

**ACHIEVING THE BEST VALUE THROUGH
ENVIRONMENTAL SUSTAINABLE CONSTRUCTION
INTEGRATED PROCESS MODEL**



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R.M.A.S. Manewa

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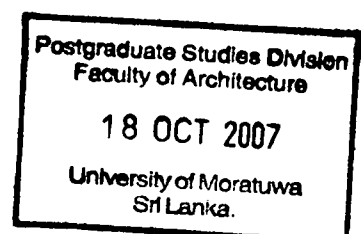
Department of Building Economics

Faculty of Architecture

University of Moratuwa

Sri Lanka

July 2007



**ACHIEVING THE BEST VALUE THROUGH
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Being a dissertation submitted in partial fulfillment of the requirements of

The Degree of Master of Philosophy – M. Phil



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Dedication

To my parents,

For their Wisdom and Guidance

Declaration

I hereby declare that this submission of thesis is my own work and that, to the best my knowledge and belief, it contain neither materials or facts previously published or written by another person nor materials or facts which to a substantial extent has been accepted for the award of any degree or diploma of a University or other Institute of higher studies, except where an acknowledgement is made in the text.

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.....
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Abstract

Value Management (VM) and Environmental Sustainability (ES) are increasingly becoming important tools to be considered in construction. VM is one of the recognized techniques that made substantial cost savings on construction projects and sustainability is about delivering better long term value for the built environment and its inhabitants. The attention on ES issues in VM remains untapped area due to scarcity of information. Theoretically, the intrinsic capabilities and the positive relationships between these two heighten VM position as an effective means for sustainability improvements. The purpose of this research study is to identify how the ES criteria could be incorporated into the VM process and it's acceptability by the construction clients. The research is focused on a development of a process model by combining both ES and the best value criteria to select construction materials.

The research was placed in qualitative research philosophies as the aim was to generate rich data from the experiences of VM team to find the means of ES delivery in VM. This research begins from the data gathered through a comprehensive literature review and unstructured interviews. Based on the literature review the Integrated Process Model (IPM) was developed. The developed model was tested through multiple case studies to find the client's acceptance towards the environment favourable material selection.

It was found 47% of materials derived from the IPM are purely matching with the client's choice. By adopting this process model at the very early stages of material selection the acceptance can be improved further.

The research can concluded that the VM and ES can be incorporated through the Integrated Process Model to select construction materials. Further the model has the high level of acceptance among the construction clients and the early application of the model provides multiple benefits to the project stakeholders.

Key Words: Best Value, Value Management, Environment Sustainability, Construction Materials, Integrated Process Model



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Abbreviations

BV	-	Best Value
CS	-	Combined Scoring
ES	-	Environment Sustainability
ESI	-	Environment Sustainable Index
FAST	-	Functional Analysis System Technique
GS	-	Green Scoring
IPM	-	Integrated Process Model
LCA		Life Cycle Assessment
MCS		Multi Criteria Scoring
UN	-	United Nations
VI	-	Value Index
VM	-	Value Management

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