

**A STUDY OF CRITICAL SUCCESS FACTORS
BEYOND THE IRON TRIANGLE FOR BUILDING
CONSTRUCTION PROJECTS IN SRI LANKA**

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Degree of Master of Science

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University of Moratuwa
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August 2020

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Thesis/Dissertation submitted in partial fulfillment of the requirements for the degree
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DECLARATION

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

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The above candidate has carried out research for Masters Dissertation under my supervision.

Signature of the Supervisor:

Date:

DEDICATION

Liveliness Goes to:

Loveable and Generous,

Late and Great,

*Grandma **Leela***

ACKNOWLEDGEMENT

First and foremost, I express my sincere gratitude towards my supervisor Mr. Mahesh Devinda Abeynayaka for the excellent guidance and support given to complete the research successfully.

Further, I gratefully remind all the lecturers who have guided me by sharing their vast knowledge and experience about the project management profession. A special thanks goes to Head of the Department of Building Economics, Prof. (Mrs.) Yasangika Sandanayake and Course Coordinator for PG Dip./ M. Sc., Ch. QS. Mr. Vijitha Disarathna. In addition, I would like to thank non-academic staff of University of Moratuwa who have provided the necessary supporting facilities during the post graduate period.

I make this an opportunity to give my regards to the corporate sector professionals, throughout my carrier for giving their fullest corporation.

Penultimately, my sincere gratitude to every resource person who has provided their contribution through comments, feedbacks and sharing their experiences regarding my reserch area.

Finally the heartfelt gratitude goes to my family members for supporting me during ups and downs in my life.

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Abstract

Many scholars have researched the relationship between the level of project success and the level of success in project deliverables. In the initial era of the project success, it is merely straightforward and was measured using single measures of Critical Success Factors (CSFs) based on predesigned structures. In subsequent era, project success was measured based on subjective and objective measures, which was time and perspective reliance. In the final two eras it has been identified that project success is correlative with the CSFs. However, Sri Lankan Project Managers are working tediously for the balancing of the iron triangle. The ultimate project success can't be achieved at all the time by balancing the iron triangle because they are ignoring many other related factors.

The main purpose of this research is to identify the Critical Success Factors (CSFs) of construction projects beyond the iron triangle with respect to building construction projects in Sri Lanka. The mixed type research design approach was adopted. Quantitative research was based on questionnaires and semi-structured interviews. Whereas, qualitative research was conducted with the use of a literature survey and case studies.

This study reveals that project success must be measured not only up to the handing over stage, but it should be extended up to a sustainable period of time. The success must be measured through levels of satisfaction and benefits gained by all the relevant stakeholders. Further, the study identifies 21 CSFs to measure the success of a project at different levels. All 21 factors were critical in the first two levels of the project and criticality of the factors reduced with time. Political risk and Economic risk are the most significant factors throughout the whole life cycle of the project.

Keywords:

Hexagon of Project Success, Critical Success Factors, Key Performance Indicators, Micro and Macro Project Success, Project Management Success and Project Success, Project Output, Project Outcome, Project Impact.

TABLE OF CONTENTS

Declaration	i
Dedication	ii
Acknowledgement	iii
Abstract	iv
Table of Contents	v
List of Figures	viii
List of Tables	ix
List of Abbreviations	xi
List of Appendices	xiii
CHAPTER 1 - INTRODUCTION	1
1.1 Background	1
1.2 Research Problem	3
1.3 Aim	5
1.4 Objectives	6
1.5 Hypothesis	6
1.6 Methodology	6
1.7 Scope and Limitations	7
1.8 Chapter Breakdown	8
CHAPTER 2 – LITERATURE REVIEW	10
2.1 Introduction	10
2.2 History of Project Success	10
2.3 Types of Project Success	11
2.3.1 Macro Success and Micro Success	11
2.3.2 Levels of Project Success	12
2.4 Types of Project Results Appraisals	18
2.5 Types of Skills Required for a Project Manager to Make the Project Success	20
2.6 Project Success Criteria and Project Success Factors	21
2.7 Identify the Critical Success Factors (CSFs) Through Key Performance Indicators (KPI)	23

2.7.1. Methods of Evaluating the Objective Measures of Key Performance Indicators	25
2.7.2. Methods of Evaluating the Subjective Measures of Key Performance Indicators	28
2.8 Stages of a Project	30
2.9 Assess the Success on Time	31
2.10 Summary	33
CHAPTER 3 – RESEARCH METHODOLOGY AND APPROACH	34
3.1 Introduction	34
3.2 Research Methodology	34
3.2.1 Research Philosophy	35
3.2.2. Research Approach	36
3.2.3. Research Choice	37
3.2.4. Research Strategies	38
3.2.5. Research Sampling Method	45
3.2.6. Time Horizon	47
3.2.7. Research Techniques and Procedures	47
3.3 Research Design	54
3.4 Summary	54
CHAPTER 4 – DATA COLLECTION AND ANALYSIS	56
4.1 Introduction	56
4.2 Expert Questionnaire Survey	57
4.2.1 Profile of the Respondents for Expert Survey	57
4.2.2 Findings of the Expert Survey	57
4.3 Main Questionnaire Survey	69
4.3.1 Profile of the Respondents for Main Survey	69
4.3.2 Findings of the Main Survey	69
4.4 Case Studies	72
4.4.1 Details of the Case Studies	72
4.4.2 Findings of the Case Studies	73
4.5 Analysis of Matrix for Project Success	77

