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**Wideband Delphi Estimation Technique.**

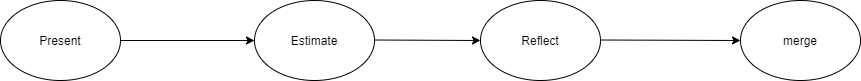
Delphi Estimation technique is a qualitative model that incorporates expert opinions and subjective factors. Useful when subjective factors are thought to be important or when accurate quantitative data is difficult to obtain. It’s done by the following:

* Estimates are initially provided anonymously by a group of experts.
* Next, the team of experts discusses the estimates and the providers of the highest and lowest estimates have to "defend" their findings.
* There must be a reason that they are outliers: do they know something that others don’t know. information is exchanges in an open forum.
* Finally, a second set of estimates is provided anonymously. The final estimation be done.
* It is important that the estimation be done individually and anonymously so that the estimates are not biased.

**The Wideband Delphi Estimation Technique.**

The technique is done in four phases i.e.

1. Present – Where the item to be estimated is presented.
2. Estimate - Provide an estimate based on subjective experience.
3. Reflect - Discuss estimates as a group with focus on highest and lowest estimates.
4. Merge - Reach consensus or average estimates.



For each task, each estimator provides the:

1. optimistic effort-the least cost of least time.
2. pessimistic effort-the most cost or time.
3. expected effort- the realistic forecast.

**Steps in the Delphi Estimation.**

**Present**

Choose the Estimation team and a moderator.

Start the first meeting where the problem is presented to the team with all specifications and constraints. After a work break down structure is generated by each team.

**Estimate.**

Here a meeting is called by the team leader or coordinator to discuss if all estimations are complete. Note that if someone in the team is not done the leader gives more time to the team member.

The team assembles for the estimation meeting. The Moderator collects the initial estimates from each of the team members. A plot is made with the information gathered without disclosing the members names.

**Reflect.**

The team then discusses problems they have about the tasks they have arrived at, assumptions made, and estimation issues. Each team member then revisits his/her task list and assumptions, and makes changes if necessary. The task estimates also may require adjustments based on the discussion, which are noted as +N Hrs. for more effort and –N Hrs. for less effort. The team members then combine the changes in the task estimates to arrive at the total project estimate.

The moderator collects the changed estimates from all the team members and plots them on the graph

Estimate and Reflect phases are repeated till one of the following criteria is met or till all team members are unwilling to change their latest estimates.

**Merge.**

The team leader then assembles the results from the Estimation meeting and compiles the individual task lists and the corresponding estimates into a single master task list. The leader does this for also individual assumptions and then reviews the final task with the team.

**REFFERENCES.**

<https://www.tutorialspoint.com/estimation_techniques/estimation_techniques_wideband_delphi.htm/>