



Construction Engineering Management (CEM 520)

Summary of

*Construction Claims in Residential Houses in
Saudi Arabia by "Obaid Al Subaie"*

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RESEARCH OBJECTIVES

The main objective of this research was to find which causes of claims are important and which types of claims are more frequent in residential housing in the Eastern province of Saudi Arabia. A study of all types of construction claims is done to identify the main types and causes of construction claims in residential houses in Saudi Arabia. There was couple of objectives addressed in this thesis pertinent to the main types and causes of construction claims in residential houses in Saudi Arabia. These objectives include:

- 1. Undertake a comprehensive analysis of construction claims in building projects, particularly, of residential houses in Saudi Arabia.*
- 2. Identify and analyze the severity and frequency of types of claims and their causes in residential projects in Saudi Arabia.*
- 3. Offer conclusions and recommendations for future researches based on the analysis and severity of claims in residential projects in Saudi Arabia.*

RESEARCH METHODOLOGY

- Step 1:** *The researcher conducted a literature search focuses on the identification of causes. This search consisted of two stages. The first stage consists of a comprehensive study of all types of construction claims and a literature search focused on the identification of causes.*
- Step2:** *The researcher started the study by identifying those parties who are involved in the construction. Those parties include the owner, the designer, the consultant and the contactor.*
- Step 3:** *This stage resulted in a preliminary questionnaire. While the second stage included field visits and interviews. This stage focused on data analysis and identification of the most important causes of claims and the most frequent types of claims in single-family residential housing projects.*
- Step4:** *A survey of 20 contractors, 19 consultants and 5 government offices from the Eastern Province was undertaken. The survey includes different questions asking for the frequency of different types of claims, the causes of these claims and degree of importance for each cause of the claims.*
- Step5:** *Data gathering: The researcher typically depends upon printed copies to carry the two way communication task (questionnaire and interview). Hence, data was gathered through site visits, interviews and discussions with owners, consultants, contractors and others involved in construction.*

Step6: *Data Analysis: data gathered from questionnaire was analyzed statistically. A computer statistical package (SAS) was used to analyze the data.*

Step7: *Recommendations based on the analyses of the result are suggested.*

The Survey

Questionnaire Design: a questionnaire is formulated and distributed on several construction parties (i.e. owners, consultants, contractors). There are three main parts in the questionnaire and a cover page (see Appendix A), introduction to explain the idea and the purpose of the survey as well as the definition of the interested area of study.

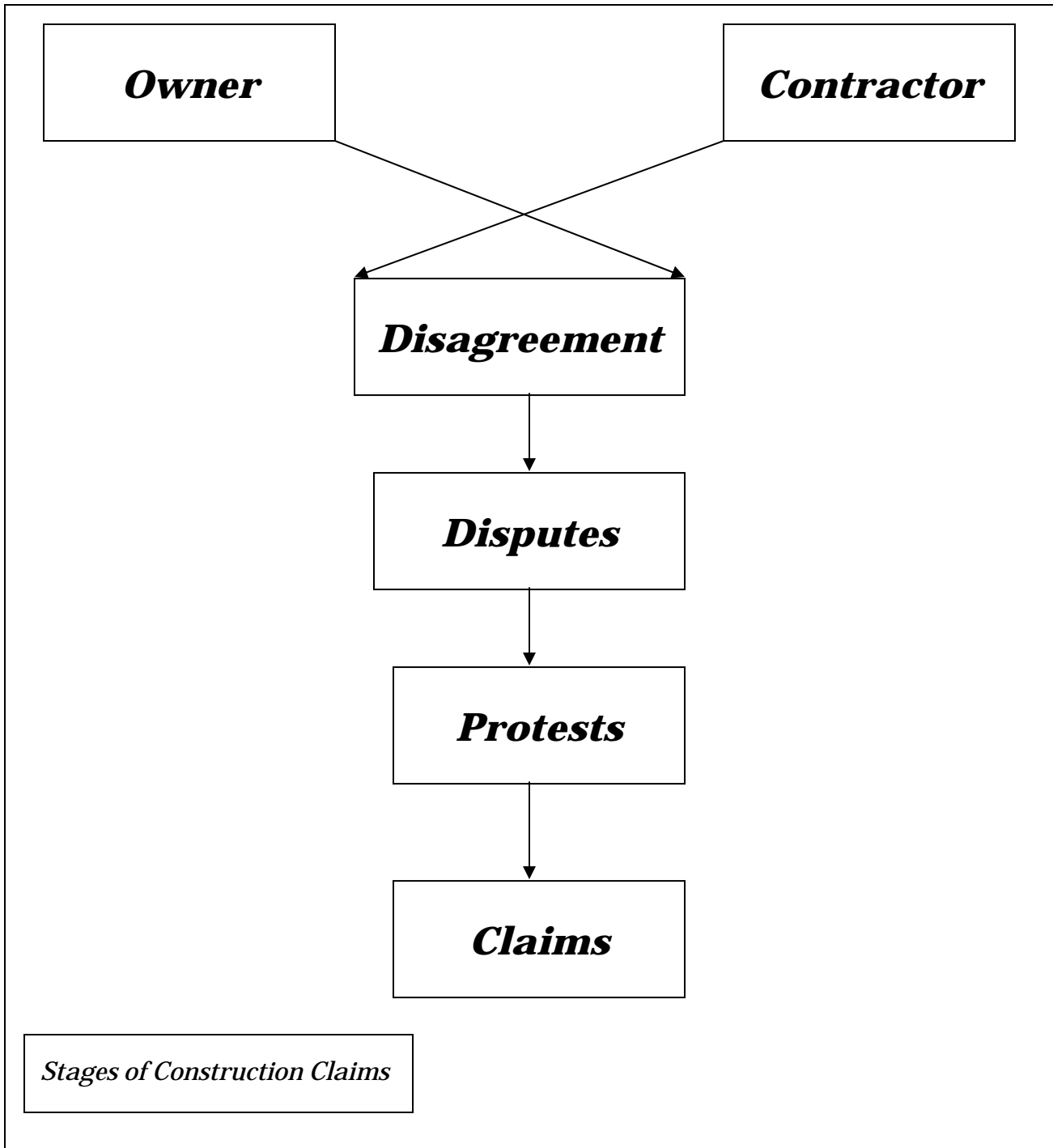
- *Part "A" includes general information questions including annual volume, specialization, experience and nationality of the company.*
- *Part "B" measures the frequency and severity of construction claims for each respondent and how they resolve them.*
- *Part "C" concerns the types and causes of claims in single-family residential housing projects.*

