

COST ENGINEERING TERMINOLOGY

TCM Framework: General Reference
(All Sections)

April 18, 2024

1	(New)	KEY QUANTITY
2	(New)	TOTAL INVESTMENT COST
3	(New)	TOTAL INSTALLED COST
4	(Revised)	RISK APPETITE
5	(New)	RISK CAPACITY
6	(Revised)	RISK TOLERANCE
7	(Revised)	ISSUE
8	(Revised)	PERT (PROGRAM EVALUATION AND REVIEW TECHNIQUE)
9	(New)	PERT CRITICAL PATH
10	(New)	PORTFOLIO SCHEDULE
11	(New)	PROGRAM SCHEDULE
12	(Revised)	PROGRAM
13	(Revised)	PORTFOLIO

14
15
16 (New)
17 KEY QUANTITY – The quantity, expressed in a defined unit of measure, of a summary level metric that incorporates
18 all hours or costs for all activities associated with a specific cost element or discipline of an estimate. Key quantities
19 can be important as an identification of the overall scope of a project; in establishing estimate metrics for the
20 purposes of estimate validation against historical benchmarks, or identifying scope change. Examples are (1) for
21 construction, total installation labor hours or cost per cubic meter of concrete (including formwork, placing, finishing
22 and rebar), or (2) for software development, labor hours or cost per line of software code.

23 *Rev. Date: April 18, 2024*

24 *Primary Subcommittee: Cost Estimating*

25
26 (New)
27 TOTAL INVESTMENT COST – Refers to the comprehensive cradle-to-grave costs for the total financial commitment
28 of an owner organization to complete a project. In the context of construction projects, total investment cost
29 includes total installed costs and other cost categories that a particular organization may exclude from its definition
30 of total installed costs. Additional cost categories included in total investment costs may include items such as
31 preliminary engineering costs, land acquisition costs, financing costs, interest on loans, working capital costs,
32 insurance costs, legal costs, community relations costs, etc. Every organization should clearly define the inclusions
33 and exclusions of applicable cost categories when using the term.
34 See also: TOTAL INSTALLED COST.

35 *Rev. Date: April 18, 2024*

36 *Primary Subcommittee: Cost Estimating*

37
38 (New)
39 TOTAL INSTALLED COST – In the context of construction projects, total installed cost typically refers to the total cost
40 (directs and indirects) required to design, procure, fabricate, install, construct, manage, and commission all
41 components of a construction project. The cost items included in total installed cost may differ between contractors
42 and owner organizations. Across owner organizations, some may include costs such as land acquisition and financing
43 costs while others may not. Every organization should clearly define the inclusions and exclusions of applicable cost
44 categories when using the term.
45 See also: TOTAL INVESTMENT COST.

46 *Rev. Date: April 18, 2024*

47 *Primary Subcommittee: Cost Estimating*

48

April 18, 2024

(Existing)

RISK APPETITE - A component of the risk management plan that expresses the risk management objective in terms of a confidence interval or level for selected outcome measures. (December 2011)

(Revised)

RISK APPETITE -

(1) A component of the risk management plan that expresses the risk management objective in terms of a confidence interval or level for selected outcome measures.

(2) A level of foreseen risk impact, typically at a level lower than an organization's overall risk tolerance, expressed either in qualitative or, more effectively, in quantitative terms and used by management teams to promote risk awareness about the preferred type and level of risk, essentially, describing an operational sweet spot in which an organization or business entity aims to target their execution strategies to either secure or maintain a competitive advantage. Risk appetite is a function of risk management maturity and directly proportional to an organization's level of performance capability.

See also: RISK CAPACITY; RISK MANAGEMENT MATURITY; RISK TOLERANCE.

Rev. Date: April 18, 2024

Primary Subcommittee: Decision and Risk Management

(New)

RISK CAPACITY - The maximum adverse impact that could be borne by an organization or ongoing business entity. Risk capacity is a function of risk management maturity and directly proportional to an organization's level of performance capability.

See also: RISK APPETITE; RISK MANAGEMENT MATURITY; RISK TOLERANCE.

Rev. Date: April 18, 2024

Primary Subcommittee: Decision and Risk Management

(Existing)

RISK TOLERANCE - Refers to the ability or willingness of an asset or project stakeholder to accept potential risk impacts; the evaluation of risk tolerance guides risk treatment planning.

See also: RISK APPETITE. (December 2011)

(Revised)

RISK TOLERANCE -

(1) Refers to the ability or willingness of an asset or project stakeholder to accept potential risk impacts; the evaluation of risk tolerance guides risk treatment planning.

