data obtained from respondents were analyzed through description, tabulation, and disaggregated in different categories of respondents. Delay, quality of the materials; financial cases were the main causes and budget over run, time over run, poor quality completed projects was the main effects of this research. So for these cases, the payments, shortage of the materials, and quality of the materials must be improved based on the document contract and knowing the consequences of the cause was maximize the effects of this research.

Keywords: Claim, Construction project, Delay, Unresolved claim

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ACRONYMS

FGD	Focus Group Discussion
GC2	Grade two Contractor
GC1	Grade one Contractor
GC7	Grade seven Contractor
HU	Hawasa University
JiT	Jimma Institute of Technology
JU	Jimma University
KM	Kilometer
RII	Relative Importance Index
SNNPR	South Nation Nationality and People Region
UC	Unresolved claim

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Construction projects play a great role in the economic development of the nation. However, the current practice of the construction industry faces a lot of problems, and rare events are completed on the scheduled time, budget, and desired quality of the stakeholders. Construction projects are successful when completed on schedule within the agreed budget, expected quality level according to the specification (Dessa, February 2003).

Define a claim as a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money, the adjustment or interpretation of contract terms, payment of money, the extension of time, or other relief concerning the terms of the contract. Claim in construction can also be described as measurement, rules, delay, disruption, or any other matters not agreed upon between the contractors and the consultant at any given time, and one party or the other wishes to raise it either for financial compensation or for a release from the liability for liquated and ascertained damages (Levil, 1998).

The environment of the construction industry considers being complicated and competitive in which contributors with various views, talents, and knowledge levels of the construction process work together (Futune.N, 2015) . The main sources of the problems in the projects are claims. Several project participants regard claims in construction as one of the greatest disruptive and unpleasant events of a project (Hamimha Adnan, et al., 2015)

The most significant reason not to complete the project successfully contains disputes. Thus, it is the central key to be aware of the causes of the conflict to finish the construction project in the desired time, budget, and quality. (Futune.N, 2015)

The structures of the projects are dynamic with global competition and high challenges. The project's uniqueness can lead to claims that can be involved in the following stage of the projects like project span, contract span, and others, which means the project management consists of managing the change and unexpected conditions (Gholhak .majid, 2016).

In both developed and developing countries, many works were carried concerning causes of claim in construction projects. Therefore, to minimize overrun and effects, the reasons for the occurrence should be recognized, The construction industry has complexity in its nature because it contains a large number of parties as clients, contractors, consultants, stakeholders, shareholders, regulators, and others (Graham, 2017) The construction project is a complex environment in which every participant with different views, talents, and levels of knowledge of the construction process works together. Construction projects having a longer duration for completion of work involve vast parties, requiring various work and segmentations to cooperate as a solitary unit. Therefore, claims are common in such projects (Mukilan, 2019)

Globally, a considerable amount of construction rejects suffer time overrun. The effect of this time overrun may be of great magnitude on the overall performance of the project. (Ludwig Rivera , et al., 2020)

Errors and omissions in design and documents, the scope of work for a contractor is not well defined, Conflict between contract documents, differing site conditions, change of plan by the client; the lack of coordination between contractor and consultant; The contractor's financial difficulties, owner's financial problems, Workmanship or material is not meeting the specification, contractor's desire to improve his financial situation; and Weather conditions and other cases cause the claims in South Nation Nationality and people Region Universities construction projects.

Claim administration in Ethiopian building construction is in its infant stage because of lack of construction industry policy, lack of clear claim administration and dispute system, weak stakeholders' relationships, inadequate organizational capacity, unhealthy competition, and poor information management system. (Wubshet, 2006) The current practice of the construction industry in Ethiopia shows that most construction projects are not completed on the scheduled time, allocated budget, and desired quality. For that reason, claims and disputes become common phenomena, especially in a public that means in each university construction project. Therefore, this research was studied the causes and effects of unresolved claims in Ethiopian university building construction projects on the selected SNNPR university construction projects.

Claims management is the process of resources using and synchronizing to progress a claim from identification and analysis. Thus, preparation and presentation are done before negotiation and settlement (Kululanga, 2011)

Construction projects in Ethiopia are part of the country's development initiative. Therefore, it shares a considerable amount of the country's scarce financial resources. In Ethiopia, construction projects are the highest recipient of government budget in terms of government development programs. Consequently, public construction projects consume an average annual rate of nearly 60% of the government's capital budget, as reported by the Ministry of Works and Urban Development (MoWUD, 2006).

From the perspective of all stakeholders, the contract duration performance has a straight influence on the profitability of construction projects (Akintoye, 1991) Delay claims are now a major source of conflict in the construction projects and one of the most difficult to resolve (Pickavance, 2005). It is quite common to take a claim submitted by a contractor personally and consider the claim a big issue while labeling a contractor who claims his rights under the contract as a "claim-oriented" contractor (Gundozi Murat, 2018).

From this here in this research by understanding from this background of the research, many gaps are brought the unresolved claims in the construction projects in the south nation nationality and people region Universities of Ethiopia. This research is the bridge and improves the knowledge current rate of cause's effects and frequently occurred of the claim that is happed between the stakeholders of building construction projects in the University of SNNPR.

1.1 Statement of the Problem

In the SNNPR universities construction projects, there are so many claims that were not properly handled these claims lead to dispute, unresolved claim and sometimes the project abandonment and Ethiopian university building construction projects are completed beyond the allocated budget, schedule time and low quality with a lot of material wastage and many claims suspended without the solutions. So, in this case, so many claims were didn't get the solutions; this indicates that the claim was unresolved and this research was focused on the causes and effects of unresolved claims. So this research was tried to put and identify the reasons for the unresolved claim. Given this, there

is a problem of quality performance, delay, and financial inspection problem in university building construction projects, so this research investigated the causes and effects of unresolved claims in university building construction projects, specifically in SNNPR Universities.

This information was enabled all parties' weather, consultants, and contractors, to ensure that their project goes smoothly without making claims. Therefore, it should be helpful to improve the performance of the task. Furthermore, identifying the causes that create claims in projects and the negative impact of the frequent occurrence of different claim types was essential to the project's sustainability and success, hence success and progress for this project.

The research was provided a strong value and recommendations for the decision-makers as clients, consultants, and construction offices, besides contractors, to mitigate the negative impact of the high appearance of claims in construction. In addition, this study was also provided how to be on the right route to reach the project objectives orientations.

1.2 Research Questions

- 1 What are the types of unresolved claims in the university building construction projects?
- 2 Which of the unresolved claims most frequently occurred in the university building construction projects?
- 3 What are the causes and effects of unresolved claims in the university building construction projects?

1.3 Objectives

1.3.1 General objective

The general objective of this study was to investigate unresolved claims in building construction projects in south nation nationality and people regions universities.

1.3.2 Specific Objectives

To achieve the main aims of the research, the following specific objectives have been identified

- To identify the types of unresolved claims in the universities building projects

- To identify the unresolved claims most frequently occurred in the universities building projects
- To determine the causes and effects of unresolved claims in the universities building projects

1.4 Scope and limitation of the Research

The study particularly focused on the selected South Nations Nationality and People Region universities building construction project. The samples were Consultants and Contractors involved in these projects. The study was limited on a few numbers of construction projects actively under construction, willingness of respondents to give enough data. The study was focused on investigation on unresolved claims in the University of Wachemo, Wolkite, Worabe, Wolaita, and Hawasa Universities building construction project.

1.5 Significance of the Study

The study on project unresolved claim is very important to understand the root problems that bring the unresolved claims in the building construction projects and it helps to prevent the cause's ways by taking as the minimization way recommended in this paper recommendation of the unresolved claims in building construction projects.

The importance of this research paper is expressed in the following ways. First, it may benefit the different stakeholders involved in construction projects in general, particularly for new universities construction projects related to the cause of the claim. Second, it helps owners, contractors and consultants know the causes and effects of unresolved claim problems in SNNPR universities building construction projects and the thirdly to take remedial measures to prevent the issues like, cost, time and any compensation and, finally, serve as a benchmark for further studies.

1.6 Structure of the Thesis

The thesis is organized into five chapters.

Chapter one, introduction: this presents a general overview of the thesis comprising of the research background, the research objectives, setting out the problems, and the manner in which this is addressed.

The second chapter comprises the Literature Review section of the Thesis: the chapter provides the deeply theoretical and empirical study of the causes of the building construction projects claims with types, causes, and effects.

The third chapter presents the Research Methodology: It explains the methodology adopted in carrying out the research, the reason for adopting it, and how it facilitated the achievement of the research objectives. It also sets out the survey procedure, selection of the survey sample, procedures used in data collection, and its justification.

The fourth chapter presents the analysis and interpretation of the causes and effects on the unresolved claims in building construction projects.

And the fifth chapter presents the conclusions and relevant recommendations of the study. The conclusions derived from the research and the recommendations for promoting good practice are presented in this chapter and the suggestion also included for further researches. Figure 1.1 below shows the Research Structures described in their sequential order.

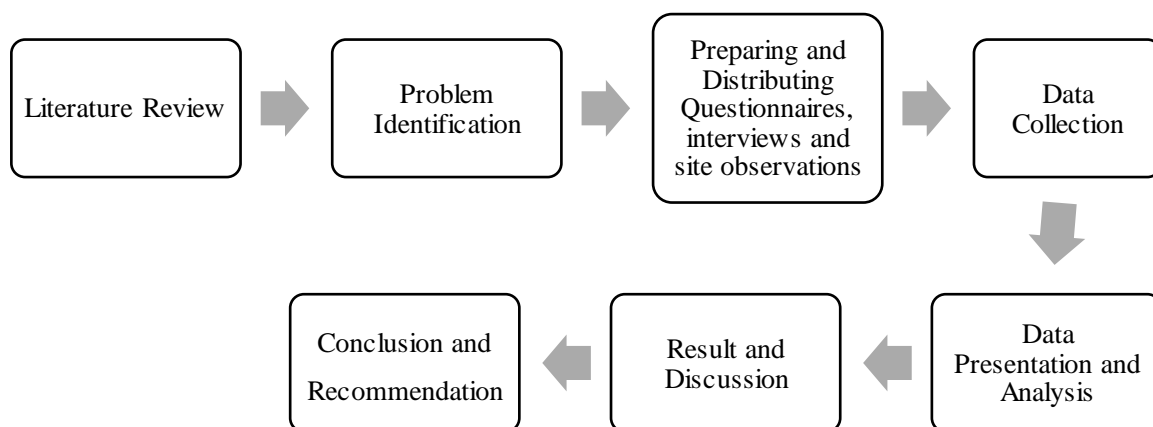


Figure 1.1 Research Structures

CHAPTER TWO

LITERATURE REVIEW

2.1 Definition of claim

Before dealing with literature's definition, it is perhaps best, to begin with, a dictionary definition of claim. Claim in Oxford advanced learner's (Dictionary, 2001) is defined as:

- To say something is true although it has not been proved and other people may not believe it
- To demand or ask for something because you believe it is your legal right to own or have it (Dictionary, 2001)

A study by (M. Asem U. et al, 2002) tried to present that claims are a request by the contractor for an extension of time and/or additional cost and can evolve into a disagreement that may not be amicably resolved by the parties concerned that means is as remains as unresolved claims.

Claims in the construction industry are defined as demands for compensation in terms of money, time extension, or a combination of these. Therefore, a party rightly or wrongly believes that he is entitled to his understanding claims (Girmay Kasaye, 2003)

According to (Bonaventura, H.W; et al., 2015) construction projects are uncertain and complex, involve a wide variety of business parties, extend over a lengthy period, and require highly specialized designs, detailed plans and specifications, high-risk construction methods, effective management, skillful supervision, and close coordination. Thus, claims are common in such projects, further delaying completion times and causing cost overruns. Moreover, construction contracts are extremely long, complex sets of documents that the parties often do not understand and lead to differing interpretations.

Claim in practice can also be understood in different ways based on the perceptions held by contractual stakeholders. (R.Max Wideman, 1990). Provide the following suggestions:

- A claim is a disguised form of blackmail
- A claim is the last chance to bail out of a losing job

- A claim is an assertion to a contractual right

2.2 Valid claim for Contractors and Consultants

A valid claim or colorable claim is a claim that is strong enough to have a reasonable chance of being determined based upon its being sufficiently supported by law and provable fact to be plausibly proved in court.

(Bekele, 2005) Valid claims are referred to those claims that the contractor and consultant is entitled to. All parties involved in the contract (particularly the owner) should be aware of the causes of valid claims. It often happens that claims that might otherwise be valid are rejected because:

- Timely notice was not given,
- The claim is late,
- Cost
- Contract procedures were not followed,
- Proper records were not kept
- The claim does not establish any valid entitlement under the contract,
- Inadequate information is available or provided to verify the claim or support its quantification.

2.3 Contents of a Claim

It is essential that for every claim, the contractor provides to the engineer appropriately documented claims. (Eshetu Zenabe, 2016) Suggests the following points to be included in claim documents.

Introduction: - describing the parties to the claim, giving brief details of the project and those elements that have given rise to the lawsuit. The introduction should conclude with a statement to the effect that the contractor is seeking reimbursement of direct loss and expense

Contract details: - including the form of contract employed with the appropriate amendments, the date of possession of the site, the date for completion, date of practical completion, and rate of liquidated damage, etc. More importantly, all those express terms of the contract upon which the

contractor is to rely and any implied terms that may be promoted should be set down. In addition, any common law principles such as misrepresentation should be highlighted.

A narrative: - describing in chronological order those elements which give rise to the claim. It will be necessary to link this back to the contract details showing how, when, and where the breach occurred. All written applications for reimbursement of direct loss and/or expense should also be identified here and referred to, and contained in appendices at the back of the submission. The contractor includes certain impact documents, such as the schedule of events

Quantum: - this section will include all those calculations of building up to the direct loss and/or expense with all necessary evidential examples, timesheets, invoices, etc., being referred to an appendix

Appendix: - each document or series of documents should be given an appendix reference that will coincide with the relevant reference in the narrative,

2.4 Types of Claim Based on Contractual

2.4.1 Contractual claims: - These claims, sometimes referred to as claims in the contract, concern matters which have a basis in the contract itself where particular provision can be quoted as giving rise to entitlement. They have specific clauses in the agreement that define the basis of valuation to be adopted and stipulate who (employer, contractor, or consultant) is to do what. (G.A. Hughers, et al; 1992)

2.4.2 Extra contractual / Quantum Merit claims: - In the absence of express contractual provisions dealing with entitlements and adjustments, common law remedies may be available. The essential point is that a party wishing to benefit from a common-law remedy must assert his right by claiming it, but the engineer has no implied authority to settle such claims. (G.A. Hughers, et al; 1992)

2.4.3 Ex gratia claim: - These sorts of claims are not covered under the contract but can be paid in the 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 terminate claims negotiations or a dispute.

2.5 Classification Based on Entitlement

This classification mainly deals with the parties' entitlement in the claim administration process. For example, ([Abhishek Shah, et al, 2018](#)) classified claims into two primary types based on entitlements.

2.5.1 Non-Time Related Claims

- Provisional sum adjustments
- Cost
- Default by Contracting Parties: Claims associated with non-performance of contractual obligations
- Delay in Payment Certificates
- Suspensions and Terminations

2.5.2 Time Related Claims

- Delay
- Disruption
- Acceleration

2.6 Impacts of claims

Claims have considerable damage to the construction industry; at best, claims are undesirable. Besides incurring unwanted legal expenses, they strain the relationship between the parties to the contract and affect the working atmosphere. Each party may see the other as an adversary, which affects the future of the work, and can result in the parties being defensive. In such an atmosphere, more claims may be inevitable. This eventually affects the work and may result in many types of impacts ([Tsfaye Ayele, 2004](#))

([Tsfaye Ayele, 2004](#)) In his research has listed some of these impacts as:

- Inefficient project delivery in terms of cost, time, and quality;
- Takes much time of the policymakers
- Reduces trust in a public-private partnership for development;
- Reduces creative and innovative competition among the corporate

2.7. Causes of Claims

There are many reasons for claims to arise on a construction project. For example, deviations from performance requirements among contractual stakeholders, whether related to completion time, or construction cost, or the fulfillment of its quality and its intended purpose, safety, health, and environmental consequences, can trigger claims in construction contracts. In addition, unforeseen political, economic, social, and technological uncertainties can also be the major factors causing claims. (Anita, 2019)

2.7.1 Principal Causes of Claims

Different writers classify causes of claims differently depending on the particular issues they address. Most of the classifications are related to contract documents and changed conditions. (Wagner.et.al, 2007) Classified causes of claims as:

- Constructive changes
- Acceleration and disruption
- Changed conditions
- Schedule change
- Delays
- Miscellaneous

2.7.1.1 Constructive Changes

Changes result from acts attributable to the owner, which cause more work or more time on the job than planned, but the owner refuses to execute formal Change orders. The followings are listed in 'Construction Claims Guide' by (Jonathan, 2018).

