Contract claim Analysis on Building Construction Project in Addis Ababa: A case study at Yeka Sub City

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Abstract— Contract claims are an inevitable fact of life in the construction industry. Contract claims are one of the problems that construction project may face. Claims might cause many affects such as payment delay, extension of time and work suspension. The main aim of this research was analysis of contract claim on building construction project in Addis Ababa, Yeka Sub City by: investigating the causes of contract claim and determining the factors to be considered in the selection of appropriate methodology for contract claim analysis. Literature and survey based studies were made to provide an overview of the different contribution effects of contract claim analysis on building construction project at the selected site. Interviews were also conducted with the three parties which have direct involvement in construction activities to get concrete ideas on the subject matter. Total of 75 questionnaires was distributed to respondents in Addis Ababa, Yeka Sub City building construction projects. Out of these 12 for client's representatives, 35 for contractors representatives, 20 for consultants representatives and 8 for others companies in order to identify claim causes that occurred in study area. The quantitative data were analyzed using Excel and SPSS version 20 software, while qualitative data was analyzed by content analysis.

The Main factors of contact claim cause in study area were identified. These factors further categorized in to four groups as; client related, contract document related, contractor related and consultant related factors. While types of delays, knowing the strength and weakness of the project (project complexity) and conditions of the contract were identified as the factor to be consider in the selection of appropriate methodology for contract claim analysis. It is recommended that the three main contracting parties (Owner, Contractor and Consultant) have responsibility for the effective accomplishment of the project. So each party would take part their homework on time by developing technical knowledge about the effects of Contract claims on the progressive construction projects.

Index Terms— causes, claim analysis, Contract claims, construction project and risks**.**

1 INTRODUCTION

The first thing to know about construction claims analysis is that there are typically multiple concurrent delays on large projects. The claim analysis may not pick only the delay that is the most favorable to the party submitting the claim. The analysis must consider the impact of all concurrent delays (Girmay, 2003).

Claims are one of the problems that construction project may face. Claims might lead to many consequences such as payment delay, extension of time and work suspension. Construction claims require both legal procedures and engineering abilities. It is possible to find professionals with these abilities; however, this is not enough to win a dispute. A good execution control system that permits the registration of all deviations from the original plans must be implemented.

Construction claims should be made when there is an amount of money that has not been paid through the common, accepted procedures (Liu, 2009). Most of construction projects in the country end up of claims, but these claims are not treated properly. An improper treatment of claims may lead to dispute which cause both direct and indirect impacts to the client, contractor and consultant.

The direct impact was extra overhead cost, material cost and labor cost to the contractor while indirect impact are loss of trust and affect the disruption of economic activities, social, educational, delay in regional development.

Currently in Addis old buildings are being destroyed with no sense of the past and history to be replaced with new high rises. There are different boundary problems raised because of this the project was delayed as compared to original contract period (UN report). The study area in the construction project problems would be investigated the causes of delay such as claims which are passed through dispute proceeding claims. In order to handle such dispute there must be properly rectification of claim analysis used by concerned parties. This claim analysis will not be briefed yet in the concerned body of the construction project.Construction delays and their claims are an integral part of construction. A delay claim involves construction that was not completed as scheduled (Yates and Epstein, 2006). When dealing with a delay claim, one must first determine if it is excusable, compensable, a force majeure, or a concurrent delay (Matt DeVries, 2010).

So the objective of the study was to analyze contract claims practice on Building construction projects in Addis Ababa Yeka Sub City. It was attained by investigate the reasons why contract claims evolve on building construction projects in Yeka Sub City and determining the factors to be considered in selection of appropriate methodology for contract claim analysis.

2 METHODOLOGY OF THE STUDY

During data collection the study was conducted by desk study, survey and questioners were distributed and interview about the projects was conducted. An investigation on the existing building project claims practice was carried out, with the view of discovering whether it matches to what has been discussed in the literature. And the collected questionnaires were analyzed up to end of January, 2016 by using Excel and SPSS v20.