4.6 Project Success Framework and Taxonomy	79
4.7 Summary	80
CHAPTER 5 – CONCLUSIONS AND RECOMMENDATIONS	81
5.1 Introduction	81
5.2 Conclusions	81
5.3 Recommendations	83
5.4 Limitations of Research	84
5.5 Further Research Recommendations	85
REFERENCES LIST	86
APPENDICES	93

LIST OF FIGURES

Figure 2.1	Building Blocks of Project Life Cycle	12
Figure 2.2	Three Levels of Project Success	13
Figure 3.1	Nested Research Methodology	34
Figure 3.2	Research Philosophy In The ‘Research Onion’	35
Figure 3.3	Concurrent Triangulation Strategy	48
Figure 3.4	Mixed Method Research Design Concept	49
Figure 3.5	Research Design	54
Figure 4.1	Response for the Most Critical Success Factors	59

LIST OF TABLES

Table 1.1	Example of Projects with Iron Triangle Deliverables and level of project success	04
Table 1.2	Decision table of four project assessment criteria (S = Success, F = Fail)	04
Table 2.1	Matrix for Project Focus Vs. Project Deliverables	16
Table 2.2	Matrix for Project Optimization Vs. Project Deliverables	16
Table 2.3	Influence of the Soft Skills for Hard Skills of the Project Manager	21
Table 2.4	Critical Success Factors According To the Project Aspect	23
Table 2.5	Time Criteria with Equations	26
Table 2.6	Cost Criteria with Equations	26
Table 2.7	Seven Point Likert Scale for Objective Measures of the Project	28
Table 2.8	Seven Point Likert Scale for Subjective Measures of the Project	29
Table 2.9	The Five Dimensions of the Project Success	32
Table 3.1	Project Success Levels and Its Corresponding Project Deliverables	40
Table 3.2	Five Point Likert Scale for Overall Project Success Rating According to Stakeholders	40
Table 3.3	Seven Point Likert Scale for Overall Project Success Rating According to Stake Holders	43
Table 3.4	Seven Point Likert Scale for Performance against Deliverables in Iron Triangle (Time and Budget)	43
Table 3.5	Seven Point Likert Scale for Performance against Deliverables in Iron Triangle (Quality)	43
Table 3.6	Seven Point Likert Scale for Functionality of the Project User Expectation of the Project	44
Table 3.7	Seven Point Likert Scale for User Expectation of the Project	45
Table 3.8	Seven Point Likert Scale for Participant User Expectation of the Project	45
Table 3.9	Relative Importance of Individual Stakeholder Satisfaction and Project Levels Satisfaction	51
Table 3.10	Critical Success Factors Contribution to Project Success	52
Table 4.1	Profile of the Expert Surveyor Interviewees	57

Table 4.2	Number of Critical Success Factors of Each Respondent.	57
Table 4.3	Response for the Most Critical Success Factors	58
Table 4.4	Relative Important Index according to the Stakeholders' Satisfaction.	61
Table 4.5	Relative Important Index according to the Project Levels Satisfaction	64
Table 4.6	Mean Rating according to the Overall Project Success Level..	67
Table 4.7	Profile of the Main Questionnaire Survey.	69
Table 4.8	Mean Rating of the Critical Success Factors in Project Success Levels	70
Table 4.9	Details of The Selected Case Studies	72
Table 4.10	Details of The Stakeholder Types For Each Project	72
Table 4.11	Findings of Case Study	73
Table 4.12	Analytical Matrix for Project Success Levels	78
Table 4.13	Measurement of Success based on Literature & Survey Results	80

LIST OF ABBREVIATIONS

Abbreviation	Description
AC	Actual Cost
AHP	Analytical Hierarchy Process
AM	Arithmetical Mean
CL	Client
CO	Contractor
COC	Certificate of Completion
CPI	Cost Performance Index
CSFs	Critical Success Factors
CU	Customer
DLP	Defect Liability Period
EIA	Environment Impact Assessment
EOT	Extension of Time
EPPE	Ex-Post Project Evaluation
EU	End User
EV	Earned Value
GP	General Public
ICT	Information and Communication Technology
IN	Investor
ISO	International Organization for Standardization
KPI	Key Performance Indicators
LD	Liquated Damages
m ²	Square Meters
MR	Mean Rating
NETVAR	Net Variance
NPT	Network Planning Techniques
NPV	Net Present Value
PMBOK	Project Management Body of Knowledge
PO	Politician

PPEP	Project Post Evaluation Phase
PSM	Project Status Model
PT	Project Team
PV	Planned Value
R-A	Respondent A
R-B	Respondent B
R-C	Respondent C
R-D	Respondent D
R-E	Respondent E
R-F	Respondent F
RII	Relative Important Index
ROI	Return Of Investment
Rs.	Rupees
SPI	Schedule Performance Index
TMO	Temporary Multiple Organization
TQM	Total Quality Management
USD	United State Dollars
WBS	Work Breakdown Structures

LIST OF APPENDICES

Appendix	Description	Page
Appendix I	Taxonomy for Project Success	93
Appendix II	Theoretical Matrix of Project Success	94
Appendix III	A Framework for Critical Success Factors for SL Multi Storied building Construction- Hexagon of Project Success	95
Appendix IV	Sample for Expert Survey- Stage – I	96
Appendix V	Sample for Expert Survey – Stage – II	100
Appendix VI	Expert Survey Results	104
Appendix VII	Sample for Main Survey	106
Appendix VIII	Results of Expert Survey Stage - II and Main Survey for Project Success Level	110
Appendix IX	Sample for Case Study	111
Appendix X	Analytical Matrix for Project Success Level	112
Appendix XI	Final Matrix for Project Success	113
Appendix XII	List of CSFs for Building Construction in Sri Lanka	115