1 Variations

Variations are a fact of life in the construction industry and give rise to many problems, whichever form of contract is used. (FIDIC, 1988)

- Increase or decrease of the quantity of work included in the contract;
- Omissions of such work;
- Changes in the character, quality, or kind of the work;
- Changes in the levels, lines, positions, and dimensions of any part of the works;

- The execution of additional work of any kind necessary for the completion of the results;
1. Changes in any specified sequence of the timing of construction of any part of the works. All the standard form of contracts contains variations clauses because, without an express power to direct departure from the original contract work, the employer would have no ability to order it. (Jonathan, 2018).
 2. Changes in design and specifications and defective drawings include errors, omissions, changes, or ambiguities occurring in the contract documents. (FIDIC, 1988)
 3. Errors, omissions, and changes: An incomplete, inaccurate, or poorly coordinated design will inevitably produce a project with conflicts and unanticipated costs, and delay. An accurate and complete design will Ambiguities: -Ambiguities and discrepancies can arise between documents or within a given form. The legal rules for constructing contracts operate to resolve ambiguities, but the answer provided by the rules might not be satisfactory regarding what is actually to be built. A discrepancy might even invalidate the contract if it could not be resolved. Accordingly, most forms of contract provide powers to resolve ambiguities and differences regarding work to be executed but subject to possible adjustment of entitlement to payment. Errors or alleged errors in the bill of quantities are a profile source of argument, if not a dispute or possibly a claim (Reg Thomas, 2001)

2.7.1.2 Accelerations

Acceleration when the owner orders completion of the project sooner than required by the contract or orders work finished on the original completion date failing to grant time extensions, which are due: (Bricker & Eckler LLP., 2008) classified accelerations as direct and constructive.

Directed, when projects are delay or when projects are required to be completed before their time, project doers are obliged to accelerate their services or works to satisfy the requirements. Constructive: - Contractor must complete the project without an adjusted progress schedule when the owner wrongly refuses to grant a time extension for an excusable delay. The acceleration of projects will only serve to relieve project doers from liabilities they should cover to the project owners.

2.7.1.3 Changed conditions and Unusually Severe Weather Conditions

1. Changed conditions (Greenberg Trauring, 2019)

Changed conditions are conditions other than what a wise person would have expected.

This includes:

- Subsurface or latent physical conditions are differing materially from those indicated in the contract.
- Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered in work of the character provided for in the contract.

2. Unusually Severe Weather Conditions

According to (Greenberg Trauring, 2019) any weather that results in an inability to perform work at the site, which is more than the average annual rainfall over a historical period of, say, 5 or 10 years, might be taken as unusually severe weather condition. However, no matter how severe or destructive, if the weather is not unusual for the particular time and place, or if the contractor should have reasonably anticipated it, the contractor is not entitled to relief

2.7.1.4 Schedule change

This refers to changes in the time or sequence of the schedule to complete a project. For example, the following two are described in (FIDIC, 1988)

1. Suspension

Suspension is work stoppage for the benefit of one of the parties in the contract. In construction contracts, the engineer has the authority to suspend the whole or any part of the works. In such cases, the contractor is entitled to a time extension and additional costs incurred unless such suspension is provided for in the contract by default or breach of contract by the contractor, by reasons of climatic conditions or necessary for the proper execution or safety of the works. In addition, if the employer fails to pay the contractor the amount due to underpayment certificates, the contractor can suspend the work or reduce the work rate.

2. Termination

Either or both parties have the right to terminate the contract under certain circumstances. However, before termination, parties should describe the contract events that trigger the termination of the contract under certain conditions. In addition, there should be a description of the methods of giving notice of exercise of the termination right and whether the breaching party must be allowed to cure the breach before the other party can terminate the contract.

2.7.1.5 Delays

According to ([Teng Sheng, 2020](#)), have classified delays into three types

Excusable – Excusable delays are those delay-causing events that are unforeseen and outside the contractor's control. As a result, the contractor is typically entitled to a time extension and possibly extra compensation.

Non-Excusable – Any delay owing to the fault of a contractor or its subcontractors, which does not merit extra compensation or time extensions.

Compensable – Delays in which the owner or the owner's representatives entitle the contractor to receive extra compensation and time.

According to ([Wubishet, 2004](#)) the construction industry in Ethiopia has been in the process of transformation. This transformation is based on improving the competitiveness of the construction industry and enhancing its ability to fulfill the national development demands

➤ **Study on Causes and Effects on Unresolved Claims**

There is no such detailed study of the causes and effects of unresolved university building construction projects. Specifically in SNNPR

However, some studies on related issues have tried to identify the causes of claims in their researches.

- ([Abebe Dinku and Girmay Kassay, 2003](#)) Have attempted to assess the claim causes in the country in their research work. In their findings, the major causes are delay

and disruption, variation, and breach of contract. Impacts of claim on the Ethiopian Building Construction Projects

2.7.2 Financial Impact of Claims

According to (Abebe Dinku and Girmay Kahssay EEA, 2003) the legal expenses allotted to claims are considerably high, which affects the parties in the contract. The most significant effect of claims in local and international projects in Ethiopia has been the financial impact. There have been financial claims reaching up to 200-300% of the project cost in some projects. If this could have been avoided, it would have meant a significant saving of public money

2.7.3 Impact on Project Completion Time

According to (Abebe Dinku and Girmay Kahssay EEA, 2003)), The other effect of claims on project execution involve time extensions, which affect project completion in the various local and international projects being carried out in Ethiopia; there appears to be a common perception of accepting time extensions more favorably than increased financial expenses. However, the result of some surveyed projects shows that none have been completed on time. Rather all of them have been granted a time extension. While time extensions may appear to be necessary in some cases, few, if any, professionals view the issue of time extensions as a serious claim case. In this aspect, it is necessary to introduce the practicing engineers and consultants in mind that time extension also incurs an additional cost where the income or revenue that may have been obtained from a timely completed project is lost.

2.7.4 Other Effects of Claims

According to (Abebe Dinku and Girmay Kahssay EEA, 2003)), another significant effect of the claim process is its impact on the project execution. Once the claim issues are referred to arbitration, the parties begin to see each other as opponents resulting in an adversarial relationship between them that will have a far greater impact, probably more severe than the financial impact on the entire project life.

The effect of the claim process is as the Abebe Dinku expression, its impact on the project execution. Once the claim issues are referred to arbitration, the parties begin to see each other as

opponents resulting in an adversarial relationship between them that will have a far greater impact, probably more severe than the financial impact on the entire project life. From this study the causes of the financial impact as much as possible described the by the consequents of the results. So for all parties of the building construction project this study makes the bridges the financial cause's impacts.

By this indication, the construction project must be finished at the targeted time, cost, and quality. Both parts are profitable and resolve any problems by their work, and all characteristics make their profit. This loss of the profitability based on the properly or efficiently use the time and this is not applied the claim was raised and it not get the solution it is unresolved claim. So this research the first aim was the reducing and preventing or introducing the causes, effects, and most frequently occurred unresolved claim in building construction projects.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Area

This study was conducted in the selected five universities in a different zone in South Nations Nationality and People Region in Ethiopia. These locations are found from ADDIS ABABE capital city of Ethiopia haddiya (wachemo university) -227 km, silte (worabe) - 172km Wolkite (wolkite university)-192 km, wolaita (wolaita university)-317km, sidama (hawasa university)-220km.

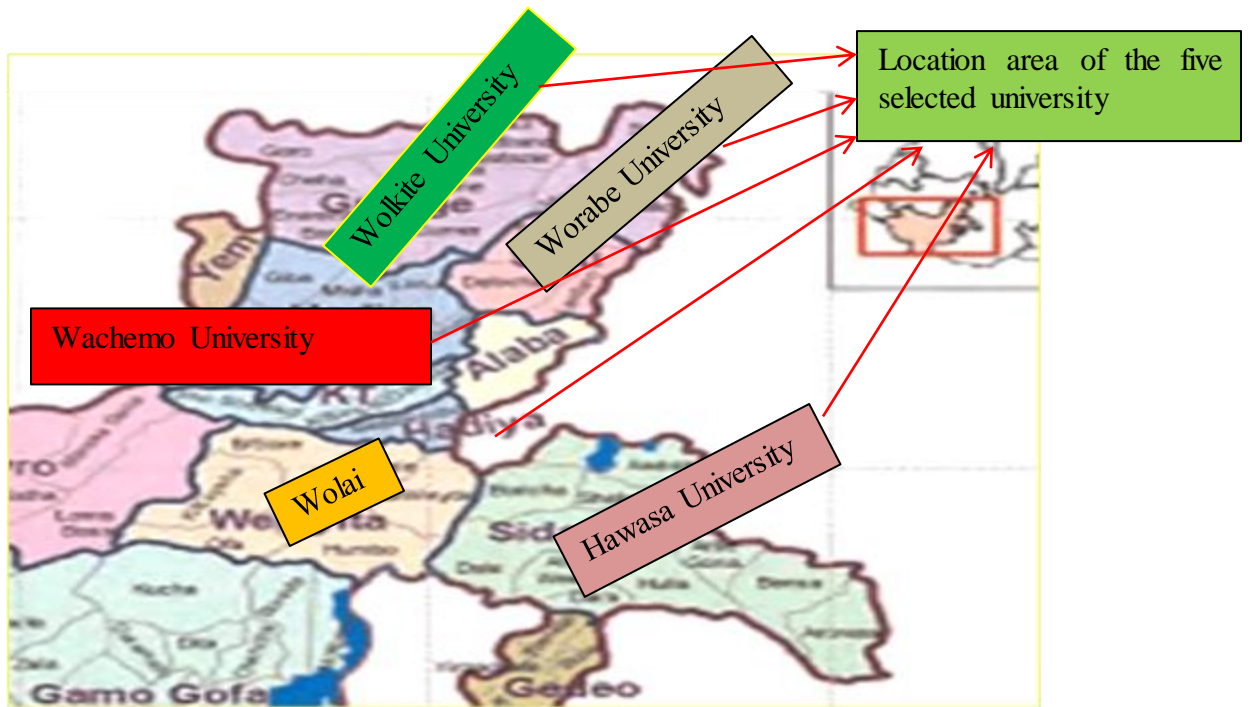


Figure 3.1 Location of the Study Area: Source Google Earth

3.2 Research Design

"The research design" refers to the plan or the organization of the scientific investigations, designing of the research involves the development of the plan and strategy that guided the collection and analysis of data (Poilt and Hungler, 1999)

The research is a descriptive type of research which is found to be an appropriate method to investigating unresolved claim in universities on building construction projects, including its

evaluating frequently occurring unresolved claims, cause and effects of unresolved claim on building construction projects as well as the awareness of stakeholders about these investigate in SNNPR Universities. In this research, few data collection methods were used, including observation, interviews, and questioner surveys.

The questioners and interviews were designated and distributed for consultants and contractors involved in the building constructions projects sites and site observations were also conducted

Two types of research strategies were used during studies; these were qualitative and quantitative researches. A quantitative research approach was used to gather factual data and study the relationship between facts and how such facts and relationships according to theories and any research were finding executed previously. The qualitative approach seeks to gain insight and understand the perception of different parties involved in the project.

3.3 Study Variables

➤ **Dependent variable**

- Unresolved claim in universities building construction projects
- Most Frequently occurring unresolved claim

➤ **Independent variable**

- Causes of unresolved claims
- Effects of unresolved claims

3.4 Study Population

The targeted population of this study was limited to investigating unresolved claim in building construction projects in the SNNPR of the universities. The focused populations in this study was consisted the Universities building construction project hardly participant bodies.

3.5 Sample Size and Sampling Procedures

The project under investigation was completed building construction and is currently under construction by different contractors in the universities.

Sampling is the process of selecting representative units of a population for the study of the research investigations. The sample is the small populations of selected for the observations and analysis. Sampling was introduced to make the research findings economical and accurate.

The respondents in this study were contractors and consultants or the departments of the construction project offices in the universities and other parties who are participated or involved in the building construction projects in the universities. This study's sampling method was non-probability sampling, representing a group of the sampling techniques and free distributions that helps researchers select a unit sample of a population. And also, the sample of this study was selected by using non-probability sampling techniques, which is the purposive sampling method.

The consultants and contractors in building construction projects were selected from 25 building construction projects; 9 from Wachemo University, 5 from Wolkite university, 6 from Worabe 3 from Wolaita and 2 from Hawasa under SNNPR universities building projects on the basis of study objectives. These building construction projects are constructed by GC 1 to GC7. The consultants and contractors who are actively involved in the building construction projects are purposively selected. For this study, samples were 98 respondents from contractor's firm's sides returned from 110 questionnaire distributed and 29 respondents from consultants firm sides returned from 42 questionnaire distributed from total prepared 167 questionnaires; these was distributed and returned from twenty-five (25) building constructions projects sites.

A total of 152 respondents 127 questionnaire was returned in this study from both sides.

3.6 Sources of Data

This study used both primary and secondary data sources. The primary sources were conducted with structured questionnaires, observations, and interviews. The secondary sources were collected from various published and unpublished sources, books, journals, and research reports.

3.7 Data Collection Procedure

In this study, both quantitative and qualitative methods were used: in step one, the qualitative data were identified from the literature and interview, and in step two, and quantitative data were collected from questionnaires, site observation, and interviews.

3.8 Questionnaire Distributions

The respondents that were selected purposively in the research studies are Consultants and Contractors in the Building Construction Projects of SNNPR Universities. Questionnaires were distributed to these respondents totally of one hundred ten (110) Building Construction projects contractors sides in selected universities and forty-two (42) consultants sides actively under construction in the different project sites and which are selected and identified based on the objective of the study; they are well organized, functional, have good workmanship in a project of universities. These projects were constructed and consulted by GC1 to GC7 Contractors and the consultants were from the universities sides at all times in this research because the universities had its own projects offices and firms were conducted face-to-face verbal interchange to obtain more data or information and used to collect respondents' opinions on identifying, the causes, effects, and most frequent of the unresolved claim. The variables in the questionnaire were adapted from the studies cited in the literature review the objective study.

3.9 Data Presentation and Analysis

After the data has been collected from the required respondents and interviews, this data was then analyzed quantitatively with appropriate tools of the data analysis. First, the Relative Importance Index is used to rank causes, effects, and most frequent occurred of the unresolved claims formula ([Abrham;P;et al., 2016](#)) and ([Damtew Y. and Enday A. 2019](#)) it is used to rank the different causes and other effects of the unresolved claims from the perspective of consultants, contractors, and other stakeholders. In addition, weighted averages of each RII have been evaluated with consultants' and contractors' response ratios. Because of the absence of the client was in each university both the client and the consultants were led by the same department of the construction projects office.

$$R_{II} = \frac{\sum_{i=1}^N w_i}{N * A}, (0 \leq R_{II} \leq 1) \dots \dots \dots [3.1]$$

Where:

W_i is the weight of the certain variable which is ranked by the respondents

A is the highest weight and

N is the total number of respondents

The respondents were asked to rate the issues based on a 5- point Likert scale; therefore, w_i ranges from 1 to 5.

The analyzed data output was also presented using tables, graphs, charts, and a simple percentage for further interpretation and discussion.

3.10 Data Measurement

The data measurement to investigate the unresolved claim on building construction projects, the ordinal scale was selected. An ordinal scale is a ranking or rating data normally using integers in ascending and descending order, as shown in Table 3.1. Different sections of questionnaires were the objectives of the study.

Table 3.1 Ordinal Scale Used for Data Measurement

S/NO	Likert rating scale		1	2	3	4	5
1	Items	Part I	Very low	low	Average	High	Very high
2		Part II	Not significant	Slightly significant	Most significant	Very significant	Extremely significant

3.11 Data Validity and Reliability

The projects were assessed by the Face-to-face interview data collection method when the interviewer directly communicates with the respondents in accordance with the prepared questionnaire. This method enables the acquisition of factual information, consumer evaluations, attitudes, preferences, and other information coming out during the conversation with the

respondent. Thus, the face-to-face interview method ensures the quality of the obtained data and increases the response rate.

In order to check the reliability of data, Cronbach's Alpha coefficient was used; Cronbach's Alpha values were in the range from 0.9 to 1. This range is considered excellent; since the result ensures the reliability of the response of each project. The average Cronbach's Alpha of all items of questions equals 0.9414 for the entire project, indicating excellent responses as the whole data. Most distributed work that requires mediated communication was used to check data validity, which estimates a relationship between two interval variables and has an excellent correlation between variables. Face-to-face correlation and some have an excellent correlation between projects. Most correlations between the projects fall within the excellent range, while few fail in an acceptable and good range.