Statistical Analysis

- *Tabulation and Cross Tabulation*
 - *Statistical Techniques*
 - *Ranking*
 - *Correlation*
- *Satisfaction of Restrictions*
- *Statistical Results*
 - *Coefficient of Variation*
 - *Correlation*
 - *Cross Tabulation*

Stages of Construction Claims

There are generally three stages in the resolution of disagreement as shown in the diagram below.



RESEARCH RESULTS

The result of this research is showing which the most important causes that lead to claims are. According to statistical analysis, 29 different causes of claims were identified. It is concluded that delay in payment, defective contract documents, poor planning and bad quality of work are the main causes of claims. The causes were ranked from the most frequent to the least frequent.

Causes of claims

- 1. The increased complexity of projects*
- 2. The effects of high inflation*
- 3. The high speed of construction and materials technology*
- 4. Increased competition due to the decrease in the number of projects in the area*
- 5. A decrease in profits*
- 6. Decreased capital availability*
- 7. Withdrawal of governmental support hitherto extended to the contractors – making contractors more self-reliant*
- 8. Contractors have become more sophisticated*
- 9. An increase in the Government regulations*
- 10. The economy's impact on the construction industry*

Types of claims

- A. *Contractual claims.*
- B. *Delay claims.*
- C. *Acceleration claims*
- D. *Change claims*
- E. *Extra work claims*
- F. *Different site conditions claims*
- G. *Different measurement pricing claims*
- H. *Damage claims*

Claims Factors Groups

1st Group: Poor planning

- 1. *Delay caused by owner*
- 2. *Change orders*
- 3. *Financial problem*
- 4. *Delay in payment*
- 5. *planning errors*
- 6. *Bad communication between parties*

2nd Group: Errors or Incomplete Documentation

- 7. *Design errors or omissions*
- 8. *Poorly written contracts*
- 9. *Variation in quantity and measurements*

10. *Inconsistency of specifications and drawing*
11. *Sub-contracting problem*
12. *Constructive changes*
13. *Oral change orders*
14. *Termination of work*
15. *Suspension of work*

3rd Group: *Scheduling and Estimating Errors*

16. *Changes in material and costs (Escalation)*
17. *Delay caused by contractor*
18. *Scheduling errors*
19. *Subsurface problems*
20. *Estimating errors*

4th Group: *Execution Deficiencies*

21. *Execution errors*
22. *Changes in material types*
23. *Poor quality of the contractors work*
24. *Accidents*

5th Group: *The Building Construction Environment*

25. *Contractors not well organized*
26. *Owners personality*

27. *Government regulation*
28. *Non-permitted contractors (Non-Saudis)*
29. *Low price of he contracts*

Most Frequent Causes

1. *Changes claims*
2. *Delay claims*
3. *Extra work claims*
4. *Contractual claims*

Changes claims

Depending on the contract and its terms, such changes might have an affect in value addition to or deletions from the contract, modifications of the work. Such changes start from the needs of the owner and sometimes result from a discovery of design error. Changes desired by the owner may be written or orally ordered. Time of ordering changes is very important. If the change comes after construction, then it becomes very costly to reconstruction the changed part. However, if it comes before construction, it will be easier and cheaper to construct the changed part. According to the study, more than 30 % of the contract claims are due to changes in the original contract.

