A Framework for Developing Proactive Approaches for Concurrent Construction

Abstract:

To increase competitiveness and profitability, extensive efforts have been exerted to investigate new management concepts that effectively work towards reducing project delivery time and cost. Recently, researchers introduced the new concept of concurrent construction (CC) and showed its potential application in project management throughout its life cycle. Under CC, the project is divided into major parts or systems. All system aspects of design, construction, and operation are integrated and concurrently planned to maximize the value of a predefined set of objective functions. Objective functions could be the system cost, time, quality, performance, or other system life cycle parameters. However, the focal point for successful implementation of CC is to install approaches that will drive the entire project proactively to the achievement of specified values of its objective functions. This paper presents a framework for developing proactive approaches. This framework involves defining the project model, specifying objective functions, identifying alternative approaches, and ultimately selecting the most effective approach. The framework which employs Delphi and weighted evaluation techniques is outlined using a test-bed project.