

estimate

estimate • analyze • plan • control

Estimation - The next level

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 President
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Cost Estimating





 The process of collecting and analyzing historical data and applying quantitative models, techniques, tools, and databases to predict the future cost of an item, product, program, or task

Purpose of cost estimating:

- Translate system/functional requirements associated with programs, projects, proposals, or processes into budget requirements
- Determine and communicate a realistic view of the likely cost (effort, schedule) outcome, which can form the basis of the plan for executing the work





Association for the Advancement of Cost Engineering - International

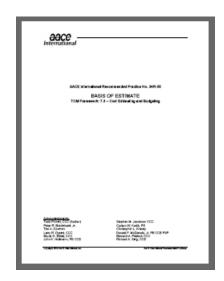
- A not-for-profit organisation
- Internationally oriented
- Recommended Practices a.o.

17R-97: Cost Estimate Classification System

34R-05: Basis of Estimate

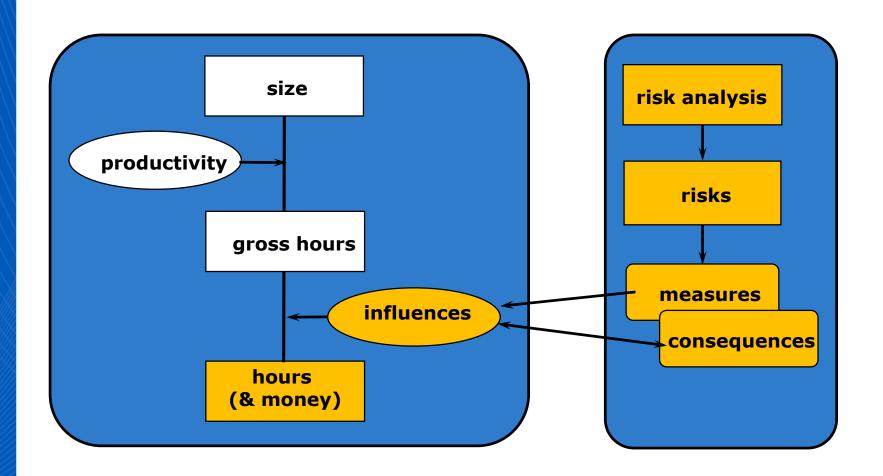
40R-08: Contingency Estimating: General Principles 42R-08: Risk Analysis and Contingency Determination Using Parametric **Estimating**

- Certification a.o. Certified Cost Consultant™ (CCC™) Certified Cost Engineer™ (CCE™) Certified Estimating Professional™ (CEP™)
- www.aacei.org



Simplified Estimation Model





Size



- Basis of Estimate
 - **Quantity Metrics**: excavation and backfill quantities, concrete volumes, piping quantities, ...

These may be organized by facilities, process train or manufacturing unit.

- Basis of Estimate Software Services
 - Requirements: number of use cases, number of backlog items, ...
 - Functional size: Function points
 Measurement methods: IFPUG, NESMA, COSMIC, FiSMA, ...
 - Technical size: (source) lines of code, number of interfaces, modules, ...
 - Service size: number of incidents, tickets, users, locations, ...

These may include expected error range, level of accuracy and method of 'measuring' (e.g. "Backfired", detailed)

Basis of Estimate - Software Services



PURPOSE GUIDELINES

Software Development, Maintenance & Support, Infrastructure

RECOMMENDED PRACTICE

Estimation purpose

Engagement
Scope
Description

Estimating methodology (FP, expert, etc.)

Estimate Classification (1,2,3,4,5) Level of detail Stage, Deal size/type, fixed price/TM

Design Basis (Components lists, units, etc.) **Sizing Basis**Requirements
Functional
technical

Effort Basis delivery constraints, service levels Planning Basis Working time standby

Cost Basis methods and sources , units

AllowancesNot in the Basis

Assumptions internal, external

Exclusions
No costs
included for...

Exceptions anomalies or variances on standard

Risks and Opportunities assumptions

Containments cost elements for mitigation

Contingencies
Uncertainty,
unforeseeable
elements

Management Reserve changes in scope, effort Reconciliation
Changes to
previous
estimation

Benchmarking Comparisons to similar engagements

Estimate Quality Assurance Reviews

Attachments

Attachments

Attachments

Attachments

AACE, MAIN, NESMA

The Tax System Case Study





Basis of Estimate - Software Services



PURPOSE GUIDELINES

Software Development, Maintenance & Support, Infrastructure

RECOMMENDED PRACTICE

Good

Poor

Estimation purpose

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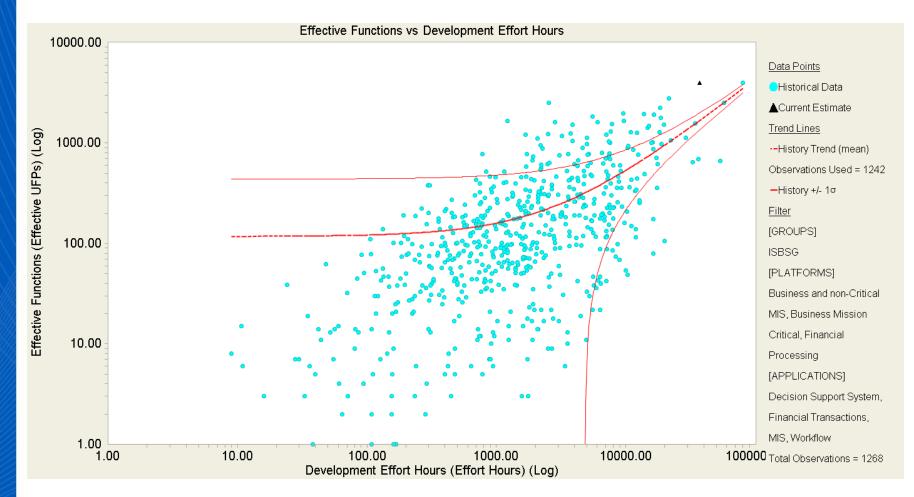
External Validation (III)











Q & A



