



Chapter XIV

Performance Reporting and Earned Value Analysis

Never mistake motion for action.

(Ernest Hemingway)

A PM must report on the project's performance to the upper management of the performing organization and perhaps also to the benefiting organization. Upper management usually realizes the complexity and rapid dynamics of IT projects, however, it still needs accurate projections of project completion time and cost so that interdependent business activities, including product release/migration can be planned. Traditional methods of progress-performance reporting are often inaccurate and misleading. Earned value analysis (EVA) has proven to be an extremely effective tool for project time and cost management providing good estimates of actual project completion cost and date. EVA is also a good early indicator of project problem areas, so that appropriate corrective action can be initiated. The effective use of earned value in IT projects, however, is still low, particularly outside of the U.S. government and its contractors.

The application of EVA in IT projects is neither trivial nor straightforward because earned value requires careful planning and reporting in regard to work-packet specification, progress measurements, and actual cost determination. In addition, mechanisms to obtain all this information must be integrated into the organization's project management, software engineering methodology, and financial reporting systems. This chapter discusses and illustrates effective ways to integrate EVA into an organization's methodology and financial systems, and also presents specific techniques to deal with associated EVA complexities.

Traditional Performance Reporting

A PM needs to track and review progress and cost, but should not intervene directly unless there are problems. When there *are* problems, early intervention is more effective than delaying corrective actions; thus the PM needs methods and systems that not only accurately and efficiently track cost and progress but that also highlight problems and pinpoint the trouble spots. The problem is that traditional project progress reporting is neither accurate nor effective in the early identification of problems, nor in projecting cost or time to complete.

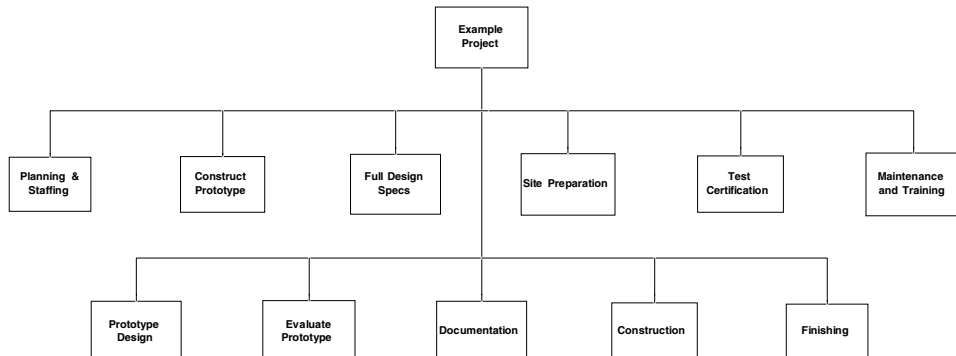
For illustrating traditional reporting problems and the merits of EVA, I will use a simple yet effective example from previously published works (Brandon 1998, 1999). An earlier chapter discussed the formation of the WBS for a project; and that formulation involves subdividing the work to be done into tasks, or work packets, which are organized into a logical pattern.

For this example, the WBS consists of Level 0 and Level 1, shown graphically in Figure 14.1 for Level 0, and for both levels in the list format of Figure 14.2. As discussed in an earlier chapter, the top level of the WBS is sometimes called Level 1, but in IT, the top level is usually numbered Level 0.

As discussed in an earlier chapter, in IT the work definition is usually based on the organization's software development methodology. Any type of methodology can be used (waterfall, overlapping waterfall, spiral, iterative, incremental, etc.), but this example uses use a classical waterfall methodology. Iterative and incremental methodologies can be more difficult to schedule and employ EVA because one does not know in advance how many increments or iterations may be necessary. However, a schedule and EVA cost plan can be set up for each iteration (at the beginning of that iteration). Alternatively, a "bounding box" methodology can be used. As was discussed earlier in the book, a time or cost boundary is established for the phase of the project being scheduled and costed.

Typically, each work packet is assigned to an organization at the upper WBS levels and to individuals at the bottom WBS levels. The organizational structure may also be

Figure 14.1. Example WBS (Level 0)



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