Project Management Metrics

1. Planned Value (PV)

What it means: How much work should be done by a certain date based on the project plan.

Used for: Tracking if you're following the project schedule.

Example: If 40% of the work should be done and the total budget is $100,000 → PV = $40,000

2. Earned Value (EV)

What it means: The value of the work that has actually been completed so far.

Used for: Measuring real progress in the project.

Example: If 30% of the work is completed → EV = $30,000

3. Actual Cost (AC)

What it means: How much money has been actually spent up to now.

Used for: Checking if you're over or under the planned cost.

Example: If you spent $35,000 → AC = $35,000

4. Cost Variance (CV)

What it means: Formula: CV = EV - AC

Used for: Checking budget performance. If CV is negative → Over budget. If positive → You're saving money.

5. Schedule Variance (SV)

What it means: Formula: SV = EV - PV

Used for: Checking if you're ahead or behind schedule. Negative → Delay. Positive → Ahead of plan.

6. Cost Performance Index (CPI)

What it means: Formula: CPI = EV ÷ AC

Used for: Checking cost efficiency. CPI > 1 → Good. CPI < 1 → Spending too much.

7. Schedule Performance Index (SPI)

What it means: Formula: SPI = EV ÷ PV

Used for: Checking time efficiency. SPI > 1 → Good progress. SPI < 1 → Behind schedule.

8. Estimate at Completion (EAC)

What it means: Formula: EAC = Total Budget ÷ CPI

Used for: Forecasting total cost of the project based on current performance.

9. Estimate to Complete (ETC)

What it means: Formula: ETC = EAC - AC

Used for: Knowing how much money is needed to finish the rest of the project.

10. To-Complete Performance Index (TCPI)

What it means: Formula: TCPI = (Total Budget - EV) ÷ (Total Budget - AC)

Used for: Measuring the needed performance to finish the project within the original budget.

11. Burn Down Chart

What it means: A simple graph showing how much work is left over time.

Used for: Daily or weekly tracking, especially in Agile projects.

12. Resource Utilization Rate

What it means: Formula: (Actual Work Time ÷ Available Time) × 100

Used for: Checking how well people or tools are being used.

13. Defect Density

What it means: Formula: Number of defects ÷ size of work (e.g., per 1,000 lines of code)

Used for: Measuring product quality, especially in software projects.

Thank You

Hend Kamal 😊