

Value vs. “Value Engineering”

The Value Methodology (VM) defines value as “an expression of the relationship between the performance of functions relative to the resources required to realize them.”ⁱ This can be expressed by the following ratio.

Value \approx Function : Resources, viewing function as performance and resources as cost.

The term “**value engineering (VE)**” is often misconstrued and focused on the “resources” part of the equation. Therein, the “VE” focus is on reducing cost, which can diminish the performance of functions (quality) of a project. *BCI uses “VM” to differentiate its work product from VE.*

Balancing a project VM study to address both components of the value equation (function and resources) improves value, rather than cutting cost. Cost is easy to quantify objectively using established estimating techniques. Quantifying performance is subjective, but can be quantified using a weighted rating system. Performance may also be assessed by “gut feel,” relative to performance attributes identified during the VM study.

Improved Value

Value is improved by

- decreasing/avoiding costs while maintaining function performance;
- improving function performance, where the value of performance improvement is greater than an associated cost increase; or
- decreasing/avoiding cost, where the value of cost avoidance is greater than a decrease in function performance—*while still performing required functions.*ⁱⁱ

Diminished Value

Value is diminished by

- decreasing/avoiding costs while decreasing or degrading performance to a point of *failing to perform required functions (cost cutting).*ⁱⁱⁱ

Criteria Used to Evaluate Creative Ideas

The ideas generated during the Creative Phase of the VM workshop are evaluated based on the following four criteria:

- i. Performance Attributes (Quality/Performance of Functions)
- ii. Cost
- iii. Schedule
- iv. Risk

Performance Attributes (Quality/Performance of Functions)

During the Information Phase of the VM study, performance attributes are identified, their meanings clarified, and prioritized using a paired comparison.

Cost

During the Information Phase, project costs are analyzed and a cost model is developed to illustrate the minority of the components of the project representing the majority of cost. During the evaluation phase, the VM team extrapolates based on this understanding and their professional experience to determine whether ideas may increase or decrease cost relative to the baseline design.

Schedule

Some creative ideas may reduce or increase design and/or construction duration. The VM team considers this as part of their evaluation.

Risk

Some creative ideas may reduce or increase risk. The VM team also considers this as part of their evaluation.

VM Team Consensus Scoring of Creative Ideas

- 4 to 5 = Excellent Value
- 3 to 4 = Very Good Value
- 2 to 3 = Good Value
- 1 to 2 = Fair Value
- 0 to 1 = Minimal Value

		Cost		
		↓	Neutral	↑
Performance; Functionality	↑	4 to 5	3 to 4	2 to 3
	Neutral	3 to 4	2 to 3	1 to 2
	↓	2 to 3	1 to 2	0 to 1

ⁱ VM Standard Reference, SAVE International® VM Guide® ©2020 SAVE International®, Section 2.1.17., p. 6

ⁱⁱ Paraphrased and extrapolated from VM Standard Reference, SAVE International® VM Guide® ©2020 SAVE International®, Section 2.2., p. 6

ⁱⁱⁱ Paraphrased and extrapolated from VM Standard Reference, SAVE International® VM Guide® ©2020 SAVE International®, Section 2.2., p. 6