

EFFECTIVENESS OF COMPUTER APPLICATIONS IN MANAGEMENT OF BUILDING CONSTRUCTION PROJECTS IN SRI LANKA

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GEORGE PREMAN JEYAWEEERASINGHAM

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A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF ENGINEERING IN
CONSTRUCTION MANAGEMENT



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May 1996

Supervised by

Eng. P.M. GUNASEKARA

67983

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**DEPARMENT OF CIVIL ENGINEERING
UNIVERSITY OF MORATUWA
MORATUWA, SRI LANKA**

*624 "96"
69:681.3*

Abstract

Today, construction activity is becoming increasingly complex due to rapid improvement in design and technology. Completing construction project without time and cost overrun is a great challenge. In the Sri Lankan conditions, the need for efficient management is more urgent than ever before. In fact, inefficient construction management has contributed to long drawn-out projects in the past with inflated costs and delayed utilisation. Professional construction project management input is a mandatory requirement for successful project completion, and one tool the project manager can effectively use to manage the project is a computer system. This study reports, research in to the application of computers in construction management by building contractors in Sri Lanka. The focus of this research was to gather industry experience in the use and application of construction management software and to asses the benefits realised by the industry. It is based on a survey of local and foreign building contractors and property developers. The local building firms were selected among ICTAD registered contractors and only Grade 1 and Grade 2 contractors were surveyed.

The industry experience in computer applications in construction management were studied under five major functional areas : Construction Planning and Control; Contract Administration; Stores Management; Estimation and Valuation; and Finance and Office administration. This was done through a questionnaire based interview. Contractors views on reasons for using computers, difficulties faced, benefits realised, future development and the level of user satisfaction were also considered. The results indicates the computer applications in construction management currently practised by contracting firms in Sri Lanka are not successful in generating information to control cost and time. The effectiveness of computer application in construction management was found to be largely contingent upon the commitment and involvement of the user as well as the quality of the computer system used and the professional advice received.

Acknowledgements

I wish to express my gratitude to my guide Eng. P.M.Gunasekara, for his valuable guidance and support in this project. I also wish to thank him sincerely for making available to me, his computer system for my use during the project, which has greatly enhanced the research.

It is my duty to remember with gratitude, the Course Director Prof. S.R.De S. Chandrakeerthy and his academic staff for their valuable contributions given to complete the Master Degree Program successfully.

My sincere appreciation is greatly extended to many members of the construction industry and profession who have shared with me their views on computer application in construction management.

I wish to sincerely express my gratitude to my parents, for their encouragement, support and inspiration given to me to pursue my higher studies.

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List Of Abbreviations

ICTAD	-	Institute for Construction Training And Development
DP	-	Data Processing
PERT	-	Program Evaluation Review Technique
MMI	-	Man/Machine Interface
AI	-	Artificial Intelligent
IKBS	-	Intelligence Knowledge Based System
CPM	-	Critical Path Method
LOB	-	Line Of Balance
BCWS	-	Budgeted Cost for Work Schedule
ACWP	-	Actual Cost for Work Performed
BCWP	-	Budgeted Cost for Work Performed
P3	-	Primavera Project Planner
WBS	-	Work Breakdown Structure
PM	-	Project Management
CM	-	Construction Management
GUI	-	Graphical User Interface
PC	-	Personnel Computer
CAE	-	Computer Aided Estimating
BOQ	-	Bill Of Quantity
GRN	-	Goods Received Notes

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