Budget Estimation Levels and Different Approaches to Calculating Estimates

Estimation Levels

1. **Rough order of magnitude.** This is used early in the project as an initial estimate, before more detailed analysis is performed. The typical target range for these estimates is +75%/−25%.

2. **Budgetary.** This is the second stage of estimating usually derived after some research and an initial plan for approaching the project is created. The typical target range for these estimates is +25%/−15%.

3. **Definitive.** This is the final stage of estimating and the most detailed type of estimate, created when a full set of detailed plans for delivering the project are in place and verified. The typical target range for these estimates is +10%/−5%.

Estimation Approaches

1. **Analogous.** This estimation approach is typically used to produce rough order of magnitude estimates. With an analogous estimate, you use the actual costs and duration from a completed project as the basis for creating an estimate for your current project. You adjust the actuals from the completed project as appropriate, to accommodate differences between the completed project and the project you are currently estimating.

2. **Heuristic.** This estimation approach is typically used for rough order of magnitude or budgetary estimates. A heuristic estimate uses historically accurate high-level estimates to complete an aspect of a project. For example, "testing typically consumes 10% of the total project time" is a heuristic estimate used in IT projects.

3. **Expert judgment.** This estimation approach is used for all estimation types. When your team does not have the expertise to estimate some aspect of a project, you call in an expert who has worked on a similar project. They analyze your project and provide an estimate based on their experience.

4. **Parametric (precalculated formula).** Parametric estimates also use historical information but are constructed in terms of a formula to estimate your project. Cost per square foot for office space or a residential home and cost per lane mile (or lane kilometer) are common instances of parametric estimates. In IT, cost per hundred lines of code, cost per function point, or cost per feature in agile approaches are common parametric estimation examples.

5. **Delphi.** The Delphi estimation approach is similar to expert judgment; however, you use a number of different experts to review your project, and each of them provide

estimates. Differing opinions from the experts are shared, and the expert panel then makes comments or revisions to their estimates. The project team reviews the communication from the experts and takes the elements they believe best represents the truth in their project to produce an estimate.

6. **PERT (or triangular approach).** To use this, you ask key individuals not just for their estimate but for the optimistic, most likely, and pessimistic estimates. You then apply a formula to produce your project, or project activity estimates. The formula is (Optimistic + 4x Most Likely + Pessimistic / 6), which gives you a weighted average.