Cronbach's alpha tests to see if multiple-question Likert scale surveys are reliable. These questions measure latent variables hidden or unobservable variables like a person's conscientiousness, neurosis, or openness. These are very difficult to measure in real life. Cronbach's alpha will tell you if the test you have designed is accurately measuring the variable of interest. The formula for Cronbach's alpha is:

$$\alpha = N / (N - 1) * (1 - S\bar{v} / T\bar{v}) \dots\dots\dots \text{Equation (3.2)}$$

Equation of formula for Cronbach's alpha Where N=the number of items.

S \bar{v} = sum of the item variances.

T \bar{v} = variances of total scores.

Table 3.2 Cronbach's Alpha Formula with Consistency

S/No	Cronbach's alpha	Internal Consistency
1	$\alpha \geq 0.9$	Excellent
2	$0.9 > \alpha \geq 0.8$	Good
3	$0.8 > \alpha \geq 0.7$	Acceptable
4	$0.7 > \alpha \geq 0.6$	questionable
5	$0.6 > \alpha \geq 0.5$	Poor
6	$0.5 > \alpha$	Unacceptable

According to studies, the Alpha was developed by Lee Cronbach's in 1951 to provide a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1. Internal consistency describes the extent to which all the items in a test measure the same concept or construct, and hence it is the method to compute the correlation of each test item with the total score test; items with low correlations (approaching zero) are deleted. If alpha is too high, it may suggest that some items are redundant as they are testing the same question but in a different guise. A maximum alpha value of 0.90 has been recommended.

Therefore, the average Cronbach's Alpha of all items of questions this study was equals 0.9414 for the entire project, indicating excellent responses as the whole data and it was recommended

3.12 Ethical Consideration

After getting the approval and permission letter from Jimma University, Jimma Institution of Technology postgraduate's research and publication director office for continuing the study, and the Department of Construction Engineering and Management, the data collection process was conducted. The researcher first informed participants about the nature of the research and requested their consent to participate. Only those organizations and personnel who voluntarily participated in the study were approached for an interview and comment. The researcher also committed to reporting the research findings completely and honestly, without misleading others about the findings' nature. Under no circumstance, the researcher fabricates data to support a particular conclusion. Finally, the researcher took appropriate measures to ensure the research would cause no physical or psychological harm to research participants. As a general rule, therefore, the study did not raise any ethical concerns.

3.13 Data Quality Assurance

- The quality of the data was assured by using a validated structured questioner.
- Data collectors were trained intensively on the study, the study's objective, the confidentiality of the information, informed consent, and interview technique.

- The data collectors were working under the researcher's close supervision to ensure adherence to correct data collection procedures and review the filled questioner at the end of data collection every day for completeness

CHAPTER 4

RESULTS AND DISCUSSIONS

This part deals with the results and discussions of the results obtained from the study. It also describes the results and discussion of a questionnaire survey, observations, and interviews concerning the investigation of unresolved claims on Building Construction Projects in South Nation Nationalities and People Region on selected Universities and viewpoints of Contractors and Consultants'(department of the construction office) sampled from Building construction projects. The consideration was on the statement of the problem, objective, and scope of the study. The formulated questionnaires, surveys, interviews with respondents, and the problem of statement helped the researcher obtain data; and finally, the causes and effects, frequently most occurring on building construction projects in university.

4.1 Response Rate

The results from 152 total questionnaires were distributed for contractors and consultants (department of the construction office) involved in building construction projects in SNNPR Universities total of 127 were received as shown in Table 4.1 below; It shows that a total of 110 questionnaires were distributed for contractors side, and from these 98 questionnaires were returned, which means 89.1% of respondents of contractors were responded and 42 questionnaires distributed for consultants side, from this 29 questionnaires were returned which means 69% of respondents of consultants were responded. From contractors and consultants organizations and totally from 152 questioners 127 were answered in questionnaire survey which means 83.01% of response rate. This objective was conducted face-to-face interviews to obtain more information on the studies.

Table 4.1 Response Rate

Organization	WC	Wol	Wor	Wola	Haw	Total distributed	WC	WI	Wo	Wola	Haw	Total received
Contractor side	22	16	17	12	11	78	19	13	15	11	7	65
Consultant side	24	12	16	13	9	74	21	10	13	10	8	62
Total	46	28	33	25	20	152	40	23	28	21	15	127

The results for selected five universities total of 152 questionnaires were distributed for all Universities contractors and consultants (department of the construction office) sides involved in building construction projects in SNNPR universities 127 were received as shown in Table 4.1 above. Besides, totally from all universities one hundred-twenty seven respondents, sixteen project managers, twenty-seven office engineers, and thirty site engineers working and twenty-five contractors and twenty-nine consultants were conducted face-to-face interviews and questionnaires to obtain more information on the study's objective

4.2 General Information and Profiles of Respondents

This part mainly designed to provide general information about the respondents in terms of the position and experience, educational status, respondents firm and contact person who are participated in this study population.

4.2.1 Specialization of Respondents

Table 4.2 below, shows that from all means total from each university sum the respondents, 74% are civil engineers, 11% are Architects, and 15% are others. So, most of the participants or respondents in this research were Civil Engineers in the questionnaire survey of this study. They are responds based on their specialization identified unresolved claim, causes and effects, and most frequently occurred on unresolved claims in the Building Construction Projects as their profession, which they are required.

Table 4.2 Specialization Respondents

Organization	Specialization of respondents			Total respondent
	Civil Engr.	Architects	Other	
Contractor side	65	9	15	89
Consultant side	29	5	4	38
Total	94	14	19	127

4.2.2 Education Level of Respondents

Figure 4.1 shows that from the total of 127 respondents, 16 (13%) with Diploma, 72 (57%) were Bachelor Degree, 36 (28%) were Master's Degree and 3 (2%) with a Doctorate Degree. So, most of the respondents have Master's and Bachelor's Degree. The more advanced in the program, the

higher the level of education, so they have good ideas or concepts of the unresolved claim causes and factors in construction building projects. Hence in this study, about 85 % of respondents have Bachelor's and Master's Degrees involved in the questionnaire survey. The respondents' education level was strongly supported to get data to investigate unresolved claims on the Construction Building Projects based on this study's objectives.

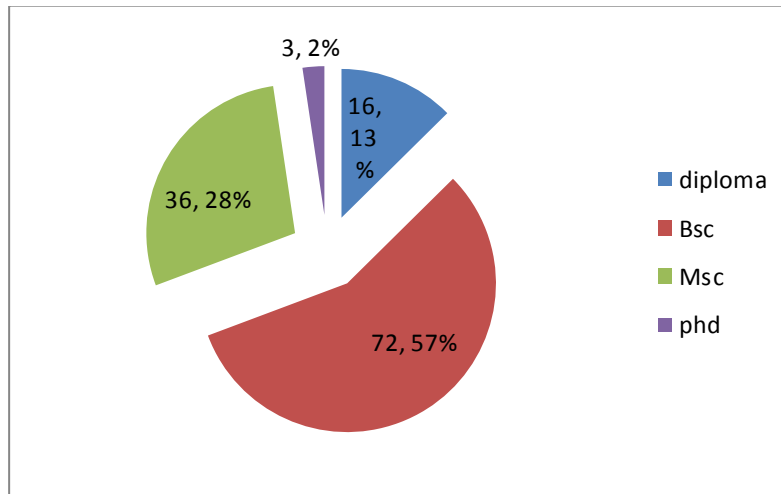


Figure 4.1 Education Levels of Respondents

4.2.3 Experience of Respondents

Figure 4.2 shows that from the total of 127 respondents, 65 (51%) respondents have experienced between 0 to 5 years, 39 (30.5%) respondents have experienced between 6 to 10 years, 17 (13.5%) respondents have experienced from 11 to 15 years, 6 (5%) respondents have experience more than 15 years. Based on these results, the respondents' experiences helped get full information for this study to achieve its objectives. The experiences of respondents on building and other construction projects help to understand unresolved claim causes and effects and the minimization ways of the causes on Building Construction Projects.

Table 4.3 Specialization Respondents

Experience of respondents (years)	Contractor side	Consultant side	Total
0-5	43	22	65
6-10	27	12	39
11-15	12	5	17
≥15	4	2	6

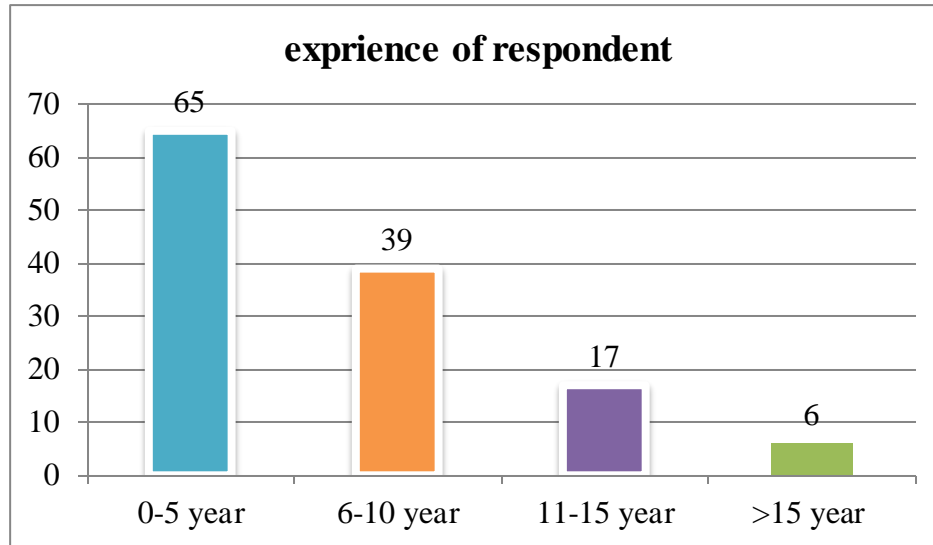


Figure 4.2 Experiences of Respondents

4.2.4 Positions of the Respondents on Sites

Positions of the respondents of all universities sites were indicated below in table 4.3, this position must be very useful in deciding their views by their positional knowledge and experiences on this research.

Table 4.4 Positions of the Respondents on the Site All University

Position on site	Contractor side	Consultant side	Total amount of questionnaires	Out of (100%)
Site engineer	48	3	51	40
Office engineer	21	15	36	28
Project manager	20	7	27	21
Other	10	3	13	11
Total	99	28	127	100

4.2.5 Respondents Firms

Table 4.4 shows that 98 (77%) respondents are contractor's side and 29 (23%) are consultant's side. Therefore, most of the respondent's organizations are contractor's firms, which are participated in

this study. Based on this, this is very important for determining to identify, causes and effects, evaluating the most frequent unresolved claims in building construction projects.

The following table indicates the contractors and consultants respondents firms.

4.3 Identified Types of Unresolved Claim

Unresolved claim was arise from that did not get the solution in the construction project sites that was happened by the different causes building construction projects. From this research finding that was collected data by interviewing from site constructor and consultants from this study or the findings, the results were identified based on interviewing unresolved claim with the contractor, consultants, and suppliers. There were many types of unresolved claims that were identified based on the interview respondent's most unresolved claim was identified from all Universities. From the collected data the results of identified unresolved claim were: Delay unresolved claim, different site condition, disruption or suspension of the work, and shortage of the materials.

- **Delay of unresolved claim;** this identified types of unresolved claim was occurred by the different causes of the unresolved claims and that was incomplection of the work on the scheduled or A delay of unresolved claim involved in building construction projects that were not completed as scheduled; it could be caused by various issues. Here from the findings indicates that many times the owner or client reactions or responses were the main causes for the delay unresolved claim on the building construction projects. The other one for the delay unresolved claim was late payments for the necessary running works. The construction delays and claims that were changed to unresolved claims were an integral part of the building construction projects. When dealing with the unresolved claim, one of the first determining claim stages was passed from excusable, compensable, and others; but here also if the all parties come to the volunteers for the agreement to solve the unresolved claim in the building construction projects, that the unresolved claim changed to the resolved and they may come to the excusable and compensable.
- **Different condition;** this indicated from the findings was encountered physical obstructions or changed condition during the execution of the building construction projects. This type of unresolved claim related to the site problems means that after the start of the site work site was watering after excavating to the constructing the building and this is the one type of the

identified unresolved claim, especially in Wachemo University. And additional the most problem was the weather condition and this has happened work stoppage.

- **Disruption or suspension of work;** this finding indicates that was identified by the interviews of the contractor's side and consultants those who gave the data for this study the disruption types of the unresolved claim was manifested itself in many ways. Disruption includes intermittent work, an extension of the working times, this indicates that work was extended for the unlimited time based on the different issues or conditions and the other one was poor quality suspension; again as the findings of the data from the site, this changed the works to the unresolved claim because of some part of the construction was constructed by the fewer quality materials or less quality workmanship or labor that was differ mentioned on contract documents. At this time the owner or the client can stop the works us to improve that as mentioned in the contract documents. This kind of claim was not improved as based on the claims submitted to the belonging party the claim was changed to the unresolved claim. This was simply a loss of the products.
- **Shortage of the materials;** as the findings of this research were one of the unresolved claims in building construction was a shortage of the materials. As has been well known in the building construction projects for some time and is also known as one of the main sources of the construction. In this case in Ethiopia construction is currently under considerable pressure due to the internal conflict or sanction of the country brought the shortage of the materials and combination of the different cases that make the shortage of the materials, this made the price change in the construction. This causes unresolved claims in construction projects. Here employers and contractors must agree on how to mitigate the risk to their projects of increased costs and delays based on the above mentioned for the finite number of the resources. Traditionally employers would usually expect to pass the risk of obtaining materials onto the contractors and, more often than not by experience, contractors would generally be willing to accept this position.

Generally from the above results the main identified unresolved claim in building construction projects which listed above was most top ranked by the respondents those actively participating in building construction projects. These findings were based on the respondents and literature review.

These findings were: delay, different condition, payment related, disruption or suspension of the work and shortage of the materials.

4.4 The Most Frequently Occurred Unresolved Claim in each University

4.4.1 Most Frequently Occurred UC in Wachemo University (WCU)

From findings had identified the most frequent factors of unresolved claim in building construction projects in Wachemo University. Figure 4.3 of the wachemo university consultants and contractor views show from both views most frequently occurred on the projects ranked was; quality of the materials with relative important index (RII 0.765). Different sources and discussions made with the wachemo project office also confirmed quality of the materials was the prominent factor in causing building construction completion in Wachemo University.

This quality of materials was the most frequently occurred factor for the unresolved claim in Wachemo University that indicated from the RII 0.765. Delay of the projects was the second-ranked with relative important index (RII 0.75) on most frequently occurred factors for the unresolved claim and the other was the shortage of the materials ranked third most frequently occurred factors with relative importance index (RII 0.725) and the fourth-ranked factor was financial inspection with relative important index (RII 0.715) for the unresolved claim in building construction projects.

The next most frequently occurred factors for the unresolved claim in the Wachemo University was weather conditions, with the relative important index 0.710, and construction methodology was another factor for the unresolved claim in building construction projects having an RII value of 0.69. Generally, these all factors most frequently occurred were among the top that contributes to raising the unresolved claim in building construction project at Wachemo University.

