OPTIMIZING LABOR ALLOCATION IN MULTI-PROJECT MANAGEMENT USING CRITICAL PATH METHOD AND SENSITIVITY ANALYSIS
(Case Study of CV Madya Karya Yogyakarta)

THESIS

Submitted as Partial Fulfill of the Requirements
To Obtain the Bachelor of International
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2011

STATEMENT OF WORK'S ORIGINALITY

I honestly declare that this thesis which I wrote does not contain the works or parts of the works of other people, except those cited in the quotations and bibliography, as a scientific paper should.

Yogyakarta, May 30th 2011

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OPTIMIZING LABOR ALLOCATION IN MULTI-PROJECT MANAGEMENT USING CRITICAL PATH METHOD AND SENSITIVITY ANALYSIS (A Case Study in CV Madya Karya)

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FOREWORD

Thank to Jesus Christ, my dearest lord, for the love, blessings, strength, and guidance so that the writer could finally finish this thesis report, entitled **"Optimizing Labor Allocation in Multi-Project Management Using Critical Path Method and Sensitivity Analysis (A Case Study in "CV Madya Karya", Yogyakarta)**. The thesis is made to fulfill one of the requirements to reach bachelor degree of Industrial Engineering from University of Atma Jaya Yogyakarta.

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The writer

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDIX

OPTIMIZING LABOR ALLOCATION IN MULTI-PROJECT MANAGEMENT USING CRITICAL PATH METHOD AND SENSITIVITY ANALYSIS
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ABSTRACT

Engineering and construction contractors are typical project-based companies in which project management is the core business competency. However, in fact the contractor organizations do not always perform multi project management satisfactorily. The objective of this research is to optimize the resource allocation in multi-project management.

The methods used are Critical Path Method (CPM) and Sensitivity Analysis. CPM is chosen to optimize the labor allocation and Sensitivity Analysis is used to find the post-optimum solution among alternatives. The object of the research is CV Madya Karya; a small project-based company that provides building construction service.

Some conclusions have been inferred: (1) The critical resource is labor; (2) The optimal solution for Project III is third solution; (3) There are five broad steps to optimize labor allocation in multi-project management. A flowchart of general steps has been developed also to solve similar problem.

Keywords: Multi-project management, critical path method, sensitivity analysis, labor allocation