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

by

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Submitted
in fulfillment of the requirement of the degree of Doctor of Philosophy
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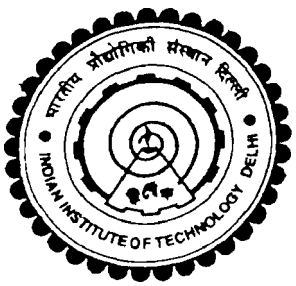
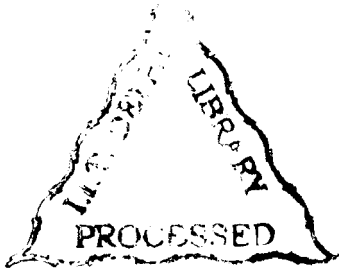


INDIAN INSTITUTE OF TECHNOLOGY, DELHI
HAUZ KHAS, NEW DELHI – 110016, INDIA
MAY, 2004



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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ACKNOWLEDGEMENTS

The thesis is the culmination of my life long desire to excel in my educational endeavor. I am greatly indebted to Dr. K.C. Iyer, my supervisor for his constant support, encouragement, and consistent inspiring guidance and utmost cooperation at every stage throughout the duration of the research work. I am also indebted to his family members for accommodating me at odd hours during the course of writing the thesis.

I am thankful to my SRC members, Prof A.K. Gosain and Dr. B. Bhattacharjee of Department of Civil Engineering and Prof Arun Kanda, Department of Mechanical Engineering for providing me with their valuable inputs from time to time throughout my stay in IIT campus.

I wish to extend my sincere thanks to Prof K.G. Sharma, Head of the Department, Prof V.B. Deshpande, Prof A.K. Jain and other faculty members and staff of the Department of Civil Engineering for their cooperation. My grateful thanks are also due to Prof S.G. Deshmukh of Department of Mechanical Engineering for his valuable suggestions during my pre Ph.D. presentation. I express my sincere thanks to Prof B. Majumdar of Indian Statistical Institute, New Delhi and Mr. S. Srinivas Pradeep, a young statistician of Pune University for suggesting relevant statistical methods for data analysis at a crucial juncture.

As is the case with any empirical research, the respondents and interviewees played a major role in providing me with the significant inputs. I am grateful to all the respondents and interviewees who contributed by filling in the questionnaire and sparing their valuable time for giving insight into my research problem.

I am sincerely thankful to the management of Larsen and Toubro Limited for permitting me to pursue this study. The support received from the Delhi regional office staff during my study is thankfully acknowledged.

In the course of writing this thesis I had acquired many obligations and the words cannot adequately acknowledge my gratitude to all my friends who had helped me in many ways. I express my sincere thanks to Lalit for all his constructive criticism received during my study period. My thanks are also due to Vikas and Alok. I express my sincere thanks to R. Balamurugan for his ever-helping attitude.

It would not be possible to name the many fellow researchers and individuals who helped me directly or indirectly. Their valued assistance is very much appreciated and thankfully acknowledged.

I do not have the appropriate words to show my gratitude to my parents for supporting me throughout my life in all my endeavors. Support received from other family members and relatives are also acknowledged. I am greatly indebted to my wife Arti and my son Master Gullu for their understanding shown during my study period. During the typesetting of the thesis Ms. Arti and Mr. Arvind both helped me a lot and I thankfully acknowledge them.

(Kumar Neeraj Jha)

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.

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