

Ally News

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FROM THE PRESIDENT

Michael B. Bender



This month we continue the series on project metrics. This second article in the series focuses on practical applications of Earned Value Management or EVM. Next month

we will focus on establishing metrics to identify problems, determine which problems have caused us the most pain and identify what we should improve.

The contents of this series was derived from my most recent book, *A Manager's Guide to Project Management*, now available in book stores and on-line.

We hope you enjoy this newsletter. Please feel free to offer comments and suggestions at your convenience through our web site: www.AllyBusiness.com.

I'M GOING SOCIAL

Michael B. Bender

Okay, I give up. I can no longer resist the pressure. I'll just have to start dealing with social networking.

You can now find me in LinkedIn at <http://www.linkedin.com/in/mbender-ally>. I'll be conducting research on LinkedIn by posting questions on leadership, project and process management, and other relevant topics. Please feel free to follow and join in.

My blog can be found at <http://mbenderblog.allybusiness.com>.

For now, I refuse to tweet. It's okay to let people know if you're stuck in traffic, or to update Facebook, but not for disseminating concepts.

The short message format forbids me to fully explain statements. In my opinion it promotes glibness: superficial understanding with no substance. Anyone, no matter how ethical or competent can offer unsubstantiated sound bites. That's not the way I work. I, however, reserve the right to change my mind later as I learn more about it.

Also, I'm reserving Facebook for immediate family and close friends.

FEATURED TOPIC: PROJECTS AND METRICS

The Characteristics of Projects

I begin with the premise that the purpose of metrics is improvement based on truth. Specifically, we need to accurately and truthfully determine where we are in the project, where we're going, what works and what we should improve.

We recognize that projects are made up of work. Project teams perform a series of tasks in order to build products or perform services. If we define the tasks correctly and execute them correctly, the project runs well. Fortunately, project management offers us a well-established tool to identify progress, predict future progress, and identify where problems exist for these tasks: Earned Value Management (EVM).

Also, we recognize that despite all our planning, changes will occur. Some changes are inevitable and unpredictable. We live in a dynamic universe and unanticipated changes occur both outside and inside the project. Other changes could have been avoided

through better planning and execution. It is these changes that help us understand where we can improve. Fortunately, project management also offers us a well-established tool to monitor these changes: the change management system.

Our challenge, then, is to discover ways to exploit these two subjects to create a suite to metrics that achieve our goal: determine status, plan the future, and improve project management in ourselves and our organization.

If you're not familiar with the basic concepts of EVM, please visit our web site and locate the on-line version of the this newsletter. You'll find a brief tutorial on basic EVM.

The EVM Control Chart

If you've studied EVM, at this point I'm going to ask you to forget everything you've learned. Forget CPI and TCPI. Forget the "S" curve plot of variances. At best, they confuse your stakeholders.

Instead, plot the percent variances of cost and schedule as shown below. It's simpler and more understandable to executives and other key stakeholders: Zero percent variance means on-time, on-budget. A vice president can under-

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Keeping you up-to-date on seminars, schedules, and news.

I'm Going Social

Social Networking Links

Featured Topic:

Projects and Metrics (2nd in the series).

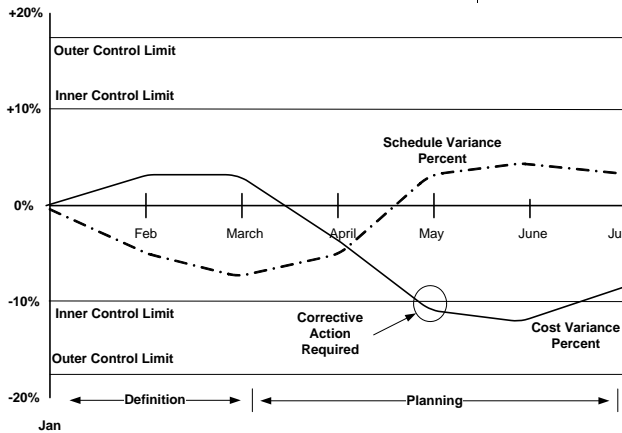
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stand being 10% behind schedule and 5% under budget. Telling your vice presidents that your SPI is 0.9 and CPI is 1.05 will only anger them.