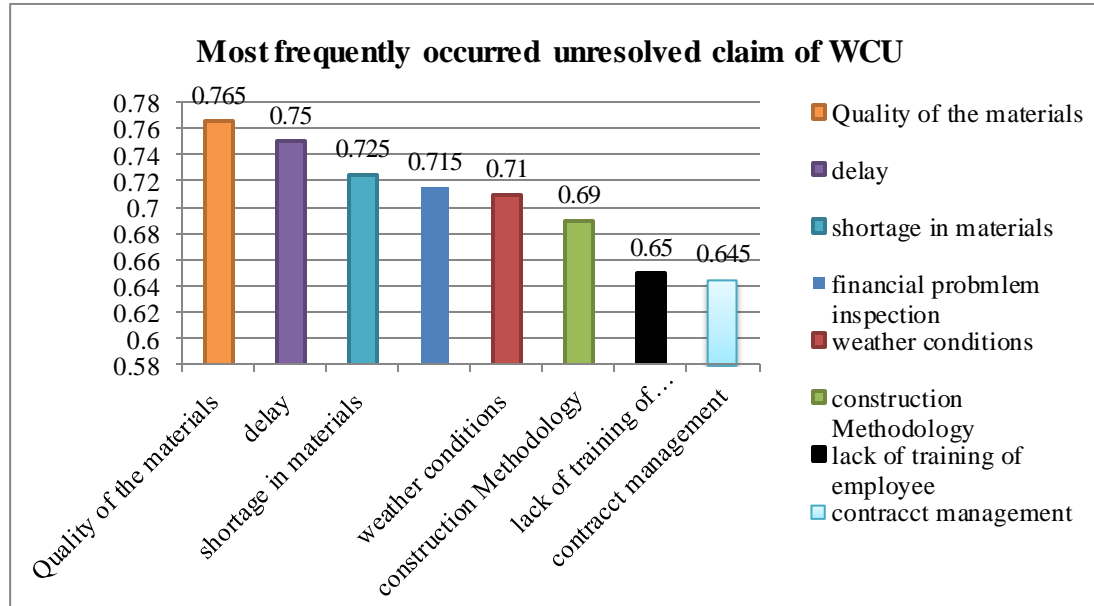


Figure 4.3 Most Top Frequently Occurred unresolved claim of Wachemo

4.4.2 Most Frequently Occurred UC in Wolkite University (WU)

From this finding the most frequent factors unresolved claim in building construction projects in Wolkite University. Figure 4.4 below, the wolkite university all the consultant's and contractors views show that total average RII was the same as to that of the causes was ranked unresolved claims delay most frequently occurred factors on unresolved claims with relative important index (RII 0.855). Different sources and discussions made with the wolkite project office and the contractor's office engineer and site engineers also confirmed delay was the prominent factor in most frequently occurring causes of the building construction completion time wolkite University. This delay was the most frequently occurred factor as the explanation of the parties for the unresolved claim in Wolkite University that indicated from the RII 0.855. finance problem inspection of the projects was the second-ranked with relative important index (RII 0.815) on most frequently occurred factors for the unresolved claim and the other was the finance and payments for the completed works ranked third most frequently occurred factors with relative importance index (RII 0.775) and the fourth-ranked factor was quality of the materials with relative important index (RII 0.765) for the unresolved claim in building construction projects The next most frequently occurred factors for the unresolved claim in the Wolkite University was weather conditions, with the relative important index (RII 0.735). Generally, the top five most frequently occurred causes in

the wolkite university (WU) building construction projects as the collected database technique. The most top five (5) causes were a delay, financial problem inspection, finance payments and completed works, quality of materials, and weather condition.

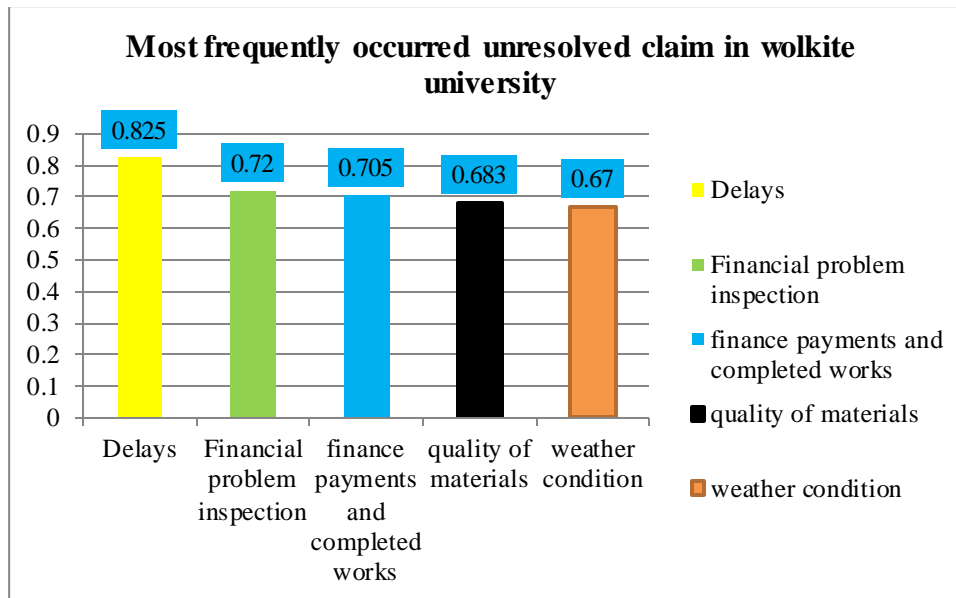


Figure 4.4 Most Top Frequently Occurred Unresolved claim of Wolkite

4.4.3 Most Frequently Occurred UC in Worabe University

From respondents, the findings indicate the most frequently occurring unresolved claim was identified that was in building construction projects in Worabe University. Figure 4.4 of the worabe university all the consultants and contractors views shows that total average RII was the same as to that of the causes was ranked unresolved claims delay most frequently occurred factors on unresolved claims with relative important index (RII 0.871). Different sources and discussions made with the worabe project office and the contractor's office engineer and site engineers also confirmed delay was the prominent factor in most frequently occurring causes of the building construction completion time in Worabe University.

This delay was the first cause like the Wolkite University's most frequently occurred factors as the explanation of the parties for an unresolved claim in Worabe University that indicated from the RII 0.871. shortage in materials of the projects was the second-ranked with relative important index (RII 0.8) on most frequently occurred factors for the unresolved claim and the other was the finance

problem inspection ranked third most frequently occurred factors with relative importance index (RII 0.771) and the fourth-ranked factor was the quality performance with relative important index (RII 0.764) for the unresolved claim in building construction projects most frequently occurred factors of unresolved claim in Worabe University. The next most frequently occurred factors for an unresolved claim in the Worabe University was finance and payments for completed work, with the relative important index (RII 0.665).

Generally, these all factors most frequently occurred were among the top that contributes to raising an unresolved claim in building construction project at Worabe University.

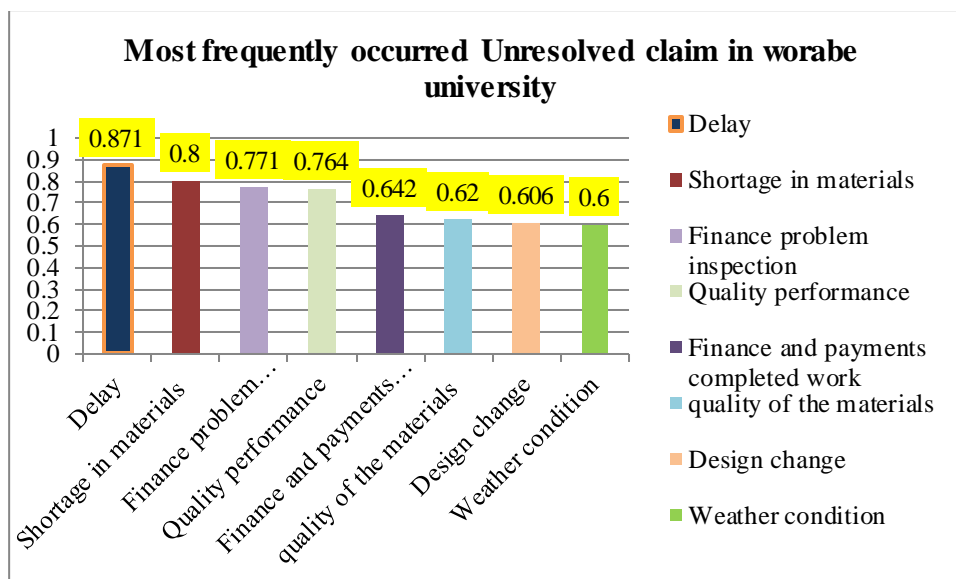


Figure 4.5 Most Top Frequently Occurred Unresolved claim of Worabe

4.4.4 Most Frequently of the UC in Wolaita University

From the finding, the most frequent factors unresolved claim identified in building construction projects in Wolaita University. Figure 4.6 below shows the Wolaita University all the top most frequently occurred unresolved claim consultants and contractor's views show that total average RII was the same as to that of the causes was ranked unresolved claims quality performance most frequently occurred factors on unresolved claims with relative important index (RII 0.866). Different sources and discussions made with the wolaita project office and the contractor's office

engineer and site engineers also confirmed quality performance was the prominent factor in most frequently occurring causes of the building construction completion time in Wolaita University.

This quality performance was the first cause most frequently occurred unresolved as the explanation of the parties for an unresolved claim in Wolaita University that indicated from the RII 0.866. Quality of materials of the projects was the second-ranked with relative important index (RII 0.857) on most frequently occurred factors for the unresolved claim and the other was the finance and payments for completed work ranked third most frequently occurred factors with relative importance index (RII 0.81) and the fourth-ranked factor was a shortage in materials, with relative important index (RII 0.771) for the unresolved claim in building construction projects and this result showed from Figure 4.6 above the topmost frequently occurred factors of unresolved claim in Wolaita University. The next most frequently occurred factor for an unresolved claim in the Wolaita University was finance problem inspection, with the relative important index (RII 0.761).

Generally, the top five most frequently occurred causes in the Wolaita University (WU) building construction projects as the collected database was discussed in Figure 4.5 below; the most top five (5) causes were, quality performance, quality of the materials, finance payments, and completed works, shortage in materials, finance problem inspection,

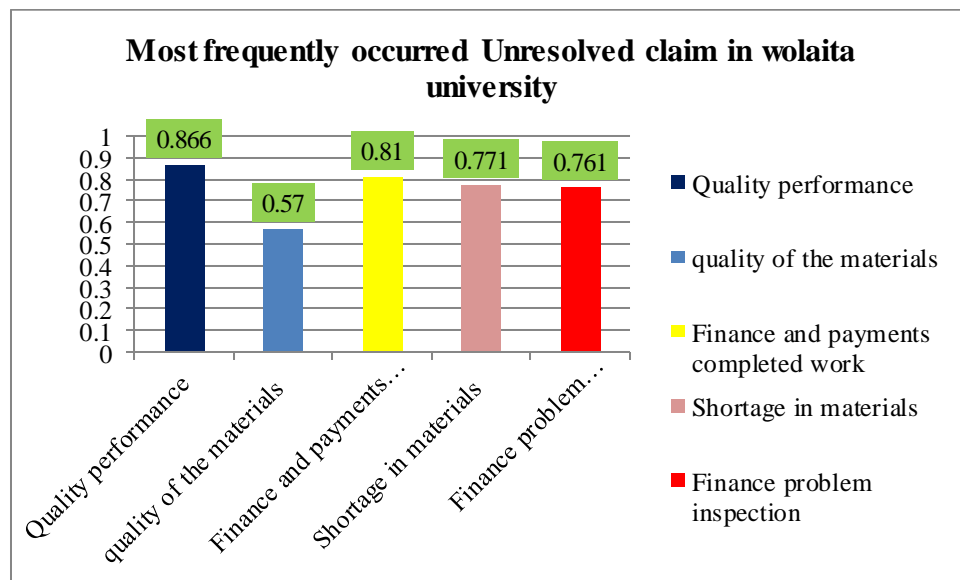


Figure 4.6 Most Top Frequently Occurred Unresolved claim of Wolaita

4.4.5 Most frequently Occurred UC in Hawasa University

Figure 4.7 of the Hawasa university all the consultant's and contractors views shows that the total average RII was the same as that of the causes was ranked unresolved claims shortage of the materials most frequently occurred unresolved claims with relative important index (RII 0.867). Different sources and discussions made with the Hawasa project office and the contractor's office engineer and site engineers also confirmed the shortage of the materials was the prominent factor in the most frequently occurring causes of the building construction completion time in Hawasa University.

This shortage of materials was the first cause most frequently occurred factors as the explanation of the parties for an unresolved claim in Hawasa University that indicated from the RII 0.867. finance problem inspection of the projects was the second-ranked with relative important index (RII 0.8) on most frequently occurred cause for the unresolved claim and the other was the weather condition ranked third most frequently occurred factors with relative importance index (RII 0.746) and the fourth-ranked cause was quality of materials, with relative important index (RII 0.69) for the unresolved claim in building construction projects and this result showed from Figure 4.6 below most frequently occurred cause of unresolved claim in Hawasa University. The next most frequently occurred cause for an unresolved claim in the Hawasa University was finance and payments for completed work, with the relative important index (RII 0.667).

Generally, these all causes most frequently occurred were among the top that contributes to raising an unresolved claim in building construction project at Hawasa University

Generally, the top five most frequently occurred causes in the Hawasa University (HU) building construction projects as the collected database technique shown in Figure 4.6; the most top five (5) causes were, shortage of the materials, finance problem inspection, weather condition, quality of the materials, finance payments and completed works.

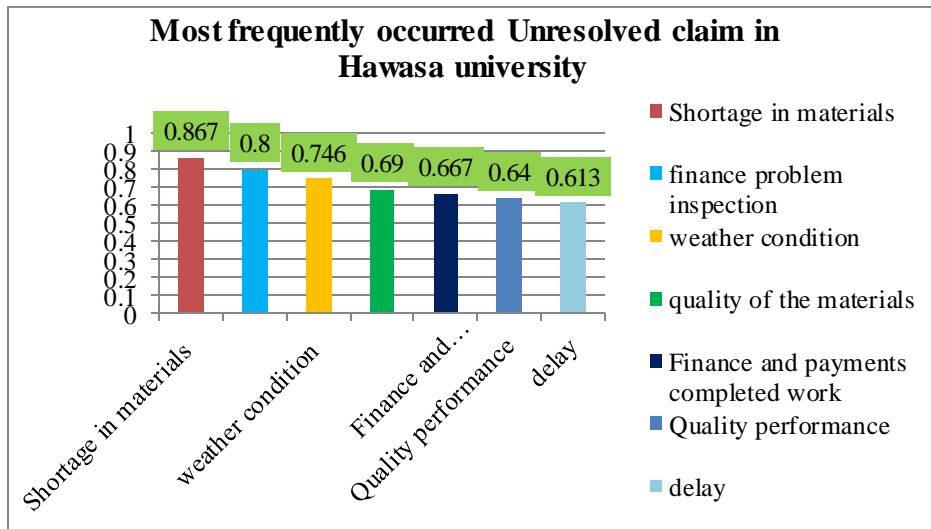


Figure 4.7 Most Top Frequently Occurred Unresolved claim of Hawasa

4.4.6 General Findings and Conclusion on Most Frequently Occurred Causes

Unresolved claims are unpredictable, so identifying the most common frequently occurred unresolved claims from the findings of this research based on the respondents with interviewing and questionnaires also the other ways was literature reviews.

With the aim of helping project participants investigating unresolved claim most frequently occurred causes in the building construction projects before starting another projects to take measurements and this study identified the most frequently occurred causes in the SNNPR University building construction projects. From each university most frequently occurred causes arise of unresolved claim identified based on the RII. This most frequently occurred causes originated from contractors or consultants. Finally from all university, top three the most frequently occurred causes listed here based on average of RII were identified and classified as: quality of the materials, delay and shortage of the materials in Wachemo University, delay, financial inspection problem and finance and payment problem for completed work in Wolkite University, delay, financial inspection problem and shortage of the materials in Worabe University, quality performance, quality of the materials and finance and payment for completed work in Woaita University and shortage of material, finance inspection problem and weather condition in Hawasa University. The results can enable for all Universities can make to take the any necessary strategies before getting involved in university building construction projects or to reduce the negative effect

on the projects of known problems with more effective planning strategies to prevent the most frequently occurred causes.

4.5 The Causes of Unresolved Claim

To identify the causes for all selected universities of unresolved claim discussion were made with key information with informant bodies, by interviewing and literature with all regards bodies to get the full information for this research. According to the collected data information, the main cause of the universities unresolved claim on university building construction projects in South Nation Nationalities People and Region were identified as financial problem inspection that was the flow of the budgets for the project work timely, quality of the materials, delay by the different problems and that affect the completion time of the projects, quality performance on the completed parts of the buildings, weather condition, shortage of the materials, all these were the main causes in all selected universities that brought many unresolved claims in construction and this all were identified, by group discussion, questionnaire survey, and interviews. Accordingly, sixteen questionnaire survey, twenty-six causes and seven effects and nine interviews questions of the unresolved claim were identified from review literature and related for this investigation for all selected each university.

These causes of the unresolved claim of the building construction projects were all included in the questionnaires, the importance which was evaluated by the respondent's scale of 5 (extremely significant) to 1 (not significant). Top of the four were listed and discussed below based on respondents causes were ranked by calculating the relative importance index (RII). The weighted RII values of each factor causing unresolved claim with a respective respondent ratio of the Consultants and Contractors was also calculated.

4.5.1 Causes for the Unresolved Claim from Wachemo University

➤ **Financial inspection problem;** From Table 4.6 below; of the Wachemo University that average rank show unresolved claims as financial problem inspection as the cause unresolved claims with relative important index (RII) 0. 87. This factor was also ranked first by respondents. Different sources and discussions made with the wachemo project office also confirmed the financial problem was the prominent factor in causing building construction completion in Wachemo University. From the findings

this was the most cause for the unresolved claim because of the payments not on the time the contractor change the work times to the other sites and, the work of the started suspended for many time and it may leave the works.

