

PROPOSING MANAGEMENT OF WORK PRIORITY TO REDUCE CONSTRUCTION FAILURE CLAIMS

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ABSTRACT: Dispute related to construction projects involving numerous persons is one of the biggest challenges faced by contractors today. It costs a substantial amount of money and time in resolving these kinds of claims. Recently, with the changes in the construction environment and thought of relation with owner, the number of construction claims has increased. But, a majority of these claims do not prevail, and in fact, frequently get dismissed in its entirety. The reasons for such dismissals include the ignorance about the claims, lack of clear and convincing evidence, and so on. But most of reasons are the claims are not managed well on construction process.

This paper analyzes the failure causes by relying on past claim failure cases, and then drew works that have connection with failure causes through interview. It also presented importance degree of construction management works.

Key words : Construction claim, Claim failure, Construction management works, Priority, Causes for the failure

1. INTRODUCTION

As construction projects are, by nature, very dynamic and involves unforeseeable elements, it is easily susceptible to the influence of various factors such as time extension, cost recovery, etc. Thus, it is only inevitable that construction claims are prevalent. They are important for the projects' success. As the claims occurred, it is required a lot of money, and costs long time to deal with these claims. Nowadays, the management of construction claims is one of the biggest challenges that contractors faced.

Construction claims are difficult if it is not prepared in a systematic manner. In fact, many of presented claims have not received the compensation money required, and frequently turned down. The reasons are ignorance about the claims, lack of documents managed, and so on. But most of all, the claims are not managed well on construction. Of course, the success of a lawsuit is dependent on the lawyer's capability, but it is also dependent on the contractors' management skills and recognition about the claims. Therefore, it is important to know which matters contribute to and which are irrelevant.

This research presents a priority of works that should be given greater attention in order to reduce the risk of a failure in a claim. First, we set a temporary criterion to determine a failure of a construction claim. Based on these criteria, we collected past failure cases and analyzed the reason caused failure. Then, we chose the construction management works that fundamentally caused the construction failure and analyzed the degree of connection between works and failures by interviewing the experts. Based on this analysis, we set the priority as the level of importance about each work

2. CONSTRUCTION CLAIM

2.1 Definition of a construction claim

In general, a claim means a request or a demand for compensation for the breach of a commercial contract. [It is used in various industries such as trade and construction. There are various definitions of a claim in the construction industry. The Federal Acquisition Regulations defines claim as a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other arising under or relating to third contract. James J Adrian (1988) viewed construction claim as a request by a construction contractor for compensation over and above the agreed upon contract amount for additional work or damages supposedly resulting from events that were not included in the initial contract. Kang (2000) defines claim as a written request by one of the contracting parties for controlling or interpretation of contract or money disbursement, extension of construction period or other relief step as right given to a party. Basically, a construction claim is a written request or a demand made by one party for the payment of a certain amount of money that is due delay of construction period or other relief step, etc. to the other party for a breach of the construction contract

2.2 The types of construction claims

James J Adrian (1988) classified construction claims as delay claims, scope of claims, acceleration claims and changing site condition claims. G.A.Hughes (1983) classified construction claims as the existence or applicability of contract, contract document of claims, claims for the execution of the work, payment claims, prolongations of claims and claims of default, determination, forfeiture.

Nam (2003) classified construction claims as delay claims, changing site condition claims, construction change claim, acceleration claims, claim for document, claim for contract termination, claim for owner's act of injustice, claim for environment. Other types of construction claims are construction work discontinuance, climate, closing out and business mistake and so on.

Table 1. Types of construction claims

Researcher	James J Adrian	G.A.Hughes	Nam
Types of construction claims	-Scope of claims	-The existence or applicability of contract document of claims	-Delay claims -Changing site condition claims
	-Acceleration claims	-Contract document of claims	-Construction change claim
	-Changing site condition claims	-Claims for the execution of the work	-Acceleration claims
		-Payment claims	-Claim for document
		-Prolongation of claims	-Claim for contract termination
		-Claims of default, determination, forfeiture	-Claim for owner's act of injustice. -Claim for environment

In summary, construction claims may be classified changing site condition claims, delay claims, scope of claims, claim for document, acceleration claims.

