

Delay Claim Analysis in the Construction Industry

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Delay claims, a common occurrence in construction projects, result from many issues, including differing site conditions, access restrictions, and disputes of the contract documents. Analysis methods of a delay claim can range from scheduling to cost analysis. Methods in use today can incur exponential costs, and can last for years on end. Using a survey, this study collected the data regarding practices in delay claim analysis from professionals within the construction industry. The survey emphasized the defining qualities of a delay claim, the processes, and the requirements for resolving a claim. The results showed that the analysis of schedules and other contract documents were major resources when analyzing and resolving a delay claim. The top three subcontractors who submitted the most delay claims are concrete, earthwork, and steel.

Key Words: Delay-claims, Contractor, Engineers, Managers, Analysis

Introduction

Statement of Research Problem

Construction delays and their claims are an integral part of construction (Yates & Epstein, 2006). A delay claim involves construction that was not completed as scheduled; it could be caused by various issues: poor As-Planned schedules, trade stacking, weather, and site conditions. The claim theory is very simple; however, the claim itself is quite complex. (Matt DeVries, 2010). Many are aware of the delay, but not for their causes.

When dealing with a delay claim, one must first determine if it is excusable, compensable, a force majeure, or a concurrent delay. Simply put, delay claim analysis is about re-planning the project after a delay has occurred. While analyzing a delay claim, an individual must realize the risk involved with submitting it. If the information is completed correctly, a delay claim can be pinpointed down to the day and hour on a job site. From there, the individual can calculate damages incurred and can justify their case much more effectively. Continually updating the schedule during construction is advantageous when dealing with consequential damages. This makes the process a great deal simpler and faster.

Many methods are used to analyze delay claims, including schedule comparisons and cost flow data. Each of these methods is used to evaluate the claim and develop a concise method for analysis in order to move forward with the claim. The decision regarding a method to use is complicated, and depends on time, cost, and the material available. All methods attempt to identify, conclude, and rectify the claim at hand, and each method consists of specific requirements of information necessary to analyze the delay claim. Further, each method has its own pros and cons, which will be further, examined and compared. The obvious benefit of using methods already in use is that the professionals are familiar with them and use them frequently.

The intent of this research was to delineate a common thread in the analysis of delay claims. Moreover, this study attempted to combine methods and common threads currently in use to assist in delay claims analysis.

Literature Review

Arditi & Pattanakitchamroon (2008) stated that delays in construction could have severe impacts on a project, such as late completion, lost productivity, acceleration, consequential damages, increased cost, and contract termination. Allocating responsibility and determining recoverables are incredibly difficult to assess. This is especially the case because a standardized method has not been developed yet.

In attempting to put in words a generalized methodology for analyzing delay claims, Kartam presented methodologies that are in use and have been applied successfully. He classified the project delays by their origin and timing as well as their compensability, and presented the idea of what is essentially a "roadmap for management to follow in analyzing their delay claims" (Kartam, 1999, p. 418). Mainly, he focused on where responsibility falls. However, other factors also need to be considered to determine the liability, causes, and damages for a delay claim.

In a study by Gulezian & Samelian (2003), a baseline was determined and established upon the measured mile approach; from this, it was possible to produce a statistical analysis that could be applied to determine the damages. First, the productivity of the work force that affected the production rate was established before and after a delay or interruption occurred. Next, the authors compared an undisturbed production rate with the production rate after a delay had occurred. By assigning liability to a period of performance loss, they showed that liability could be determined. The process was based on organized information and updated scheduling.

Alkass and Harris (1991) conducted research in an attempt to create an integrated system approach to analyze delay claims. The authors analyzed a computer database system that contained information and delays for a claim. They stated, "… expert systems are not a complete substitute for individual experts, they only help to conserve expertise and are used to make expertise more easily and quickly available for assistance in the decision making process..." (Alkass & Harris, 1991, p. 59). To conduct analysis, their system used an adjusted as-planned schedule, also known as a contemporaneous approach. Their program helped ensure that updates were made and logged into the system. To achieve this, however, involves efficient paperwork and organizational skills.