2.1 study area

The Area chosen were large scale with long histories of construction building projects found in Addis Ababa Yeka sub city .The organizations were assured that the purpose of the study is purely for academic purpose i.e. to conduct comprehensive study on claims Analysis in the industry, rather than to check mistakes or misconducts. The interview for in depth discussions were undertaken with selected professionals at top managerial level in their respective organizations.

The questionnaires were designed in three Parts to study the awareness and attitude of the three major construction parties, i.e. Client, contractors and, consultants, towards construction claims Analysis. A copy of each questionnaire is included in the appendix of this thesis.

The study area i.e yeka sub city is one of the third largest (next to Akaki Kality and Bole) sub city in the capital city of Addis Ababa. According to the 2007 Census, Addis Ababa City Administration has a total population of 2,738.248 among this the number of female population is equal to 1,433,730 (52%) and the remaining are males is 1,304,518(48%). Out of this Yeka sub city had a population of 346,484.It was found latitude of 9.037291 and longitude of 38.833945. General Addis Ababa, Based on the 2007 Population and Housing Census Report the city (A.A) was divided into 10 sub cities and 99 Kebeles.)(Bureau, April, 2010).

Table 1
Level of specialization of the respondents

	Distribution of Respondent	
Level of Education	Frequency	Percentage
Post Graduate	3	5%
Bsc Graduates	50	83.3%
Advance diploma	7	11.67%
Total	60	100%

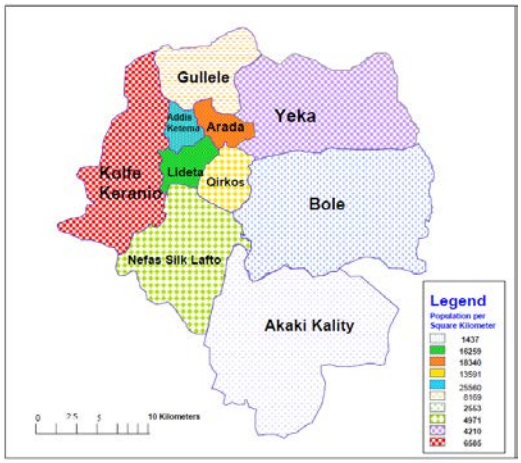

Figure 1 Maps of Addis Ababa with its Sub City division

2.2 Method of Data Analysis

After review of different relevant literatures Data collection tools were adapted and used. It is free from any bias and it included in the output. This aspect covered activities related to the reason that claim develops on building construction, Major exposures to loss on buildings construction ,basic risk in the building construction and factor considered in the selection of appropriate methodology for claim Analysis. It employed the five point type Likert ordinal scale to measure level of usage by responding firms from "Very low involvement" to "Very high involvement" that is, 1= Very low involvement, 2= low involvement,, 3= Medium involvement, 4= high involvement

, 5= Very high involvement. All the collected information from the survey were checked and verified for the correctness by principal investigator. The data were subjected to statistical analysis for further checking using the software called SPSS version 20.

3 RESULTS AND DISCUSSION

3.1 Causes of contract claim in Addis Ababa, Yeka Sub City Building construction

The objectives of this research project were to analyze contract claims on Building construction project in Addis Ababa, Yeka Sub City. For this study, the sample population composed of professionals from different categories i.e. contractors, consultants& clients which were and still are engaged in building construction projects within the study area. The professional mix includes project managers, site engineers, project coordinators and resident engineers.

3.1.1 cleint related causes of contract claim in building construction

As it was stated on on table 2, the causes were ranked based their RII factor. Accordingly, the top three causes were: Payment delays for contractor (RII=0.820); Inadequate construction details (RII=0.780); Sequence of work directed by owner (RII=0.640). Payment delay for contractor has been ranked by the client respondents in the first position. Payment delays for contractor leads to very high involvement for reasons of claim development on building construction.

Article 2610 of the Civil Code of Ethiopia defines a construction contract as "a contract of work and labor is a contract whereby one a party, the contractor, undertakes to produce a given result, under his own responsibility, in consideration of a remuneration that the other party, the client, undertakes to pay him."

