ValidRisk

Project Risk Quantification Software

Risk Quantification Principles

Quantitative risk analysis (QRA) is one step in the risk management (RM) process. AACE (re: chapter 7.6 of the TCM Framework) defines the RM steps as plan, identify, assess, treat, and control with risk quantification being a unique assessment step.

QRA uses risk-driven models to quantify the distributions of cost and schedule outcomes. This is done to support decision making, be it at a decision gate, or more incremental decisions (e.g., during change management). From the risk information and distributions, contingency, management reserves, and escalation funding can be determined.

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Risk Quantification Principles

AACE International Recommended Practice (RP) 40R-08 documents the following principles that any risk quantification method should follow:

- Meet client objectives, expectations and requirements
- Part of and facilitates an effective decision or risk management process (e.g., TCM)
- Fit-for-use
- Starts with identifying the risk drivers with input from all appropriate parties
- Methods clearly link risk drivers and cost/schedule outcomes
- Avoids iatrogenic (self-inflicted) risks
- Employs empiricism
- Employs experience/competency
- Provides probabilistic estimating results in a way the supports effective decision making and risk management

Most important principles for the hybrid ValidRisk methods is that they are risk-driven including all risk types, they integrate cost/schedule, the parametric model is explicitly empirically-based and the methods are fit-for-use on any estimate and schedule at any phase, class or project size.

AACE has documented the quantitative risk analysis practices that align with the principles. The ValidRisk hybrid method, combining parametric modeling of systemic risk with expected value and Monte Carlo simulation of project-specific risks is in AACE RP 113R-20.

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