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# Impacts of Delays in Project Completion in Terms of Time and Cost

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***Abstract:*** ***Construction delays can be defined as the late completion of work compared to the planned schedule or contract schedule. Construction delays can be minimized only when their cause are identified. The objective of this study was to identify the major causes of construction delays, the effects of delays, and methods of minimizing construction delays. This study was carried out based on literature review and a questionnaire survey. A total of eight groups were contributed to the cause of construction delays, six factors that effects delays and fifteen methods of minimizing construction delays were identified based on literature review. The questionnaire survey was distributed to the target respondent in UTM construction site. The objectives of the study were successfully achieved. The top three most important factors that contributed to the causes of delays were late in revising and approving design documents, delays in sub-contractors work, and poor communication and coordination change orders by owner during construction. Contractor-related delays was ranked the most significant groups that cause delays, followed by client-related delays, and consultant-related delays. Time and cost overrun were the common effects of delays in construction projects. To minimize delays in construction projects it has been identified that the top three effective methods of minimizing construction delays includes: site management and supervision, effective strategic planning, and clear information and communication channels.***

***Keywords: construction delay, Effective strategic planning, UTM Construction site***

## I. INTRODUCTION

A delay may occur concurrently with other delays and all of them may impact the project completion date. Delays caused by the client such as late submission of drawings and specifications, frequent change orders, and inadequate site information generate claims from both the main contractors and subcontractors which many times entail lengthy court bettles with huge financial repercussions. Delays caused by contractors can generally be attributes to poor managerial skills. Lack of planning and a poor understanding of accounting and financial principles have led to many a contractor's downfall.

Many construction projects have faced various problems and delay of time is one of the major problems. The delay in dispute settlement has manifold effects such as it will give detrimental to the relationship between owner and contractor. Moreover, it will also contribute to the cost and time overruns. The most serious problem is it sends bad signals to foreign investors thereby slowing down the national progress. It is generally said that the contract language is considered difficult to comprehend and they are therefore a major source of disputes. Although our research are in the same state, but my research would be more concentrate on campus construction project and the problems faced in university construction site would be slightly different from other area.

### *A. Types of delay*

*1)* Critical or noncritical
*2)* Excusable or non-excusabl
*3)* Compensable or non-compensable
*4)* Concurrent or non-concurrent

All delays that are identified in the analysis will be either excusable or non excusable. Delay can be further categorized into compensable or non-compensable delays.

### *B. Critical Versus Non-Critical Delays*

Delays that affect the project completion, or in some cases a milestone date, are considered as critical delays, and delays that do not affect the project completion, or a milestone date, are noncritical delays. If these activities are delayed, the project completion date or a milestone dater will be delayed. The determining which activities truly control the project completion date depends on the following:

 

1) The project itself
2) The contractor's plan and schedule (particularly the critical path)
3) The requirement of the contract for sequence and phasing
4) The physical constraint of the project, i.e. how to build the job from a practical perspective.

*C. Excusable versus Non-Excusable Delays*

All delays are either excusable or non-excusable. An excusable delay is a delay that is due to an unforeseeable event beyond the contractor's or the subcontractor's control. Normally, based on common general provisions in public agency specifications, delays resulting from the following events would be considered excusable:

1) General labor strikes
2) Fires
3) Floods
4) Acts of God
5) Owner-directed changes
6) Errors and omissions in the plans and specifications
7) Differing site conditions or concealed conditions
8) Unusually severe weather
9) Intervention by outside agencies
10) Lack of action by government bodies, such as building inspection.

