

# **METHODS FOR ANALYSING CONCURRENT DELAYS IN SRI LANKAN CONSTRUCTION INDUSTRY**

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Dissertation submitted in partial fulfillment of the requirements for the Degree of  
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Department of Building Economics

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# DECLARATION

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I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The above candidate has carried out research for the Masters dissertation under my supervision.

.....  
Ch.QS. (Dr.) G. I. Karunasena Date  
Dissertation Supervisor

## ABSTRACT

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### Methods for Analysing Concurrent Delays in Sri Lankan Construction Industry

Difficulties arise when two or more events occur at exactly the same time or simultaneously, that have the effect of delaying the project completion date. This is known as concurrent delay. Concurrent delays have been labelled as the most complex and challenging aspect of delay analysis. However concurrency in construction delay claims can be evaluated using methods such as “Apportionment” method, “Malmaison” approach, “Dominant cause” approach, “But for test” and “First in line” approach. Most of the concurrency delay analysis methods have been tested in the court of law for assessing concurrent delay claims. However, in Sri Lankan context it is not much popular among industry practitioners.

Hence it was expedient to carry out a proper research to find out the way of treating concurrent delays in Sri Lankan Construction Industry with the aim of identifying the appropriate method/s for assessing concurrency in construction delays in Sri Lankan Construction Industry. The research was approached through a mixed research approach, which comprised of qualitative data collected via semi structured interviews and quantitative data collected via structured questionnaire survey. Relative Important Index (RII) was mainly used in the data analysis.

Results revealed that Malmaison approach is the most suitable method for analysing concurrency in construction delays claims Sri Lankan Construction Industry which has been accepted and applicable in the court of law. Further according to the research findings poorly updated programmes, lapses and omissions in documents, absence in acceptable quality in documentation for absence of potential impacts of delays and lack of knowledge in Case Laws were lead low usage of concurrent delay analysis methods in Sri Lankan Construction industry. It can be recommended that SCL protocol 2002 to be used as guidance for assessing concurrent delays in the contracts and clear method for preparing programmes to be included in the contracts to encourage better concurrent delay analysing practice.

**Keywords:** *concurrent delay, construction industry, construction programme, delay analysis, SCL protocol*

# DEDICATION

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**This is dedicated to all**

**The devotees and the**

**well-wishers in the**

**field of native construction.....**



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## ABBREVIATIONS

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AACE	-	The Association for the Advancement of Cost Engineering
CPA	-	Contemporaneous Period Analysis
CPM	-	Critical Path Method
DAT	-	Delay Analysis Techniques
EOT	-	Extension of Time
IDT	-	Isolated Delay Type
JCT	-	Joint Contracts Tribunal
MDWA	-	Modified Daily Windows Analysis
RCPM	-	Resource-constrained Critical Path Method
RCS	-	Resource Constrained Schedules
SCL	-	The Society of Construction Law



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