White Paper

Published: January 2007

Accuracy through Scope Management

Contents

Preface

In virtually all cases, the question "How is your project performing?" can be answered through the application of Earned Value Management, or EVM. Defined in the PMBOK as "A management methodology for integrating *scope*, *schedule*, and *resources*, and for objectively measuring project performance and progress." EVM provides a quantifiable view of project performance, which when utilized properly, can provide an early warning for project related problems.

The determination of variance – pertaining both to the schedule and the cost – and a review of this data against the project baseline, should be part of the weekly activities for any Project Manager. Unfortunately, this work and resulting data is meaningless unless the baseline data being used is accurate. EVM reporting relies on accuracy and completeness for both scope definition and estimating. The more accurate the inputs to the planning process, the better the resulting plans.

I believe that many Project Managers try EVM techniques, become discouraged with what they see, and then quickly abandon them. I further believe that if the project baseline was more accurate, the EVM results would be more useful, and the Project Manager would be more likely to utilize these tools. This would lead to better project control and management.

This white paper is part one of a two part series on Earned Value Accuracy. The second paper, Earned Value Accuracy through Estimating, describes an approach to estimation that has been used successfully by the author on numerous projects. Combined, they provide suggestions and examples of how to improve in both of these key areas.

Scope Management vs. Project Planning

The first step towards meaningful Earned Value Analysis is having a complete and representative scope definition.

At this point you may be thinking, "Wait a minute, this is Project Planning, not Scope Definition." And while you would be technically correct, the truth of the matter is that the scope definition is key to project planning. Take the Work Breakdown Structure (WBS). It uses the scope definition as input, and is the key document in creation of the project plan. The calculation of Earned Value (EV) is based directly on the Project Plan, which is in turn based on the WBS, which ties back to the original scope definition. As you can see, scope definition has the potential to help make or break a project.

With most projects I have been involved with, the Project Sponsor starts with a charter and a preliminary scope statement, but additional information is required before the project is approved. The business impact of the project needs to be identified from many different perspectives, then quantified in terms of cost, benefit, and disruption (such as conflicting projects, training requirements, additional staffing requirements, additional hardware and software required and their impact, etc.). Following this, the preliminary budgets and timelines are identified, as well as estimates for the return on investment (ROI).

This information is then used to determine whether the project will move forward as defined, undergo scope adjustment, or be abandoned. If the project is modified, the process of identification of the impact, budget, timelines, and ROI is revisited. The planning process continues when the project is approved. Assuming there are no external factors influencing the project, surprises during project planning can be avoided, or at the very least minimized, if the initial work is thorough and accurate.

For these reasons, I consider scope definition to be the initial stage of the planning process. In practice, this effort – the scope definition and preliminary planning, generally occurs prior to the official start of the project. The next section will provide a real-world example indicating the importance of scope definition and pre-planning.

Example of the Problem

Many years ago, as a Consultant with a database software company, I was sent in to a large Insurance company to "create a database for their new Risk Management system." This effort is described in more detail in our JAD white paper. There had been a great deal of work performed on this project (over the course of two years) before I had arrived. The organization was prepared to kick-off a 30+ person-year development effort.

The goal of this project was to integrate three lines of business from two distinct companies into a single application and database. The business case for doing this was strong given the ROI potential from a cost of ownership, enhanced reporting, and analysis perspective. While the company would be able to continue conducting business on their legacy systems in the short term, this integrated system was viewed as being essential to their future. As I was told on my first day, this project just "had to work".

During our first JAD Session (a type of structured, facilitated meeting) it soon became clear that several incorrect and potentially high impact assumptions had been made. For example, even basic elements such as policies and claims were very different across the three systems. By the end of the first week, it was clear that some combination of system redesign and/or business process re-engineering would be required to make this new consolidated system work in the manner expected.