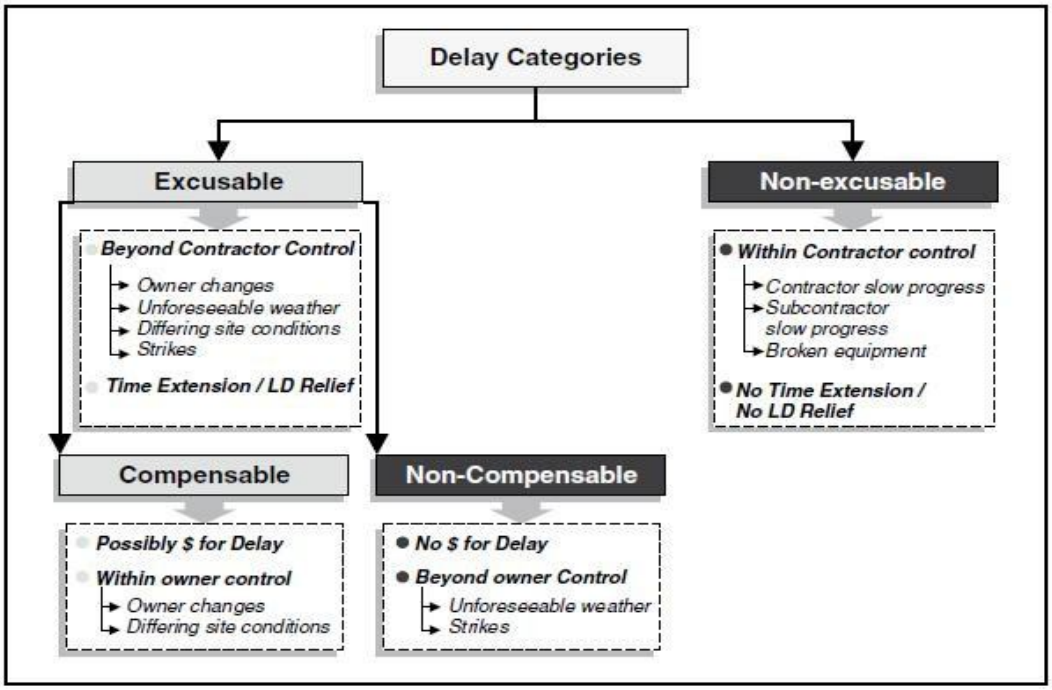


Fig 1: Delay Categories

*D. Compensable Delays versus Non-Compensable Delays*

A compensable delay is a delay where the contractor is entitled to a time extension and to additional compensation. Relating back to the excusable and non-excusable delays, only excusable delays can be compensable. Non-compensable delays mean that although an excusable delay may have occurred, the contractor is not entitled to any added compensation resulting from the excusable delay. Thus, the question of whether a delay is compensable must be answered. Additionally, a non-excusable delay warrants neither additional compensation nor a time extension.

Whether or not a delay is compensable depends primarily on the terms of the contract.

In the most cases, a contract specifically notes the kinds of delays that are non-compensable, for which the contractor does not receive any additional money but may be allowed a time extension.

*E. Concurrent Delays*

The concept of concurrent delay has become a very common presentation as part of some analysis of construction delays. The concurrency argument is not just from the standpoint of determining the project's critical delays but from the standpoint of assigning responsibility for damages associated with delays to the critical path. Owners will often cite concurrent delays by the contractor as a reason for issuing a time extension without additional compensation. Contractors will often cite concurrent delays by the owner as a reason why liquidated damages should not be assessed for its delays. Unfortunately, few contract specifications include a definition of concurrent delay and how concurrent delays affect a contractor's entitlement to additional compensation for time extension or responsibility for liquidated damages.

*F. Effects of Delay*

The six effects of delay identified were:

*1)* Time overrun;
*2)* Cost overrun;
*3)* Dispute;
*4)* Arbitration;
*5)* Total abandonment; and
*6)* Litigation.

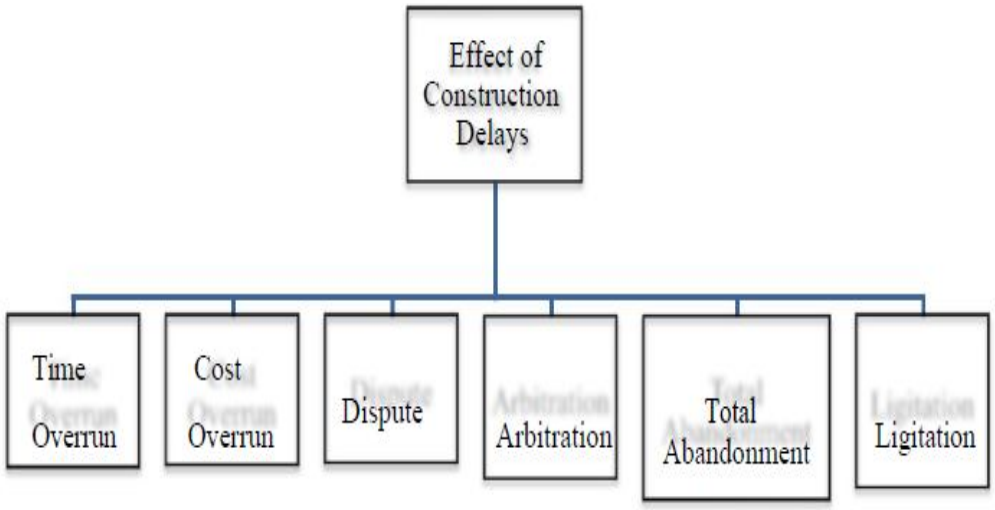


Figure 2 Effects of Construction Delays

## II. LIQUIDATED DAMAGES

Clauses have the virtue of informing both parties to a contract in advance what the damages payable for an identified breach will be at the time of entering the contract. This can be equal advantage to the party who must pay the damages as it is to the party receiving the damages. The upper limit of the damages payable is fixed and a party can take this into account in the initial negotiations. It is not uncommon for a contractor who knows he or she cannot complete within the required time to add the liquidated damages equivalent of the time overrun to the tendered price.