In this paper, the object of research is all types of claims that arise in construction projects.

2.3 Process of claim

Fig. 1 shows the general process of a claim. Upon the occurrence of an unfair act, the contractor must promptly submit it to the owner in writing. If a point of time of claim presentation is missed, claim is likely to be rejected.

Parties have to follow clauses in case that it is promised the claim presentation period in contract document. If not so, they must follow the appointed law. The FIDIC provides that "If the contractor intends to claim any additional payment pursuant to any clause of these conditions or otherwise, he should give notice of his intention to the engineer, with a copy to the employer, within 28 days after the event giving rise to the claim has first arisen."

When a contractor presents claim to the owner the opportunity to negotiate between the contractor and owner disappears. If both parties arrive at an agreement, the claim is withdrawn and the construction is resumed. If some form of settlement is not reached, the claim is referred to third party intervention, either in the form of a litigation, arbitration and meditation. Litigation and arbitration are legally binding where as a meditation is not. Therefore, in meditation, either party can reject the decision of the mediator and thus is less popular. On the other hand, litigation and arbitration are more widely adopted for dispute resolution.

Arbitration is the most widely adopted method for the following reasons;

- Single-trial system
- Expediency
- Less costly
- Judgment is given by a specialist
- Arbitrator selected by dispute party
- Being not open to the public
- International effect

Due to these merits, arbitration in construction claims has increased. In this paper, we used arbitration cases to analyze failure causes with reflecting this trend into the current study.

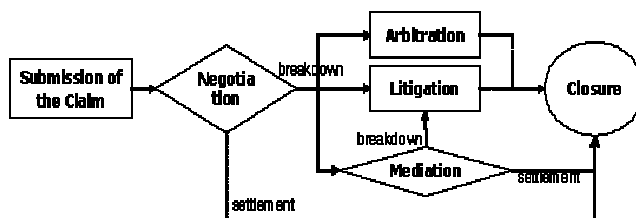


Figure 1. Process of a claim

2.4 Construction management works

Construction management works can be largely divided into eight processes: contract management, schedule management, design management, cost management, material management, quality management, flow management, labor management. Among these, contract management, cost management, schedule management and design management constitute more than 70% of the cause of a claim failure to arise.

These four main construction management processes can be further sub-divided into 16 sub-categories as shown in Table 2.

Table 2. Details of construction management processes

Management works	No	Detail work	Description
Contract management	A-1	Contract document work	Review on document, arranging the document
	A-2	Work related to government	Insurance / Guarantee / Obtaining permission
	A-3	Review on claim	Notification of owner, cases analysis, writing the claim document
	A-4	Constructing the communication system for participants	Owner + contractor + designer + supervisor
Schedule management	B-1	Schedule plan	Estimation for the expected schedule, milestone plan, making the master schedule
	B-2	Arrangement for performance along the schedule	Arrangement for performance, a good grasp of details schedule.
	B-3	Schedule report	Making the schedule report, Reporting for schedule (to supervisor/owner)

	B-4	Supervision for schedule	Confirmation of work change, productivity of labor and equipment
	B-5	Making the daily work sheet	Input of labor and equipment, taking the picture of construction schedule
Cost management	C-1	Executive budget management	The paid cost/ changing cost/ executive budget
	C-2	The paid cost management	The paid cost management
	C-3	Execution/ investment analysis	Report for current flow, plan of indirect cost
	C-4	Estimate	Estimate, Confirmation of unit price and the amount of materials, report
Design management	D-1	Design Plan management	Requisition/storage/recording
	D-2	Review of drawing	Construction Drawings, management
	D-3	Drawing change control	Changing order management and checking

3. CAUSES OF CONSTRUCTION CLAIM FAILURE

Construction projects are, by nature, big in scale and requires a significant amount to time to complete. Therefore, the adjustment of the money factor in a construction project can have a major effect on work progress and success of the whole construction. Therefore, it is very important that construction claim is minimized as much as possible.

