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Cost Estimating Challenges in the Future

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A Cycle of Challenges

1. Complex Analysis
2. Risk Perspective
3. Using Risk Analysis
4. Data Sources & Validity
5. Decision Making Tools
6. Dynamic Estimating
7. Education & Training
8. Internationalization
Challenge 1

Complex Analysis

- How much will this project cost?
- Range Estimate and Probability
- Non-linear Dependencies
- Knowns, Unknowns, Uncertainty…and Risk
Challenge 2

Risk Perspective

- Cost Estimator

- Project Manager

50% Confidence Level

To a PM, raising the Est CL is Capitulation, not Mitigation
Challenge 2

How do we buy-down risk?

Covering risk items with Est CL is same as just accepting risk

50% Confidence Level

Mitigation Investment must have a positive Risk ROI
Challenge 3

Using Risk Analysis

- Cost Estimators spend a lot of time performing sophisticated risk analysis, but...
- Plays no roll in determining contract type
- Plays no roll in determining an appropriate profit rate
- Rarely used to quantify or even qualify a risk register
Challenge 4

Data Sources & Validity

- In the future, it will no longer be about lack of data
- We will be awash in data
- Big Data from many sources could mean “normalization a thing of the past
- How we decide validity, accuracy or purity is critical
Challenge 5

- Back to Challenge 1: We often dump raw information on Decision Makers

- We need to develop and utilize better analytics to provide the right answer – optimization or at least “approximization”

- Visual information is almost always more effective than tables of numbers
Challenge 5
Challenge 6

Dynamic Estimating

- Estimating interactive simulations are next frontier
Challenge 7

Education and Training

- Competition for people with quantitative and analytic skills is likely to grow

- What will a Cost Estimator look like in the future; Where will they come from?

- Industry, government, consulting, and academia need to re-think our talent pipeline
Challenge 8

Internationalization

- Cost Estimating and Analysis is a worldwide profession

- The problems we solve are universal; the analytic methods are common; our approaches are too often parochial

Organizations like NESMA and ICEAA that cross borders, oceans and continents are critical to the health and growth of our profession