## III. CONCLUSION

Delays occur in every construction project and the magnitude of these delays varies considerably from project to project. Some projects are only a few days behind the schedule; some are delayed over a year. So it is essential to define the actual causes of delay in order to minimize and avoid the delays in any construction project. There is a wide range of views for the causes of time delays for engineering and construction projects. Some are attributable to a single party, others can be ascribed to several quarters and many relate more to systemic faults or deficiencies rather than to group or groups. The successful execution of construction projects and keeping them within estimated cost and prescribed schedules depend on a methodology that requires sound engineering judgment.

 

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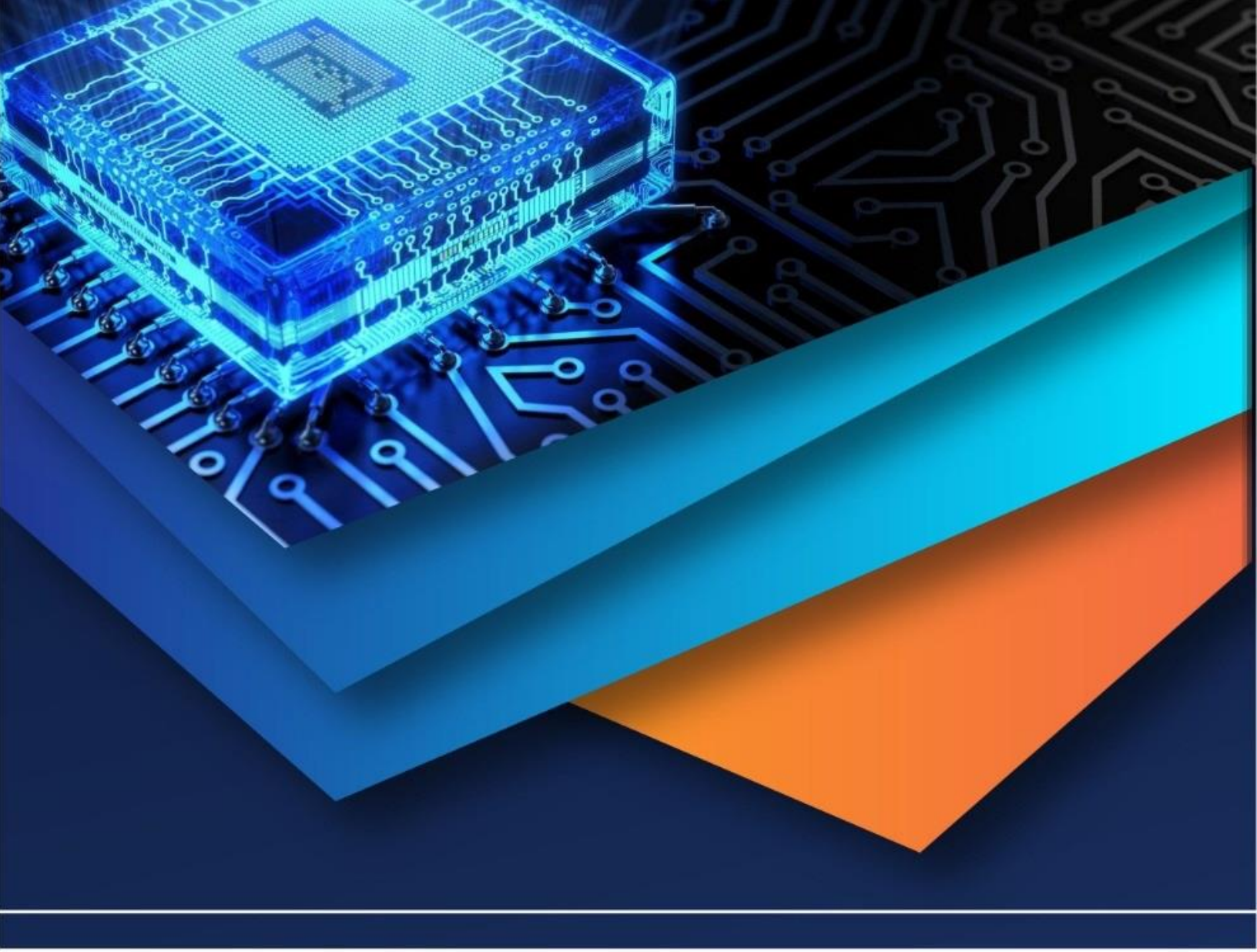

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