Al-Saggaf (1998) boiled down the analysis of construction delays to five main points: gathering all relevant information, the data analysis phase, identifying the root causes of the delay, classification of the delay as excusable and/or compensable, and identifying the responsible party and assigning responsibility. These stages answered all the important questions regarding a delay claim in order to hold up in the juridical court system. The author explained that the analysis methodology that is used influenced the accuracy of the results. In this research, the most important aspect of the claim was the ability to find the cause of the claim. He stated that it was important that a continuous periodic analysis was necessary to form a clear and concise analysis of a claim.

Baki (1999) broke down delay claim analysis to three steps: claims prevention, claims preparation, and claims defense. The author claimed that the analysis and preparation were the keys to success. This research led the author to develop a systematic approach for dealing with delay claims, broken down into five major phases: identify and develop claims issues, factual and detailed schedule analysis, work-hour and cost analysis, damage calculations and assessment, and preparation of a claims report.

Alkass et al. (1996) stated that claims are an integral part of the construction project process, and costly; however, they realized that there was room for improvement within the practices currently in use. Their research discussed the two techniques in use for delay claim analysis. The first technique, known as simplistic approach does not scrutinize the type of delay, which ultimately hinders the validity of the delay claim analysis. The second technique known as detailed approach provides superior methods for performing analysis, because it defines the claim itself more clearly and performs a detailed analysis. The detailed approach is more reliable and is the preferred method. The authors concluded that: "…time and expense incurred to prepare a claim document in itself is substantial. There is room for improvement in present practices for keeping track of delays. Thus, an integrated system to aid in the analysis of claims arising from construction delays can be valuable." (Alkass et al., 1996, p. 375)

Scope and Objectives

The scope of this research was limited to the U.S. construction industry. The goal was to determine the processes for delay claim analysis currently being used within the construction industry. The common definition of a delay claim, the types of documents required to resolve the delay claims, the process, and time taken to resolve the delay claims in construction industry were determined in this study.

Methods

This study collected data from construction management and general contracting (CM/GC) firms located throughout the continental United States by using a convenience sampling method (Menxenhall & Sincich, 2007). The survey was sent to all the potential participants familiar with authors via email who have experienced delay claims in their practice; and received responses from various states of the United States. The results of the research are presented with their descriptive statistics. In addition, the survey instrument was distributed in person and through phone conversations. Follow-up phone calls were made to ensure all the potential participants received the survey instrument. The survey questions, developed after an extensive literature review, were related to the material and information needed to analyze a claim within the construction industry. The surveys that were sent back but which were not complete or confusing were clarified by calling the appropriate respondent. The data were compiled in a spreadsheet and analyzed.

Selection of Survey Respondents

The survey was sent to 40 construction professionals in the United States. It contained 14 questions, of which many had multiple sub-questions (total 20 questions). This survey captured the data required to achieve the objectives of this study. Thirty participants responded with completed surveys for a response rate of 75%. Figure 1 shows the breakdown of respondents by position in the firms.

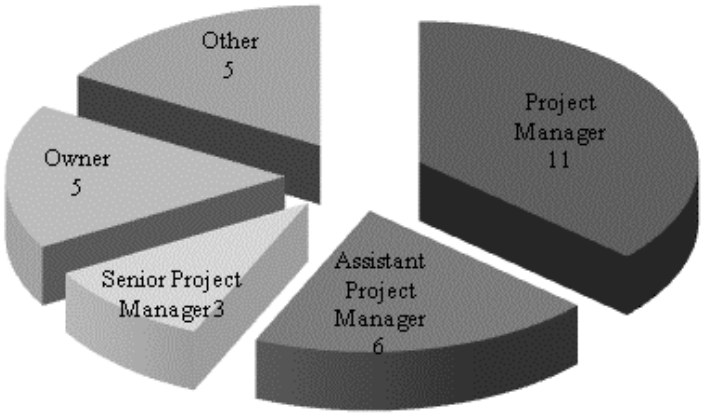

Figure 1: Breakdown of respondents by position within firms.

