Elaboration Cost Drivers Workshop

18th COCOMO / SCE Forum
October 2003
Attendees

- Brad Clark (moderator)
- Mauricio Aguiar
- Michael Douglas
- Samuel Eiferman
- Stuart Garrett
- Dan Ligett
- Vicki Love
- Karen Lum
- Karen Owens
- Dan Strickland
- Richard Stutkze
- Ye Yang (co-moderator)
Approach

• Draw on the knowledge and experience of Affiliates in developing selection criteria that is pertinent and useful. Form a working group to electronically collaborate on elaborating COCOMO II Driver definitions

• Interim results presented at CSE Annual Research Reviews and COCOMO/SCM Forums.

• Steps:
  – Rank the Drivers in terms of subjectivity
  – Considers different sources of elaboration
  – Develop a Whitebox analysis that considers a driver’s influence on effort by lifecycle phase and activity.
  – Develop selection criteria based on the what others use and Whitebox analysis.
  – Pilot the enhanced selection criteria.
Elaborating Cost Driver Workshop Goals

• No new math (elaboration not re-definition)
• No scare-factor (not too many inputs)
  – Something behind the curtain
  – Gradual unfolding
• More comprehensible vocabulary
  – Consider wider range of application users
  – Applicable to Business and Military
• Make it easier to use
  – Eye-ball average, optional weighted scoring
• Make it less subjective
  – Crisper definitions
Example of Discussion:
Architecture and Risk Resolution (RESL)

- What does compatible mean in the “schedule, budget, and internal milestone through PDR or LCA compatible with…”
- If you use the model post-PDR, how do the questions apply?
- Percent of what schedule devoted to establishing architecture: PDR or CDR?
- What is a “top” architect and how to you quantify the percentage of availability?
- Suggestion: Add risk impact to the table using the definition of the 89 book, risk management.
- How much risk do you have?
- Do you have risk management processing place? Tracking tool?
Driver “Objectivity” Ranking

- Each driver was rated (1 to 10) for its level of subjectivity by participants.
- Ratings: 1 = Very Objective, 10 = Very Subjective
Driver “Objectivity Ranking Compared to Driver Productivity Range

• This is the Productivity Range of each Driver
• Some high productivity drivers are in need of further elaboration
Driver “Difficulty” Ranking

• Each driver was rated (1 to 10) for amount of work it would take to clarify the driver definition to make it more objective – Elaboration Difficulty.

• Ratings: 1 = Easy, 10 = Hard
Overall Driver Ranking Scatter Plot

• This plot combines the “Objectivity” and “Elaboration Difficulty” ranking information.

• Interestingly, there are no drivers that are very subjective and easy to correct.
Overall Driver Rankings

- As can be seen in the scatter plot in the previous slide, each driver has a distance from the origin (1,1)
- This indicator shows the distance of each driver from the origin and thus its combined overall rank
Next Steps

• Set-up website and e-mail list
• Populate website with artifacts and background materials
• Practice collaboration on one driver
  – Platform Experience (PEXP)
  – Use e-mail list
  – Post interim results to website for review
• Attempt to elaborate 4 or 5 drivers by CSE Annual Research Review in March 2004
  – 3 easy (PLEX, LTEX, PCON)
  – 2 difficult (RESL, DATA)
Anticipated Results

• Improved likelihood that answers to COCOMO II Driver ratings are consistent within and across software development projects
  – Improve consistency of estimates
  – Provide a more understandable “basis of selection” for a driver rating
  – Impact quality of data collection for model calibration
Driver Elaboration Study Moderators
(for more information, requests or questions)

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