

**TIME OVERRUN EVENTS ACCOUNTABLE TO  
THE CLIENT IN BRIDGE CONSTRUCTION  
PROJECTS, SRI LANKA**

**MASTER OF SCIENCE  
IN  
CONSTRUCTION PROJECT MANAGEMENT**

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PROJECTS, SRI LANKA**

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“This dissertation was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfilment of the requirements for the Master of Science in Construction Project Management”

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May 2022

## DECLARATION

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## ABSTRACT

The bridge construction industry in Sri Lanka has been severely affected by the time overrun events in the past. The trend is continuing and the requirement of taking mitigation measures in the industry is a high priority. Once a time overrun event occurs, it will be analysed by the consultant of the contract. If the accountability of it is on the client, the contractor will be granted an Extension of Time and the relevant compensations. Therefore, identifying the causes of the time overrun events and the accountable party of those is a high necessity for forecasting and taking mitigation measures.

The research is on identifying the key time overrun events accountable to the client in bridge construction projects, Sri Lanka. Seventy (70) time overrun events in bridge construction projects have been found by literature review and case studies of 18 projects. These time overrun events are analysed from the responses by the professionals through a questionnaire survey and found out nineteen (19) time overrun events accountable to the client using the Relative Importance Index. The analyses have been continued through interviews with the key experts of the field as well to understand the probability and impact of the events. Accordingly, by using the Frequency Index and Severity Index, the events were prioritized and the use of Probability-Impact Matrix, it has been identified the five (5) most critical events accountable to the client in the bridge construction projects which are Possession of site, Unclear scope (Variation Orders), Land acquisition matters, Utility shifting matters and Design changes.

Further, it has been observed that around 70% of time overrun events accountable to the client can be forecasted in the planning phase (before awarding the contract) of the project. Therefore, the research recommends several methods for conducting a proper planning phase of a project by highlighting the current drawbacks and hence avoiding or mitigating the risk of time overrun events that would be generated during the construction phase of the project.

**Key Words:** Time overrun, Accountability, The client, Bridge construction, Sri Lanka, Mitigation measures, Relative Importance Index

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## LIST OF ABBREVIATION

<b>Abbreviation</b>	<b>Description</b>
SL	Sri Lanka
RDA	Road Development Authority
MOH	Ministry of Highways
ADB	Asian Development Bank
JICA	Japan International Cooperation Agency
GOSL	Government of Sri Lanka
PMU	Project Management Unit
CIDA	Construction Industry Development Authority
FIDIC	International Federation of Consulting Engineers
RII	Relative Importance Index
FI	Frequency Index
SI	Severity Index
PI	Priority Index
EOT	Extension of Tim