EVM Example

EVM is a tool to measure how the project is performing at any given point in the lifecycle

Given a project with the following characteristics, answer the following questions:

- You are the project manager of a project to build fancy birdhouses.
- You are to build two birdhouses a month for 12 months.
- Each birdhouse is planned to cost $100.
- Your project is scheduled to last for 12 months.
- It is the end of month 9. You have built 20 birdhouses and spent $2250 at this point.

What is the estimated project budget? → 2/month x 12 months x $100 **= $2400**

In EVM terms this is called your **cost baseline or Budget at Completion (BAC) = $2400**

What is the planned duration for this project? → 12 months

Three key EVM Variables: Planned Value (PV), Earned Value (EV), and Actual Cost (AC)

PV is the planned value, how much work we plan to complete (as per the baseline)

What is the PV at the end of month 1? →2 x $100 = $200 Month 2? $400

what did you plan on spending at this point in time (month 9)?

PV is → 2/month x 9 months x $100 **= $1800**

EV is the value of work completed (value earned)

What is the % of work (project) that has been completed at the end of month 9?

20 BH completed / 24 BH planned (or scheduled) = 20/24 = 83.3%

EV = % completed x BAC = 0.8333 x $2400 **= $2,000**

AC is actual cost (money spent up to the 9th month) → = **$2,250**

Schedule Variance (SV) = EV – PV → 2,000 – 1,800 = $200

Cost Variance (CV) = EV – AC → $2,000 – $2,250 = -$250

Efficiency ratios

Schedule Performance Index (SPI)	Cost Performance Index (CPI)
EV/PV = 2000/$1800 = 1.11	EV/AC = $2000/$2250 = 0.889
How is the Schedule performance vs. the plan? Ahead of Schedule	How is the Cost performance vs. the plan? Over Budget

What else can we do with this information?

If our performance continues at this rate, determine the revised budget and schedule?

Estimate at Completion (EAC) – This is the revised baseline determined by how the project has been performing? **Assumption**: project will continue to trend at this rate

EAC = BAC / CPI → $2,400 / 0.889 = $2,699.66

Estimate to complete (ETC) - How much is it going to cost to finish the remainder of the project from this point?

ETC = EAC – AC → $2,699.66 - $2,250 = $449.66

Variance at completion (VAC) - difference between our original baseline and revised baseline

VAC = BAC – EAC → 2,400 - $2699.66 = -$299.66

How long will the project take?

Revised duration = Baseline duration (schedule) / SPI

➔ 12 Months / 1.111 = ~ 10.8 months