In general, construction claims arise due to the unconscionable behavior of the owner. In other words, it is always the owner who is responsible for causing a claim to arise.

It is, therefore, important for a contractor to be prepared for this occurrence rather than to resale at when it does occur. Being prepared gives the contractor a more persuasive stance in the dispute. This must be carried out at the construction site. The reason is either due to the ignorance of the engineers of the claim and the lack of awareness.

This paper analyzes the relation between construction claim failure and works that is carried in construction site.

3.1 Claim failure

There is no proper definition as to what is a failure of construction claim. The definition of construction failure as commonly discussed in related literatures is different for claim failure.

Robert D. Gibreath(1986) divided the concept of claim failure into planning failure and actual failure and then defined that the sum of these two failures as perceived failure. Planning failure is the difference between what was planned and actual outcome. Actual failure is the difference between the actual outcome and and what could have been achieved.

$$\text{Perceived failure} = \text{Actual failure} + \text{Planning failure} \quad (1)$$

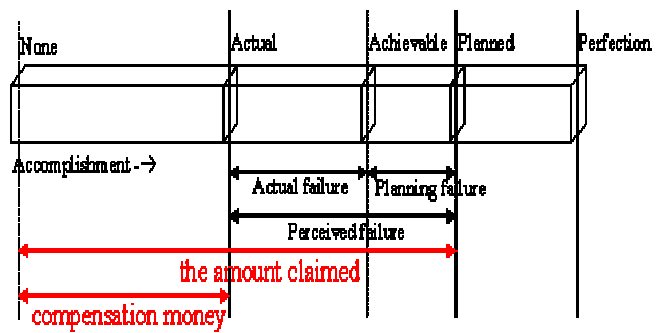


Figure 2. Actual failure and planning failure

What was planned to be accomplished was regarded as “the amount claimed” that is considered by contractor, and what was accomplished was regarded as “compensation money” that is decided by an arbitration committee. Lastly, the difference of the two is the perceived failure of construction claim. The less the perceived failure is, the more successful construction claim is.

This paper defined compensation ratio as compensation money/ the amount claimed. The higher the compensation ratio is, the more successful construction claim is.

$$\frac{\text{Compensation money}}{\text{The amount claimed}} = \text{compensation ratio} \quad (2)$$

People tend to generally seek to collect more compensation than initially planned by inflating damage. In fact, contractors who file a construction claim normally demand a larger sum than the actual damages in reflection of the anticipated compensation they wish to receive. This means that the amount what was planned to be accomplished would be greater than the actual value, which in turn means that the degree planning failure become greater.

Because inflating damage depends on the sole discretion of the contractor, it is very difficult to control it systemically. Therefore, if contractors wish to reduce the perceived failure, they must be higher actual value.

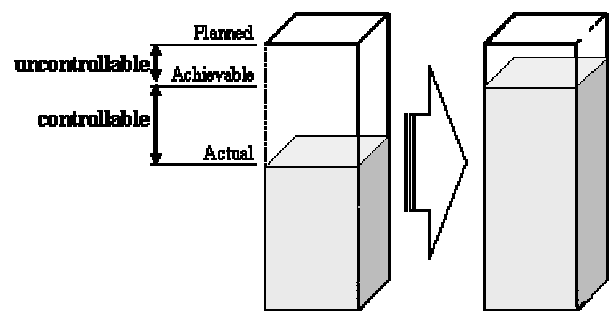


Figure 3. Uncontrollable action and controllable action

3.2 Analysis of failure cases

When presenting claim, contractor sets naturally expectation value, standard of failure or standard of success. The compensation ratio presented in this paper can become standard of claim failure. If standard of failure is different

cause of failure would also be different. Therefore, [this standard must be set to achieve this target
 In this paper, the standard of failure is regarded [as compensation rate 80%. The failure cases were drawn by this standard, and then analyzed. 94 construction arbitration cases that were decided between 2001 and 2005 years were used. The average claim amount was 1,259,522,905won and the average compensation money was 584,439,390905won. On average, the contractor could collect 46.4% of the amount claimed while 39 of cases were rejected. Cases whose compensation rate was less than 80%, which is regarded as the standard of failure, were 69 cases.

