

COMPREHENSIVENESS OF PROJECT DEFINITION RATING INDEX: A REVIEW OF LITERATURE

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ABSTRACT

The Project Definition Rating Index is a powerful and simple tool that is comprehensively used by planners for pre-project planning of large-scale projects in the United States construction sector but not much common in the Indian construction industry. It is the process by which construction projects are defined and organized for execution. It is carried out at the initial stage where risks associated with the project are analyzed and the definite project execution approach is defined. Pre-project planning is the project phase including all the tasks between project initiations to detailed design. PDRI was made by the Construction Industry Institute, United States to address these scope issues. PDRI is a rating framework which rates a task on different parameters.

The feasibility of PDRI in India project has been reviewed with the help of various research articles and the Comprehensiveness of tool is studied for Indian market.

Keywords: Project Definition Rating Index, Front End Planning, Scope Management.

1. INTRODUCTION

The Project Definition Rating Index (PDRI) is a powerful and simple tool that is extensively used by planners in the construction sector. Development of the project scope definition package is one of the major sub-processes of the pre-project planning process (Chung Suk Cho, et. Al). It is the process by which projects are defined and prepared for execution. It is at this critical stage where risks related to the project are analyzed and the definite project execution approach is defined. Pre-project planning is the project phase including all the tasks between project initiations to detailed design. The PDRI offers an all-inclusive checklist of 64 scope definition elements in a score sheet format. The PDRI score sheet is supported by detailed descriptions of these elements. Each element is weighted based on its relative importance to the other elements by experts in the construction industry. The Project Definition Rating Index for Infrastructure Projects is a commanding and simple tool that helps meet this need by offering a method to measure project scope definition for completeness. A PDRI score of 200 or less has been proven to greatly increase the possibility of a successful project.

2. NEED OF PDRI TOOL IN INDIA

A significant feature of the PDRI is that it can be utilized to fit the needs of almost any individual project, small or large. Elements that are not applicable to a specific project can be zeroed out, thus eliminating them from the final scoring calculation.

The PDRI is quick and easy to use. It is a "best practice" tool that will provide numerous benefits to the infrastructure projects. A few of these include:

- A checklist that a project team can use for determining the necessary steps to follow in defining the project scope.
- A listing of standardized scope definition terminology throughout the infrastructure project.
- An industry standard for rating the completeness of the project scope definition platform to facilitate risk assessment and prediction of escalation, potential for disputes, etc.
- A means to monitor progress at various stages during the front end planning effort
- A tool that aids in communication and promotes alignment between owners and design contractors by highlighting poorly defined areas in a scope definition package.
- A means for project team participants to reconcile differences using a common basis for project evaluation.
- A benchmarking tool for organizations to use in evaluating completion of scope definition versus the performance of past projects, both within their organization and externally, in order to predict the probability of success on future projects.

3. LITERATURE REVIEW

Has Prepared a "Pre-Project Planning at NASA" The PDRI can profit proprietors, fashioners and constructors and gives various advantages to the task group. These include: a point by point agenda for work arranging, institutionalized extension definition phrasing, help of hazard evaluation, help with advance observing, guide in correspondence of necessities between members, technique for accommodating contrasts between planning members, a preparation instrument, and a benchmarking premise. This usage control contains parts depicting the PDRI for building planning, why it ought to be utilized, how it fits inside NASA's planning arranging process, how to score a planning, how to

dissect a PDRI score and a way forward for the utilizing this instrument. Project success using and regression models that is aimed this research intends to investigate the relationship between Pre-Project planning and project success. In early stage of the project life cycle, essential project information is collected and crucial decisions are made. It is also at this stage where risks associated with the project are analyzed and the specific project execution approach is defined. To assist with the early planning process, CII has developed a scope definition tool, Project PDRI for industrial and building industry. Two techniques were then used to develop models for predicting cost and schedule growth: statistical analysis, and artificial neural networks (ANN).

Developed IGBP-PDRI model to enhance the performance of project execution, in making buildings energy efficient and reduce carbon emissions. The objective of their study was to forecast possible risks in the development of the project. The methodology adopted to achieve the objective is as discussed further the model of evaluation is divided into 4 sections, 11 categories, and 60 elements. In this study, the green building and intelligent building emblem evaluation indicators and related regulations effective in Taiwan are incorporated into the scope of IGBP-PDRI evaluation. The PDRI evaluation model developed by the CII of USA has been adopted as the methodology in this study. As per their findings, in the course of project execution, quality requirement is satisfied through monitoring and control. This helped to ensure the operation efficiency of the project, to the extent that the automated system of the building supported by green construction can meet the goal of sustainable development. The authors conclude by proving that this model could be used as a reference for subsequent development of pre-project planning in intelligent green building projects, which is pioneering work in Taiwan. This research could thus be used as a platform for the joint action of all stakeholders at the preliminary planning stage. This model can help to forecast, prevent, and reduce possible risks deriving from the execution of projects. This model thus performs very well, particularly at the pre-project planning stage.

In 2015, CII initiated a research team tasked with developing a PDRI for small infrastructure projects to support front end planning efforts for this common project type. This paper presents the first step in that research effort, determining the definition of a small infrastructure project. The authors hosted focus groups and disseminated a targeted online survey to determine what constitutes a small infrastructure project. The authors found that practitioners separate small projects from large based on the complexity of the project; thus, this paper presents the primary factors and their associated breakpoints (i.e., total installed cost and engineering hours) and contributing factors (i.e., construction duration, core team numbers, and availability) that determine complexity on infrastructure projects.

Developed a novel risk management tool, called the project definition rating index (PDRI) for infrastructure projects, which can be used to identify and address the issues systematically and in a structured manner.

For infrastructure projects, the FEP process assists in identifying and mitigating risks stemming from issues such as right-of-way concerns, utility adjustments, environmental hazards, logistic problems, and permitting requirements. The authors have developed a novel risk management tool, called the PDRI for infrastructure projects, which can be used to identify and address these issues systematically and in a structured manner. Input from 64 industry professionals representing over 30 organizations was used in the development of the tool.

In addition to a usable definition for infrastructure in the context of the built environment, a finite and specific list of issues related to scope definition of infrastructure projects was developed with this industry input. Data from 26 completed or in-process projects are given. Results show that the PDRI assessment score is indicative of the current level of scope definition for sample projects and corresponds to project performance. Findings support the hypothesis that projects with improved early understanding of scope definition elements showed improved project outcomes; infrastructure projects with low PDRI scores (well defined) outperformed projects with high PDRI scores. This research contributes to the body of knowledge by specifically identifying those FEP elements that are critical to infrastructure projects.

- Comprehensive list of standardized project scope definition terminology used throughout the construction industry.
- Standard for rating the completeness of the project scope definition to enable risk assessment, forecasting escalation, evaluation of the impending disputes, etc.
- Means to check progress at various stages during the pre-project planning effort and to focus efforts on high-risk areas that need attention to details.
- Tool that helps in communication between owners and design contractors by emphasizing poorly defined areas in a scope definition package.
- Means for project team participants to resolve differences by providing a common basis for project evaluation.
- Benchmarking tool for organizations to use in evaluating the completion of project scope definition against the probability of success on future projects.

4. CONCLUSION

The success of a project is never assured, but its risk of failure or under-performance can often be reduced with proper planning and implementation of proven procedures as the PDRI demonstrates. PDRI tool is designed to control and minimize project risk at the early stages where value can be positively influenced the most with minimal cost. Thus, we can say that, PDRI is an excellent method of providing the necessary scope definition to help assure better project performance.

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