Claims in Construction Projects: A Comprehensive Literature Review

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Abstract: Construction industry plays main part in the financial development of a country and occupies an essential position in the state’s growth policies. Construction industry generates thousands of jobs into different sectors to accommodate people according to its capabilities. On the contrary, it faces huge number of claims, as a result it gives birth to various problems including additional cost and time to complete the project. Therefore, this paper aims to identify the common types and causes of claims generally occur in construction industry and specifically in large scale projects. A detailed literature review has been carried out for this research and covers past research papers of the last two decades. The results showed delay in claims and extra work claim submitted by the parties, they are the main types of claims followed by contract ambiguity claims, extension of time claim and suspension of work claims. Delay of payment is the most important cause of claim followed by incomplete design, variation order, change order by owner, lack of communication and in last poor project management. It is concluded that proper contract documentation should be done and early error identification in contract documents, drawings and specifications should be highlighted. Finally, it is recommended to adopt proper claim management policy and procedures to address the queries by all parties. This paper will be used to design future guidelines in managing claims in large scale construction projects to improve the performance of construction industry.

1. Introduction
The construction sector plays a very important role in economy of any country. The weak management of construction industry leads to delay the progress, as a result it increases the project cost and time, increasing the risk factor, client disappointment and safety issues etc. Thus, the completion of project on expected time under calculated cost without the claim is impossible. Due to uncertainty of construction projects, the client received the claims to compensate the contractor to complete the project with extra cost and time [1-2]. It was reported by different researchers that significant causes of the claims are as follow: delay of payments, design error, inadequate specifications and drawings, variation orders, weather conditions, site conditions, contractor experiences, unforeseen utilities and lack of communication [3-8]. Ballesteros-Pérez et al. [9] and Aziz and Abdel-Hakam [10] stated that the impact of unexpected, severe climate changes in construction works normally effect efficiency, causes considerable delays in construction progress and create a number of claims in the construction sector. Gray et al. [11] concluded that delays in processing the construction claims have been impacted on construction progress and delayed return-to-work. Shah et al. [12] Observed that due to high
competition in the zone of construction sector, contractors submitted project price under low budget to stay in industry. Because of that the contractors took a chance to construct the risky projects with minimum resources and amount. Due to that situation, it has been seen that the number of claims continuously increasing from the contractor. Bakhary et al. [13] Stated that the rising quantity of claims indicates the necessity for the implementation of an effective construction claim management.

When claim has been submitted, the client and contractor should reach to a mutual settlement of the claims and thus make the change order of the amendment or if contractor fail to satisfy the client then contractor has right to avail contract dispute method [14-15]. Al-Khalil et al. [16] Investigated the causes of claims in utility projects of Saudi Arabia because lack of qualified and experienced personnel.

To award of bidding to the lower rates was ranked first, while payment request was not handling according to the time was ranked second important cause of claims. Study also highlighted that the understanding the causes of claims under contractual terms and condition is the best method to avoid construction claims [17-18]. The causes of claims were; (1) changes by owner; (2) incomplete design, drawings and specifications; and (3) Delay in decision making and approval of shop drawings concluded by [12, 19]. The most common types of claim frequently seen in the UAE construction industry were “changes” and “Extra –work” claims. The study also concluded that the most common causes of claims observed in the UAE construction projects were “change orders”, “Delay caused by owner” and “planning errors” [20-21]. As per contractor perception, labor productivity was one of the important causes of delay in the project. As per observation of consultant, inadequate contractor experience was the important cause of delay. Furthermore, owner interference, slow decision making, improper planning and finance of work were the top five important causes of delay in the construction projects[2, 22]. Abdel-Khalek et al. [23] and Salama et al. [24] Stated that due to increasing of project complications and project cost, it is necessary for construction companies to manage their project’s budget and schedule at early stage of projects.

From the literature review of past research work, it can be concluded that claim is a key problem in construction industry cases in current era. Therefore, this paper investigates the issues of the claims in construction industry utilizing information gathered from past research papers. The information is examined to recognize most common issue zones and suggestions to minimize the number of claims in construction projects in general and specifically mega construction projects of Saudi Arabia.

2. Research Aim
The goal of this research is to recognize the common types and causes of the claims faced by construction industry. It has been observed that claims aroused during execution, requested for extra amount and time that lead to the progress delay. The purpose of this research work will help to avoid or minimize the causes of claims in construction projects globally.

3. Research Methodology
To accomplish the aim of this research; in first phase of this research the past forty-five research papers were carefully reviewed to highlight and examine the claims identified by different researchers. The purpose of this review is to recognize the most repetitive causes and types of claims which have been witnessed by construction projects.

4. Data Collection and Analysis
The past research papers have been studied to find the most common causes and types of claims. These research papers have been collected from the sources including Science Direct, Elsevier, and Scopus index to analyze about the most frequent claims in the global construction projects. The forty-five past research papers were downloaded from the above said sources. The data was collected from the past research papers and transferred to the excel sheets to arrange in the order to know the number of researchers examine the factors of claims.
5. Results and discussion
The results focus on types and causes of claim investigated by different researchers from different countries of the world.

5.1. Different type of claims in construction project
Figure 1 shows major types of claims reported in past research work in different countries during construction projects.

![Types of Claims in Construction Projects](image)

According to the Figure 1 this research identified eight common types of claims repeatedly used in the construction projects which were; (1) Delays, (2) Extra work; (3) Work acceleration; (4) Contract ambiguity; (5) Extension of time claim; (6) Suspension of work; (7) Termination of contract; and (8) Work volume change.