Table 3. Summary of Data on Failure Cases

Object of analysis	94 arbitration cases (2001~2005years)
Average amount claimed	1,259,522,905won/case
Average compensation money	584,439,390905won/case
standard of failure	compensation rate 80%
Number of failure cases	69 cases

3.3 Analysis of failure causes

Figure 4 presents the main causes of failure. This information was obtained by analyzing the arbitration documents of 69 failure cases. Figure 4 also presents 6 categories 12 sub-categories of failure causes, and the number of failure cases that correspond to it. Failure cause of construction claim is classified as mistakes and unskilled review, lack of evidence, delay of claim presentation, unessential contract and agreement, defects for construction quality, excessive demand.

Table 4. Causes of construction claim failure

Failure causes	Detail	Number of cases
Mistakes and unskilled review	Omission of contract clauses and lack of examination	9
	Mistake of estimate engineer and inexperience of processing	3
	Wrong plan and lack of examination for plan	4
Lack of evidence	Lack of calculation method for the period along expanding construction time and evidence	7
	Lack of evidence to justify design change	11
	Omission of prior arbitration agreement	1
	Lack of cost performance data (data of the paid direct cost/indirect cost)	9
	Lack of evidences and proof connected with forcible demand by owner	2
Delay of claim presentation	Presentation of claim after the designated presentation period, no trouble at the previous design change	12
Unessential contract and agreement		3

Defects of construction quality	Use of low quality materials, a lot of defects of construction quality	5
Excessive demand		3
Total		69

Among the various failure causes, “lack of evidence”, which constitutes 43% of overall causes, is the most important cause, followed by “mistakes and unskilled review” (23%) and “delay of making claim” (17%).

Most of these failure causes are occur in the course of the construction project. Therefore, the risk of claim failure can be reduced by proper management of works on construction site from at initial project step.

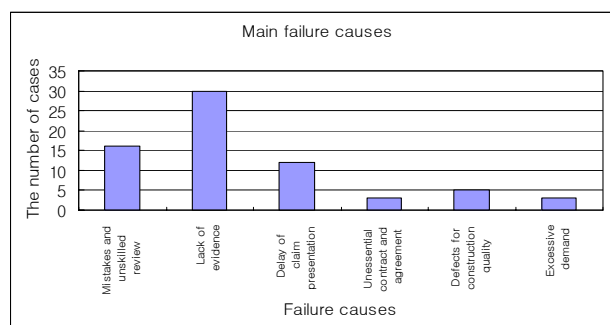


Figure 4. Construction failure causes

4. ANALYSIS

4.1 Surveys

To reduce failure of claim, it is important to investigate the works where failure causes most commonly occur and do so thoroughly. In addition, if importance degrees by works are presented, claim may be managed very strategically.

A survey was performed on 130 construction engineers of major companies or small companies to investigate management works and the degree of connection degree between management of work and failure cause. The response rate for the survey was 49%, and it generated a total of 64 interviews. The survey was conducted through a direct interview and via e-mail. Each survey sheet consisted of three arbitration cases; therefore, 192 arbitration cases were investigated in total.

The interviewees were grouped according to the number of service years as follows.

Table 5. Categories of responding engineers

Years of service	Respondents (%)
1 ~ 5 years	19
6 ~ 10 years	28
11 years ~	53
Total	100

Engineers who have worked more than 6 years constituted 81%. This is enough experience in the construction field to

respond with confidence to the survey.