Delay Claim: *this category is subdivided into three main types as follows:*

- a) *Excusable delay:* *is one for which a time extension is granted. These are delay for which neither the owner nor the contractor is responsible. Such delay include acts of God, war, sovereign acts of government, fires,*

unusually severe weather, and other unforeseeable delay for which neither party is at fault.

b) Compensable delays: as the name implies, are those for which the contractor is entitled to compensation. This type of delay often is caused by owner and it can include unreasonable suspension of work, changes in the contract, extra work which requires additional time, adverse physical conditions, etc.

c) Inexcusable delays: essentially, these delays represent problems in the contractor's organization such as lack of management or financial capability, sub-contractor caused delays, etc.

In general, delays do not create the same impact in terms of the cost of the entire project.

Extra Work Claims

Extra work is any work that is ordered by the owner after construction has started that was not included in the original contract. The extra work being performed by the contractor is a result of a clarification of the contract documents. However, the contractor believes that he is performing extra work, while the owner believes the work was part of original contract.

Contractual Claims

Contractual claims concerns matters with regard to the contract itself. This includes any disagreement on the responsibility or liability of some parts that are not included in the documents. The main reason of these types of claims is poorly written contracts.

Difference in Pricing and Measuring Claims

These types of claims deal with the disagreement regarding measurements at the final stage in the construction. Also, these claims include the differences in pricing by the contractor and the owner of some of the materials. Also, the change and the extra work usually create some differences in pricing.

Different Site Conditions Claims

A changed condition refers to some physical aspect of the project or its site that differs materially from the indicated by the contract documents or that is of an unusual and differs materially from the conditions ordinarily encountered.

Acceleration

Acceleration refers to the owners directing the contractor to accelerate his performance so as complete the project at an earlier date the current date of work advancement will permit. It occurs when the contractor is ordered, either directly or constructively, to speed up performance in some way. These types of claims may occur in big projects but for residential houses, these are rare especially nowadays where the rate of houses rental is smaller.

Damage Claims

Property damages may occur due to the act of the owner or due to safety related problems. This type of claims is very rare because usually contractors have the total responsibility for the site.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the results of this research, the following conclusions can be drawn:

- 1. Delays in payment are the main important cause of claims because they result in a financial problem and disputes between the owner and the contractor.*
- 2. Documents are a very important part in the contract. At the time of writing the agreement, every thing is usually acceptable for all parties, but the problem come during the last part of the project, when they con not make any changes to the contract.*
- 3. Owners usually try to deduct from the last payment and the reason they give is that the quality of work is not good or there are some errors in execution. Such execution errors or quality depend on how skilled the labors and the management are.*
- 4. One of the major claim factors is that both owners and contractors do not put a good plan before starting a project. The owner usually does not know what he needs exactly. Also, contractors usually do not use any type of scheduling which may result in delay.*
- 5. Another factor is that there is no control of the construction market, anyone could become a contractor. As a result, prices of contracts decrease, and therefore, the quality of work decreases.*

6. *Sub-surfacing problem and accidents happen during the project but are not important causes of delays. This is because the residential houses do not need a lot of excavation.*
7. *The economic impact and shortage of money in recent years has resulted in an increased number of claims. Profit margins have decreased and may become harder to maintain.*

Recommendation

1. *It is recommended that the clauses in the contract related to the payment should divide the total prices of the contract into smaller, more numerous payments. This may make it easier to be paid by the owner on time. This may reduce delay in payment.*
2. *If there is a financial institution that is funding the project like the REDF, the contractor is recommended to have direct contact with it. The contractor may collect the payments directly from the financial institutions after he gets approval from the owner's representative.*
3. *It is recommended to have a standard contract which is flexible. It should be prepared carefully to describe the rights and responsibilities of the contractors as well the rights and responsibilities of the owners and engineer.*
4. *Careful preparation of the contract documents will help to avoid disputes. Therefore, the documents will help to avoid disputes. The scope of the project should be clear, correct, adequate and concise. Also, the contractor should ask the owner to write the change orders instead of giving oral change orders.*

5. *The owner is recommended to use the experience of the consultant before signing the contract.*
6. *Coordination of design documents is extremely important. Written specifications should be reviewed to avoid ambiguities and conflicts between architectural and engineering drawings.*
7. *The contractor should take care of his work quality by getting skilled labor and using good management techniques.*
8. *The government should establish a set of procedures to control the quality of the construction work. Also, it should develop licensing contractors to make it more difficult to get certified.*
9. *The best solution to claim lies in establishment of partnership between the owner and the contractor. Each party should try to solve the problems from the first moment they arise.*