Cost vs Schedule Risk Analysis for Proposals

Project Risk Analysis

There are two important outcomes for most projects beyond the obvious scope and quality objectives: Cost and Schedule.

The cost outcome directly affects the value of performing the project in terms of profit and loss. The schedule outcome also affects cost and has other less tangible impacts such as loss of reputation caused by late delivery.

Cost Risk Analysis

Many organizations focus on cost risk when producing proposals. Unfortunately the primary reason for this is because it is perceived as quick and easy. The scope of work will often be estimated at a high level as a series of line items in a spreadsheet. This lends itself to easily adding in overheads, profit and contingency as percentages to arrive at a price.

There are several techniques for performing “risk analysis” on the cost data including proprietary risk analysis packages through home-grown macros. Many of these cost risk solutions even employ sophisticated algorithms like Monte Carlo simulation, though this is not really necessary because cost risk analysis can easily be done analytically.

Unfortunately this approach has many pitfalls, chief among them that the cost impact of potential schedule delays cannot be easily assessed.

Schedule Risk Analysis

Schedule risk analysis will not only provide information regarding expected completion dates but it can also produce a more realistic assessment of likely project costs. So why do so many organizations still produce unrealistic proposals based purely on cost risk? This is largely because of the perceived effort. The irony is that many of these same organization will have also produced a schedule to determine a date to include in their proposal.

Resource/Cost loading a schedule is no more arduous than creating a spreadsheet to model costs although it does require the dissolving of the ‘silos’ that so often separate cost and planning in many organizations.

Monte Carlo simulation on a schedule doesn’t have to be onerous. If uncertainty data is available for cost estimates then often the same data can be used in the schedule.

Performing a Schedule Risk Analysis as part of the proposal process will avoid the pitfall of only discovering a low probability of schedule success after the contract has been awarded.

The Benefit of Cost/Schedule Risk Analysis vs simple Cost Risk Analysis

Cost risk analysis tends to treat each component of the estimate in isolation. Even if correlation or ‘drivers’ are used to create shared influencing factors the mean (expected) cost will often remain similar even if the range (deviation) of the results changes. Schedule risk analysis on the other hand, assuming appropriate predecessor/successor logic is in place, can additionally produce more realistic forecasts taking into account merge bias and rate changes.

Summary

Schedule Risk Analysis when producing proposals can be an easy way to ensure commitments are realistic and improve chances of success while reducing project costs by focusing on the things that matter. Embracing risk can improve confidence and ultimately profitability.

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