Table 2
Claint related causes

Contract claims evolvement causes related to Client	*Mean*	*RII*	*Rank*
Payment Delays for contractor	4.100	0.820	1
Inadequate construction details.	3.900	0.780	2
Sequence of work directed by owner	3.200	0.640	3
Funding limitation	3.100	0.620	4
Irrelevant milestone dates in documents	3.000	0.600	5
Lack of expertise	2.800	0.560	7
Failure to obtain permits	2.800	0.560	7
Slow change order processing	2.778	0.556	8
Long line of authority in project organization	2.700	0.540	9

Article 2876 goes further to elaborate that a contract whereby one of the parties undertakes to deliver to the other party a house, a flat or another building which does not yet exist, is a contract of work and labor relating to immovable. From this, it can be understood that a construction contract, whether in our country or in any other country, covers the relationship between the parties to the contract.

3.1.2 Contract document related causes of claim

According to the New South Wales Government (NSW) (2005), Contract document should have atleast ten stages:

- Identify and quantify a service demand for a genuine delivery need in an outcomes strategy.
- Identify service delivery options for meeting the need with stakeholder and preliminary risk analysis with their responsibility.
- Justify proposed option with option evaluation, some financial/economic appraisal and strategy report.
- Define preferred project with brief, risk/benefits analysis, business case and authority to proceed.
- Define/select project procurement strategy with brief, risk/benefits analysis and risk management plan, initial methodology report and later strategy report.
- Define project specification with tender documents, estimate and tender evaluation plan for each contract.
- Call/close evaluate tenders for each contract and recommend/approve/engage best project suppliers.
- Project implementation with supplier(s) carrying out contract work and asset delivery
- Asset operation/maintenance and then disposal after supplier(s) completes asset delivery.
- Project evaluation during/after delivery comparing outcomes sought and achieved, and using lessons learnt.

For the context of this study the causes of claim related to contract document were samurized on table 3.

The top there ranked causes are: Leverage for e forcement of schedule specification (RII=0.787) and Power of individual party vaguely specified (RII=0.787) was the first ranked; Permitting responsibilities vague (RII=0.753) was the second while, Coordination inadequately specified (RII= 0.733) was the fourth ranked.

Table 3

Contract document related causes

contract document related causes	*Mean*	*RII*	*Rank*
Leverage for enforcement of schedule specification	3.933	0.787	1
Power of individual party vaguely specified	3.933	0.787	1
Permitting responsibilities vague	3.767	0.753	3
Coordination inadequately specified	3.667	0.733	4
Drawings not indicating work interfaces	3.633	0.727	5
Milestone dates and interface clauses unreasonable.	3.267	0.653	6
Inadequate scheduling clauses.	3.200	0.641	7

3.1.3 Contractor related causes

Aibinu and Jagboro (2002) identified top five causes of claim in Nigerian construction industry as:

1) Noncompliance with specifications
2) Non adherence to site instructions
3) None updating of schedules
4) Project coordination problems
5) Failure to meet milestone dates

For the context of this study, the top three ranked contractor related causes of claim was summarized on table 4 based on their RII values. Accordingly, Variation work (RII=0.827) was the first ranked; Non adherence to site instructions (RII=0.800) was the second while Project coordination problems (RII=0.793) was the third one.

Table 4

Contractor related causes of claim

Contractor related causes	*Mean*	*RII*	*Rank*
Variation work	4.133	0.827	1
Non adherence to site instructions.	4.000	0.800	2
Project coordination problems	3.967	0.793	3
Noncompliance with specifications.	3.900	0.780	4
Poor communication with suppliers and subcontractors	3.867	0.773	5
Poor Management of the project	3.767	0.753	6
None updating of schedules.	3.667	0.733	7
Failure to meet milestone dates.	3.567	0.713	8
Noncompliance to permit requirements	3.500	0.700	9
Reluctance to cooperate and coordinate.	3.133	0.627	10

3.1.4 Consultant related causes

Consultants registering in office for consulting architects and engineers may participate in the preparation of total design documents for building and civil projects befitting their categories.

