

Predicting project performance using pre-construction performance indicators—a case study evaluation

Daniel EKSTRÖM

Industrial PhD. Student

WSP, Bridge & Hydraulic Design

Gothenburg, Sweden

daniel.ekstrom@wsp.com

Structural engineer with over ten years of experience from civil engineering, mainly as a bridge design engineer.

Rasmus REMPLING

Associate Professor

Chalmers University of Technology

Gothenburg, Sweden

Rasmus.rempling@chalmers.se

Researcher in the field of Structural and Construction Engineering with interest in AI based and automated processes.

Christina CLAESON-JONSSON

Head of R&I

NCC AB

Gothenburg, Sweden

christina.claeson@ncc.se

Over 20 years of Experience of engineering and Construction. Adj prof in Construction Management

Contact: daniel.ekstrom@wsp.com

Abstract

Predicting the outcome of a construction project largely relies on estimated targets of time and cost. Still, hitting the targets does not mean that the project is a success on all performance levels. Here, a retrospective case study was undertaken on a construction project identified as a successful project by the partners involved. The purpose of the study was to validate conceptual design indicators of a high-performance construction project as reported in the literature, by answering the following research questions: “What characterizes the dialogue between the different disciplines; (2) What is the dialogue about; and (3) When in the process do questions arise?” Findings indicate that the interprofessional dialogue within the project team was well established. The paper introduces a discussion that the dialogue benefited from the collaborative project environment as well as the early design intent. Further, the study also suggests that the interprofessional dialogue supported a sound project team development.

Keywords: Structural Design, Buildability, Constructability, Pre-construction indicators, conceptual design

1 Introduction

Predicting the outcome of a construction project largely involves relying on the estimates of time and cost calculations. Still, hitting the target does not necessarily mean that the project is perceived as a success on all levels. In the pursuit of a high-performing construction industry, the focus is often on early involvement of the contractor in the project and numerous studies have investigated the organizational and inter-organizational management tools, [1]. Instead, with a team performance perspective, [2] identifies three main areas of improvement regarding project team development in bridge construction projects and also shows a need for investigating the execution of

projects and the underlying mechanisms of collaboration; *Project Culture*, *Organizational Structure*, and *Project Competence*. Demonstrated by the performance-indicators, the inter-professional dialogue act as a linchpin in supporting project-team development. In this paper, we report on a retrospective case study undertaken on a construction project identified as a successful project by the partners involved. Unlike the stated conditions given in the literature regarding projects in collaboration, this project was not specifically procured in collaboration; it was initially procured as a Design-Bid-Build contract (D-B-B) with completed construction documents provided to the contractor by the client. Importantly, it was the experience from similar projects and previous successful

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