➤ **Quality of the materials;** One of another cause of unresolved claim in Wachemo University was quality of the materials, with the relative important index (RII) 0.71. The quality of the materials was the most important for the building construction projects. The low quality of the materials affected the building construction projects in different ways. To build a safe building and stable building project structures, the type of used materials should be of high quality and for all parties and it is very important for the many necessary things on the buildings and the output produced. The quality of the materials last longer and leave no room for defect. On the other side, the inferior materials cause the defect on the building like cracking, leakages, and dropping of the ceilings and inadequately functioning structures, and here findings notice the using low-quality materials in construction guarantees zero durability. This all the causes were the problem of the quality of the materials in the building construction projects cause the unresolved claim in constructions.

➤ **Shortage of the materials;** Shortage of the materials was ranked as cause's unresolved claim in building construction projects having an RII value of 0.68. As the findings were one of the unresolved claims in building construction was a shortage of materials. As has been well known in the building construction projects for some time and is also known as one of the main sources of the construction. In this case in Ethiopia construction is currently under considerable pressure due to the internal conflict or sanction of the country brought the shortage of the materials and combination of the different cases that make the shortage of the materials, this made the price change in the construction. This causes unresolved claims in construction projects.

➤ **Quality performance** Quality performance was one of the causes of the unresolved claim in Wachemo University that was ranked at fourth with the relative important index (RII) 0.671 can be mentioned as the fourth level. These factors of causes were among the top that contribute to raising the unresolved claim in building construction projects at Wachemo University. Effective quality performance was the main goal of the building construction projects to achieve the objectives of the buildings, so the failure of the quality performance in the building was another cause of the unresolved claims in building construction projects. Also, the quality was an important criterion in the building construction projects and this criterion obstructed and attentions were less for the quality performance than cost and time, the unresolved claim on the building construction projects.

Table 4.5 Causes of Unresolved Claim in Wachemo University.

No	Cause of Unresolved claim	Contractor view		Consultant views		Average RII	Rank
		RII	Rank	RII	Rank		
1	Discrepancies between contract and document	0.66	6	0.64	6	0.55	33
2	suspension work by owner or contractors	0.63	5	0.76	1	0.67	25
3	Delay	0.64	4	0.76	1	0.90	2
4	Design change	0.64	4	0.74	2	0.68	24
5	Disruption of construction	0.70	2	0.71	5	0.53	34
6	Quality performance	0.58	8	0.74	2	0.79	12
7	Delay to deliver the site (right time problems)	0.68	3	0.65	9	0.88	5
8	Poor communication and coordination	0.52	11	0.74	2	0.64	27
9	Finance and payments for the completed work	0.70	2	0.61	9	0.77	17
10	Slow decision making for by the owner	0.68	3	0.63	10	0.78	16
11	Poor contract documents	0.60	7	0.62	11	0.75	19
12	Extra Contractual	0.52	11	0.70	6	0.86	7
13	Ex gratia	0.56	9	0.73	7	0.79	15
14	Financial problem inspection	0.82	1	0.62	11	0.92	1
15	Site management	0.56	9	0.62	14	0.79	12
16	Construction methodology	0.56	9	0.72	4	0.76	18
17	Improper planning	0.50	12	0.63	10	0.86	8
18	Mistakes during construction	0.48	13	0.73	3	0.53	35
19	Inadequate contractor experiences	0.56	9	0.66	8	0.79	12
20	Quality of the materials	0.54	10	0.73	3	0.89	3
21	Shortage of materials	0.44	14	0.66	8	0.88	4
22	Schedule change	0.48	13	0.67	7	0.73	20
23	Contract management	0.54	10	0.61	9	0.70	21
24	Quality assurance or control	0.42	15	0.62	11	0.88	5
25	Use of the standard for the contractor	0.44	14	0.54	15	0.60	32
26	Weather condition	0.82	1	0.55	11	0.83	10

4.5.2 Contractor and Consultants Views

4.5.2.1 Contractor's view

Table 4.5 shows that contractor's response towards causing unresolved claim in building construction projects in South Nation Nationality People Region University showed that financial

problem inspection and weather condition (RII 0.82) are the first ranked factors causing unresolved claim in Wachemo University.

According to contractors' response, Financial problem inspection that are related to contractors rises from mismanagement of financial resources in such a way that diverting the finance that was generated by one project to other project which they are running or other than internal asphalt road projects in University. In addition to payments of completed work, disruptions of the construction are ranked at second, with RII 0.70.

Obviously, financial constraints by the client to furnish payments of completed work and this can happen due to inadequate timely budget allocation versus contractor's plan, as the execution of projects run over annual allotted budget. Slow decisions making for by the owner and Delay to deliver the site (right time problems) are seen to the third unresolved claim causes by contractors (RII 0.64). Delay and design change with RII 0.64 and "suspension work by owner or contractors" RII of 0.63 found to be were fourth and fifth ranked causes respectively. Slow decision making by client was unresponsiveness to the decision seeking issues of the project. Most project site in Wachemo University around suffers from weather condition of prolonged rainy season, contributing to claim in building construction projects.

4.5.2.2 Consultant's view

Consultants also revealed that delay, and suspensions of the work by owner or contractors are among the top unresolved claim causing factors, with RII 0.76. was ranked first by consultants' respondents was also recognized as the first problem causing building construction and completion indicating the obstructions along the building construction has a significant role in setting back the construction activities. In addition, design change, quality performance and poor communication and coordination that are related to constructors are found to be the main factor in causing unresolved claim. According to the consultant's written response, contractors change the quality of the construction that was didn't documented at the agreement of the contract time.

The second factor that causes unresolved claim on building construction projects in SNNPR pertinent to Wachemo University building construction projects was "Quality performance" with RII 0.74. Thirdly, mistakes during construction and Quality of the materials, with RII 0.73 are also referred as the factors to cause unresolved claim. The mistake during construction was directly

related to the contractors, as Quality of the materials was the main inputs for construction activities for contractors that quality finishes the work

The research revealed that discrepancy between contracts documents lead to unresolved claim in timely construction completion of building construction projects. Respondent's written response also showed that the discrepancy between unit of measures of items and quantity differences in some contract documents made inconvenience in timely accomplishment of building construction projects.

Consultants reinforced those factors of causes of unresolved claim that were listed as top by client's such as delay was the main problem in contributing a great share of cause of unresolved claim. Use of the standard for the contractor and site management are among the least factors to cause unresolved claim.

4.5.3 Causes of the Unresolved Claim from Wolkite University

Table 4.6 of the wolkite university both consultants and contractors views shows the average ranked causes were the main causes on the Wolkite University unresolved claims:

➤ **Delay;** as the factors that cause unresolved claims with relative important index (RII) 0.975, from findings these factors also ranked first by average ranking. Different sources and discussions made with the Wolkite project office and contractors also confirmed delay was the prominent factor in causing building construction completion time in Wolkite University

This delay was the main factor for unresolved claims involved with the effects of the complete schedule in Wolkite University that indicated from the RII for both consultants and contractors the delay was the first cause of the unresolved claims. This result showed from table 4.6 cause of unresolved claim in Wolkite University building construction projects.

- **Shortage in materials;** from the findings, the next delay shortage of the materials was the cause of UC with the relative important index of 0.965. This cause made the many building construction projects didn't make the wanted or planned manner for both owner and contractor. This is not only for the delay of the project also for the price change.
- **Finance and payments for completed work;** was ranked as the third factor to cause unresolved claims in building construction projects having an RII value of 0.93 in table 4.6. This is another cause of the

unresolved claim, which the findings indicate for the finished work the payments were financed, the next work must be started in the scheduled manner and, otherwise, the work just stopped.

- **Finance problem inspection;** was ranked with the relative important index 0.885 can be mentioned as the fourth level. These factors of causes were among the top that contribute to raising unresolved claims in building construction projects at Wolkite University. This indicates that the whole financing system for the completion of the building construction projects and the financing is not only one aspect problem but also whole projects disturbed problem and this leads to the unresolved claim in the building construction projects.

Table 4.6 Causes of Unresolved Claim in Wolkite University

No	Causes of Unresolved claim	Contractor view		Consultant views		Average RII	Rank
		RII	Rank	RII	Rank		
1	Discrepancies between contract and document	0.56	10	0.58	8	0.50	34
2	suspension work by owner or contractors	0.64	7	0.60	7	0.62	25
3	Delay	0.67	5	0.76	1	0.97	1
4	Design change	0.63	6	0.69	6	0.63	24
5	Disruption of construction	0.86	1	0.65	9	0.48	35
6	Quality performance	0.54	8	0.75	2	0.62	25
7	Delay to deliver the site (right time problems)	0.66	4	0.56	9	0.73	10
8	Poor communication and coordination	0.58	11	0.56	9	0.94	2
9	Finance and payments for the completed work	0.66	4	0.51	13	0.93	3
10	Slow decision making for by the owner	0.58	11	0.61	10	0.69	13
11	Poor contract documents	0.69	3	0.59	11	0.65	20
12	Extra Contractual	0.50	10	0.70	5	0.69	15
13	Ex gratia	0.53	9	0.57	8	0.61	27
14	Financial problem inspection	0.62	6	0.48	15	0.88	4
15	Site management	0.57	9	0.50	14	0.59	28
16	Construction methodology	0.57	9	0.51	13	0.68	16
17	Improper planning	0.51	12	0.50	10	0.76	9
18	Mistakes during construction	0.49	13	0.53	8	0.68	16
19	Inadequate contractor experiences	0.57	9	0.53	8	0.43	36
20	Quality of the materials	0.53	10	0.63	10	0.64	22
21	Shortage of materials	0.71	2	0.66	8	0.81	7
22	Schedule change	0.49	13	0.67	7	0.55	32

23	Contract management	0.53	9	0.61	12	0.73	10
24	Quality assurance or control	0.43	15	0.62	11	0.70	12
25	Use of the standard for of the contractor	0.45	14	0.54	15	0.57	30
26	Weather condition	0.64	4	0.55	14	0.58	29

4.5.4 Contractor and Consultants Views

4.5.4.1 Contractor's view

Table 4.5 shows that contractor's response towards causing unresolved claim in building construction projects in South Nation Nationality People Region University showed that financial problem inspection and weather condition (RII 0.82) are the first ranked factors causing unresolved claim in Wachemo University.

According to contractors' response, Financial problem inspection that are related to contractors rises from mismanagement of financial resources in such a way that diverting the finance that was generated by one project to other project which they are running or other than internal asphalt road projects in University. In addition to payments of completed work, disruptions of the construction are ranked at second, with RII 0.70.

Obviously, financial constraints by the client to furnish payments of completed work and this can happen due to inadequate timely budget allocation versus contractor's plan, as the execution of projects run over annual allotted budget. Slow decisions making for by the owner and Delay to deliver the site (right time problems) are seen to the third unresolved claim causes by contractors (RII 0.64). Delay and design change with RII 0.64 and "suspension work by owner or contractors" RII of 0.63 found to be were fourth and fifth ranked causes respectively. Slow decision making by client was unresponsiveness to the decision seeking issues of the project. Most project site in Wachemo University around suffers from weather condition of prolonged rainy season, contributing to claim in building construction projects.

4.1.1.2 Consultant's view

Consultants also revealed that delay, and suspensions of the work by owner or contractors are among the top unresolved claim causing factors, with RII 0.76. was ranked first by consultants' respondents was also recognized as the first problem causing building construction and completion indicating the obstructions along the building construction has a significant role in setting back the construction activities. In addition, design change, quality performance and poor communication

and coordination that are related to constructors are found to be the main factor in causing unresolved claim. According to the consultant's written response, contractors change the quality of the construction that was didn't documented at the agreement of the contract time.

The second factor that causes unresolved claim on building construction projects in SNNPR pertinent to Wachemo University building construction projects was "Quality performance" with RII 0.74. Thirdly, mistakes during construction and Quality of the materials, with RII 0.73 are also referred as the factors to cause unresolved claim. The mistake during construction was directly related to the contractors, as Quality of the materials was the main inputs for construction activities for contractors that quality finishes the work

The research revealed that discrepancy between contracts documents lead to unresolved claim in timely construction completion of building construction projects. Respondent's written response also showed that the discrepancy between unit of measures of items and quantity differences in some contract documents made inconvenience in timely accomplishment of building construction projects.

Consultants reinforced those factors of causes of unresolved claim that were listed as top by client's such as delay was the main problem in contributing a great share of cause of unresolved claim. Use of the standard for the contractor and site management are among the least factors to cause unresolved claim.

4.5.5 Causes of the UC in Worabe University

Table 4.7 of the worabe university both consultants and contractors views and findings shows that average ranked causes were the main causes on the Worabe University unresolved claims were:

- **Finance problem inspection;** as the factor that causes unresolved claims with a relative important index of 0.871. This factor also ranked first by average ranking. Different sources and discussions made with the Worabe project office and contractors also confirmed finance problem inspection was the prominent factor in causing building construction completion time in Worabe University. This finance problem inspection was the main factor for unresolved claims in Worabe University that indicated from the RII for both consultants and contractors the finance problem inspection was the first cause of the unresolved claims by the financing problem based on scheduled payments.

- **poor communication and coordination;** this next for the cause of unresolved claims in the Worabe University with the relative important index of 0.857, this poor communication affects the construction's lack of communicating with each other and who didn't achieve the objective of the projects and each of the construction parties. Poor communication in building construction projects is a major contributor to project unresolved claims. The delay of the flow of information, directing communication to the wrong person or area, unclear communication lead to confusion or wrong interpretation
- **Delay;** ranked as the third factor to cause unresolved claims in building construction projects having an RII value of 0.842, from the finding one of the most causes of the unresolved claim was delay it indicated that the completion problems were based on the scheduled manner.
- **Finance and payments for completed work;** was ranked with the relative important index 0.8 can be mentioned as the fourth level. From the finding of this university was the problem of the financing for the completed work was another cause for the unresolved claims. These all finding factors of causes were among the top that contributes to raising an unresolved claim in building construction project at Worabe University.

Table 4.7 Causes of Unresolved Claim in Worabe University

No	Causes of Unresolved claim	Contractor view		Consultant views		Average RII	Rank
		RII	Rank	RII	Rank		
1	Discrepancies between contract and document	0.82	1	0.60	6	0.55	33
2	suspension work by owner or contractors	0.61	5	0.59	10	0.75	12
3	Delay	0.68	3	0.79	1	0.84	3
4	Design change	0.48	13	0.54	7	0.65	20
5	Disruption of construction	0.66	4	0.71	5	0.52	35
6	Quality performance	0.58	8	0.76	3	0.80	4
7	Delay to deliver the site (right time problems)	0.60	7	0.56	6	0.59	26
8	Poor communication and coordination	0.52	11	0.42	17	0.85	2
9	Finance and payments for the completed work	0.50	12	0.72	4	0.77	8
10	Slow decision making for by the owner	0.68	3	0.63	10	0.57	29
11	Poor contract documents	0.60	7	0.62	11	0.57	28
12	Extra Contractual	0.52	11	0.56	14	0.77	8
13	Ex gratia	0.56	9	0.49	16	0.54	34

14	Financial problem inspection	0.62	6	0.62	11	0.87	1
15	Site management	0.56	9	0.62	11	0.59	26
16	Construction methodology	0.56	9	0.65	9	0.45	36
17	Improper planning	0.50	12	0.63	10	0.56	30
18	Mistakes during construction	0.48	13	0.71	5	0.77	11
19	Inadequate contractor experiences	0.56	9	0.41	18	0.55	31
20	Quality of the materials	0.54	8	0.77	2	0.74	13
21	Shortage in materials	0.76	2	0.66	8	0.79	6
22	Schedule change	0.66	4	0.67	7	0.74	14
23	Contract management	0.54	10	0.61	12	0.67	25
24	Quality assurance or control	0.42	15	0.62	11	0.68	15
25	Use of the standard for of the contractor	0.44	14	0.54	15	0.80	5
26	Weather condition	0.44	14	0.55	14	0.62	22

4.5.6 Contractor and Consultants Views

4.5.6.1 Contractor's view

Table 4.7 shows that contractor's response towards causing unresolved claim in building construction projects in South Nation Nationality People Region University showed that discrepancies between contract and documents (RII 0.82) are the first ranked factors causing unresolved claim in Worabe University.

According to contractors' response, discrepancies between contract and documents that are related to contractors rise from mismatch of contract and document in such a way that bring the problems in the project. This document is very essential and important to do all projects work, and what and how to build the in the construction building structure. In addition to Shortage in material is ranked at second, with RII 0.76. This indicates that the continuing supply crisis has led to ever-rising costs and unavoidable and The lack of materials available added to the long lead times have inflated construction costs, which undoubtedly drives up the price of new build housing and all building projects. So by this case the shortage of the building materials cause the unresolved claims in construction projects.