Table 6 presents the questionnaire used in the paper. The questionnaire has claim failure cases. Interviewees were asked to mark the level of correlation between failure cause and construction management works. Among the 8 construction management works that has been referred to above, 4 of them (contract management, cost management, schedule management and design management) and its detail works were considered in this study for analysis.

Table 6. Sample questionnaire

Claim failure case No.031	
Subject	Request for the additional construction expense and extension of period resulting from ground sinking
Summary of request	Ground sank on construction. Attempted to fix problem by changing construction method. This is the force majeure. Therefore, owner will have to pay additional construction expense and to extend construction period.
Judgment	31.8% of the mount claimed
Reason of judgment	Contractor insists that owner promise payment of additional expense, but there is lack of evidence substantiating that negotiation had occurred. It is not clear whether technique support cost is added expense or only technique support cost.

1. The following are four works among construction management works related to construction claim. Grade weight in work thought with deep connection of reason of judgment among them.

Management Work	Contract management	Schedule management	Cost management	Design management	Total
Weight					10

2. The following is the table of the detailed work of the construction management works by methods such as upside, grade weight in work thought with deep connection of reason of judgment among them.

Contract management		
Weight	Detail works	Description
	Contract document work	Review of contract-related documents and arrange the document
	Work related to governmental administrative works	Procurement of insurance, guaranteeing, and obtaining the necessary government permit and authorizations
	Review of claim	Delivery of notification to owner, conducting case analysis, preparation of claim document
	Constructing the communication system for participants	Owner + contractor + designer + supervisor
10	Total	

Schedule management		
Weight	Detail works	Description
	Schedule plan	Estimation of expected schedule, development of milestone plan and master schedule
	Schedule	Management of performance and a good

	progress management	grasp of details schedule.
	Schedule report	Preparation of schedule report, reporting for schedule (to supervisor/owner)
	Supervision of schedule	Confirmation of work change, productivity of labor and equipment
	Preparation of daily work sheet	Input of labor and equipment, taking the picture about construction works
10	Total	

Cost management		
Weight	Detail works	Description
	Budget management	Paid cost/ changing cost/ budget
	Paid cost management	Paid cost management
	Execution/ investment analysis	Report of current flow, plan for indirect cost
	Estimate	Estimate, confirmation of unit price and the amount of materials, reporting
10	Total	

Design management		
Weight	Detail works	Description
	Design plan management	Requisition/storage/recording
	Review of drawing	Construction and management of drawings
	Control of changes to drawing	Management and checking of design change
10	Total	

4.2 Analysis of construction management works relevant to claim

Using the collected data, the importance degree was calculated by multiplying failure money and weight. Failure money was calculated by subtracting compensation money and the amount claimed. The sum of connection degrees of each management work that calculated in 69 failure cases determines the priority of management work. Figure 5 presents a simplified version of of this process

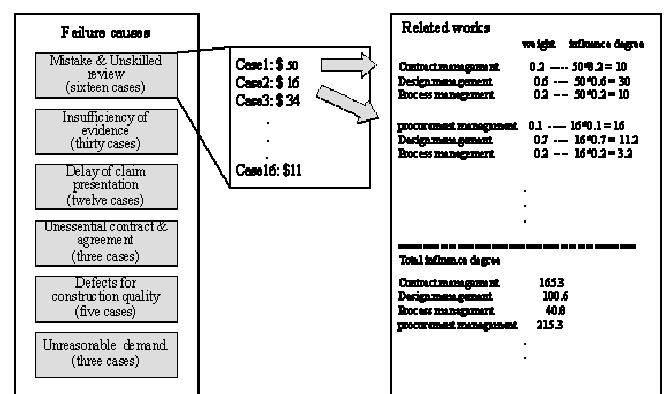


Figure 5. Example of calculating the degree of importance

4.3 Result

Figure 6 presents the correlation between degree of management work for claim failure. Among of four works, contract management is 52%, schedule management is 18%, cost management is 17% and design management is 13%. Among the sub-categories of the management works, preparation and review of contract documents had the greatest effect on the claim, followed by drawing change control, schedule report, executive budget management.