(2) A level of foreseen risk impact, typically at a level lower than an organization's overall risk capacity, expressed either in qualitative or quantitative terms, in order to enable early warning indicators, promote risk awareness, trigger management escalation (or de-escalation) and facilitate proactive intervention. Risk tolerance is a function of risk management maturity and is directly proportional to an organization's level of performance capability.

See also: RISK APPETITE; RISK CAPACITY; RISK MANAGEMENT MATURITY.

Rev. Date: April 18, 2024

Primary Subcommittee: Decision and Risk Management

April 18, 2024

(Existing)

ISSUE – In risk management, a risk that has occurred or an unplanned question, decision, or uncertainty that needs to be treated by a function other than risk management. See also: RISK, SYSTEMIC. (February 2021)

(Revised)

ISSUE –

(1) In legacy risk management processes, an issue may sometimes refer to a risk that has occurred although some uncertainty may or may not remain present in terms of consequence or risk impact.

(2) An unplanned question, decision, or uncertainty that is within an organization's risk appetite, requires no special treatment and can be effectively managed by applying a business-as-usual procedure or process other than risk management.

See also: RISK; RISK, SYSTEMIC; RISK APPETITE; RISK MANAGEMENT; UNCERTAINTY;

Rev. Date: April 18, 2024

Primary Subcommittee: Decision and Risk Management

(Existing)

PERT (PROGRAM EVALUATION AND REVIEW TECHNIQUE) – Along with CPM, PERT is a probabilistic technique for planning and evaluating progress of complex programs. Attempts to determine the time required to complete each element in terms of pessimistic, optimistic, and best-guess estimates. (June 2007)

(Revised)

PERT (PROGRAM EVALUATION AND REVIEW TECHNIQUE) – PERT is a probabilistic approach to project schedule risk analysis to determine the finish date of a project by considering the impact of uncertainty in the durations of activities in a project schedule. A three-point estimate for each activity duration is made to generate an approximation of uncertainty, assigning them as optimistic, most likely, and pessimistic. Typically, the PERT method calculates the expected duration for each activity using a distribution approximated by the following formula: $\{\text{expected duration}\} = [\{\text{optimistic}\} + 4 \times \{\text{most likely}\} + \{\text{pessimistic}\}] / 6$.

See also: PERT CRITICAL PATH

Rev. Date: April 18, 2024

Primary Subcommittee: Planning and Scheduling

Secondary Subcommittee: Decision and Risk Management

(New)

PERT CRITICAL PATH – The critical path calculated in the CPM project network using the PERT expected durations; other paths are not further considered.

See also: PERT

Rev. Date: April 18, 2024

Primary Subcommittee: Planning and Scheduling

Secondary Subcommittee: Decision and Risk Management

(New)

PORTFOLIO SCHEDULE – A time-phased bar chart depicting the start and finish dates of programs and projects grouped together to provide strategic direction and oversight to create synergies for asset development and management.

See also: PROGRAM SCHEDULE

Rev. Date: April 18, 2024

Primary Subcommittee: Planning and Scheduling

Secondary Subcommittee: Program and Project Management

April 18, 2024

(New)

PROGRAM SCHEDULE – A time-phased bar chart depicting the start and finish dates of a series of related projects that share a common goal, which are executed within a specific period of time.

See also: PORTFOLIO SCHEDULE

Rev. Date: April 18, 2024

Primary Subcommittee: Planning and Scheduling

Secondary Subcommittee: Program and Project Management

(Existing)

PROGRAM –

(1) A grouping of related projects usually managed using a master schedule.

(2) A set of projects with a common strategic goal.

(3) In Europe and elsewhere, the term 'program' or 'programme' may be used to mean a network schedule. (June 2007)

(Revised)

PROGRAM –

(1) A grouping of related projects with a common strategic goal.

(2) In some regions, the term 'program' or 'programme' may be used to mean a network schedule.

Rev. Date: April 18, 2024

Primary Subcommittee: Program and Project Management

(Existing)

PORTFOLIO – An array of assets—projects, programs, or other valuable and often revenue-producing items—that are grouped for management convenience or strategic purpose. When strategically combined, the portfolio assets serve to create synergies among and otherwise complement one-another. (August 2007)

(Revised)

PORTFOLIO – An array of assets (e.g., projects, programs, or other items) that are grouped for management convenience or strategic purpose. When strategically combined, the portfolio assets serve to create synergies among and otherwise complement one another.

Rev. Date: April 18, 2024

Primary Subcommittee: Program and Project Management