

**DIFFICULTIES OF APPLYING BUILDING  
INFORMATION MODELING (BIM) IN PRE-  
CONSTRUCTION STAGE OF CURRENT BUILDING  
CONSTRUCTION PRACTICE OF SRI LANKA**

Amila Niroshan Wijayalath

(179047K)

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Department of Building Economics

University of Moratuwa

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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.

Name of the supervisor: Ch. QS H.S. Jayasena

Signature of the supervisor:

Date:

## DEDICATION

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*I dedicate this piece of research to my beloved  
family*

## ACKNOWLEDGMENT

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This research study would not have been possible without the assistance and dedication of numerous individuals and organizations. Therefore, I take this opportunity to convey my gratefulness to each and every one of them.

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BIM is identified as a recently introduced technology which delivers various advantages to the construction industry. Despite of the available advantages of BIM adoption, many developing countries still find this valuable technology impractical. As a result, this research is primarily focused on identifying the difficulties of adopting Building Information Modelling (BIM) in current building design and construction practice of Sri Lanka. The study was focused on pre-construction stage because it has been highlighted that the introduction of this technology in the early stage of a construction project assists in achieving a successful completion of a project. With the intention of providing a basis for conducting the study, an in-depth literature review was conducted to identify the enabling processes of BIM in preconstruction phase of construction projects in global context. The research aim was approached through a qualitative research strategy conducted in terms of a case study where the data was collected using document review and semi-structured interviews. The collected qualitative data was analysed with content analysis method to identify the construction practice of BIM enabling activities in pre-construction stage of a Sri Lankan construction project. The research findings further exposed the differences in practice of BIM enabling activities between local context and global context in pre-construction stage. Based on the discovery made on differences in construction practices the difficulties of achieving the global best practices in local context were discovered. Accordingly, the difficulties of applying BIM technology in preconstruction stage of a Sri Lankan construction project were identified. The discovery of difficulties provides a basis for identifying the expected challenges from adopting BIM in Sri Lankan context. Moreover, further research directions can be suggested towards the areas such as concerning other developing countries and focusing on difficulties of BIM implementation in construction stage.

**Key words:** Pre-construction stage, BIM (Building Information Modeling), Sri Lankan construction projects, BIM enabling processes

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## LIST OF ABBREVIATIONS

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Abbreviation	Description
AEC	Architecture, Engineering & Construction
BEP	BIM Execution Plan
BIM	Building Information Modeling
BOD	Basis of Design
BOQ	Bills of Quantities
CBA	Cost Benefit Analysis
CDE	Common Data Environment
EIR	Employer's Information Requirements
MEP	Mechanical Electrical and Plumbing
QS	Quantity Surveyor
RIBA	Royal Institute of British Architects

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