



Table of Contents

TITLE PAGE	i
STATEMENT OF AUTHENTICITY OF WRITTEN THESIS	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
ABSTRACT	x
ABSTRAK	xi
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	11
1.3 Research Question	12
1.4 Research Objectives	13
1.5 Research Contribution	13
1.6 Research Scope	13
1.7 Systematic of Writing	14
CHAPTER II LITERATURE REVIEW	15
2.1.1 Project	15
2.1.2 Project Management	19
2.1.3 Relationship of Project, Program, Portfolio, and Operations	21
2.1.4 Operation Management	25
2.1.5 Operation and Project Management	26
2.1.6 Organizational Project Management (OPM) and Strategies	27
2.1.7 Project and Development Life Cycles	29
2.1.8 Project Management Office (PMO)	32
2.1.9 Project Management Process Groups	35
2.1.10 Project Management Knowledge Areas	36
2.1.11 Project Scope Management	40
2.1.12 Project Schedule Management	41



2.1.12.1 Estimate Activity Durations: Tools and Techniques	42
2.1.12.1.1 Analogous Estimating	42
2.1.12.1.2 Parametric Estimating	43
2.1.12.1.3 Bottom-up Estimating	43
2.1.12.1.4 Beta Distribution (PERT Technique).....	44
2.1.12.2 Critical Path Method (CPM)	45
2.1.12.3 Schedule Compression	47
2.1.13 Project Cost Management	49
2.1.13.1 Estimate Cost: Activity Based Costing (ABC)	50
2.2 Previous Studies	51
2.3 Research Framework	52
CHAPTER III RESEARCH METHODS.....	55
3.1 Research Design.....	55
3.2 Data Collection Methods	56
3.3 Research Instruments	56
3.4 Operational Definition	57
3.5 Data Analysis Methods	58
3.6 Case Profile	59
CHAPTER IV RESULTS AND DISCUSSION	61
4.1 Descriptions of the Data.....	61
4.2 Discussion	63
4.2.1 Defining High Level Deliverables	63
4.2.2 Estimates Activity Duration.....	64
4.2.3 Develop the relationship among the activities	66
4.2.4 Determining the Project Schedule	69
4.2.5 Network Diagram.....	76
4.2.6 Variability in Activity Times (Three Time Estimates in PERT)	79
4.2.7 Computing Project Variance & Standard Deviation.....	84
4.2.8 Provide the scenario for project completion time	89
4.2.9 Compute the crash time period	94
CHAPTER V CONCLUSION	105
5.1 Conclusion	105



5.1.1 Critical Activities	105
5.1.2 Noncritical Activities	105
5.1.3 Scenario Project Completion Time	106
5.1.4 least Cost for Project Crashing.....	106
5.2 Implication	106
5.3 Limitation.....	107
5.4 Recommendation	107
Bibliography	109
Appendices	111



LIST OF TABLES

Table 2.1 Comparative Overview of Portfolios, Programs, and Projects	24
Table 2.2 Project Management Process Group and Knowledge Area Mapping ..	39
Table 4.1 WBS in High Level Deliverables	63
Table 4.2 Project Activities	64
Table 4.3 WBS Logical Relationship (Predecessor)	66
Table 4.4 Slack Time & Critical Path	70
Table 4.5 Three Time Estimates & Variance	79
Table 4.6 Project Variance & Standard Deviation	84
Table 4.7 Scenario & Implication Project Completion - Confidence Level 95%	91
Table 4.8 Scenario & Implication Project Completion - Confidence Level 90%	92
Table 4.9 Scenario & Implication Project Completion - Confidence Level 75%	93
Table 4.10 List of Resources	95
Table 4.11 Project Cost	96
Table 4.12 Normal & Crash Data in Critical Path	102
Table 4.13 Project Cost Comparison	104



LIST OF FIGURES

Figure 1.1 Sequential Phases of a Predictive Software Project Life Cycle	9
Figure 2.1 Organizational State Transition via a Project	17
Figure 2.2 Project Initiation Context	18
Figure 2.3 Portfolio, Programs, Projects, and Operations	22
Figure 2.4 Organizational Project Management	28
Figure 2.5 Interrelationship of PMBOK Guide Key Components in Projects	29
Figure 2.6 Example of Critical Path Method	47
Figure 2.7 Schedule Compression Comparison	48
Figure 2.8 Flowchart Data Analysis Method	52
Figure 4.2 Beta Probability Distribution with Three Time Estimates	89
Figure 4.3 Normal Curve - Confidence Level 95%	91
Figure 4.4 Normal Curve - Confidence Level 90%	92
Figure 4.5 Normal Curve - Confidence Level 75%	93