FACTORS FOR THE SUCCESS OF A CONSTRUCTION PROJECT: AN EMPIRICAL STUDY

by

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CERTIFICATE

This is to certify that the thesis entitled "Factors for the Success of a Construction Project: An Empirical Study" being submitted by Mr. Kumar Neeraj Jha to the Indian Institute of Technology, Delhi for the award of the degree of Doctor of Philosophy is a bonafide record of the research work carried out by him under my supervision and guidance. The thesis work, in my opinion, has reached the requisite standard, fulfilling the requirements of the said degree. The results contained in the thesis have not been submitted, in part or full, to any other University or Institute for the award of any degree or diploma.

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ABSTRACT
Construction is the second largest industry in India. The performance of Indian construction projects though improving steadily, it is still to catch up with the best in the world. Also there are not many research studies in the area of construction management in India that could help in understanding the causes of such slow improvement in performance. This study has been an exploratory work in India and has attempted to identify and evaluate the success and failure attributes that would form a guideline for further study and to some extent help professionals to understand some critical factors having impact on the project performance. A total of 55 attributes affecting the performance of a construction project are analysed for their criticality in influencing the four performance criteria: schedule, cost, quality, and no-dispute through a two-stage questionnaire survey. These attributes on application of factor analysis have revealed a set of 11 success factors and 9 failure factors. Some of the critical factors derived from the study are: commitment of the project participants; owner's competence; coordination among project participants; favorable working condition; project manager's competence; top management support; conflict among project participants; and interaction between project participants. The extent of contribution of these critical factors is found to vary with the current level performance ratings of the project. The impact of unit improvement in critical factors on the achievement of the project performance criteria has also been evaluated. The study besides supporting the intuition of past researchers in recognizing 'coordination' as a key success factor, has revealed that coordination is not an isolated and independent activity, but is a typical management function having its inherent role in all the major management activities that are broadly represented by the four factors, viz. planning; resource handling; contract implementation; and team building. Subsequently in the later part of the study, various coordination activities and their relative impact in
achieving day-to-day coordination have been evaluated. Key elements affecting coordination have also been identified and their influence on coordination effort has been studied. Besides, the present study has also identified the three broad skill group: team building skill; contract implementation skill; and project organization skill required of an effective project coordinator. The results are validated through case studies of live projects and structured interviews of experts in the field of construction management.

Key words: Project coordination, project success and failure factors, questionnaire survey, factor analysis, multinomial logistic regression, project coordinator’s trait, case study.
# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ........................................................................................................... i

ABSTRACT ................................................................................................................................ iii

LIST OF FIGURES ...................................................................................................................... x

LIST OF TABLES ....................................................................................................................... xi

CHAPTER 1  INTRODUCTION

1.1 Introduction .......................................................................................................................... 1
1.2 Motivation for the Study ...................................................................................................... 2
1.3 Research objectives ............................................................................................................ 3
1.4 Organisation of the thesis ................................................................................................. 4

CHAPTER 2  LITERATURE REVIEW

2.1 Introduction .......................................................................................................................... 5
2.2 A construction project ....................................................................................................... 5
   2.2.1 Phases of a construction project .............................................................................. 6
2.3 Understanding project success ......................................................................................... 7
   2.3.1 Criteria for project performance evaluation ......................................................... 9
   2.3.2 Role of project management .................................................................................. 13
2.4 Project performance attributes ....................................................................................... 14
   2.4.1 Success attributes ................................................................................................. 14
   2.4.2 Failure attributes .................................................................................................. 19
2.5 Effect of other elements on project performance ............................................................. 21
2.6 Coordination: a key attribute recognised ........................................................................ 22
2.7 Coordination activities in a construction project ............................................................. 26
2.8 Traits of a project manager ............................................................................................... 27
2.9 Studies on allied areas ..................................................................................................... 32
   2.9.1 Success index ......................................................................................................... 33
   2.9.2 Studies undertaken in India .................................................................................. 33
2.10 Summary and guidelines for research .......................................................................... 35
CHAPTER 3  RESEARCH METHODOLOGY

3.1 Introduction 37
3.2 Need for questionnaire survey 39
3.3 Development of first stage questionnaire 40
   3.3.1 Respondent's personal details and professional experience 40
   3.3.2 Project details and traits of a project coordinator 40
   3.3.3 Relative importance of various project stages 41
   3.3.4 Relative importance of project performance evaluation parameters 41
   3.3.5 Project performance attributes 42
   3.3.6 Coordination activities 42
   3.3.7 Parameters influencing coordination 43
3.4 Development of second stage questionnaire 44
   3.4.1 Personal and project details 44
   3.4.2 Project performance factors 45
   3.4.3 Important coordination activities 45
3.5 Responses received 45
   3.5.1 Respondents' profile 46
3.6 Analysis techniques 48
   3.6.1 Univariate analysis 48
   3.6.2 Multivariate analysis 49
3.7 Case studies: validation of research findings 53
3.8 Research methodology summary 53

CHAPTER 4  MAJOR ATTRIBUTES OF PROJECT PERFORMANCE

4.1 Introduction 55
4.2 Identification of relative importance of project performance attributes 55
4.3 Intrinsic characteristics of success and failure attributes 62
   4.3.1 Success factors - schedule criterion 63
   4.3.2 Failure factors - schedule criterion 67
   4.3.3 Success factors - cost criterion 70
   4.3.4 Failure factors - cost criterion 74
   4.3.5 Success factors - quality criterion 78
4.3.6 Failure factors – quality criterion
4.3.7 Success factors – no-dispute criterion
4.3.8 Failure factors – no-dispute criterion

4.4 Evaluation of criticality of success and failure factors
   4.4.1 Interpretation of multinomial logistic regression models
   4.4.2 Schedule criterion
   4.4.3 Cost criterion
   4.4.4 Quality criterion
   4.4.5 No-dispute criterion

4.5 Summary and conclusions

CHAPTER 5 PROJECT COORDINATION FOR SUCCESS

5.1 Introduction
5.2 Relative importance of project coordination activities
5.3 Differences in perception on various coordination activities
   5.3.1 Schedule criterion
   5.3.2 Cost criterion
   5.3.3 Quality criterion
   5.3.4 No-dispute criterion
5.4 Identification of important coordination activities for overall success
5.5 Evaluation of criticality of coordination activities
5.6 Assessment of probabilities of coordination ratings
5.7 Taxonomy of coordination activities
5.8 Summary and conclusions

CHAPTER 6 OTHER ISSUES IN PROJECT COORDINATION

6.1 Introduction
6.2 Identification of key elements affecting coordination
6.3 Important traits of a project coordinator
6.4 Dominant traits of coordinators in successful and failure projects
6.5 Major trait/skill category
   6.5.1 Team building skill
<table>
<thead>
<tr>
<th></th>
<th>DETAIL OF LIVE PROJECTS STUDIED 199-210</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>FORMAT OF STRUCTURED INTERVIEWS 211-212</td>
</tr>
<tr>
<td>F</td>
<td>LIST OF PAPERS SUBMITTED ON THE BASIS OF THIS THESIS 213</td>
</tr>
<tr>
<td>G</td>
<td>CURRICULAM VITAE OF THE AUTHOR 214</td>
</tr>
</tbody>
</table>