

**PERFORMANCE ASSESSMENT OF INFRASTRUCTURE
DEVELOPMENT PROJECTS: A SELECT STUDY**

by

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DEPARTMENT OF MANAGEMENT STUDIES

Submitted

**in fulfilment of the requirements of the degree of
Doctor of Philosophy**

to the



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I dedicate this effort

To

My Guru Maharaj Jee, Shri Shri Mohananada Brahmachary who endowed into me the spirit of "Sankalp Siddha hee Siddha" and knowingly and unknowingly cultivated my value systems and convictions which enabled me to be where I am today.

I dedicate this entire effort and my life at his lotus feet.

My mother who was a catalyst for a paradigm shift on how we siblings started to toddle and wobble our way at a stage and age where every act needed someone to dream and hold our hand. Most importantly for finding us our path finder, our Guru Maharaj Jee.

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My mother in law who had faith and admiration for whatever I did and took great pains to demonstrate her affections

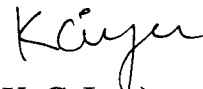
CERTIFICATE

This is to certify that the thesis entitled “Performance Assessment of Infrastructure Development Projects: A Select Study” being submitted by Mr. Arup Roy Choudhury to the Indian Institute of Technology, Delhi, India, for the award of the degree of Doctor of Philosophy, is a record of bonafide research work carried out by him. He has worked under our guidance and supervision and has fulfilled the requirements for submission of this thesis, which to our knowledge has reached the requisite standard.

The results contained in this thesis have not been submitted in part or in full, to any other university or institute for award of any degree or diploma.



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(Arup Roy Choudhury)

ABSTRACT

Development of infrastructure forms the backbone for any developing economy. For the past one decade The Government of India (GOI) has been focusing on improving it further with its proposed spending of approximately Rs. 50 lakh crore (\approx US\$ 1 Trillion) during its twelfth five year plan (2012-17). However, the performance of the developmental projects in India have not been very encouraging with 43 percent of the projects suffering from time overruns resulting in 16.8 percent of cost overruns amounting to a loss of Rs. 1.2 lakh crore (\approx US\$ 25 Billion). It becomes extremely important for the government to plan the resources well and deliver state of art infrastructure facilities to the people. With this background in mind, this research study was taken up to evolve a methodology to enhance project performance.

After an extensive literature survey, the study was carried out through questionnaire survey to understand the level of importance assigned by project professionals to the five commonly used performance indicators, viz. *time*, *cost*, *quality*, *safety* and *dispute* followed by case research study of two power sector projects using SAP-LAP enquiry. There were 118 valid responses received out of 400 questionnaires sent. The survey revealed that there is a dichotomy between the professional perceptions about the project performance indicators when the respondents are asked to give their general opinion on any project and that on the projects completed by them. On the general opinion about the importance of various performance indicators, respondents project *quality* and *safety* to be more important than *time* and *cost*, while in practice they accept that they have assigned far more importance to *time* and *cost* than *quality* and *safety*.

In contrast to conventional wisdom, the case research study revealed that *planning and structuring procurement* is the overarching dominant project owner action to achieve breakthrough project *schedule* performance and corporate functions of project owner organizations should take a holistic view of projects across all phases of project lifecycle, rather than focusing only on execution processes of the implementation phase. The study also reveals that those projects that achieve breakthrough performances are not stand alone but they are organizationally-embedded units of excellence and require transformational steps in the project planning phase including strategic planning.

Keywords: *Infrastructure projects; Project performance; Performance indicators; Case research study; Corroboration; SAP-LAP enquiry*

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