The sample population for the survey covered a variety of positions representing a wide number of construction management and general contracting companies within the construction industry. All respondents represented in this survey were office-oriented employees. Positions ranged from mid-level to upper management and ownership. The category 'Other' consists mainly of legal and professional schedulers. The range of positions in the sample helped us to establish a wide range of involvement as well as identify the analytical process that each level approached and resolved delay claim issues. The market segment was not differentiated because the majority of the respondents participated extensively in both private and public projects. The respondents' educational background ranged from civil engineering and architecture to financing and history.

Results

The data was analyzed using descriptive statistics. In all tables, the percentages of the respondents were calculated to show variability in the group. The results were not grouped according to the respondents' type, because the sample size was limited. The results are described below.

Experience

The 29 respondents who took part in this survey were involved at different levels of their careers, and had been exposed to a wide range of experience. The results showed that the majority of the respondents (15 out of 29) had in excess of 10 years' experience within the construction industry (see Figure 2). Therefore, very experienced construction professionals responded, thus increasing the reliability of the findings.

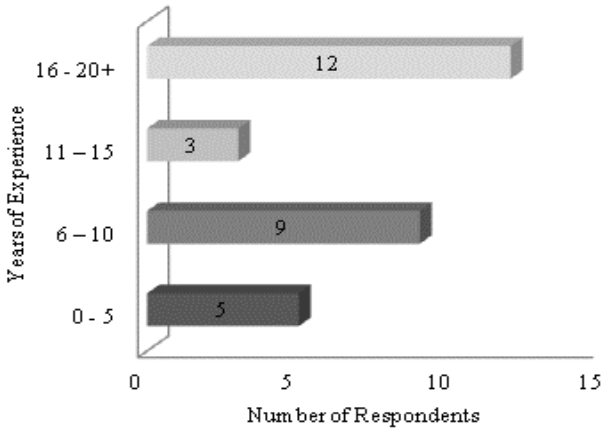

Figure 2: Respondents experience.

The amount of claims experienced by the respondents varied from 1 to 30. Figure 3 shows that the majority (19 out of 28) of the respondents faced 1 to 10 delay claims during their career. Slightly more than one-quarter (8 out of 28) of that have been involved with 11 to 20 claims. Although not particularly common, the amount of claims represented by the respondents provided a plethora of information regarding their analysis.

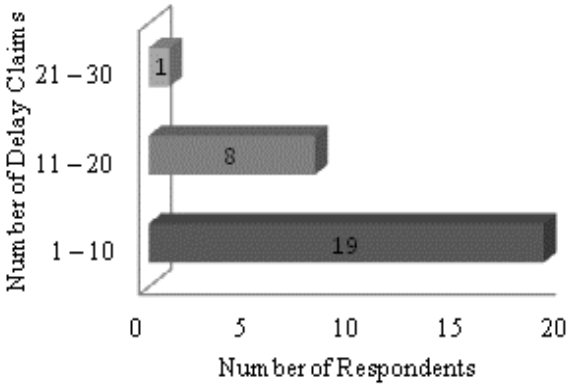

Figure 3: Number of delay claims respondents faced.

Defining a Claim

Data were collected on what defines a delay claim, how it is handled, the types of responses, the information necessary to determine its validity, and other factors. The respondents were asked about the basis of delay claim, which were schedule changes (changes in the original schedule due to change the scope of work and/or delay in the construction), drawing errors, change orders, geotechnical reports, and schedules (see Table 1). Thirty-seven percent confirmed that schedule change was one of the major reasons for a delay claim, and 33% responded that error in the drawings was the reason. In the survey, the respondents could check more than one option and thus the total percentage of respondents resulted more than 100%.

