

Practical Project Management – Tips and Traps

Part Four – Contingency, Risk Management & EVA – Tips & Traps

Note: This summer, I celebrated my 40th anniversary of project management involvement with the release of my 2nd book: “*Practical Project Management: Tips, Tactics, and Tools*” by *Harvey A. Levine, John Wiley & Sons, 2002*. Scattered throughout this text are some hundred or so Tips and Traps that are based on my experiences during these four decades of project management practice.

This is the fourth of a series of articles built around these tips and traps statements. It captures the essence of almost 400 pages of practical project management advice, in just a few short articles. Of course, you are invited to delve deeper into the material at a later time. Also, you will find selected excerpts of the book’s chapters on this website as separate papers.

Using & Managing Contingency

TIP – Manage task interfaces

When the schedule contingency is too small to allow slippage, more effort must be spent on managing task interfaces. My experience has been that as much time can be lost between tasks as in the execution of the tasks themselves. (Ch. 6-1)

TRAP – Don’t focus only on float

Using CPM based models and relying primarily on total float (slack) to have us focus on the critical work can actually lead to schedule slippage rather than preventing it. This problem occurs when we concentrate so much on the activities that lie on the critical path that much of the other work does not get done when planned. Eventually, all of the work loses its float and there is no time margin left to deal with any problems that might crop up. (Ch. 6-2)

TRAP – Critical Chain rules prohibit earned value and milestones

Critical Chain PM is promoted as a better option for critical path scheduling. Caution: If you were to adopt the full critical chain philosophy and support programs, you would also have to adopt the full set of rules and processes associated with critical chain, and abandon many of the important features of traditional CPM, such as earned value and milestones. So, be sure that you want to do this before changing over to CCPM. (Ch. 6-1)

TRAP – No PERT support for effort estimates

Earlier, we noted the potential benefits from using the PERT method (three time estimates) for dealing with uncertainty and risk in estimating task durations. When the plans are primarily “effort-driven”, it would make perfect sense to be able to use three effort estimates (optimistic, most likely, pessimistic) for the resource durations.

Unfortunately, no computer program yet exists that considers three effort estimates and provides a statistical analysis of these values. (Ch. 6-1)

TIP – Resource contingency

Whether you need to allow some resource contingency will depend in part on the “density” of the forecast resource usage. If the resource usage histogram for the accepted baseline plan shows resource loadings at or above the planned resource availability, for most of the schedule periods, then some resource contingency allowance is in order. However, if the resource usage histogram shows a mix of peaks and valleys, especially well out into the future, it may be OK to wait until you are closer to the period in question before making firm contingency plans. (Ch. 6-1)

TIP -A Corollary to Parkinson’s Law

C. Northcote Parkinson noted that “work expands so as to fill the time available for that work”. In some projects, we can state that in reverse. That is, the workscope is reduced by the limits in time and money available to do that work. In some cases, we reduce the content or functionality of what is delivered. We may even eliminate an item in its entirety. (Ch. 6-1)

TIP – Don’t get caught in a closing door

The life cycle of a project consists of a series of closing doors. Early in the project, there are usually numerous alternatives for satisfying the project objectives. As we move along further in the project, constraints in time, cost, and technology tend to reduce the number of available options. As a basic part of project management, and specifically a component of contingency management, the prudent project manager identifies the critical decision points and notes the deadline for making such decisions. Evaluations of alternatives should be scheduled sometime prior to the closing of critical doors. (Ch. 6-1)

Managing Schedule, Cost & Technical Risk & Contingency

TRAP – Risk avoidance is opportunity avoidance

Some people define avoidance of risk as avoidance of opportunity. That is, rather than taking calculated risks, they avoid anything that contains any risk. This, of course, reduces the number of options that are available to achieve stated objectives. In development projects, it often means that the product is weakened by excluding the latest technical advances. A “safer”, risk-free strategy can lead to an unsuccessful project just as much as a project with risk. When we talk about risk avoidance, we are talking about qualifying risk, not avoiding risk. (Ch. 6-2)

TIP – Early detection of risks provides more options

Risk Mitigation is usually easier when the risk opportunities occur early in the project. As you move further into the project there are fewer options, there is less time, and there is greater cost for alternative or corrective action. Risk avoidance and mitigation plans should attempt to trigger early detection of risk incidents and early corrective action. (Ch. 6-3)

Performance Measurement and Earned Value Analysis (EVA)

TIP – EVA Terms

Got a language problem? Let's substitute some everyday terms for the EVA jargon: (Ch. 7-1)

EVA jargon...	Everyday terms...
BAC (Budget at Completion)	The budget
BCWS (Budgeted Cost of Work Scheduled)	Planned accomplishment (at any point in time)
BCWP (Budgeted Cost of Work Performed)	Earned value or accomplishment value (@ point of time)
ACWP (Actual Cost of Work Performed)	Actual cost to date
SV (Schedule Variance)	Difference between planned accomplishment and EV
CV (Cost Variance)	Difference between actual cost and EV

TIP – Use the Schedule Performance Index

Earned Value Analysis (EVA) is a simple, structured method for measuring and evaluating project performance. The periodic measurements generate schedule and cost data, comparing accomplishments to the plan.