Slow decisions making by the owner and Delay of the construction projects are the third unresolved claim causes by contractors (RII 0.68). Delay and Slow decisions making by the owner with RII 0.68 and "Disruption of construction and schedule change" with RII of 0.66 found to be were fourth ranked causes in the building construction projects in Worabe University. Disruption of

construction by client was not actively participating to complete the projects by the decision seeking issues of the project.

4.5.6.2 Consultant's view

Consultants also revealed that delay, was among the top unresolved claim causing factor, with RII 0.79. was ranked first by consultants' respondents was also recognized as the first problem causing building construction and completion indicating the obstructions along the building construction has a significant role in setting back the construction activities. In addition, quality performance and quality of the materials are related to constructors are found to be the main factors in causing unresolved claim. According to the consultant's written response, contractors change the quality of the construction that was didn't documented at the agreement of the contract time.

The second factor that causes unresolved claim on building construction projects in SNNPR pertinent to Worabe University building construction projects was "Quality of the materials" with RII 0.77. Thirdly, quality performance, with RII 0.75 is also referred as the factor to cause unresolved claim. The quality of materials during construction was directly related to the contractors, as Quality of the materials was the main inputs for construction activities for contractors that quality finishes the work.

The research revealed that quality performance and quality of the materials lead to unresolved claim because quality is not an independent function but is intermingled with operational and managerial strategies of building construction projects. Respondent's written response also showed that quality performance and quality of the materials accomplishment of building construction projects.

Consultants reinforced those factors of causes of unresolved claim that were listed as top by client's such as delay was the main problem in contributing a great share of cause of unresolved claim. Poor communication and coordination for the contractor and inadequate contractor experience are among the least factors to cause unresolved claim.

4.5.7 Causes of unresolved claim in Wolaita University

Table 4.8 below of the Wolaita University both consultants and contractors views shows that means average ranked causes were the main causes on the wolaita University unresolved claims:

- **Delay;** as the factor that causes unresolved claims with a relative important index of 0.857. This factor also ranked first by average ranking. Different sources and discussions made with the Wolaita project office and contractors also confirmed delay was the prominent factor in causing building construction completion time in Wolaita University. This delay was the main factor for unresolved claims in Worabe University that indicated from the RII for both consultants and contractors the delay was the first cause of the unresolved claims. This result showed from table 4.8 the cause of unresolved claims in Wolaita University. From these findings delay in construction projects is considered one of the most common causes of the multitude of negative effects on the projects and their participating parties. This paper aims to identify the unresolved claim causes in the building construction projects one of the most cause was a delay
- **Finance problem inspection,** this was the next cause followed the cause of delay of unresolved claim in the Wolaita University findings with the relative important index 0.81. The flow of the finance was the most important, monitor, and minimize extend of the time based on the finance and it was the lifeblood to the completion of the building construction project. The findings indicate that minimizing the financing inspection problems leads to cash flow was an important or essential element in delivering successful projects unless it causes an unresolved claim in building construction projects. The well-managed financing inspection was improve the project's completion scheduled manner or timely performance of the projects.
- **Shortage in materials;** was ranked as the third factor to cause unresolved claims in building construction projects having an RII value of 0.809 from the finding. Shortage of materials at the time of the study of this research, the suppliers couldn't meet the demand of the building construction projects. The materials transporting from the far away of the site because of nearly supplier didn't supply by different cases and higher demand of the materials.
- **Quality of the materials** was ranked with the relative important index 0.78 can be mentioned as the fourth level. This factor cause was among the top of that contributed to raising the unresolved claim in building construction projects at Wolaita University. The quality of the materials was another cause for the unresolved claim by cases of didn't meet the standard or contained defects. Here from the study, some materials have minor defects that can be repaired and other materials may have major defects that couldn't repair this like of the materials on the building cannot be used at all, this was from the interview. So the quality of the materials in the building is very important and necessary to achieve the objectives of the building construction projects.

Table 4.8 Causes of the Unresolved Claim in Wolaita University

No	Causes of Unresolved claim	Contractor view		Consultant views		Average RII	Rank
		RII	Rank	RII	Rank		
1	Discrepancies between contract and document	0.52	9	0.62	5	0.561	35
2	suspension work by owner or contractors	0.64	4	0.56	9	0.506	36
3	Delay	0.65	3	0.61	6	0.854	1
4	Design change	0.58	8	0.53	11	0.598	33
5	Disruption of construction	0.51	10	0.49	15	0.719	9
6	Quality performance	0.58	8	0.67	3	0.773	6
7	Delay to deliver the site (right time problems)	0.45	14	0.42	18	0.585	34
8	Poor communication and coordination	0.48	13	0.48	14	0.721	8
9	Finance and payments for the completed work	0.69	1	0.56	10	0.785	4
10	Slow decision making for by the owner	0.47	15	0.41	19	0.628	30
11	Poor contract documents	0.45	14	0.48	16	0.647	27
12	Extra Contractual	0.50	11	0.42	18	0.667	21
13	Ex gratia	0.52	9	0.41	20	0.729	9
14	Financial problem inspection	0.60	6	0.59	11	0.819	2
15	Site management	0.52	9	0.65	4	0.704	15
16	Construction methodology	0.52	9	0.65	9	0.685	19
17	Improper planning	0.44	16	0.63	10	0.647	27
18	Mistakes during construction	0.48	13	0.71	1	0.667	21
19	Inadequate contractor experiences	0.43	17	0.66	8	0.719	9
20	Quality of the materials	0.54	10	0.63	10	0.719	9
21	Shortage of materials	0.67	2	0.66	8	0.809	3
22	Schedule change	0.48	13	0.67	7	0.667	21
23	Contract management	0.51	10	0.61	12	0.647	27
24	Quality assurance or control	0.47	15	0.69	2	0.719	9
25	Use of the standard for of the contractor	0.45	14	0.56	10	0.657	24
26	Weather condition	0.41	19	0.61	6	0.695	17

4.5.8 Contractor and Consultants Views

4.5.8.1 Contractor's view

Table 4.8 shows that contractor's response towards causing unresolved claim in building construction projects in South Nation Nationality People Region University showed that Finance

and payments for the completed work (RII 0.69) are the first ranked factors causing unresolved claim in Wolaita University.

According to contractors' response, Finance and payments for the completed work that are related to contractors rise from project finance only one aspect of the general problem of corporate finance such a way that brings the delaying problems in the project. In essence, the project finance problem is to obtain funds to bridge the time between making expenditures and obtaining revenues and If numerous projects are considered and financed together, then the net cash flow requirements constitutes the corporate financing problem for capital investment to build the in the construction building structure. In addition to Shortage in material is ranked at second, with RII 0.67. This indicates that the continuing supply crisis has led to ever-rising costs and unavoidable and The lack of materials available added to the long lead times have inflated construction costs, which undoubtedly drives up the price of new build housing and all building projects. So by this case the shortage of the building materials cause the unresolved claims in construction projects.

Delay of the construction project is the third unresolved claim causes by contractors (RII 0.65). "Suspension work by owner" with RII of 0.64 found to be was fourth ranked causes in the building construction projects in Wolaita University. Suspension work by owner was compensating the contractor for actually performed prior to such suspension and costs incurred by the reason of the suspension of the works.

4.5.8.2 Consultant's view

Consultants also revealed that Mistakes during construction, was among the top unresolved claim causing factor, with RII 0.71. was ranked first by consultants' respondents was also recognized as the first problem causing building construction and completion indicating the obstructions along the building construction has a significant role in setting back the construction activities. In addition, Quality assurance or control are related to constructors are found to be the main factors in causing unresolved claim. According to the consultant's written response, contractors change the quality of the construction that was didn't documented at the agreement of the contract time.

The second factor that causes unresolved claim on building construction projects in SNNPR pertinent to Wolaita University building construction projects was " Quality assurance or control " with RII 0.69. Thirdly, quality performance, with RII 0.65 is also referred as the factor to cause unresolved claim. The quality of materials during construction was directly related to the

contractors, as Quality of the materials was the main inputs for construction activities for contractors that quality finishes the work.

The research revealed that quality performance and Quality assurance or control lead to unresolved claim because Quality control and assurance represent increasingly important concerns for project managers of building construction projects. Respondent's written response also showed that Defects or failures in constructed facilities can result in very large costs. Even with minor defects, re-construction may be required and facility operations impaired. Increased costs and delays are the result.

Consultants reinforced those factors of causes of unresolved claim that were listed as top by client's such as Mistakes during construction was the main problem in contributing a great share of cause of unresolved claim. Slow decision making for by the owner for the contractor and ex gratia are among the least factors to cause unresolved claim.

4.5.9 Causes of Unresolved Claim from Hawasa University

Table 4.9 shows below of the Hawasa university both consultants and contractors views shows that means average ranked causes was the main causes on the Hawasa University unresolved claims:

- **Quality of the materials;** as the factors that cause unresolved claims with relative important index 0.78. These factors also ranked first by average ranking. Different sources and discussions made with the Hawasa project office and contractors also confirmed Quality of the materials was the prominent factor in causing building construction completion time in Hawasa University. This quality of the materials was the main cause for an unresolved claim in Hawasa University that was indicated from the RII for both consultants and contractors. Quality of the materials in the building construction building projects was the necessarily focused case to achieve the objectives of the buildings.
- **finance and payments for completed work;** This again the next was the cause of unresolved claim in the Hawasa University finding with the relative important index 0.77, It shows that the financial related problems that cause the unresolved claim in construction projects mainly with reasonably. This finding indicates that late payment, poor cash flow, and insufficient finance, and market instability were the main causes in the part of the financial cause in this finding.

- **Delay;** was ranked as the third factor to cause unresolved claims in building construction projects having an RII value of 0.76, from this findings delay in construction projects is considered one of the most common causes in a multitude of negative effects on the projects and their participating parties. This paper aims to identify the unresolved claim causes in the building construction projects one of the most causes was a delay.
- **Shortage in materials;** was ranked with the relative important index 0.76 can be mentioned as the fourth level. As the findings of this research were one of the unresolved claims in building construction was a shortage of the materials has been well known in the building construction projects for some time and is also known as one of the main sources of the construction. In this case in Ethiopia construction is currently under considerable pressure due to the internal conflict or sanction of the country brought the shortage of the materials and combination of the different cases that make the shortage of the materials, this made the price change in the construction. These causes were among the top that contribute to the raise unresolved claims in building construction projects at Hawasa University.

Table 4. 9 Causes of the Unresolved Claim in Hawasa University

No	Causes of Unresolved claim	Contractor view		Consultant views		Average RII	Rank
		RII	Rank	RII	Rank		
1	Discrepancies between contract and document	0.48	12	0.50	9	0.44	34
2	suspension work by owner or contractors	0.64	5	0.48	11	0.64	8
3	Delay	0.70	2	0.65	3	0.76	3
4	Design change	0.52	8	0.54	7	0.53	20
5	Disruption of construction	0.50	10	0.53	8	0.43	36
6	Quality performance	0.52	8	0.65	3	0.69	6
7	Delay to deliver the site (right time problems)	0.64	5	0.54	7	0.52	21
8	Poor communication and coordination	0.49	11	0.47	12	0.60	9
9	Finance and payments for the completed work	0.64	5	0.49	10	0.77	2
10	Slow decision making for by the owner	0.65	4	0.49	10	0.49	28
11	Poor contract documents	0.54	7	0.63	4	0.49	28
12	Extra Contractual	0.52	8	0.47	12	0.60	9
13	Ex gratia	0.51	9	0.53	8	0.46	33
14	Financial problem inspection	0.74	1	0.56	6	0.76	4

15	Site management	0.51	9	0.66	2	0.49	28
16	Construction methodology	0.41	16	0.59	5	0.42	35
17	Improper planning	0.46	14	0.63	10	0.50	25
18	Mistakes during construction	0.48	13	0.66	8	0.54	17
19	Inadequate contractor experiences	0.50	10	0.66	8	0.54	17
20	Quality of the materials	0.46	14	0.63	10	0.60	9
21	Shortage in materials	0.44	15	0.73	1	0.78	1
22	Schedule change	0.69	3	0.67	7	0.49	28
23	Contract management	0.50	10	0.61	12	0.56	25
24	Quality assurance or control	0.41	16	0.62	11	0.58	12
25	Use of the standard for of the contractor	0.48	13	0.54	15	0.54	17
26	Weather condition	0.52	8	0.55	14	0.52	21

4.5.10 Contractor and Consultants Views

4.5.10.1 Contractor's view

Table 4.9 shows that contractor's response towards causing unresolved claim in building construction projects in South Nation Nationality People Region University showed that financial problem inspection (RII 0.74) are the first ranked factors causing unresolved claim in Hawasa University.

Obviously, financial constraints by the client to flow payments for constructing work and this is very important for timely complete the construction based on the scheduled manner allocation, as the execution of projects run over annual allotted or under budget. Financial issues in construction projects lead to serious consequences that may retard development of a project and influence the overall economic condition of the University. Delay is seen to the second unresolved claim causes by contractors (RII 0.70) and Delay is one of the most serious problems in the construction projects and is also an important issue to the completion of a project. Schedule change with RII 0.69 and "slow decision by owner" RII of 0.65 found to be were third and fourth ranked causes respectively. Slow decision making by client was unresponsiveness to the decision seeking issues of the project.

4.5.10.2 Consultant's view

Consultants also revealed that shortage in materials is among the top unresolved claim causing factors, with RII 0.73. was ranked first by consultants' respondents was also recognized as the first problem causing building construction and completion indicating the obstructions along the

significant role in setting back the construction activity. In addition, site management, that is related to constructors are found to be the main factor in causing unresolved claim.

The second factor that causes unresolved claim on building construction projects in SNNPR pertinent to Hawasa University building construction projects was "site management" with RII 0.66. Thirdly, quality performance with RII 0.65 is also referred as the factors to cause unresolved claim. The quality performance was directly related to the contractors, as Quality of the materials was the main inputs for construction activities for contractors that quality finishes the work.

The research revealed that discrepancy between contracts documents lead to unresolved claim in timely construction completion of building construction projects. Respondent's written response also showed that the discrepancy between unit of measures of items and quantity differences in some contract documents made inconvenience in timely accomplishment of building construction projects.

Consultants reinforced those factors of causes of unresolved claim that were listed as top by client's such as shortage in materials was the main problem in contributing a great share of cause of unresolved claim. Use of the standard for the contractor and weather condition are among the least factors to cause unresolved claim.

4.5.11 General Findings and Conclusion from this Causes

Contractor and other relevant parties have caused a serious problem in the successful execution of construction projects in the university. On another hand, it causes several problems to the contractor and other participants. The finding of this problem is to determine the main causes of unresolved claim investigated result, improve and shows the basements to the prevent and know the causes of the unresolved claim in the building construction projects in university. The quality control was responsible by the main contractor side whereas the acceptance testing responsibility falls into the construction department offices of the university. The acceptance testing for this includes inspection, identification, and evaluation according to the results. This strong following was the strong output. The ultimate goal of any construction project is to provide construction consultants and contractors with information and any kind of the project's necessary inputs that can help acceptable outcomes or outputs more efficiently with the quality of the materials and, as result, achieve better quality outcomes of the projects. The flow of the materials of the construction projects is a very important thing to completing the projects as the agreement in the document. This

causes affected the construction running by the fluctuations of the material cost and this result was the condition of the country the shortage of materials causes unresolved claims.

4.6 The Effects of Unresolved Claim

4.6.1 Effects of the Unresolved Claim from Wachemo University

Literature review showed that there are seven potential effects of unresolved claims. Respondents were asked to rate these effects of building construction projects' unresolved claims in WCU. Accordingly, disputes and claims of the projects that were the most effects as the data indicates, the time overrun (extension of time), poor quality completed projects, were the dominating effects of the unresolved claim. as the third generation of the university, the community was didn't much understand the community service of the university for the community by this case the communication between with the community especially in the case of the land the building construction projects and the other one was the building of the teacher's residential house was very delay in construction (absence of the access to) and timely completion of building construction projects brought WCU to bad public relation.

Table 4.10 Effects of Unresolved Claims in Wachemo University

No	Effect of unresolved claim	Contractor view		Consultants view		Average RII	Rank
		RII	Rank	RII	Rank		
1	Poor quality completed project	0.48	4	0.67	1	0.67	3
2	Bad community relation	0.45	5	0.52	6	0.65	5
3	Budget over run	0.65	2	0.63	3	0.66	4
4	Time over run	0.64	3	0.65	2	0.81	2
5	Expert determination	0.43	7	0.42	7	0.41	7
6	Disputes and Claims	0.66	1	0.64	3	0.83	1
7	Total abandonment	0.47	6	0.53	4	0.42	6

4.6.2 Contractor and Consultant Views on the Effects

Here the effects of the unresolved claim were discussed based on the contractor and consultant views to show the each of their ideas deeply that was brought by unresolved claim effects.

