APPLICABILITY OF BUILDING INFORMATION MODELING (BIM) FOR MINIMIZING DISPUTES ARISING FROM PROJECT TEAM DIVERSITY

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DECLARATION

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. Also, I hereby grant to University of Moratuwa the non-exclusive right to reproduce and distribute my thesis/dissertation, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works (such as articles or books).

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

Signature of the supervisor: Date:

I dedicate this piece of research to my beloved family

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Abstract

Complexity of construction industry makes it inevitable to avoid disputes among project team members. Diversified nature of team members is identified as a main source of disputes which impose negativity to projects. Even though there is a visible connection between BIM implementation and dispute minimization, people tend to refuse accepting this valuable technology. Therefore, the research is mainly focused on identifying the applicability of BIM technology to minimize disputes within construction projects that arise due to diversified nature of team members. This research aim was approached through a qualitative research strategy by collecting data from qualitative observational study in the form of desk research and semi-structured interviews conducted with industry experts. The qualitative data was analyzed using content analysis to develop a conceptual framework which directed the study towards its aim. The research findings exposed encouraging team work; establishing a vision and providing goals formed by a central scientific idea; creating good communication within project teams; engaging qualified and experienced personnel; increasing levels of trust within the team; establishing effective problem solving mechanisms; and encouraging intellectual disagreement as the main causes of disputes that arise due to diversified nature of team members. Moreover, research disclosed the main techniques that can be used to implement the each identified main methods of dispute minimization. Accordingly, a conceptual framework was developed to identify the applicability of BIM technology in minimizing disputes among project team members. Additionally, the research findings were validated through expert opinions in order to make the outcome more reliable. The developed conceptual framework provides a basis for decision making in initial stage of building construction projects where decision for adopting BIM technology emerge. Moreover, further research directions can be suggested towards the areas such as concerning a different context for the same research problem and using different units of analysis.

Key words: Team diversity, Disputes, Conflicts, Dispute minimization, BIM (Building Information Modeling), Construction Project Team

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LIST OF ABBREVIATIONS

Abbreviation	Description
AEC	Architecture, Engineering and Construction
BIM	Building Information Modelling
CAD	Computer Aided Design
CDE	Common Data Environment
IOT	Internet of Things
LOD	Level of Development
QS	Quantity Surveyor

LIST OF APPENDICES