

**ADAPTABILITY OF DIGITAL TECHNOLOGIES
IN CONSTRUCTION PRACTICES IN SRI LANKA**

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Degree of Master of Science in Project Management

Department of Building Economics

University of Moratuwa
Sri Lanka

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Dissertation submitted in partial fulfilment of the requirements for the
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DECLARATION

I declare that this is my own piece of work and it does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning. Moreover, 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.

Further, I acknowledge the intellectual contribution of my research supervisor Ch.QS, Prof.(Mrs) Kanchana Perera for the successful completion of this research dissertation. I affirm that I will not make any publication from this research without the name of my research supervisor as contributing author unless otherwise, I have obtained written consent from my supervisor.

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W.H.T. Gunawardhana

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Date

I hereby acknowledge that Widana Hewage Terans Gunawardhana has followed the dissertation process for the Masters Dissertation set by the Department of Building Economics under my supervision.

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Ch.QS. Prof. (Mrs.) Kanchana Perera

Dissertation Supervisor

.....

Date

ABSTRACT

Enormous literature sources suggest that with the development of digital technologies many industries tend to change their business models, strategies and applications. Accordingly, some scholars argue that the construction industries are facing significant challenges as more processes are digitised and automated. Therefore, this study aimed at studying how developing technologies affect the future of construction industry.

In this study, the objectives were formulated as, identify the current level of application of modern technologies in Sri Lankan construction industry, identify the possible developments in modern technologies in Sri Lankan construction industry, and explore the possible issues of modern technologies in Sri Lankan construction industry and solutions for them. The qualitative approach was adapted to attain the aim and objectives of the research. A manual content analysis was done to analyse the responses received from semi-structured interviews and validated.

One of significant findings of the research indicate that lack of awareness about the advantages of adopting technologies in construction industry activities has become a severe problem, in this case, actions should be taken to increase the awareness of the entire industry. There were some identified limitations throughout the whole research process. Mainly, time was recognised as a crucial boundary for the research, especially for the data collection process. However, these study results suggest to carry out some research in the future to assess effect through economic, social and environmental aspects of technologies used in the construction industry and to develop a framework to understand the future role of each expert in Sri Lankan construction industry due to changes in technologies.

Keywords: *Digital Technologies, Level of Application, Construction Industry*

DEDICATION

I dedicate this research to my beloved parents & my brothers, Wife & her family for the immense love, care, support and encouragement conveyed to me at all times

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Terans Gunawardhana

November 08, 2018

LIST OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION
CEA	Central Environmental Authority
CSEB	Cement Stabilized Earth Blocks
CIDA	Construction Industry Development Authority
CICA	Confederation of International Contractors' Associations
EPs	Expanded Polystyrenes
EAIA	Environment Aspect Impact Assessment
GBCA	Green Building Council of Australia
ISO	International Organization for Standardization
IoT	Internet of Things
ICTAD	Institute for Construction Training and Development
JIT	Just-in-time
LEED	Leadership in Energy and Environmental Design
OSHAS	Occupational Health and Safety Assessment Series
TR	Technology Readiness
TTF	Task-Technology Fit
TBL	Triple Bottom Line
TQM	Total quality management
UNEP	United Nations Environment Programme

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