STATISTICAL PERT®

ESTIMATION MADE EASY

www.StatisticalPERT.com

Download free Excel templates at www.StatisticalPERT.com **William W. Davis, MSPM, PMP**

Why Use Statistical PERT®?

There are two kinds of estimates: deterministic and probabilistic. **A deterministic estimate uses a single value** to predict a single, future outcome for a project uncertainty. But deterministic estimates do not convey the range of possible outcomes, or the estimator's confidence in the most likely outcome, or the risk of estimation failure. Teams and the sponsors can be misaligned because the predicted reliability of deterministic estimates is never calculated—or disclosed—to the sponsor. Sponsors unknowingly accept either too little risk (inflating project cost and scheduled delivery dates), or too much risk (causing budget overruns and product delivery delays).

In contrast, **probabilistic estimates offer an *unlimited* number of forecast choices**. Each choice has a predicted, cumulative probability of its occurrence. Teams and sponsors align their expectations by choosing probabilistic estimates for their project or product uncertainties, like agile delivery dates, project schedules and budgets. Teams and sponsors make better, more informed decisions because the predicted reliability of each probabilistic estimate is calculated, disclosed, and agreed upon by everyone. Teams and sponsors have a shared sense of risk and uncertainty about the future.

Statistical PERT® aligns expectations between teams and sponsors. Every Statistical PERT estimate is identified with a specific probability that the uncertainty's true value will be greater than or less than a probabilistic estimate. You and your team choose probabilistic estimates that best fit your sponsor's objectives and risk tolerance level.

Statistical PERT creates reliable estimates using both the estimator's own skill and Microsoft Excel®'s built-in statistical functions. Statistical PERT incorporates the estimator's subjective judgment (intuition, opinion, private knowledge) about *how likely* the most likely outcome really is to rationally adjust all probabilities so they reflect the estimator's personal knowledge and judgment about each uncertainty. You can also include historical data, if available, when preparing a Statistical PERT forecast.

Using reliable, probabilistic estimates, teams and sponsors work together to optimize their chance of obtaining desirable, future outcomes!

Key advantages

- Quickly align expectations
- Easily forecast release dates, budgets, and more
- Choose estimates that perfectly fit your (and your sponsor's) risk tolerance
- SPERT Excel templates are **FREE** to download, use, modify, and share!

Free Download!

Statistical PERT® (SPERT®) Excel templates are freely licensed under the GNU General Public License published by the Free Software Foundation.

Download SPERT Excel templates and easily make probabilistic estimates for schedules, budgets, agile sprints and releases, events, or any uncertainty with bell-shaped risk properties.

SPERT Excel templates work with Microsoft Excel 2010 and later versions.

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Statistical PERT in Five (or Three) Easy Steps

Statistical PERT uses five steps to create estimates using just a blank Excel worksheet. However, using a freely available, SPERT Excel template reduces the effort to just **three steps** (Steps 1, 3, and 5). Here are the five steps of Statistical PERT:

1) Create a 3-point estimate for any bell-shaped uncertainty:
   Minimum (Min)
   Most Likely (ML)
   Maximum (Max)

2) Use PERT to estimate the mean (expected value):
   (Min + 4ML + Max) / 6

3) Render a subjective judgment about the most likely outcome

4) Create a SPERT standard deviation (SD) by equating Step 3's subjective judgment to a Ratio Scale Modifier (RSM). RSMs usually range between 7% and 42%. The SPERT SD formula is:
   (Max - Min) * RSM

5) Use Excel's built-in NORM.DIST (normal distribution) and NORM.INV (normal inverse) functions to create probabilistic planning estimates at any confidence level