Making these changes to the project resulted in delays, some redesign, and additional cost. However, these changes reflected the true business needs of the system, as well as the costs associated with creating it. This led to several high-level management discussions that questioned the reasons behind the proposed changes, and the wisdom in making changes at this "late" stage of the effort.

So, did the scope of the new system truly expand in this case? This would have appeared to be the case as the project progressed, had I not stumbled upon this important finding at the beginning of the project. Making this discovery later in the development process, or during implementation and integration, would have required expensive and time-consuming rework, almost certainly increasing the cost and delay above and beyond what was identified by these early efforts.

The root cause problem was an incomplete and inaccurate scope definition for the project. As good as the scope statement might have appeared to be, it did not accurately represent what was needed by the business. Using the scope statement as originally developed would have led to unplanned changes or scope creep as the project evolved to meet the true needs of the business. The additional costs and delay would accurately be reported as variances and overruns, but would have been overstated due to the inaccurate project baseline.

Accurate Scope Definition

The keys to accurate and complete scope definition for an Information Technology project are:

1. Understanding the true business requirements.
2. Understanding the business well enough to have a working knowledge of work processes, workflow, and dependencies.
3. Understanding the application systems well enough to have a working knowledge of what they do, how they interact with other systems, how they interact with end users, and what the various dependencies are.
4. Being able to define the gap of where you are relative to where you want to be in terms of a detailed WBS. This should be stated in terms of what needs to be accomplished, and not the effort required completing the work package.

Does this require the Project Manager (PM) to be a subject matter expert on every aspect of the system? Absolutely not. However, the PM should have more than a cursory understanding of those areas. This will enable the PM to truly understand what is being proposed, understand the potential impact of change, and be able to foresee potential problems. This knowledge will be augmented by discussions with true subject matter experts. And when those discussions occur, the Project Manager will have a firm foundation of knowledge to work from when asking questions that will be used to further refine the scope.

An interesting book that discusses requirements definition is "Discovering REAL Business Requirements for Software Project Success" by Robin F. Goldsmith (ISBN: 1-58053-770-7). It describes a process for helping define the true problem, compare "as is" to "should be" (the gap analysis addressed in #4 above), and how to measure the results based on those requirements. It provides techniques and examples that can benefit any Project Manager or Business Analyst.

These scope definition efforts discussed in this white paper will provide a better understanding of what needs to be accomplished and why. This helps create a common "vision" of the project that will be shared by all stakeholders, and will set expectations about what will occur in sufficient detail to allow others to identify areas of concern. Any concerns raised can then be addressed before project implementation, which will help eliminate unpleasant surprises during project execution.

In Summary

Project "success" is still an elusive goal for many organizations. This is not to say that projects are not delivered, but rather to comment on how they are delivered through a review of the project cost, delivery schedule, implementation issues, and scope as delivered relative to the initial plan. While many things are relative, a project that is "spot on" in terms of these items tends to stand out and be noticed.

The chances of achieving success can be drastically improved by starting with a well defined Scope and WBS – and doing so before the project officially starts. This will lead to better project planning efforts, resulting in a better baseline plan. A better baseline plan will lead to better Earned Value Management. This information can then be leveraged by skilled Project Managers to pinpoint potential problems and mitigate them and their impact to the project. As you can see, this additional up-front effort is a great investment in the overall success of the project.

About the Author

Chip Nickolett, MBA, PMP, is the President of Comprehensive Solutions. He has been successfully managing Information Technology projects for nearly 20 years, including a large global ERP consolidation program. Chip holds an MBA degree with concentrations in Project Management from Keller Graduate School of Management. He firmly believes in the importance of Project Management in Business. For more information please see http://www.Comp-Soln.com/chipn.html.

Let Us Help You Succeed!

Call today to discuss ways that Comprehensive Solutions can help your organization save money and achieve better results with your IT projects.   We provide the *confidence* that you want and deliver the *results* that you need.

Back to White Papers
Back to Services

View our Project Management Brochure