By Bright Quill Team



This earned value management example will make the method click, because earned value only looks scary until you've watched the numbers work once. Earned value management measures project progress in money terms. It compares what you planned to spend, what you've actually earned in completed work, and what you've actually spent. It answers the two questions every sponsor asks: are we ahead or behind schedule, and are we over or under budget. This article defines the three core values, walks through the formulas with a worked example, and flags the mistakes beginners make.

The Three Values: PV, EV and AC

Everything in earned value rests on three numbers. Planned value, PV, is the budgeted cost of the work you planned to finish by today. If the plan said 400 of work would be done by week four, PV is 400. Earned value, EV, is the budgeted cost of the work actually finished. If only 300 of work is done, EV is 300, whatever you spent. Actual cost, AC, is what you really spent to get that work done, say 350. Here's the key insight: EV uses budgeted costs, not actual spending. That's what lets you separate schedule performance from cost performance. A project can be behind schedule but under budget, or ahead of schedule but over budget, and only these three numbers reveal which. Our business plans service tracks these figures on longer client projects, so problems surface while there's still time to fix them.

The Formulas: Variances and Indices

Those three values give you four useful numbers. Schedule variance is EV minus PV. Cost variance is EV minus AC. Positive is good, negative is bad, in both cases. The indices say the same thing as ratios. Schedule performance index, SPI, is EV divided by PV. Cost performance index, CPI, is EV divided by AC.

Above 1.0 is good, below 1.0 is bad. An SPI of 0.75 means the project's running at 75 percent of the planned rate. A CPI of 0.86 means every dollar spent earns just 86 cents of value. Two more formulas finish the set. Estimate at completion, EAC, is the total budget divided by CPI, forecasting the final cost if performance holds. Variance at completion is the total budget minus EAC. Don't memorise letters. Learn the pattern: variances are differences, indices are ratios, and 1.0 is the line between good and bad. Learn the pattern and you'll stop mixing them up.

The Worked Example: Office Network Upgrade

Let's run the numbers on a fictional project: upgrading the office network, total budget 10,000, planned over ten weeks. At the end of week four, the plan said 4,000 of work would be complete, so PV is 4,000. The team's actually finished work budgeted at 3,000, so EV is 3,000. The timesheets show 3,500 spent, so AC is 3,500. Schedule variance is 3,000 minus 4,000, which is minus 1,000: behind schedule. Cost variance is 3,000 minus 3,500, which is minus 500: over budget. SPI is 3,000 divided by 4,000, which is 0.75. CPI is 3,000 divided by 3,500, which is 0.86. EAC is 10,000 divided by 0.86, roughly 11,628. The forecast says the project will land about 1,628 over budget if nothing changes. One paragraph of numbers now tells the sponsor everything: behind schedule, over budget, and the likely final cost. That's the whole power of the method.

Reading the Numbers Like a Manager

Students often nail the arithmetic and then say nothing useful. The numbers are begging for a verdict and an action. SPI below 1.0 with CPI above 1.0 means slow but cheap: add resources or accept the delay. SPI above 1.0 with CPI below 1.0 means fast but pricey: the pace is burning money, so check overtime and rework. Both below 1.0, like our example, means trouble on both fronts. That's a replanning job, not a pep talk. Both above 1.0 means the project's genuinely healthy, so say so and move on. Always check the trend too. An SPI climbing from 0.70 to 0.85 shows recovery. One sliding from 0.95 to 0.80 shows a project going the wrong way, and you don't need a formula to see it. The interpretation earns the marks, not the arithmetic, so that's where your words should go.

Presenting Earned Value in Your Assignment

Lead with a small table: PV, EV, AC, then each variance and index with its formula beside it. Never show a naked number. Write SPI = EV / PV = 3,000 / 4,000 = 0.75 so the marker can see your method working. Follow the table with a short paragraph that interprets every figure in plain words: what it means, whether it's good or bad, and what should happen next. If the brief gives cumulative figures, use them as they are. If it gives weekly figures, add them up first, because earned value runs on totals to date. State the date your figures describe, since PV depends on the status date. Our financial planning experts present client progress exactly this way, because sponsors decide faster when the story's told in numbers they can check. It's a small habit that wins big marks.

Five Earned Value Mistakes Beginners Make

First, mixing up EV and AC. EV is the budgeted cost of work done, AC is money actually spent. Swap them and every index lies. Second, forgetting that variances always start with EV: it's EV minus something, never the other way round. Third, calling an SPI of 0.9 good because it's close to 1.0. Below 1.0 is behind, full stop. Fourth, forecasting with EAC but never saying what the number means. A forecast without a recommendation is half an answer. Fifth, using earned value where it doesn't belong. The method needs a real budget and measurable work. On tiny or purely creative tasks, simpler tracking beats forcing the formulas.

Earned Value Beyond the Classroom

Earned value isn't just an exam topic. Real managers run these same formulas on construction sites, IT rollouts and building refurbishments every week. A negative schedule variance on a live project starts the same conversation it starts in your textbook: we're behind, why, and what do we do about it. Dropping one genuine application into your assignment shows the marker you see past the numbers. You don't need industry contacts for this. A short paragraph on how a contractor tracks EV across a housing development takes five minutes and reads as real understanding, and business plan support often involves this same kind of progress tracking for founders. The formulas earn you the working marks. The context earns you the analysis marks. One real example does more for your grade than three extra calculations.

An earned value management example like the network upgrade shows the whole method: find PV, EV and AC, work out the variances and indices, forecast the finish, then interpret and recommend. Learn that chain and earned value questions turn into free marks. If your assignment needs EVM calculations presented cleanly, contact us through the contact page .

Key visual, in brief:

Formulas: CV equals EV minus AC. SV equals EV minus PV. CPI equals EV divided by AC. SPI equals EV divided by PV. Above 1.0 is good, below 1.0 is trouble.