



CONSTRUCTION INDUSTRY INSTITUTE

OWNER'S TOOL
FOR
PROJECT DELIVERY AND
CONTRACT STRATEGY SELECTION

Construction Industry Institute

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**Owner's Tool
for
Project Delivery and Contract Strategy Selection**

**Prepared by
The Construction Industry Institute
Project Delivery and Contract Strategy Research Team**

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Executive Summary

Project delivery and contract strategies (PDCS) define the roles and responsibilities of the parties involved in a project and how the owner will pay for services. PDCS also establishes the project execution framework.

The PDCS Research Team has developed a structured and integrated procedure for owners in making this important project management decision. The procedure focuses on the owner's project objectives and the project execution environment, and incorporates a quantitative assessment of 12 PDCS alternatives in a decision support tool.

This newly developed owner's tool can be used as a decision support system. It has the following capabilities:

- Expands the list of PDCS alternatives that are available to owners in the decision-making process.
- Produces reliable results.
- Enhances insight into the problem of selecting a PDCS.
- Harmonizes delivery systems with contract strategies and relates these to the owner's project objectives.
- Provides a defensible rationale for PDCS selection.

This research summary describes the work by the Project Delivery and Contract Strategy Research Team in developing the PDCS tool. Readers are encouraged to download the PDCS tool (an Excel spreadsheet) from the CII Web site at construction-institute.org.

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Introduction

Selecting a project delivery and contract strategy (PDCS) for a capital project requires the decision-maker to choose a PDCS from a set of available alternatives. The PDCS approach selected should be the one that best satisfies a set of selection criteria. However, current practice is hampered by incomplete sets of alternatives, poorly defined sets of selection criteria, and an absence of quantitative analysis.

Selecting a PDCS approach for a project is an owner's requirement. The procedures and tools that are available, however, do not adequately address the needs of owners across a broad range of organizations and project types.

Purpose and Objectives

The CII PDCS Research Team set out to develop a new tool that addresses the concerns mentioned above. The overall purpose of the research was to: “develop a tool that will assist owners in selecting a project delivery method and contract strategy for their projects, based on their project objectives.” Towards achieving that goal, the following specific objectives were defined:

- Develop and document comprehensive sets of PDCS alternatives and selection factors for industry-wide applications.
- Develop a procedure that incorporates an analysis tool to aid in PDCS selection. The analysis tool must be based on sound theory, yet be simple to use.
- Develop a procedure that would facilitate achieving the owner's project objectives, and by so doing, increase the likelihood of project success.

Research Implementation

Accomplishing the objectives started with identifying and defining the following characteristics of the selection procedure:

- A set of common PDCS alternatives that are currently used in the construction industry
- A set of factors that are considered in the selection decision
- A suitable decision analysis approach for assessing the combined effects of a relevant set of factors leading to an appropriate PDCS option for any given project.

An initial set of PDCS options and selection factors was defined by the research team. In the first of two phases of data collection, responses to a questionnaire on the initial set of PDCS options and selection factors were received on 90 projects. These projects included industrial and building projects, but not infrastructure projects.

During Phase I, the research team evaluated different analysis approaches and selected an approach for the selection procedure. A second phase of data collection and analysis then was used to establish the relative effectiveness values for each selection factor as applied to each PDCS option. This Phase II data collection exercise was performed via a series of workshops involving 32 project managers.

The research team identified 12 PDCS alternatives and 20 selection factors that comprise the basis for selecting a PDCS. The alternatives and factors are presented in Appendices A and B, respectively. The relative effectiveness values determined from the Phase II data collection and analysis are discussed later.

The development of the PDCS selection procedure and decision support tool was based on research conducted with the involvement of CII member companies and several non-member companies. Private and public agencies in industrial and general building sectors participated in the research. Similarly, input was received from both owners and contractors.

Research Limitations

The research data does not include infrastructure projects. Therefore, infrastructure type projects may not be adequately represented in this selection procedure.