This research found that, there is a big gap between client and contractor to resolve claims issues on the time of receiving. Delay to resolve the claims will take the project with additional cost and time. The documents should be prepared in a well manner before submitting to the client. Analysis of schedules and contract documents were major resources in the analysis and resolution of a delayed claim.

The second most common type of claim was extra work claim. Any work requested by client after the start of the construction and not been included in the contract documents is called extra work. In any case, the contractor accepted that contractor was performing additional work, whereas the client accepts the work was portion of unique contract. The contractor should properly review the contract clause before to start or accept any verbal instructions from the client.

The third common type of claim was work acceleration claim. The contractor received the instructions from the owner to speed up the construction progress and complete it before or on scheduled plan. The owner has taught the contractor to quicken completion, it does not result that owner will be at risk for the costs associated with increasing of speed. If the employer’s instruction was given since the contractor himself in delay, at that point the speeding up exertion was only relief by the contractor of his claim obligation for delay related issues.

The fourth common types of claims were contract ambiguity claim, extension of time, suspension of work and termination of contract. From the literature review, it has been observed that the contractor was requesting different types of claims to compensate the expenditures of the projects.
Therefore, it is recommended that the contractor should follow the contract clauses before requesting of claims. If contract permits the worker to request the claims for extra time, suspension and termination of contract from the client, contractor has right to avail the claims.

The fifth common type of claim was work volume change claim. During the construction phase, it had been observed that the client makes changes in the design to modify the construction work. According to this change, the client should compensate the contractor with additional cost and time to avoid any disputes on project site.

Nor Azmi et al. [25] discussed that the examination discoveries stress on the requirement for a decent documentation framework with a competent site staff that can distinguish a case during execution of project. These skills must be joined with the goal that it would enable simple availability to extend records when required to help the submitted case.

5.2. Causes of claims in construction projects

Figure 2 shows that major causes of claims reported in past research papers of different countries during construction of projects.

![CAUSES OF CLAIMS IN CONSTRUCTION PROJECTS](image)

**Figure 2.** Causes of the claims in construction projects.

According to Figure 2 this research identified the eight common causes of claims frequently faced by the construction projects which were; (1) delay of payments; (2) Incomplete design; (3) Inadequate specifications and drawings; (4) variation order and weather conditions; (5) Decision making; (6) Delay in drawings & specifications and site conditions.

Delay of payment was the most important and common cause of claim in the construction projects. Contractors who had delay of payments during construction, they will also face problems on the project site. The contractor faced financial difficulties to run the project because the flow of payment from the owner was not smooth and it disturbed the movement of the work. These financial issues will push the contractor to demand for extra cost and time from the owner. To avoid these delays, the client should release the payment with the approval of consultant in the timely manner to run the project smoothly.

The second most common cause of claims was incomplete design. Incomplete design through the execution directly affects the project that lead to the project delay. This delay pushes the contractor to request for the claim to compensate the cost of project. The contractor should properly review all the drawings before submitting to any kind of tender cost to avoid the delay during construction.
The third common cause of claims was inadequate specifications and drawings. In the tender stage drawings and specifications are important documents. InCOMPLETE specifications and drawings create an issue to calculate the accurate take off quantities and the project value. Therefore, the contractor needs to identify the missing or incomplete drawings and specification to the client immediately to avoid any dispute between the parties in later stages.

The fourth common causes of claims were variation order and weather condition. The main causes of claims were due to variation order by the client and weather conditions or bad weather affects the work progress cause to generate the claim to compensate the contractor. Therefore, it is suggested to the client that during the preparation of contract, the contract clauses about variation order and weather conditions should be clearly mentioned in the contract documents.

The fifth common cause of claims was decision making by parties. Late decision making from the client or the contractors will affect the construction progress and increases the duration of project. It is suggested to the contributor of the project actively put their recommendations to make decision easily.

The sixth common cause of claims included delay in drawings & specification and site clearness or condition. Delay in drawing & specification during the construction, the client will face the claims to compensate the contractor staff and equipment’s running on the project site. The site condition of the project is different from the received drawings will also create the clash between the parties. The contractor should personally visit the project site to highlight the common point to inform the client before mobilizing the project team on site.

Mukilan et al. [26] Informed that there will be no chance of any arguments between the contractor and the client, if the causes of construction claims will be clear in front of them. If the client and the contractor identified the real causes of construction claims, they should try to solve in the early stage to avoid of any disputes that affect the project.

6. Conclusion and Recommendation
This study highlights the most common types and causes of claims in the construction projects. To avoid these types and causes, the client and contractor should focus on the claims before it converted into the dispute. Delay claims and extra work claim submitted by the parties are the main types of claims followed by contract ambiguity claims, extension of time claim and suspension of work claims. Delay of payment is the most important cause of claim followed by incomplete design, variation order, change order by owner, lack of communication and in last poor project management. Special attention should be given on these causes to resists claims in future construction projects. In addition, the literature recommends that;

- Allowing maximum time to design team to generate complete contract documents and specification with no or minimum error
- Careful preparation of contract clauses about the claim process, will help to deal with claims received during execution period of the project
- Contract clause for delay payment, extra work claims by the client should be clearly mentioned in the contract documents
- The client and contractor should sign the change order or variation order (change in quantities) before to start the work on site
- The clause for market inflation, unforeseen utilities and weather condition should be clearly written in contract documents
- The best solution to minimize the claim, the client and contractor should solve the claims issues on early stage they arise
- The parties should read the contract clauses properly before preparing the claims
- The client and contractor improve joint problem-solving approaches on construction project
- Make the daily progressive report to verify the project moving onwards according to schedule
In last, it was expected that the conclusion and recommendations of this research paper will support to the stakeholders who are involved in the construction sector to reduce the frequency of claims that affects in construction industry.

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