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**AN ANALYTICAL STUDY OF PROJECT
MANAGEMENT CHALLENGES IN UTILIZATION OF
PROPRIETARY FORMWORK SYSTEMS IN HIGH
RISE BUILDING CONSTRUCTION IN SRI LANKA**



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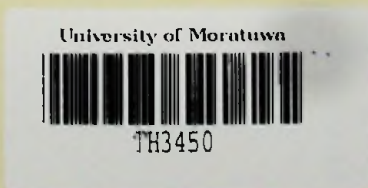
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DECLARATION

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ABSTRACT

An Analytical Study of Project Management Challenges in Utilization of Proprietary Formwork Systems in High Rise Building Construction in Sri Lanka

Selection of a formwork system for construction projects is mainly based on the individuals' experience which may not be the optimum. Since, best possible way to gear up the work is achieving the shortest possible floor cycle in typical floor construction, this directly depends on the type of the formwork selected.

This research, therefore, aims to analyze the project management challenges in utilization of proprietary formwork systems in high rise building construction in Sri Lanka. To fulfill the aim of the research several objectives of the research are formulated. They are to, identify adoptable forming systems in high rise construction, influential factors impact the Project Management in the selection of a proprietary formwork system, proprietary formwork systems available and their limitations, and develop a guideline for selection of a proprietary formwork system to ensure quality management in construction projects.

To fulfil the research objectives, based on the comprehensive review of the literature a theoretical framework is hypothesized by identifying the influential factors discussed, and an online survey on Conventional and Proprietary formwork systems has been carried out among project managers in the construction industry to identify most influential factors in the selection process of a proprietary formwork system.

The results indicated that the systematic erection of formwork will definitely reduce the time and cost respect to conventional method. As the structures in high rise construction projects are complex and designed as precise, concrete fair face finishers are a major requirement of a system formwork as the finishing details are the governing factors. Therefore, it is very conclusive that the selection of a system formwork is highly based on the reusability of the system within the project and the speed of work. Thus, the outcomes of this process are useful to decision makers to use as a framework to assist in selecting the most appropriate formwork system.

Keywords: *Formwork Systems, High Rise Buildings, Proprietary formwork systems.*

DEDICATION

*I would like to dedicate
This piece of work first & foremost,
To my Parents and the Family,
Whose affection, love, encouragement
And prays of day & night make me able to
Get such success and honor,

And teachers, who taught me
To think, understand and express.
I earnestly feel that without their inspiration,
Able guidance and dedication I would not be able
To pass through the tiring process of this research*

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LIST OF ABBREVIATIONS

- BIM – Building Information Modeling
- CPM – Critical Path Monitoring
- LOB – Line of Balance
- MEP – Mechanical, Electrical and Plumbing
- RII – Relative Importance Index
- 4D – Four Dimensional
- ISO – Institute of Standards Organization