4.6.2.1 Contractor views

This indicates that the effects were the results of the unresolved claim in the building construction projects make the construction projects aim or the objectives fail by the different cases. From here in the Wachemo University findings, disputes and claims was the firstly ranked effect with the RII 0.66. And the other one was budget overrun was the second ranked effects in this findings with RII 0.65 this effects happened in the building construction projects over budget run that was planned to complete the started projects and this was happen it is very difficult to complete on the budgeted cost. The other was time over run with the RII 0.64, from this finding the time over run was happened as the unresolved claim, the building construction time was already extended by the unresolved claim cases, at this time, and the time of the planned to complete the building construction projects was already out of planned.

The effects of the unresolved claim in this finding the top effects in the Wachemo University were disputes and claims, budget over run and time over run.

4.6.2.2 Consultants Views

By the consultants view shows that the effects of the unresolved claim was resulted by the miss of the some things in the building construction projects that was planned before the starting of the projects. And here indicated that the missed problem brought the unresolved claim in the building construction projects and these effects were again the consequences of the unresolved claim in the building construction projects in the Wachemo University. Then from the finding of in Wachemo University effects was poor quality completed projects with RII 0.67 this shows that the completed structure contain the defects and failures after the few times and time over run was the second ranked effects in this finding with RII 0.65 and this effects was the beyond the allocated time y the case of the unresolved claim in the building construction projects. The other effects in this University was budget over run with RII 0.63 and here that many time, time over run was brought the budget over run because of the those three quantity were associated many times by the triangular forms those are quality, time and cost.

In this finding in the Wachemo University the most top effects were poor quality completed projects, time over run and budget over run.

4.6.3 Effects of the UC in Wolkite University

Respondents were asked to rate these effects of building construction projects unresolved claim in Wolkite University. Accordingly, budget overrun was the project that the most affects as the data indication; Cost performance is one of the most basic criteria in building construction projects to measure the success of the projects. The time overrun (extension of time) is again the most basic one to the success of the objective of the building construction projects and, indicates the projects completed in a scheduled manner. And poor quality completed projects, this was another effect on the building construction projects and poor quality completed project was not acceptable in all parties and it was the dominating effects of the unresolved claim.

Table 4.11 Effects of Unresolved Claim in Wolkite University

No	Effect of unresolved claim	Contractor view		Consultants view		Average RII	Rank
		RII	Rank	RII	Rank		
1	Poor quality completed project	0.73	4	0.79	3	0.76	3
2	Bad community relation	0.63	5	0.49	7	0.65	5
3	Budget over run	0.80	2	0.86	1	0.88	1
4	Time over run	0.82	1	0.82	2	0.82	2
5	Expert determination	0.58	6	0.76	5	0.41	7
6	Disputes and Claims	0.76	3	0.67	4	0.75	4
7	Total abandonment	0.53	7	0.51	6	0.46	6

4.6.4 Contractor and Consultant Views on the Effects

Here the effects of the unresolved claim were discussed based on the contractor and consultant views to show the each of their ideas deeply that was brought by unresolved claim effects.

4.6.4.1 Contractor views

This indicates that the effects were the results of the unresolved claim in the building construction projects make the construction projects aim or the objectives fail by the different cases. From here in the Wolkite University findings, time over run was the firstly ranked effect with the RII 0.82 happened as the unresolved claim, the building construction time was already extended by the unresolved claim cases, at this time, and the time of the planned to complete the building construction projects was already out of planned.

And the other one was budget overrun was the second ranked effects in this findings with RII 0.80 this effects happened in the building construction projects over budget run that was planned to complete the started projects and this was happen it is very difficult to complete on the budgeted cost.

The effects of the unresolved claim in this finding the top effects in the Wolkite University were budget over run and time over run disputes and claims.

4.6.4.2 Consultants Views

By the consultants view shows that the effects of the unresolved claim was resulted by the miss of the some things in the building construction projects that was planned before the starting of the projects. And here indicated that the missed problem brought the unresolved claim in the building construction projects and these effects were again the consequences of the unresolved claim in the building construction projects in the Wolkite University. Then from the finding of in Wolkite University effects was budget over run with RII 0.86 and time over run was the second ranked effects in this finding with RII 0.82 and this effects was the beyond the allocated time by the case of the unresolved claim in the building construction projects. The other effect in this University was poor quality completed projects with RII 0.76.

In this finding in the Wolkite University the most top effects were budget over run, poor quality time over run and completed projects,.

4.6.5 Effects of the Unresolved Claim in Worabe University

There are seven potential effects indicated in table 4.12 below of unresolved claims. Respondents were asked to rate these effects of building construction projects unresolved claim in Worabe University. Accordingly, time overrun (extension of time) was the main effect that was investigated from questions of the effect on the unresolved claim in Worabe University and this effect was most influential on the construction projects to achieve the objectives of the building project and from this finding, any projects must run on the scheduled manner the project could achieve its objectives and, then another finding was budget overrun: this again the core of the construction projects and this budget overrun effect indicates that it brought a high amount of the effects on the building

construction projects and the others were poor quality completed projects and disputes and claims were the dominating effects of the unresolved claim.

Table 4.12 Effects for Unresolved Claim in Worabe University

No	Effect of unresolved claim	Contractor view		Consultants view		Average RII	Rank
		RII	Rank	RII	Rank		
1	Poor quality completed project	0.54	4	0.72	1	0.60	3
2	Bad community relation	0.51	6	0.64	4	0.55	5
3	Budget over run	0.69	2	0.71	2	0.70	2
4	Time over run	0.72	1	0.65	3	0.71	1
5	Expert determination	0.52	5	0.50	7	0.55	6
6	Disputes and Claims	0.63	3	0.61	5	0.57	4
7	Total abandonment	0.48	7	0.52	6	0.48	7

4.6.6 Contractor and Consultant Views on the Effects

Here the effects of the unresolved claim were discussed based on the contractor and consultant views to show the each of their ideas deeply that was brought by unresolved claim effects.

4.6.6.1 Contractor views

This indicates that the effects were the results of the unresolved claim in the building construction projects make the construction projects aim or the objectives fail by the different cases. From here in the Worabe University findings, time over run was the firstly ranked effect with the RII 0.72. And the other one was budget overrun was the second ranked effects in this findings with RII 0.69 this effects happened in the building construction projects over budget run that was planned to complete the started projects and this was happen it is very difficult to complete on the budgeted cost. The other was disputes and claim with the RII 0.63,

The effects of the unresolved claim in this finding by the contractor view, the top effects in the Worabe University were budget over run, time over run and disputes and claims.

4.6.6.2 Consultants Views

By the consultants view shows that the effects of the unresolved claim was resulted by the miss of the some things in the building construction projects that was planned before the starting of the

projects. And here indicated that the missed problem brought the unresolved claim in the building construction projects and these effects were again the consequences of the unresolved claim in the building construction projects in the Worabe University. Then from the finding of in Worabe University effects was poor quality completed projects with RII 0.72 this shows that the completed structure contain the defects and failures after the few times and budget over run was the second ranked effects in this finding with RII 0.71 and this effects was the beyond the allocated budget to complete the projects. The other effects in this University was time over run with RII 0.65 and here that many time, time over run was brought the budget over run because of the those three quantity were associated many times by the triangular forms those are quality, time and cost.

In this finding in the Worabe University by the consultants view, the most top effects were poor quality completed projects, budget over run and time over run.

4.6.7 Effects of the Unresolved Claim in Wolaita University

Literature review showed that there are some of the potential effects of the unresolved claim. Respondents were asked to rate these effects of building construction projects unresolved claim in Wolaita University. Accordingly, budget overrun, time overrun (extension of time), was the projects that had the most effects as the data indication, the disputes and claims, poor quality completed projects and were the dominating effects of the unresolved claim.

Table 4.13 Effects Unresolved Claims in Wolaita University

No	Effect of unresolved claim	Contractor view		Consultants view		Average RII	Rank
		RII	Rank	RII	Rank		
1	Poor quality completed project	0.61	4	0.69	3	0.77	4
2	Bad community relation	0.51	7	0.57	5	0.73	6
3	Budget over run	0.91	1	0.82	1	0.84	1
4	Time over run	0.81	2	0.81	2	0.81	2
5	Expert determination	0.57	5	0.54	6	0.69	7
6	Disputes and Claims	0.64	3	0.61	4	0.80	3
7	Total abandonment	0.54	6	0.51	7	0.74	5

4.6.8 Contractor and Consultant Views on the Effects

Here the effects of the unresolved claim were discussed based on the contractor and consultant views to show the each of their ideas deeply that was brought by unresolved claim effects.

4.6.8.1 Contractor views

This indicates that the effects were the results of the unresolved claim in the building construction projects make the construction projects aim or the objectives fail by the different cases. From here in the Wolaita University findings, budget over run was the firstly ranked effect with the RII 0.91. And the other one was time overrun was the second ranked effects in this findings with RII 0.65 this effects happened in the building construction projects over time run that was planned to complete the started projects and this was happen it is very difficult to complete on the allocated time. The other was disputes and claims with the RII 0.64. This makes the construction environment disputes and claims.

The effects of the unresolved claim in this finding the top effects in the Wolaita University were budget over run, time over run and disputes and claims,

4.6.8.2 Consultants Views

By the consultants view shows that the effects of the unresolved claim was resulted by the miss of the some things in the building construction projects that was planned before the starting of the projects. And here indicated that the missed problem brought the unresolved claim in the building construction projects and these effects were again the consequences of the unresolved claim in the building construction projects in the Wolaita University. Then from the finding of in Wolaita University effects was budget over run with RII 0.84 The other effects in this University was time over run was the second ranked effects in this finding with RII 0.81 and here that many time, time over run was brought the budget over run because of the those three quantity were associated many times by the triangular forms those are quality, time and cost. And the other ranked effect was disputes and claims with RII 0.80

In this finding in the Wolaita University the most top effects were budget over run, time over run and disputes and claims.

4.6.9 Effects of the UC in Hawasa University

There are seven potential effects of the unresolved claim that was reviewed. Respondents were asked to rate these effects of building construction projects unresolved claim in Hawasa University. Accordingly, budget overrun was firstly ranked and its effects were also high based study. Here the budget was overrun most of the time based on the many cases and by this cases, it was effected for the unresolved claim, time overrun (extension of time) this finding time overrun was a condition the actual work does not complete in an estimated time period as the findings from the Hawasa effects. Most of the construction projects experienced time overrun.

The other finding was poor quality completed projects, this Poor quality completed projects contains many poor quality in the buildings and its consequents were the defects of the projects. This effect for the increase the costs and the re-construction of the projects, and it made the accidents during the construction process.

Table 4.14 Effects of Unresolved Claim in Hawasa University

No	Effect of unresolved claim	Contractor view		Consultants view		Average RII	Rank
		RII	Rank	RII	Rank		
1	Poor quality completed project	0.71	4	0.85	2	0.82	3
2	Bad community relation	0.48	7	0.61	5	0.52	6
3	Budget over run	0.81	2	0.78	3	0.86	1
4	Time over run	0.90	1	0.86	1	0.85	2
5	Expert determination	0.51	6	0.47	7	0.49	7
6	Disputes and Claims	0.72	3	0.58	4	0.69	4
7	Total abandonment	0.56	5	0.56	6	0.56	5

4.6.10 Contractor and Consultant Views on the Effects

Here the effects of the unresolved claim were discussed based on the contractor and consultant views to show the each of their ideas deeply that was brought by unresolved claim effects.

4.6.10.1 Contractor views

This indicates that the effects were the results of the unresolved claim in the building construction projects make the construction projects aim or the objectives fail by the different cases. From here

in the Hawasa University findings, time over run was the firstly ranked effect with the RII 0.90. And the other one was budget overrun was the second ranked effects in this findings with RII 0.81 this effects happened in the building construction projects over budget run that was planned to complete the started projects and this was happen it is very difficult to complete on the budgeted cost. The other was disputes and claims with the RII 0.72, from this finding the time over run was happened as the unresolved claim, the building construction time was already extended by the unresolved claim cases, at this time, and the time of the planned to complete the building construction projects was already out of planned.

The effects of the unresolved claim in this finding the top effects by contractors view in the Hawasa University were time over run, budget over run and disputes claims.

4.6.10.2 Consultants Views

By the consultants view shows that the effects of the unresolved claim was resulted by the miss of the some things in the building construction projects that was planned before the starting of the projects. And here indicated that the missed problem brought the unresolved claim in the building construction projects and these effects were again the consequences of the unresolved claim in the building construction projects in the Hawasa University. Then from the findings in Hawasa University firstly ranked effects was budget over run with RII 0.86. and time over run was the second ranked effects in this finding with RII 0.85 and this effects was the beyond the allocated time the case of the un resolved claim in the building construction projects. The other effect in this University was poor quality completed projects with RII 0.82. Here the structure contains the defects and failures that was cause the unresolved claims in building construction projects.

In this finding by consultants view in the Hawasa University the most top effects were; time over run and budget over run and poor quality completed projects.

4.6.11 General Conclusion from this effects

Effects on the unresolved claim have been reason why contractors and consultants in University made obligation and implementing the contract successfully. The result of the study and findings from literature review and questioners and interviews shows that the source for the most effects on the building construction projects in the university was mainly time overrun, budget overrun, poor

quality completion and disputes and claims. This result indicates that in all university effects. This is important for the other time evaluating and observing this unresolved claim situation in building construction project key problems that was mentioned in the above lists. The results shows variation unresolved claims was ranked the highest effect of the unresolved claims due to budget overrun, time overrun, poor quality completion and claims and disputes.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study assesses unresolved claims in university building construction projects in the case of the south nation nationality and people region, which subsequently concluded based on the results of research as the following.

Following the literature review and the research data analyzed in the previous chapters, this fifth chapter summarizes the main findings and the emerging issues from the study. Based on these findings, a conclusion was drawn and some recommendations were forwarded as some possible actions that can help manage the emerging issues.

Based on the research findings or the research results identified by the different way the causes, most frequently occurred Unresolved claim, effects the unresolved claim in the selected south nation nationality and people region Universities identifying the ideas from the clients means that of the owner of the projects of the university construction office the projects cause that needed the attention to the other projects to know the cause and the contractors of the projects, the need of the selection of the most participants in the construction site based on the Relative Important Index (RII) order. And also for the unresolved claims in the universities based on the Relative Importance Index (RII) order are: delay, quality of the materials, financial section, and shortage of materials these all cause unresolved claims in building construction projects in selected universities. The finding of this problem is to determine the main causes of unresolved claim investigated result, improve and shows the basements to the prevent and know the causes of the unresolved claim in the building construction projects in university

- Respondents also forwarded the following unresolved claim-causing factors with an open-ended questionnaire, besides the ranking factors. These are: having more than one project at a time led the contractor to lose their capacity, which in turn led to an unresolved claim in projects, technical competency of the owner to administer the contract, and project managers, shortage of cash flow of the contractor (finance, human, water, materials), delay of the projects by many cases, quality of the materials, shortage of the materials weather

condition are highly emphasized. Poor communication between contractors and owner, lack of commitment of owner alleviate decision making procedure, forward alternative solution, and additional work order, suspension of the payments were among the main causes that contribute to unresolved claim according to the respondent's point of view.

- Effects of building construction unresolved claim in SNNPR in selected universities have been also been investigated in the same manner approximately the selected all university's effects were nearly the same and the results were calculated using RII. Hence time overrun and budget overrun are the two most dominant effects caused by unresolved claims in SNNPR selected universities building construction projects.

5.2 Recommendation

Based on the findings of the research, the following recommendations are forwarded which were expected from key stake holders of building construction projects in SNNPR selected universities building projects.

- The universities should make payments within the documented and based on the agreements this lead to the delay and the change to the unresolved claim of the projects.
- Owner and contractor should avoid suspension of the works that lead to additional time and this additional time was the time overrun and led to the unresolved claim.
- The client should minimize changes orders to avoid any time overrun and its consequences
- Appropriate use of the materials in the construction site to minimize the wastage of the materials because of minimizing the shortage of the materials
- Minimize the unresolved claim by communicating with each other.
- Training the minimization ways to the unresolved claim causing and the resolution uses for all the parties like negotiation, mediation, and adjudication.
- The effect of the unresolved claim was must be managed, those effects from this study were the most budget overrun and time overrun, for this manage everything causes these effects to minimize the time overrun and time overrun.
- To further research to be conducted the number of projects to be included in the sample and respondents should extend to different university sites of the projects and adequate time should be given for further investigation. And every university show willingness to give the information to the researchers

The following are recommended areas for further research in SNNPR in particular:

- I. Investigating the short resolution ways of the unresolved clam during each stage.
- II. Ways to avoid the unresolved claim in building construction projects in the SNNPR University.

