

**FOSTERING LEAN CONSTRUCTION THROUGH
HUMAN CAPACITY BUILDING: AN EMPIRICAL
STUDY OF THE LARGE-SCALE CONTRACTORS IN
CONSTRUCTION INDUSTRY**

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Thesis submitted in partial fulfilment of the requirements for the
Degree of Master of Science (Major Component Research)

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February 2022

DECLARATION

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DEDICATION

*To my beloved husband, parents, brother
and the hidden pillars of my every
success.....*

ACKNOWLEDGEMENT

This dissertation is an outcome of much dedication and assistance received from many personnel and organisations, who contributed in different ways to complete this study. They have committed their valuable time and effort to ensure the success of this research. I take this opportunity to convey my gratitude to all of them.

First and foremost, I would like to express my heartiest gratitude to my supervisor Prof. Y. G Sandanayake for the utmost guidance, supervision and encouragement provided to me at all times to make this research a success. Her exemplary guidance since my undergraduate days has directed me in the right path as a researcher. My sincere gratitude is also extended to academic and non-academic staff members of Department of Building Economics for the immense assistance. I cannot forget the support received from my fellow researchers at the Research Room of Department of Building Economics.

I am also grateful to all the interviewees and subject matter experts who contributed for data collection of this research.

I wish to extend my sincere appreciation to Director Research and members of the Senate Research Committee of University of Moratuwa for providing funding to undertake this research under the SRC grant (SRC/LT/2020/04).

I am thankful to my beloved husband, parents and brother, for standing by my side throughout this journey. I am also grateful to my friends for their support.

ABSTRACT

Fostering Lean Construction through Human Capacity Building: An Empirical Study of the Large-Scale Contractors in Construction Industry

The construction industry practitioners are tending to implement lean based approaches for the successful project delivery instead of conventional project management approaches. Successful lean implementation in construction industry is severely impacted by human related challenges. Hence, human capacities are significantly necessary for the successful lean construction implementation. However, there is a lack of empirical investigation on lean enabling human capacities in construction industry. Therefore, this research was aimed to develop a model to foster lean construction through human capacity building by large-scale contractors in construction industry.

An in-depth literature synthesis was carried out to review on how to foster lean construction through human capacity building. The literature synthesis emphasised the human capacities necessary for successful lean construction implementation under seven sub human capacity categories namely knowledge, leadership, positive attitudes, work ethics, team work, critical thinking, and communication and strategies to build human capacities under four levels of individual, organisational, industry, and government. The data collection was carried out through the semi-structured interviews in three phases. Manual content analysis was used to analyse the obtained data.

Phase I of data collection identified several human related challenges of lean implementation including no commitment, knowledge level constraints, and lack of leadership on lean construction. Necessary human capacities to foster lean construction were identified for human resources of each hierarchical levels under aforementioned seven sub human capacity categories. Moreover, the advantages of human capacity building in lean construction implementation were investigated. Phase II of data collection has identified the strategies to build human capacities under four levels of individual, organisational, industry, and government. Finally, the collected data on human capacities and strategies were integrated in to a model and presented to three experts for validation and finalised the research model on fostering lean construction through human capacity building. This study makes several noteworthy contributions to the existing body of knowledge on human capacity building in lean construction and strategies to build human capacities to foster lean construction. Several recommendations on understanding potential advantages of human capacity building in lean implementation, and employing the developed framework on human capacity building in successful lean construction implementation can be made to the industry practitioners through this research.

Key words: Large-Scale Contractors, Lean Construction, Human Capacity Building, Human Related Challenges, Strategies

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LIST OF ABBREVIATIONS

CIDA	Construction Industry Development Authority
CPD	Continual Professional Development
ICTAD	Institute for construction Training and Development
IGLC	International Group for Lean Construction
JIT	Just in Time
LC	Lean Construction
LPS	Last Planner System
OECD	Organisation for Economic Co-operation and Development
SMC	Small and Medium Contractors
UK	United Kingdom
USA	United States of America

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