Now, add control limits. I've put these at $\pm 10\%$ and $\pm 18\%$. You'll need to determine where to put your own. The control limits determine if the project "okay" (within allowable limits), "Warning" (is getting into trouble), or "Danger" (in trouble).

Figure 1: EVM Control Chart



If you're using the stop-light status color scheme, this also gives you quantifiable basis for green (okay), yellow (warning) and red (in trouble).

When the percent variance crosses the inner control limit, the project's status goes from okay (green) to warning (yellow). This forces the project management team to enact some problem-solving action and forces them to inform management that the project's overall status has changed. When one of the variances crosses the outer control limit, the project management team is now forced to escalate the issue to senior management.

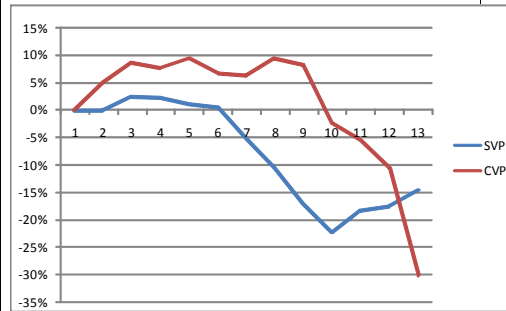
Finding Root Cause

Below is a simple plot of schedule and cost variance percent. Note that the project is doing well for a while, then takes a steep downturn.

Trend analysis calls this the "knee". If you want to discover the root cause for the down turn, look just before the knee. The problem may not have occurred there, but it did manifest itself there.

In the graph below, the knee occurs in period 6.

Figure 2: Trend "Knee"

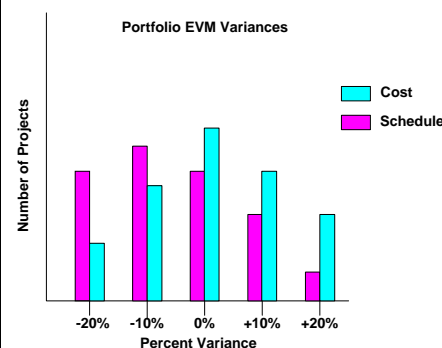


Multi-Project Roll-up

One advantage to EVM is the ability to roll up multiple projects. The graph below is a histogram showing the status of all projects in a portfolio. The bar height is the number of projects within $\pm 5\%$ of the variance shown (the center bars show the number of projects from -5% schedule or cost variance and $+5\%$ schedule or

cost variance. Note that the cost variance bars form a bell-shaped curve indicating a normal distribution. The schedule variance is weighted on the negative side indicating that the project managers are good at cost estimating and management but need improvement in schedule estimating and management.

Figure 3: Portfolio EVM Variances



Departmental Roll-up

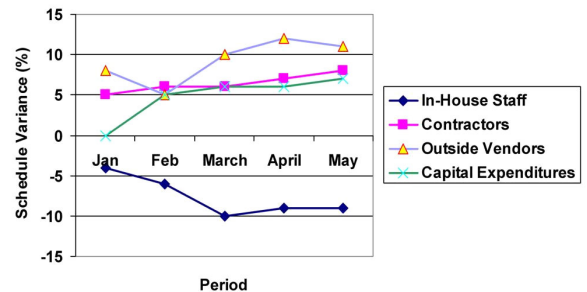
Another advantage to EVM is the ability to decompose the numbers anyway you wish. The graph below shows

EVM number for a project broken down by four categories: internal staff, contractors, outside vendors, and capital expenditures. The graph could should either schedule or cost variance.

When I developed the number for this graph, I made sure the composite EVM showed zero (0%) percent variance for all months. Note, however, that the internal staff's percent variance is negative, indicating that they are falling behind. Further note that the contractor's percent variance is positive to compensate. This means the internal staff is not doing their job and project manager has to depend on the contractors to get this project done.

Also note EVM allows you to roll up the decomposed numbers across a program or portfolio. The graph above could just as easily represent the entire portfolio as it could a single project.

Figure 4: Decomposed EVM



EVM Summary

EVM need not be complicated nor confusing. A simple, practical implementation will offer excellent communication, root cause analysis, cultural analysis.

Keep in mind:

- Include the cost of internal resources for all EVM analyses
- The root cause usually can be found just before the knee
- Decompose the EVM numbers to determine exactly where your problems lie
- Roll up the EVM numbers (both project and decomposed numbers) to determine where to improve project management as a whole.