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CONSTRUCTION ENGINEERING AND MANAGEMENT CHAIR

QUESTIONNAIRE SURVEY

DATE _____

SUBJECT: REQUEST TO RESPOND TO QUESTIONNAIRE FOR MCS THESIS WORK

DEAR RESPONDENTS

This questionnaire was prepared to obtain information from key informants with semi-structured questions. The information was required for the academic research entitled “unresolved” claim in SNNPR universities on the building Construction Projects.

Unresolved claims in SNNPR universities on building Construction Projects pertinent was going to be conducted with in construction management. The main objective of this research was to investigate that lead to unresolved claims. Your response, in this regard, is highly valuable and contributory to the outcome of the research. All feedback will be kept strictly confidential, and will be utilized only for this academic research purpose.

The questionnaire is divided into three parts. The first part of the questionnaire introduces the participants to the origin, the purpose of the survey. The second part includes the list of the identified causes and most frequent that might affect to resolve the claim on the construction projects. The respondents are asked to assess the degree of impact of the unresolved claim causes. At the end of the second part of the questionnaire, an open-ended question is provided to list any other unresolved factors in a specified region to be listed out other comments for improvement, suggestions or recommendations to prevent the unresolved claim, if any.

Thank you for your positive respond of information,

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Advisor Bien Maunahan (Assistant prof)
Co-advisor Abebe Eshetu (Engr)

TITLE: INVESTIGATION ON THE UNRESOLVED CLAIMS IN BUILDING
CONSTRUCTION PROJECTS; IN CASE OF SOUTH NATION NATIONALITY AND PEOPLE
REGION UNIVERSITY

OBJECTIVES OF THE STUDY

General objective

The general objective of this thesis is to investigate unresolved claims in university building construction projects.

Specific Objectives

To achieve the main aims of the research, the following specific objectives have been identified

1. To identify the unresolved claims in the university building projects
2. To evaluate the unresolved claims that are most frequently occurred in the university building projects
3. To determine the causes and effects of unresolved claims in the university building projects

APPENDIX: I QUESTIONNAIRE SURVEY FOR RESEARCH

(For Client, Contractors and Consultants)

PART I PERSONAL AND ORGANIZATIONAL INFORMATION

CHOOSE THE APPROPRIATE CHOICE BY PUTTING (√)

1. Name of Organization: -----

Responsibility of State respondent

Client

Contractor

Consultant

2. What is your educational level?

Diploma

bachelor degree

Master's degree

Doctorates degree

3. Respondent's designation:

Owner of organization/Managing

director Process Owner

contract Administration

4. Resident Engineer

Site Supervisor/Counterpart

other_____

5. Relevant working experience (years):

1-5Yrs

6-10Yrs

11-15Yrs

>15Yrs

6. Specialization of your organization/company

Building, Class	Roads, Class	Water & Sewerage,	Class
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

7. Type of project that you have recently worked.

University buildings,	Medical buildings (Hospitals)	Infrastructure	Residential buildings
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Others, please specify	<input type="text"/>		

8. Your recently project price

Below US\$ 0.5 Million	US\$ 0.5 Million to less than US\$1Million
<input type="text"/>	<input type="text"/>
US\$ 1Million- less than US\$3 Million	US\$ 3 Million - less than US\$5Million
<input type="text"/>	<input type="text"/>
More than US\$ 5Million	<input type="text"/>

9. A project you are involved is:

Completed	currently under construction
<input type="text"/>	<input type="text"/>

10. Concerning the completed projects, did the project you involved in before:

Completed project was a claim?	Resolved claim?	Unresolved claim?
<input type="text"/>	<input type="text"/>	<input type="text"/>

11. If your answer is for question No 2 is unresolved: for how much day it unresolved?

< 50 days	50-150days	150-250days	250-350days	>350days
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Did you think these unresolved claims have an impact on the total projects?

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

13. If your answer is for Question No 12 is yes how much percent does unresolved claims affects the projects?

<25%	25%-50%	50%-75%	>75%
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. To what extent do you have the knowledge about the unresolved claims?

Very Low	Low	average	high	very high
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. What do you think the motive behind the unresolved claim in the building construction projects in university?

Unavailable of the researches that done on the unresolved claims	<input type="checkbox"/>
Dis agreement to resolve claims	<input type="checkbox"/>
Ignorance of resolve claims	<input type="checkbox"/>
Absence of the to resolve the claim	<input type="checkbox"/>

16. To what degree do you think that unresolved claim to come resolved and agreement is benefit for the building construction project in the university?

Strongly disagree	Dis agree	Neutral	Agree	strongly agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PARII. During the period of construction, which causes and most frequents you think contribute to unresolved claim in the project?

Please indicate the significance of each cause by ticking the appropriate boxes.

Please choose the appropriate choice by putting (√).

E.S. = Extremely Significant (5): V.S. = Very Significant (4): M.S. = Moderately Significant (3): S.S. = Slightly Significant (2): N.S. = Not Significant (1)

No	unresolved claim	Causes for unresolved					Most frequent				
		E.S	V.S	M.S	S.S	N.S	E.S	V.S	M.S	S.S	N.S
		(5)	(4)	(3)	(2)	(1)	(5)	(4)	(3)	(2)	(1)
A. PROJECT RELATED											
1	Delay										
2	Discrepancies between contract document										
3	Suspension work by owner or contractor										
4	Deign change										

B. OWNER RELATED

No	Unresolved claims	Causes for unresolved					Most frequent				
		E.S	V.S	M.S	S.S	N.S	E.S	V.S	M.S	S.S	N.S
		(5)	(4)	(3)	(2)	(1)	(5)	(4)	(3)	(2)	(1)
1	Delay to deliver the site (right time problem)										
2	Poor communication and coordination										
3	Finance and payments for completed work										
4	Slow decision – making for by owner										

5	Poor contact management											
6	Disruption of construction											
C	CONTRACTOR											
1	Financial problems inspections											
2	Site management											
3	Construction methodology											
4	Improper planning											
5	Mistakes during constructions											
6	Inadequate contractor experience											
7	Quality of the materials											
8	Shortage in materials											
9	Use of standard form of contract											
D	CONSULTANT											
1	Contract management											
2	Schedule change											
3	Ex gratia											
4	Quality assurance or control											
5	Use of standard form of contract											
6	Extra Contractual											
E	EXETERNAL FACTORS											

1	Weather condition										

F	EFFECTS FOR THE UNRESOLVED CLAIMS	E.S (5)	V.S (4)	M.S (3)	S.S (2)	N.S (1)	Additional Comments / if any
1	Poor quality completed projects						
2	Bad community relations in university						
3	Budget overrun						
4	Time overrun						
5	Expert determination						
7	Disputes and claim						
8	Total abundant						

9. If you have suggestion concerning unresolved claim in building construction projects particularly, on building construction projects in universities to south nation nationality and people region projects. You are kindly requested to write here them briefly.

APPENDIX II: INTERVIEW QUESTIONS

PART III: INTERVIEW QUESTIONS

Project Name: _____

Name of the organization: _____

Respondent's Name (optional): _____

Position/role: _____

Date and time: _____

The interviewee is a member of the organizations and previously involved or still involved in the project.

Introduction

Good morning/Good afternoon Mr. /Ms. (Name of respondent) my name is Addis Zeleke. Before starting my question, I would like to thank you for your voluntary participation in this research. This semi-closed interview, which is forwarded to the contractor and consultants who are involved in the building construction project, is part of this academic research that aims **to investigate on unresolved claims in building construction projects in the case of SNNPR University**. With this survey, I would like to investigate unresolved claims in university on building construction projects in order to determine causes and effects, identify unresolved claim, evaluate the most frequent unresolved claim and determine ways of minimizing unresolved claims, on building construction projects. In the long term, this research helps the stakeholders to reduce project time, to reduce project cost, to reduce all unnecessary things of construction projects and maximize the value of projects. All information you provide will be kept in strict confidentiality and only used for academic research. Please feel free to answer the questions with what you know and what you think in your mind. I value your participation and thank you for the commitment of time, energy, and effort.

Recording Confidentiality

I would like to ask your permission to record our conversation. The reasons why I want to record the conversations, in order to get full details about these interviews, which will help me for the analysis phase. Other than that, it will also be more comfortable for us to discuss because I can focus much more on the conversation, not on writing too much about the details of our conversation. The content of this interview is confidential. It will not be disclosed to anyone without your permission. After the research, everything (recordings, notes, etc.) will be discarded.

Additionally, my supervisor will be the only access to the analyzed information.

The following questions are about unresolved claims clouding its determination, identification, evaluation and causes and effects of unresolved claims that are adopted from various kind of literature.

1. Which type of the unresolved claim caused many time in your projects and in other projects as a project stalk holder -----?
2. Does your organization have the evaluation method for the unresolved claims as part of the strategic plan?
3. Does the organization face many time unresolved claim manly which type?
4. What are the most frequently occurring unresolved claims in your project?
5. Does the organization understand the benefits of minimizing the unresolved claims in the building construction?
6. What are the causes that maximize unresolved claim?

Thank you for your willingness!!!!

Appendix III: Results of Likert Five Point Scale Data and Its Relative Importance Index of Respondents

Investigation on Unresolved Claims in Building Construction Projects: A Case of South Nations Nationality and People Region University

Most Frequently Occurred Unresolved Claim in Building Construction Projects by Respondents in Wachemo University

No	Questions for most frequently occurred	$R_{II} = \frac{\sum W}{H * N}$	Rank
1	Discrepancies between contract and document	0.425	36
2	suspension work by owner or contractors	0.440	35
3	Delay	0.750	2
4	Design change	0.520	31
5	Disruption of construction	0.470	34
6	Quality performance	0.595	13
7	Delay to deliver the site (right time problems)	0.570	25
8	Poor communication and coordination	0.595	13
9	Finance and payments for the completed work	0.635	10
10	Slow decision making for by the owner	0.585	17
11	Poor contract documents	0.645	8
14	Financial problem inspection	0.715	4
15	Site management	0.565	27
16	Construction methodology	0.690	6
17	Improper planning	0.630	11
18	Mistakes during construction	0.495	32
19	Inadequate contractor experiences	0.575	23
20	Quality of the materials	0.765	1
21	Shortage in materials	0.725	3
22	Contract management	0.645	8
23	Quality assurance or control	0.580	22
24	Ex gratia	0.585	17
25	Use of the standard for of the contractor	0.595	13
26	Weather condition	0.710	5

Most Frequently Occurred Unresolved Claim in Building Construction Projects by Respondents in
Wolkite University

No	Questions for most frequently occurred	$RII = \frac{\sum W}{(H * N)}$	Rank
1	Discrepancies between contract and document	0.590	17
2	suspension work by owner or contractors	0.440	36
3	Delay	0.855	1
4	Design change	0.570	21
5	Disruption of construction	0.540	30
6	Quality performance	0.595	14
7	Delay to deliver the site (right time problems)	0.545	29
8	Poor communication and coordination	0.615	11
9	Finance and payments for the completed work	0.775	3
10	Slow decision making for by the owner	0.585	19
11	Poor contract documents	0.470	35
12	Ex gratia	0.555	27
13	Extra contractual	0.650	8
14	Financial problem inspection	0.815	2
15	Site management	0.590	17
16	Construction methodology	0.690	7
17	Improper planning	0.630	10
18	Mistakes during construction	0.495	34
19	Inadequate contractor experiences	0.550	28
20	Quality of the materials	0.765	4
21	Shortage n materials	0.725	6
22	Contract management	0.570	21
23	Quality assurances or control	0.530	31
24	Use of the standard for of the contractor	0.610	12
25	Lack of communication between parties	0.595	14
26	Weather condition	0.735	5

Most Frequently Occurred Unresolved Claim in Building Construction Projects by Respondents in
Worabe University

No	Questions for most frequently occurred	$R_{II} = \frac{\sum W_i}{H * N}$	Rank
1	Discrepancies between contract and document	0.596	12
2	suspension work by owner or contractors	0.486	34
3	Delay	0.871	1
4	Design change	0.519	27
5	Disruption	0.527	23
6	Quality performance	0.769	3
7	Delay to deliver the site (right time problems)	0.571	18
8	Poor communication and coordination	0.598	10
9	Finance and payments for the completed work	0.646	4
10	Slow decision making for by the owner	0.581	10
11	Poor contract management		
12	Ex gratia	0.657	4
13	Extra contractual	0.607	6
14	Financial problem inspection	0.773	2
15	Site management	0.596	5
16	Construction methodology	0.629	3
17	improper planning	0.557	5
18	Mistakes during construction	0.486	18
19	Quality of the materials	0.600	3
20	Shortage in materials	0.654	2
21	Contract management	0.557	6
22	Quality assurances or control	0.519	6
23	Use of the standard for of the contractor	0.535	3
26	Weather condition	0.827	1

Most Frequently Occurred Unresolved Claim in Building Construction Projects by Respondents in Wolaita University

No	Questions for unresolved claim	$RII = \sum W / (H * N)$	Rank
1	Discrepancies between contract and document	0.504	35
2	suspension work by owner or contractors	0.481	36
3	Delay	0.781	6
4	Design change	0.558	31
5	Disruption	0.631	14
6	Quality performance	0.867	1
7	Delay to deliver the site (right time problems)	0.538	31
8	Poor communication and coordination	0.667	9
9	Finance and payments for the completed work	0.815	3
10	Slow decision making for by the owner	0.548	25
11	Poor contract documents	0.605	18
12	Ex gratia	0.652	20
13	Extra contractual	0.759	5
14	Financial problem inspection	0.598	25
15	Site management	0.600	24
16	Construction methodology	0.615	18
17	improper planning	0.569	30
18	Mistakes during construction	0.657	11
19	Inadequate contractor experiences	0.679	7
20	Quality of the materials	0.854	2
21	Shortage n materials	0.743	4
22	Contract management	0.657	11
23	Quality assurances or control	0.573	29
25	Use of the standard for of the contractor	0.581	33
26	Weather condition	0.679	7

APPENDEX IV: Reliability Test by Chronbaches coefficient

Reliability Test by
Chronbaches coefficient

RESPONDENTS

QUESTIONS	RESPONDENTS															VARI OF IT
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	
Q1	2	3	2	4	2	2	2	5	3	2	5	1	1	1	2	
Q2	4	4	2	5	4	3	1	3	3	4	2	2	4	2	4	
Q3	2	2	4	2	4	5	4	2	2	5	3	3	5	4	2	
Q4	2	3	4	3	5	2	1	2	3	1	2	2	2	1	3	
Q5	2	4	3	4	2	4	2	2	2	2	5	3	3	2	3	
Q6	2	5	4	1	5	4	1	5	4	3	4	2	2	2	2	
Q7	1	3	3	2	5	2	2	2	4	4	3	4	4	1	4	
Q8	1	1	2	2	4	3	2	3	3	3	3	2	3	2	2	
Q9	2	4	2	2	3	1	3	1	2	1	4	5	2	3	3	
Q10	2	2	3	3	2	3	5	3	4	3	2	4	3	2	3	
Q11	2	5	3	1	3	1	4	2	3	2	4	2	2	4	2	
Q12	2	4	3	5	3	3	3	4	3	3	2	3	2	2	4	
Q13	2	3	2	4	2	3	2	3	2	3	5	1	4	3	2	
Q14	1	1	2	4	1	3	3	2	4	3	4	2	3	2	3	
Q15	3	2	3	1	1	4	3	3	3	2	2	3	2	4	2	
Q16	2	3	5	4	1	2	2	1	2	3	3	2	4	2	4	
Q17	2	4	3	2	4	4	3	4	4	3	1	1	2	3	2	
Q18	2	4	1	2	5	2	2	1	3	2	2	4	3	2	3	
Q19	2	3	2	3	5	3	5	2	2	3	1	2	2	4	2	
Q20	2	3	5	4	1	4	4	1	4	2	2	3	4	2	4	
Q21	1	5	3	4	5	2	5	4	3	2	3	2	2	3	2	
Q22	1	3	3	4	4	3	4	2	2	2	2	4	3	2	4	
Q23	1	2	2	3	4	1	3	3	4	2	4	2	2	4	2	
Q24	2	2	4	3	4	5	4	1	3	3	4	3	4	2	1	
Q25	2	3	3	3	3	3	3	4	2	2	4	2	2	3	4	
Q26	1	5	2	3	3	4	4	3	4	4	4	3	3	2	2	
TOTAL	66	109	109	100	110	100	102	97	110	99	101	88	95	93	92	