



**Project Management Institute
Metrics Specific Interest Group**

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Earned Schedule ...An Emerging Enhancement To Earned Value Management

Talk a moment, if you would on strategies to educating Directors and Executives in EV and ES. What order do you present each indicator? This is a topic that is discussed at every project management conference at which earned value is presented. I know of executives that are presented EV information for their project reviews; thus we know that education of executives to become conversant with EV has been successfully accomplished. My suggestion is to impart an understanding of the measures (PV, AC, EV), then follow with the performance indicators. Show how performance can be evaluated using the indicators. Further, I suggest following the discussion of EV with ES, building ES in the same way as was done for EV.

I'm pretty good with numbers and experienced, but got a bit lost in the presentation. With the help of the web site you referenced, how long will it take to really understand this? It should not take very long at all. First, I recommend reading the Concept description. Also, I recommend reading two papers on the Papers page: "Schedule is Different," and "Not Your Father's Earned Value." After reading the papers, use EV project data you may have with the Earned Schedule calculator (V1) to experiment and gain familiarity. People with minimal English skills from all over the world have picked up the concept and calculator and are using them successfully.

As EVM is an emerging technology for PM, will there be additional training or certification in that area in the future? What is the timing if yes? EVM certification exists today. I believe information can be obtained from the PMI College of Performance Management website, www.pmi-cpm.org.

Have you noticed that SPI(t) is as consistent as CPI ? (CPI will remain accurate and consistent with as little 15% of the project complete) SPI(t) behaves analogously to CPI. As a matter of interest, CPI is being shown in current research to have more volatility than what was described in the studies performed on US DoD projects.

I need to calculate an aggregate ES and SPI(t) for several inter-related projects. Do you have any advice on how to do this? Two approaches come to mind. One would be to create a weighted average of the various project SPI(t) values, using the planned durations. A better approach, would be to create an integrated performance measurement baseline (PMB) for the inter-related projects, then use the aggregate EV to compute ES and hence SPI(t).

How does schedule variance reflect baseline changes? In your example on slide 15, would rebaselining eliminate the period during the stop-work, if the rebaseline was approved? To use Earned Schedule in our projects, we would need to understand how the metric reacts to scope changes. Schedule variance is unaffected by baseline changes that increase scope. If the baseline is revised for the purpose of being able to show execution closer to plan for the project remainder, then SV(t) resolves to zero at the point of revision. For this circumstance, the cost variance reacts the same way; CV = 0 at the time of baseline change and is unchanged for scope change. For the 2nd condition, essentially the project is reformed, beginning at the AC and actual duration when the baseline is changed. For the example in slide 15, a baseline revision would cause a loss of information about the performance of the project. This is a good example of the 2nd baseline change circumstance above. For this condition information is always lost with a



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new baseline. From my experience, the tactic of creating new baselines is a way of “getting well” and hiding true performance.

How does the earned schedule analysis address changing out less costly and less efficient resources with higher cost and more efficient resources to bring the schedule closer to original plan? Plus, what commercial automated tools are on the market? What you have described is a cost / schedule trade-off designed to increase rate of schedule accomplishment. For this situation, CPI will become worse, at least temporarily, and SPI(t) will increase. At the present, there are two products incorporating Earned Schedule. Deltek’s Cobra has an ES add-on. TCR Products has a new project management product, NOVUS. Also, Diego Navarro in Spain has created a macro for use with MS Project. Reference the News page on the ES website for more information.

Does the earned schedule web site contain the ES formulas that you demonstrated? Yes, they are shown in Table 2 on the Terminology page of the ES website.

Do you have some more actual examples or sample use of ES? It would let me fully understand the calculations. Yes, I suggest reading Kym Henderson’s first two articles. Both articles are downloadable from the Papers page of the ES website. I suggest perusing the Papers and Presentations pages of the website. There may be other descriptions which will help you as well. Also, I suggest downloading the ES(V1) calculator and experimenting with your own EV project data. By experimenting with numbers I believe you will come to understand the simplicity of ES.