



The Methodology of Using Value Engineering in Construction Projects Management

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Abstract

Construction projects are implemented in different countries with heavy costs and some of the projects have been relatively or absolutely unsuccessful and even faced with irreversible losses after construction. Maybe, it is due to complexities related to projects or other social-economic phenomenon. The present study revealed that value engineering can be used as a helpful tool from the beginning of studies to the end of designing, constructing, exploiting, and maintaining processes and overcome civil designs' challenges and complexities. Value engineering is a method experienced in management that has an organized approach. Value engineering has a systematic and cooperative mechanism to analyze function and systems with the aim of achieving desirable function with the least costs. This study has attempted to briefly introduce concepts and executive process of value engineering in construction projects. Also, the study has attempted to investigate conventional methods of evaluating projects function and compare them convergence with value engineering to improve projects. Based on the research findings, it can be found that if we can expect to achieve projects objectives by spending the least cost and ensure the efficacy of investment in construction projects management sector as a main challenge of development plans in the third world countries through using engineering in appropriate time periods and in different phases.

Keywords: Value Engineering; Construction Project; Value Index; Value Analysis; Value Management; Value Methodology.

1. Introduction

Value engineering is a systematic, creativity and team work-based method to solve problem, decrease cost and improve function and quality of projects, goods and processes. Using a wide range of knowledge and specialists' experiences and focusing on the functions of project or process, value engineering presents practical results for rapid improvement. According to international Project Management Institute (PMI), value engineering is a creative perspective to optimize life cycle costs, save time, increase profit, improve quality, increase market share, solve problems, and optimally use resources [1]. According to the definition provided by Association of Project Management (APM), obtaining desirable value requires making balance between contrast parameters to achieve an appropriate situation while value management is facing with strategic issues, optimizing concepts, technical points, executive aspects, and configuring value" [2].

Institute of Value Management of Australia (IVMA) defines value management in construction projects as "an analytical and organized process that attempts to satisfy employer, consultant and contractor by ensuring about necessary functions with the least possible cost and maintaining quality level and function to maximize value [3].

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