Analyzing reports is the main part of their job description. They must analyze maps, drawings, blueprints, aerial photography and other topographical information. It is the Consultant's construction engineer job to make sure that everything is conducted correctly. Accordingly, they have to see the safety of all the workers undertaking the construction works. Consultant's Construction engineers (CCE) have to make sure that there are no impediments in the way of the structures planned location and must move any that might exist. They also must estimate costs and keep the project under budget. CCE have to test soils and materials used for adequate strength. Finally, CCE have to provide construction information including repairs and cost changes to the managers of the construction work. Also, they have to analyze data to find answers to problems that they encounter on the job site.

On table 5 the consultant related causes of claim was summarized based on their RII. Accordingly the top three were: Inadequate schedule updates and progress monitoring (RII=0.888) was the first ranked; Inadequate record keeping (RII=0.875) was the second while, Job progress meetings (RII=0.813) was the third one.

Table 5

Consultant related cause

3.2 Factors considered in the selection of appropri-

ate methodology for claim analysis.

According to (Bubbers and Christian 1992; FIDIC 1992): It is important for the owner, when analyzing a claim presented by the contractor, to ask the following questions

- Were the contract requirements met (Thomas et al. 1990)?
- Did the contractor refer to the proper clauses in the contract?
- Does the owner or consultant bear part of the responsibility?
- Was the situation predictable at the time the contract was signed?
- Were the specifications defective?
- Was the contract misinterpreted? And, if so
- Which competing interpretation will rule?

A need for an overall step-by-step procedure for claims analysis and administration is therefore crucial for achieving proper resolutions and for preventing claims from developing into disputes. Fig 2 shows the sequence of events and procedures that any claim would have to pass through before being resolved. Although the process is general to a certain extent, each particular node can be further developed, depending on the peculiarities of each claim and project. Some of the nodes are sub processes by themselves and will be highlighted in the course of the following discussion (Abdul-Malak, 2002).

Consultant related cause	*Mean*	*RII*	*Rank*
Inadequate schedule updates and progress monitoring	4.438	0.888	1
Inadequate record keeping	4.375	0.875	2
Job progress meetings	4.063	0.813	3
On-site coordination	3.938	0.788	4
Quality control	3.875	0.775	5
Lack of expertise in schedule management	3.688	0.738	6

