

SWINBURNE
UNIVERSITY OF
TECHNOLOGY

SWE20001 Managing Software Projects

Lecture 8c

Estimating by Experts and Delphi Techniques



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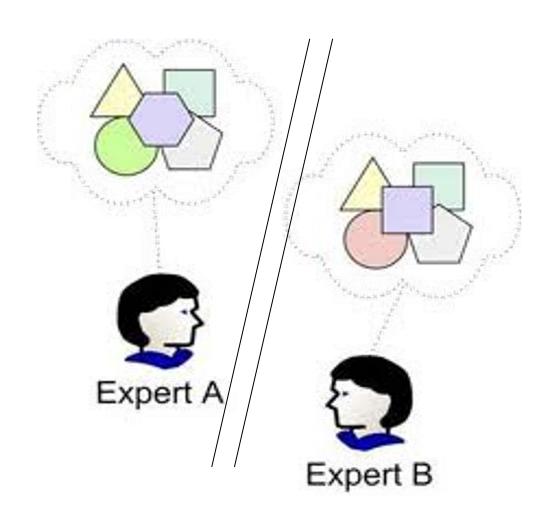
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Estimating by Experts



■ Ask the expert to do the estimation for you



Experts – Where to find them?

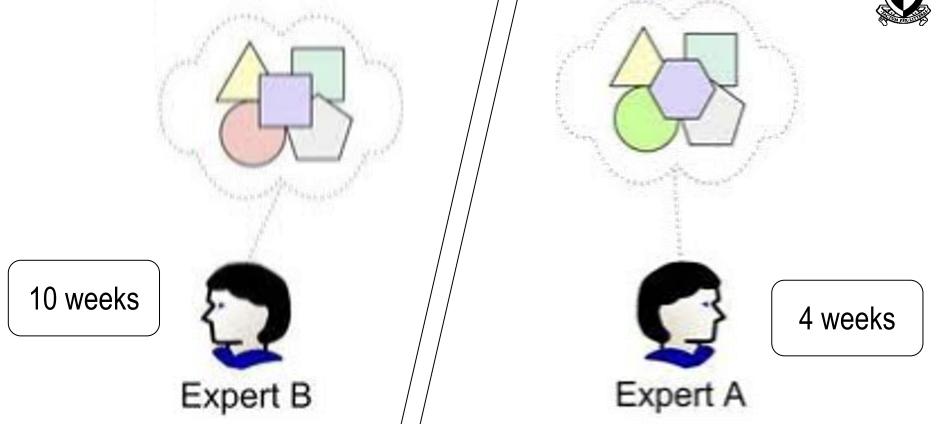


- More experienced people in your organization
- People who have done many similar related work before

I ...

Q: Experts don't agree ?





Use Delphi (Estimating) Technique

Scrum Poker (aka Planning Poker), a variant of Delphi

Example – Paint Your Bedroom – Delphi



Expert A

- 3m (l) x 3m (w) x 2.3m (h)
- 4 days
- Paint cost \$400

Expert B

- Same room
- 1.5 days
- Paint cost \$700

Example – Peer Review System – Delphi



Expert A

- Allow a student to submit a peer review assessment about one team member
- 20 hours

Expert B

- Allow a student to submit a peer review assessment about one team member
- 40 hours

Delphi Technique (Original)



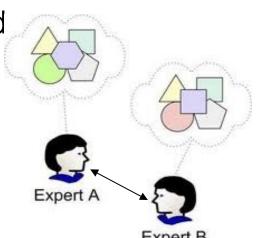
- Have a panel of experts in the field
- Brief the panel about the nature of task / activity to be estimated
- Each panel member makes an "estimate" of their own
- Hold a panel meeting for the panel to discuss their estimates together, hopefully come to an agreement
 - ☐ Members may present their viewpoints and discuss among themselves
 - ☐ May take hours to come to an agreement
- After the meeting, the panel comes up with one estimate that they all agreed on
- Use that final estimate

Delphi Technique – One Variation



Technique exploiting "knowledge" in the project team:

- i. Brief team about nature of task/activity to be estimated
- ii. Each team member makes a "best guess" estimate
 - ☐ Based on their past experience
- iii. Estimates are summarized/tabulated
- iv. "Outliers" comment on reasons for their estimates
- v. Based on new "evidence", team members estimate again
- vi. Repeat steps (iii) to (v) a "few times", with each person influenced by their peers' judgments
 - Rule of thumb: 2 to 3 times
- vii. Take average estimate as team's estimate of task/activity



Example – Paint Your Bedroom – Delphi



Expert A

- 3m (l) x 3m (w) x 2.3m (h)
- 4 days
- Paint cost \$400

Assumption

- Use a normal paint, takes at least24 hours to dry
- Do undercoat

Expert B

- Same room
- 1.5 days
- Paint cost \$700

Assumption:

- Use fast drying paint (dry in 10 hours) but more expensive
- No undercoat

Example – Peer Review System – Delphi



Expert A

- Allow a student to submit a peer review assessment about one team member
- 20 hours

Assumptions

- No validation of student id
 - ☐ Can enter any student id
- Enter text in the required field
 - □ No validation, can enter "X"
- No email sent

Expert B

- Allow a student to submit a peer review assessment about one team member
- 40 hours

Assumption:

- Need to verify student id
 - □ ensure they are in the same team
- Use dropdown / combo box
- Send an email to the submission student for record

Scrum Poker (aka Planning Poker)

- There are many videos on youtube.com introducing Planning Poker, below is just one of them
 - □ https://www.youtube.com/watch?v=gE7srp2BzoM
 - ☐ Go to youtube.com and search using "Planning Poker" (in case you want to watch other Planning Poker videos or the above one does not work) remember the link so that you may refer to it later for your references
- Watch the video before the lecture and drop down any questions that you may want to ask in the lecture
 - □ I will try my best to address your questions in the lecture

Delphi Technique – Issue

■ Hope the panel / team can come up with one estimate – What if they could not?