

BEYOND THE COMPOSITE INDEX

The Earned Value Analysis Nobody Could Read

How a portfolio's most trusted numbers came to mean the least — a view from the delivery side.



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1. The Nod Around the Table

The portfolio review had reached the third slide before anyone said a number out loud. Cost performance index, 0.94. Schedule performance index, 0.91. The programme director read them off the page in the flat voice of a man reciting a train timetable, and around the table nine people nodded, because 0.94 and 0.91 are the kind of numbers that invite a nod. Close enough to one to be reassuring; far enough from it to look honest. Nobody asked what they meant. I am fairly sure that, on that particular morning, nobody in the room could have told you.

This is the pattern that recurs wherever earned value has been installed as the language of portfolio control. The figures are produced monthly, reported upward, trended on a chart, and defended when questioned — and understood by almost no one who relies on them. We have built an instrument of great precision and then, collectively, forgotten how to read the dial.

2. The Comfort of a Single Number

Earned value's genius and its curse are the same thing: it collapses a sprawling programme into three quantities and a small family of ratios. Planned value, earned value, actual cost — or BCWS, BCWP and ACWP, to those of us who learned the discipline before the vocabulary was tidied up in the last edition of the body of knowledge. From those three you can derive almost everything a steering committee thinks it wants: the cost and schedule performance indices, the estimate at completion, the to-complete performance index, the variance at completion. The arithmetic is unimpeachable. That is precisely the problem.

Because the arithmetic is unimpeachable, the output inherits an authority it has not earned. A CPI of 0.94 arrives on the page looking like a measurement — like a temperature or a weight, something read off the world rather than asserted about it. It sits beside a RAG status that everyone knows to be political and a milestone count that everyone knows to be gamed, and it alone appears to be objective. So it is trusted. And here is the quiet law of the thing:

The number that gets reported is trusted in inverse proportion to how well anyone in the room understands it. The people who grasp how earned value is actually assembled are the ones most nervous about it; the people who take comfort from the index are the ones who have never watched it being built.

3. What the Index Conceals

Earned value is only as truthful as the completion claim underneath it, and the completion claim is almost always supplied by the very people being measured. That is the fault line, and everything else runs along it.

Consider a single work package, baselined at four hundred thousand pounds. The team reports it fifty per cent complete. Fifty per cent of four hundred thousand is two hundred thousand of earned value. The actual cost booked against it is two hundred and twenty thousand. Cost performance index: 0.91. Reported, trended, nodded at. But the fifty per cent was not a measurement — it was an estimate offered by an engineer who did not want to be the bearer of bad news three months before a gateway review. The physical, demonstrable completion was nearer thirty per cent. On honest figures the earned value was a hundred and twenty thousand, the cost performance index 0.55, and the work package was not amber but a deep and expensive red.

The index did not lie. The claim did. And the method has no immune system against a soft claim, because it treats the percentage as an input rather than an output. This is the difference the textbooks skate over: earned value does not discover progress, it records the progress you assert. The most dangerous variant is the work booked as level of effort — support functions, integration, programme management itself — where earned value is credited automatically with the passage of time. Time passes; value is booked; the index holds at a serene 1.00; and nothing whatever has been learned about whether the work is going well.

“Earned value does not measure progress. It measures the honesty of the progress you claim.”

4. The Case for Earned Value — and Its Limit

It would be too easy to leave it there, and unfair to a technique that has a genuine case to answer for it. The strongest version of that case is worth stating plainly, because it is the reason the discipline has survived four decades and a change of name. Earned value, its defenders say, is the only portfolio metric that integrates cost and schedule into a single forward-looking view; the only one that exposes the project which has been reporting itself ninety per cent complete for six consecutive months; the only objective, quantitative early-warning system we possess. Milestones tell you where you have been. Spend tells you what you have consumed. Only earned value, done properly, tells you the rate at which you are converting money into finished work, and lets you extrapolate honestly to a completion cost. That is a serious argument, and I do not dismiss it.

But notice the load-bearing phrase: done properly. The case for earned value is really a case for a whole apparatus that earned value assumes and rarely gets — a baseline that means something, completion criteria that cannot be fudged, and an independent hand on the percentage claims. Where that apparatus exists, the index deserves the trust it is given. Where it does not, the index is not a measurement at all; it is the team's optimism, laundered through three decimal places until it looks like fact. The method is not wrong. It

is credulous, and it will report back to you, with total precision, whatever you were prepared to tell it.

5. Where It Earns Its Keep, and Where It Deceives

The honest boundary runs between work whose completion is observable and work whose completion is not. Pour a concrete floor, lay a mile of cable, install two hundred identical devices, and percent-complete is a physical fact you can walk out and count; earned value on that work is close to a measurement, and it earns every ounce of its authority. Design a novel piece of software, negotiate a target operating model, resolve an integration nobody has attempted before, and percent-complete is unknowable until the moment it becomes one hundred; earned value on that work is a forecast wearing the costume of a fact.

This is felt most acutely, just now, by those running large software-led programmes, where the unease that the technique and iterative delivery do not sit comfortably together has moved from muttering to open debate. The instinct to demand a monthly cost performance index for exploratory work is understandable — leadership wants one number — but it manufactures false comfort exactly where genuine uncertainty is highest. The discipline was born measuring the assembly of things that could be counted. Asking it to measure the resolution of things that cannot be is not rigour. It is theatre with a spreadsheet.

6. The Discipline That Has to Come First

None of this is an argument for abandoning earned value. It is an argument that the number is the last thing to install, not the first. Three disciplines have to come before it, or the index is worse than useless because it is confidently misleading.

1. Objective completion criteria. No percentage may be self-assessed. Work packages are credited on binary or near-binary rules — nothing until started, nothing until a defined deliverable is demonstrable — so that the claim reflects a fact rather than a feeling.
2. Discrete work, not level of effort. As much of the baseline as possible is expressed as countable deliverables. Effort that can only be measured by the clock is quarantined and reported separately, never blended into the headline index where it will prop it up.
3. An independent hand on the claim. The person who books the earned value is not the person whose performance it flatters. It need not be onerous — a programme office that spot-checks physical completion against claimed completion changes behaviour simply by existing.

Do those three things and the composite index becomes what it was always meant to be: a genuine early warning, worth the nod it receives. Skip them, and you are back in that meeting room, reciting 0.94 in a flat voice to nine people who trust it precisely because none of them has looked underneath.

The number that nobody understood was never dangerous because it was wrong. Half the time it was roughly right. It was dangerous because it was trusted — and the trust was extended not in proportion to the evidence beneath the figure, but in proportion to how official the figure looked on the page. Fix the evidence, and the trust is well placed. Leave the evidence unexamined, and the most precise number in the portfolio pack will be the

one leading you most confidently astray.