



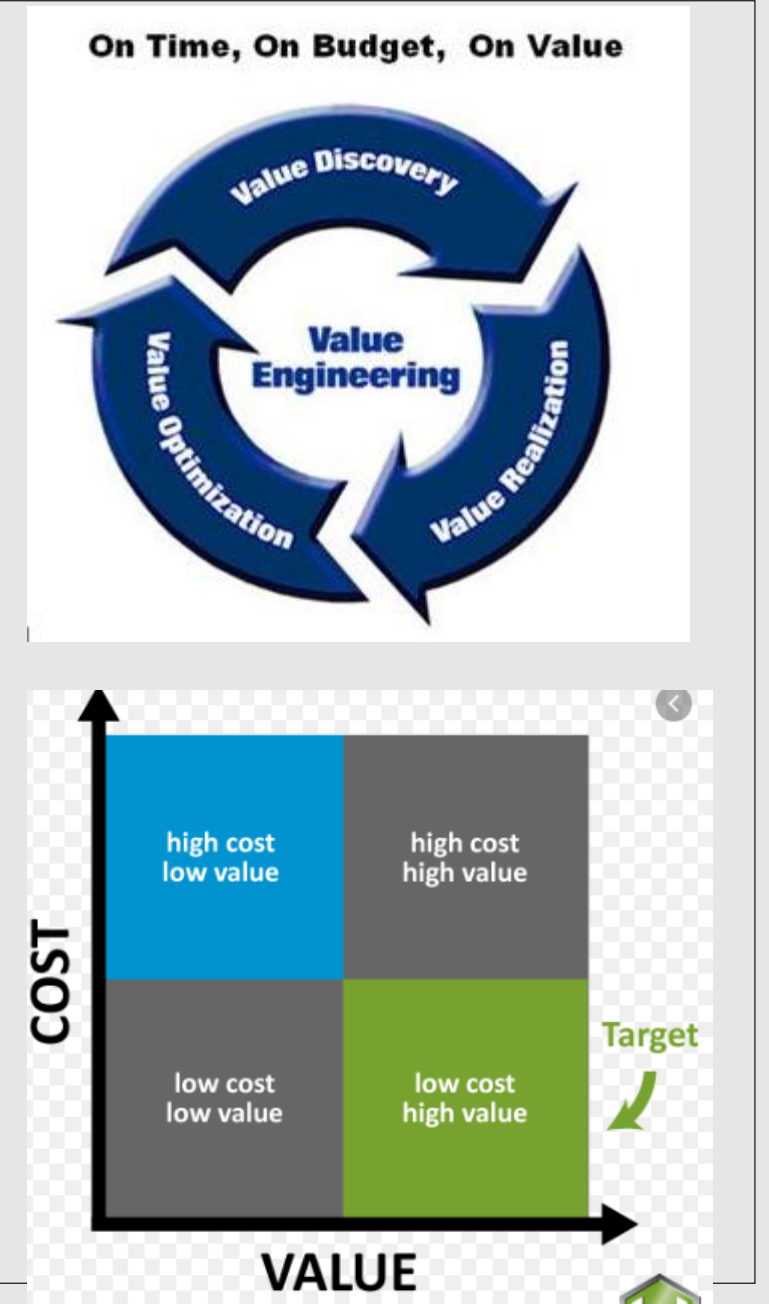
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Value engineering is a systematic, organized approach to providing necessary functions in a project at the lowest cost. Value engineering promotes the substitution of materials and methods with less expensive alternatives, without sacrificing functionality. ... Value engineering is also called value analysis.

Value Engineering – A Tool for Improvement

Value engineering (VE) is a management technique that seeks the best functional balance between cost, reliability and performance of a product, project, process, system or service. It is a function oriented, systematic team approach and method to improve the 'value' of product, project, process, system or service by using an examination of function. Value, as defined, is the ratio of function to cost. Value can therefore be increased by either improving the function or reducing the cost. It is a primary tenet of value engineering that basic functions be preserved and not be reduced as a consequence of pursuing value improvements. Often, the value improvement is focused on cost reduction; however other important areas such as customer perceived quality and performance are also of paramount importance in the value equation.

<https://www.ispatguru.com/value-engineering-a-tool-for-improvement/>



What is the importance of value engineering?

Value Engineering focuses on those **value** characteristics which are deemed most **important** from the customer point of view. **Value Engineering** is a powerful methodology for solving problems and/or reducing costs while maintaining or improving performance and quality requirements.

What is Value Engineering?

" ... an organized effort directed at analyzing the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life cycle cost consistent with the required performance, reliability, quality, and safety."

Source: Office of Management and Budget

"Price is what you pay. Value is what you get."

~ Warren Buffet

<https://www.valueanalysis.ca/vabenefits.php>

BENEFITS OF VALUE ENGINEERING/VALUE ANALYSIS/VALUE MANAGEMENT

Value Analysis recognizes that good value is achieved when the necessary performance can be accurately defined and delivered at the lowest life cycle cost. The Value Methodologies result in benefits to both the individual and the organization.

The benefits to the individual of Value Analysis/Value Engineering include:

- A systematic approach to solving problems.
- Self-satisfaction from contribution their ideas to solution and in participating in an energetic workshop.
- Improvements in their knowledge and abilities because workshop team members with different backgrounds share their expertise during the VA workshop.
- Participation in a transparent process that results in more informative decisions.

The benefits to the organization of using Value Analysis/Value Engineering include:

- A Return of Investment typically ranging from 20:1 to 100:1
- Cost savings while achieving required functions
- Improved understanding of the project and validation of costs
- Improved stakeholder engagement,
- Objective selection among competing priorities or solutions,
- Definition, understanding and measurement of the values related to the project, product, process, or service
- Improvement in corporate culture through enhanced creativity and the introduction of new ideas and approaches ,
- Expedited project schedules,
- Improved quality.

The job plan usually consists of the following six phases.

- **Information phase** – In this phase further familiarization of the project by the team takes place. All team members participate to determine the true needs of the project and to identify the areas of high cost and low worth. The team reviews and defines the current conditions of the project and identifies the goal of the studies.
- **Function analysis phase** – The team defines the project functions using a two word active verb/measurable noun context. The team reviews and analyzes these functions to determine which need improvement, elimination or creation to meet the goal of the project.
- **Creative phase** – The team lists creative ideas generated from its review of the project with the aim of obtaining a large number of ideas through brainstorming and association of creative proposals. The team employs creative techniques to identify other ways to perform the project's functions.
- **Evaluation phase** – During this phase, creative ideas are analyzed and the team selects the best ideas for further development. The team follows a structured evaluation process to select those ideas that offer the potential for value improvement while delivering the project functions and considering performance requirements and resource limits.
- **Development phase** – The team prepares alternative designs with capital and/or life cycle cost comparisons of original designs and proposed alternatives. All recommendations are supplemented with written descriptions, sketches, basic design concepts; technical information and cost summaries. The team develops the selected ideas into alternatives (or proposals) with a sufficient level of documentation to allow decision makers to determine if the alternative should be implemented.
- **Presentation phase** – The objective in this phase is to present the VE study report to the decision makers. The team leader develops a report and/or presentation that documents and conveys the adequacy of the alternatives developed by the team. The report includes a statement of the follow up necessary to ensure implementation.
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