Use the Schedule Performance Index (SPI) to plot the rate of work accomplishment. The SPI is the Earned Value divided by the Planned Accomplishment (BCWP/BCWS). You are looking for an SPI of 1.0 or better. If you plot the SPI on a periodic basis, you can see if the rate of accomplishment is improving or faltering. A low SPI, which fails to improve with time, is a clear indication that meeting the schedule objective is in danger. (Ch. 6-2)

TRAP – Applying just part of EVA concepts can pay big dividends

Don't be misled to think that EVA is an all-or-nothing protocol. It is possible to use just part of the EVA capabilities, applying them where they are most practical and useful. You can use Schedule Variance without Cost Variance, and visa-versa. We can apply EVA to just milestones or to parts of the plan. We can use simple EVA practices for accurate progress billing. (Sec. 8)

TOOL TIP – Value Performance Index

Sciforma Corp. has recognized the practicality and validity of this simplified accomplishment value technique. They have added new capabilities to their PS8 and PC-Objectives software packages, building in a unique **Value Performance Index** method, which provides a means of entering weight factors for EVA (instead of using costs or hours). The VPI can also be applied to selected work items or milestones (rather than to every line item). (Ch. 8-1)

TIP – Using EVA for Progress Payments

The measured Earned Value represents the value of the work that has actually been performed. Many companies have actually started writing contracts that call for progress payments based on measured earned value. (Ch. 8-1)

Change Control & Scope Management

TIP – Procedure for baseline management

Here is a recommended procedure for maintaining both control over the workscope and maintaining a valid baseline for EVA. (Ch. 7-1)

1. Establish a standard practice for adding to the project workscope.
2. Provide forms, either printed or electronic, to facilitate the practice.
3. Identify roles, including who may originate a scope change and who may approve a scope change.
4. When a scope change is proposed, the work to be performed is to be fully defined, preferably as a list of work items (tasks, activities, whatever) with work breakdown structure ID's, schedule, effort, costs, as applicable to the current methods in place.
5. The source of funding is to be identified. Is the project budget being increased? Is it coming out of a contingency fund? Theoretically, work should not be added to the project database without an adjustment for the added costs.
6. Maintain a record of all scope changes.

TIP – Scope changes can be negative

By the way, scope changes can be negative. That is, they may involve a scope reduction. This is actually a legitimate means of balancing schedule, cost, quality and scope requirements, wherein the scope is reduced to meet schedule, cost and quality objectives. In the case of a scope reduction, the same procedure should be followed. The work items slated for removal should be deleted from the project baseline. Such changes should be fully documented and approved. (Ch. 7-1)

Maintaining the Plan

TRAP – Maintain plan to evaluate performance

Failure to maintain the plan or to incorporate changes and scope modifications, will quickly negate the value of the plan. Perhaps we can think of the plan as a garden. Much effort goes into planning and planting the shrubs and flowers. But the failure to perform periodic treatment and trimming will quickly turn the garden into something even more unattractive than the original void.

Furthermore, the failure to maintain the plan and a valid baseline makes it difficult to measure and manage project performance. (Sec. 7)

TRAP – Avoid “automatic” updating

Caution is advised when using today’s “instant” updating and access capabilities. Data needs to be evaluated and tested for validity before broadcasting it to the project universe.

Caution is also advised when using the automatic updating capabilities of today’s tools. Allowing the program to assume that work was done as planned, without human involvement in the statusing, does not constitute plan management. (Sec. 7)

TRAP – No such thing as a free lunch

Be careful not to fall for a promise of easy-to-use project management software that virtually eliminates effort and involvement by the project participants. Such a premise is a fantasy. (Ch. 7-3)

Reporting Progress

TIP – Develop error checking routine

Develop an error checking routine before distributing reports or allowing widespread access to the most recent data update. Compare current data to a recent baseline. Devise exception reports that will list anything that is out of a range of expectations. Then check to see if the exception items are valid. (Ch. 7-2)

TIP – Provide narratives with the data

Don’t leave the data to speak for itself. Provide narratives to go with the data that point the readers to what you want them to see, and helps them to understand the message. The data is not the message. The data only provides evidentiary information to back up the message. (Ch. 7-2)

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