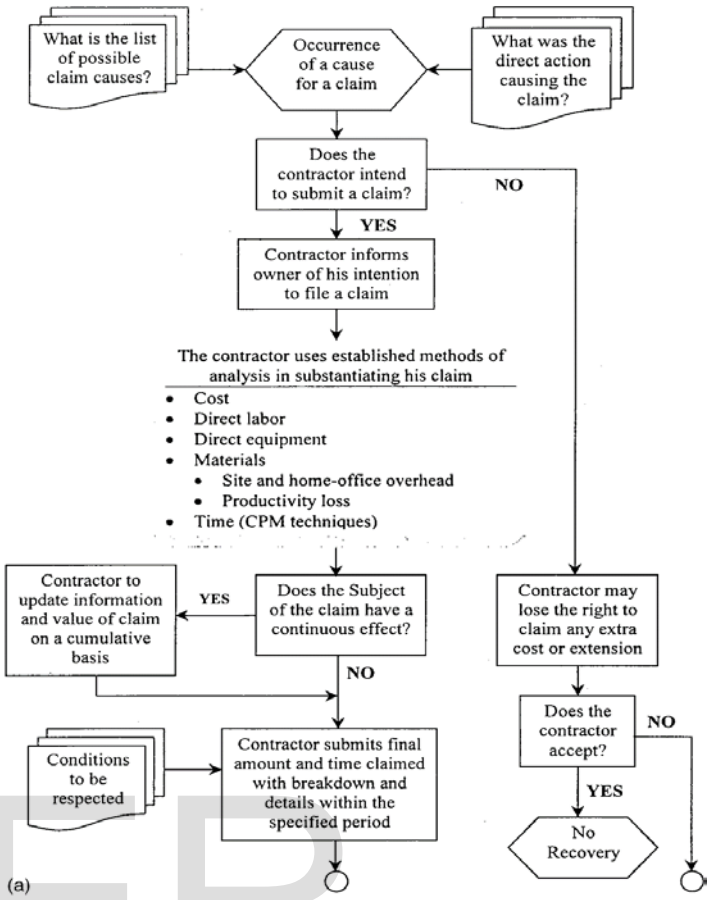

Fig 2 Claim Administration model

For the context of this study, the factors tobe considered during the selection of appropriate method of claim analisis was sumurized on table 6.

Accordingly, Types of delays (RII=0.883) was ranked the first by respondants and Knowing the strength and Weakness of the project (Project complexity) (RII=0.857) was the second while, Conditions of the contract (RII=0.847) was taken the third.

It was observed that types of delays are the most important factor for the selection of appropriate methodology for the claim analysis.

Accordig to (Alena, 2015), Delay analysis methods are applied to prepare the logical basis to persuade their claims concerning the extension of time and financial burden by selecting appropriate analysis techniques.

Factors to be considered	*mean*	*RII*	*Rank*
Types of delays	4.417	0.883	1
Knowing the strength and Weakness of the project (Project complexity)	4.283	0.857	2
Conditions of the contract	4.233	0.847	3
Types of contract agr`eement	3.9	``	4
Law	3.817	0.763	5

Table 6
Factors to be considered in claim analisis

4 Conclusion

The target of this study was identifying reasons of claim and factor considered in the selection of appropriate methodology for claim analysis at Addis Ababa, Yeka Sub City. Investigation of the reasons why contract claim evolve on building construction in Addis Ababa, Yeka Sub City was conducted through data collection device and collected 33 different claim cause factors. These factors further categorized in to four groupes these are; Client related, Contract document related, Contractor related and Consultant related factors. And the top three highly significant factors for the selection of appropriate methodology for contract claim analysis were: Types of delays, Knowing the strength and Weakness of the project (Project complexity) and Conditions of the contract. Generally, it is recommended that the three main contracting parties (Owner, Contractor and Consultant) have responsibility for the effective accomplishment of the project. So each party would take part their homework on time by developing technical knowledge about the effects of contract claims on the progressive construction projects.

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References

[1] Abdul-Malak, (2002).The Effect of Construction Delays on Project Delivery in Nigerian Construction Industry. International Journal of Project Management, 594-610.
[2] Akinseye-george, Y. (2005). Art. 3021 of the Ethiopian civil code (ecc), the federal public procurement proclamation no.430/2005. Articl 46.
[3] Akintoye, A. (2002). Performance indicators for successful. School of built and natural environment, Glasgow Caledonian University, city campus, Glasgow.
[4] Amr A.G. Hassanein, W. E. (2008). Claims management in the Egyptian industrial construction sector: a contractor's perspective. Journal of Engineering, Construction and Architectural Management, Vol.15 (5), 456 – 469.
[5] Arditi, D. &. (2008). Analysis methods in time-based claims. Journal of Construction Engineering Management, 134 (4), 242-252.
[6] John Unbewust, (2015). Contract Claims–Analysis and Avoidance. Contract Claims–Analysis and Avoidance.
[7] K. L. Ravisankar, (2014). Study on the Quantification of Delay Factors in Construction Industry. International Journal of Emerging Technology and Advanced Engineering, Website: www.ijetae.com.
[8] Mohsin, M. A. (2012). Claim Analysis of Construction Projects in Oman. International Journal on Advanced Science Enguneerin Information Technology, V2, 34-88.
[9] Muhwezi, L. (2014). An Assessment of the Factors Causing Delays on Building Construction Projects in Uganda. International Journal of Construction Engineering and Management.
[10] Wilson, C. (2008). The Role of the Consultant in Construction. Canadian Constructions Documents Committee standard form contract between the owner
[11] Winterstein, C. (2008). Validity and reliability of measurement instruments used in research. Validity and reliability of measurement instruments used in research, 5.