

**SUITABILITY OF DELAY ANALYSIS TECHNIQUES:
CONSIDERATION OF RESOURCES AND LEGAL
BACKGROUND**

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**Degree of Master of Science in Construction Law and Dispute
Resolution**

Department of Building Economics

University of Moratuwa

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DECLARATION

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

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Ch. QS Prof. (Mrs.) B.A.K.S. Perera
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ABSTRACT

The study focuses on using critical path methods in legitimate delay analysis in the construction industry to address delay claims fairly and accurately. The research problem centres on the accountability of delay analysis techniques, the SCL protocol, and the legal framework that governs them to ensure unbiased and accountable outcomes. The literature review covers claims, delays, and delay analysis methods in the construction industry, the legal context for claims, and the importance of project scheduling, offering resources for selecting the best approach and emphasising the significance of these methods in claims management. The methodology employed a systematic and scientific approach, using qualitative research methods and semi-structured interviews to collect data, with subsequent chapters analysing the findings obtained through manual content analysis. The research findings stressed the importance of selecting appropriate delay analysis methods in construction projects, considering factors such as data availability, contractual obligations, and project complexity. Legal considerations, the analyst's skills and judgment, and the attitudes of the opposing party also play a crucial role in the accuracy and reliability of delay analysis. These findings offer valuable insights for practitioners and create opportunities for further research in this field. In conclusion, reliable and proper delay analysis is critical for successful construction project outcomes, and selecting the appropriate delay analysis method should be based on project-specific factors and data accessibility. Adherence to the SCL protocol, accurate record-keeping, and consultation with experienced delay analysts are crucial for effective dispute resolution and timely project completion. It is recommended to follow a step-by-step approach for selecting a delay analysis method based on contract requirements, availability of a logic-linked baseline programme, and discussions with engineers, considering the availability of time, resources, and data on delay events and the as-built programme. Careful evaluation of all project factors and requirements is essential before selecting the appropriate delay analysis method. Consulting with experienced professionals is also recommended.

Keywords: Delay Analysis, SCL protocol, Claim, Critical Path Method

DEDICATION



Dedicated to my beloved parents, supportive wife, and loving family for their unwavering love and encouragement throughout my academic journey. I extend my gratitude to my supervisor, university lecturers, and past teachers for their guidance and knowledge-sharing that have been pivotal in shaping my academic and personal growth.



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ABBREVIATIONS

FIDIC	-	The International Federation of Consulting Engineers
SCL	-	Society of Construction Law
UK	-	United Kingdom
DAM	-	Delay Analysis Method
GDP	-	Gross Domestic Product
CPM	-	Critical Path Method
CPA	-	Critical Path Analysis
EOT	-	Extension of Time
QDA	-	Qualitative Data Analysis
SAF	-	Suitability, Acceptability and Feasibility
DAT	-	Delay Analysis Technique
IAP	-	Impacted As-Planned Analysis
TIA	-	Time Impact Analysis
WA	-	Windows Analysis/ Time Slice Window Analysis
CAB	-	Collapsed As-Built Analysis
APAB	-	As-Planned vs. As-Built Analysis
LAP	-	Retrospective Longest Path Analysis