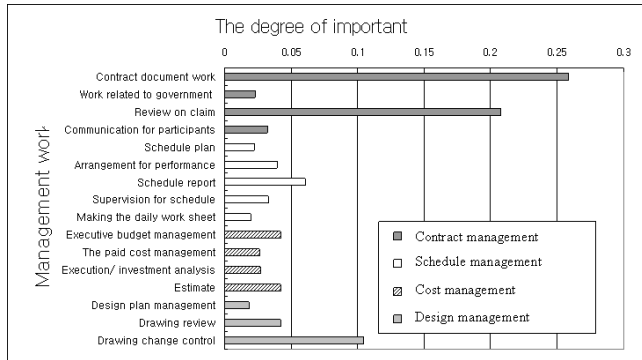


Figure 6. Construction management works in correlation to claim failure and their degree of importance

Contract document-related work, which was found to be the most import factor constituted 44 of the 69 failure cases. The amount of failure money is 15,255,384,998won and is 25.9% of the whole amount. That is, we can see that a loss of 344,106,429won per site occurred due to an error in the contract document work at construction site that fails to claim.

Other factors include review on claim which is 20.8% and drawing change control is 10.5%. This shows that these three highest ranking works are responsible for more than half of the causes of claim failure.

Table 7. Ranking of management works causing claim failure

Priority	No	Management work	The number of site	Failure money		Amount / site
				Amount(won)	%	
1	A-1	Contract document work	44	15,255,384,998	0.259	344,106,429
2	A-3	Review of claim	18	1,374,570,198	0.208	76,365,011
3	D-3	Drawing change control	48	12,247,058,908	0.105	255,147,061
4	B-3	Schedule report	21	1,892,455,622	0.061	91,570,433
5	D-2	Review of drawing	21	1,337,456,305	0.042	63,688,395
6	C-4	Estimate	31	2,347,752,188	0.042	75,733,942
7	C-1	Executive budget management	36	3,581,043,293	0.042	99,473,425
8	B-2	Progress management	24	1,946,256,619	0.040	82,236,195
9	B-4	Supervision of schedule	27	1,155,514,742	0.033	42,796,842
10	A-4	Development of	27	2,470,061,373	0.032	90,368,099

		communication system for participants				
11	C-3	Execution/ investment analysis	27	1,548,431,852	0.027	57,349,328
12	C-2	Paid cost management	26	1,579,802,555	0.026	60,761,637
13	A-2	Government-related administrative work	24	2,483,573,435	0.023	103,482,226
14	B-1	Development of schedule plan	16	1,079,522,305	0.023	67,470,144
15	B-5	Preparation of the daily work sheet	23	2,484,880,864	0.020	109,627,097
16	D-1	Design plan management	29	6,194,257,050	0.018	216,078,734

5. CONCLUSION

This paper sets forth a standard of claim failure based on the concept of compensation rate. Compensation ratio is the ratio of compensation money to the amount claimed. Standard of failure can be set differently as a situation This paper regards standard of failure as compensation rate 80% and draws failure cases based on this standard. As analyzed, the failure causes could be classified into six categories (mistakes and unskilled review, lack of evidence, delay of claim presentation, unessential contract and agreement, defects for construction quality, excessive demand). The most important reason for claim failure was “lack of evidence”.

Among the management works discussed herein, the work that had the most influence on claim failure is contract management. In addition, with respect to the sub-categories of the works, we found that contract document work, review of claim, and drawing change control were found to have the greatest effect on claim failure. Especially, we found that error in the review of claims should be managed with great care due to the potential risk of the claim being entirely rejected. If this research is applied at the enterprise level, we can expect that the claim failure will decrease.

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