Table 1

Items that define delay claim (N=30)

Category	No. of Respondents	% of Respondents
Schedules Change	11	37
Drawing Error	10	33
Change Orders	7	23
Geotechnical Reports	3	10
Others	9	30

In addition, respondents were asked to provide the top three types of subcontractors that submitted the most delay claims. As shown in Table 2, 56% reported that concrete subcontractors submitted the most delay claims and 46% reported excavation and steel subcontractors submitted the most delay claims. The category 'Other' consisted of finishing contractors, such as decorative metals, glazing, etc. The results indicated that all trades – specifically, those during the exploratory initial stages of construction – submitted the most delay claims. In the survey, the respondents could check more than one option.

Table 2

Top 3 Delay claim-subcontractors (N=30)

Subcontractors	No. of Respondents	% of Respondents
Concrete	17	56
Earthwork	14	46
Other	14	46
Steel	11	36

Twenty-five out of thirty respondents indicated that the construction management (CM) team was involved during the delay claim analysis and process (See Figure 4). In the 'Other' category, professional consultants were a major contributor to the analysis and decision process of a delay claim. In this question, participants could check more than one option.

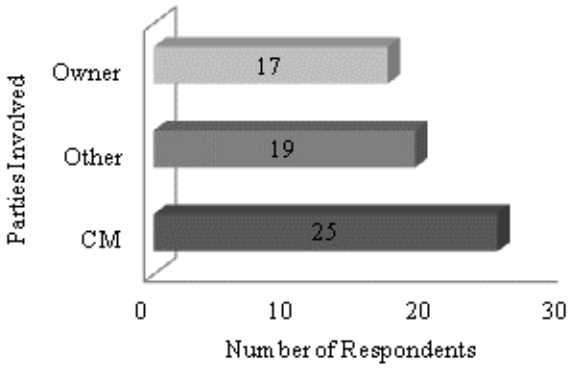

Figure 4: Parties involved.

Documentation

The survey question asked the respondents regarding the documents submitted to construction manager or general contractor while informing that a delay claim has occurred, entitling a subcontractor to monetary and time compensation. These documents included a formal letter, schedule, and change orders. As shown in Table 3, 93% said that this information was furnished by a formal letter and 33% said that a schedule was included with the formal letter. In the survey, the respondents could check more than one option.

Table 3

Documents submitted (N=30)

Category	No. of Respondents	% of Respondents
Letter	28	93
Other	14	46
Schedule	10	33
Change Order	3	10

As shown in Table 4, 40% said that the owners acknowledged the claim formally in such ways as email, letter, or phone call. About 36% said that the owners asked about the validity of such delay claims; about 16% asked the cost of the delay claim. In the survey, the respondents could check more than one option and thus the total percentage of respondents resulted more than 100%.

Table 4

Initial response by CM/GC (N=30)

Descriptions	No. of Respondents	% of Respondents
Acknowledge of Claim	12	40
Validity of Delay Claim	11	36
Other	9	30
Cost of Delay Claim	5	16

Process of Analysis

The survey asked the respondents to delve a little further into how one approaches a claim. As shown in Table 5, 56% thought that handing the claim over to a professional consultant was an efficient way to solve a delay claim. Others responded that analyzing and negotiating within the team of construction managers and general contractors was the best way to resolve a delay claim. In the survey, the respondents could check more than one option and thus the total percentage of respondents resulted more than 100%.

Table 5

Steps taken against a claim (N=30)

Steps	No. of Respondents	% of Respondents
Consultant	17	56
Analysis	14	46
Other	14	46
Negotiation	11	36

When reviewing a delay claim, the respondents were asked what major documentations were needed in order to make an informed and accurate decision regarding the claims. Figure 5, which illustrates the most important documents required to analyze a claim, shows that schedules (25 out of 30) are the most important information needed to understand and resolve a delay claim. Further, respondents noted that meeting minutes (11 out of 65) and construction photographs (8 out of 30) were important pieces of information. The ‘Other’ category represents such documents as emails, drawings, and contracts. In the survey, the respondents could check more than one option and thus the total of respondents resulted more than 30.

