

## Estimating Project Benefit Measurements, Effect of Benefits on District Goals, and Probability of Success

The Value of Investment methodology asks the project planning team to come to consensus in determining several expected outcomes. There appears to be no easy approach to determining expected outcome values, and the best approach is for the team members responsible for evaluating the proposed project to come to consensus. The consensus approach to decision-making doesn't always take into account minority views, which should be included. A good way to improve the accuracy of these estimates is an estimating technique used with Program (or Project) Evaluation and Review Technique. PERT, which is a project management/scheduling methodology, includes a standard deviation estimation technique used in project management. PERT utilizes an Optimistic (O), Most Likely (ML) and Pessimistic (P) estimate in the following formula:

$$\frac{O + 4*(ML) + P}{6} = \text{Estimate}$$

(You can also derive the Standard deviation using the formula:

$$\frac{P - O}{6}$$

By using +/- 2 SD you can obtain the potential range of the estimate with better than 95% accuracy.)

Let's try an example of using this technique for group consensus for VOI.

### ***Estimating Measurable Benefits***

Project benefits stated in measurable terms can usually be termed as, "From [current value] to [estimated value] by [planned completion date]."

Let's say that we're looking at introducing certain online courses as an alternative to standard core classes, including math, in part to address a school goal that states, "Our school will strive to increase student achievement based on percent of students passing state summative tests." One proposed benefit might be that providing this alternative will provide an opportunity for low performers that don't do well with the traditional classroom teaching approach. One good measurement would be percent of students passing state assessments, since we're not looking at increased scores for the high performance students. We can state this benefit as "Increase percentage of students passing the 10<sup>th</sup> grade state standardized math test from 63% to X% by 2011." We know that we are currently at 63% passing, and the online math courses will be fully operational in 2010 for 9<sup>th</sup> and 10<sup>th</sup> graders. So, what improvement, if any, should we see?



# Establishing Group Consensus For Value of Investment



One or two team members don't really expect to see a measurable change; there are some thoughts that an 8% increase to 71% will take place, with a general consensus that a 5% increase to 68% is a reasonable expectation. Plugging these values in to the formula:

$$\frac{O + 4*(ML) + P}{6} = \text{Estimate yields } \frac{71 + 4*68 + 63}{6} \text{ or } X = 67.7\%$$

But the important issue is that everyone's opinion is accounted for.

## ***Estimating the Effect of a Benefit on Achieving a District Goal***

Another VOI value that is difficult to estimate is the effect that any given project benefit will have on its related district or school goal or element of a strategic plan. It should be noted that this measurement is not important if you are scoring two or more projects competing for the same funding.

But, if you are scoring projects, it may be useful to use this same formula and process covered above. In the online learning example, we are asking, "On a scale from -10 to 10, (where a negative number is a negative impact of a benefit on the related goal, zero is no impact and +10 would totally complete this goal) what is the impact of this increase in tenth grade math scores on the district goal for increased school performance on standardized state tests?" Using the -10 to +10 scale, the group can decide on a pessimistic value, optimistic value and a general consensus value, and use the process described above to determine an estimated effect of this benefit on the related school/district goal.

## ***Determining Risk***

All proposed projects have an element of risk. Or stated differently: What is the probability that the measurable project benefits will be essentially accomplished such that the project is considered a success. This is the "probability of success" and can be stated as a percent probability. This percent probability should be applied against dollar savings and measurable benefits when evaluating projects or scoring projects competing for funding.

Once again, the PERT standard deviation formula above can be applied to the consensus numbers of 0% to 100% probability of success.

---

(Thanks to Charles Sipos, Executive Director Information Technology, Fulton County (GA) schools for contribution to this brief)

Rich Kaestner, CoSN VOI Project Director