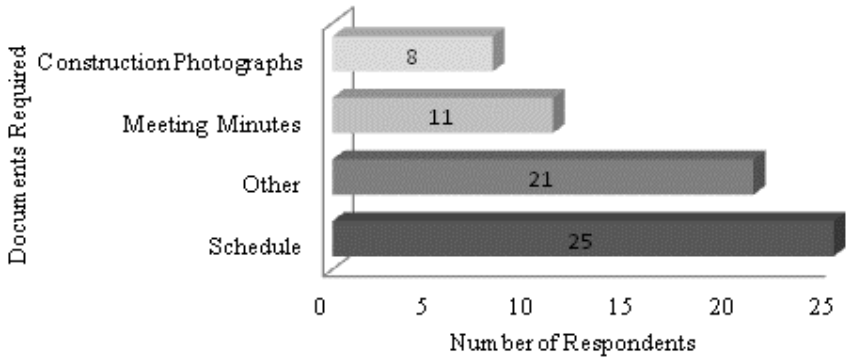

Figure 5: Most important documents.

Regarding the most efficient way to deal with a claim, 60% said that a claim should be dealt with immediately after being submitted (see Table 6). They stated that it did not benefit anyone by not resolving the issue immediately. Fifty percent replied by saying in-depth analysis was the first step in resolving a delay claim most efficiently. In the survey, the respondents could check more than one option and thus the total percentage of respondents resulted more than 100%.

Table 6

Most efficient way to deal with a claim (N=30)

Subcontractors	No. of Respondents	% of Respondents
Immediately	18	60
In-Depth Analysis	15	50
Open Conversation/Communication	10	33
Other	16	53

Decision and Length of Claim

Further, this research determined the ultimate decision makers in the delay claim process. In a list of the top decision makers identified by the respondents, the owner (15 out of 30) was identified as the top decision maker (see Figure 6), with construction managers and attorneys followed closely behind. Data were collected regarding the respondents' length of time in which resolution was reached regarding a delay claims. Twelve out of 25 responded that most delay claims were resolved within 0 – 2 years (See Figure 7).

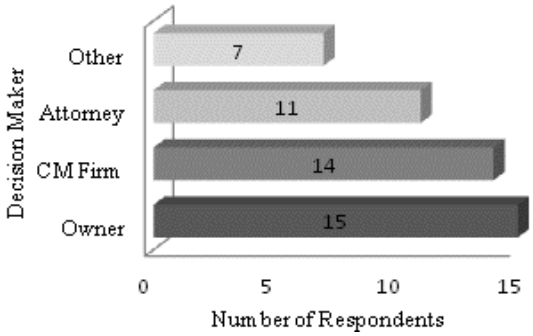

Figure 6: Decision maker.

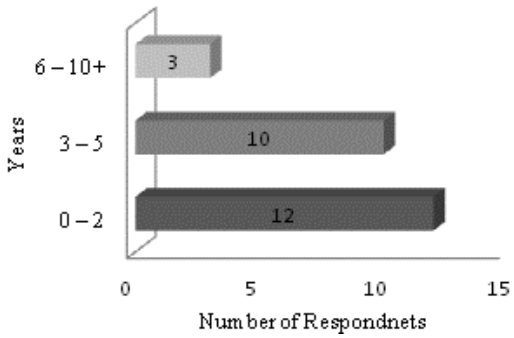

Figure 7: Time frame.

Conclusions

This study determined the defining qualities of a delay claim, their processes, and the requirements for resolving a claim. When analyzing and resolving a delay claim, the results showed that analysis of schedules and contract documents was a major resource. The owners generally acknowledged the delay claim after it is submitted, inquired about the validity, and cost of the claim. Further, the study identified the top three subcontractors with which the respondents dealt the most regarding delay claims as being concrete, excavation, and steel subcontractors. The survey indicated the predominant decision makers in the process as the owner, construction manager, and attorneys.

The findings of this study shed some light to the processes and information required to analyze and resolve a claim. This study will help industry personnel gather the appropriate information and the way in which to process this information. Further study is recommended regarding the delay-claim process in order to determine in-depth the direction that construction industries are taking regarding delay claims analysis.

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