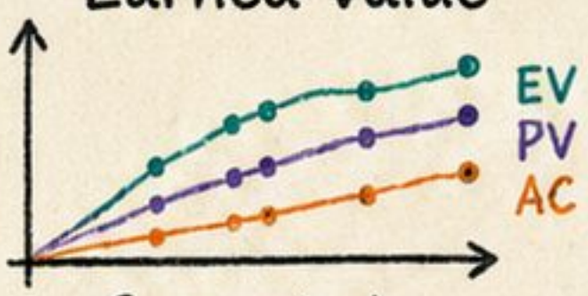
30 EARNED VALUE MANAGEMENT CONCEPTS MADE SIMPLE

VISUAL QUICK GUIDE

1. Understand Earned Value



See project performance clearly.

2. Measure What Matters



Numbers that tell the real story.

3. Make Better Decisions



Act early. Stay on track. Deliver with confidence.

Data + Insight = Project Success!

4. Track Performance in Real Time



Monitor. Analyze. Adjust.

5. Communicate with Impact



Clear visuals. Aligned teams.

6. Deliver Value Every Day



Finish strong. Create lasting value.

CONCEPTS PREVIEW

- **PV** Planned Value
- **EV** Earned Value
- **AC** Actual Cost
- **CV** Cost Variance
- **SV** Schedule Variance
- **CPI** Cost Performance Index
- **SPI** Schedule Performance Index
- **BAC** Budget at Completion
- **EAC** Estimate at Completion
- **ETC** Estimate to Complete

30 pages of simple explanations, visual examples, and practical tips to master EVM!

Measure. Understand. Act. Succeed.

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2. WHAT IS EARNED VALUE MANAGEMENT?

1. DEFINITION

EVM is a project performance measurement method that compares scope, schedule, and cost.



2. CORE MEASURES

EVM is built on three core measures.

PV — PLANNED VALUE
The budgeted cost of work scheduled.

EV — EARNED VALUE
The budgeted cost of work performed.

AC — ACTUAL COST
The actual cost of work performed.

3. WHY IT MATTERS



Shows performance clearly. ✓



Supports forecasting and early warnings. ✓



Improves decision-making and accountability. ✓

4. COMMON MISTAKE

Tracking cost or schedule alone without connecting them to value delivered.





No value connection = misleading results.

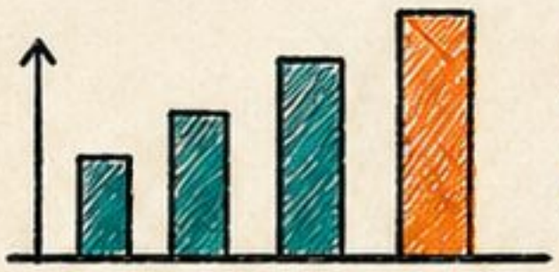
QUICK TIP: EVM works best when scope, schedule, and budget are baselined.

3. PLANNED VALUE (PV)

1 What is PV?

PV is the authorized budget for planned work by a certain date.

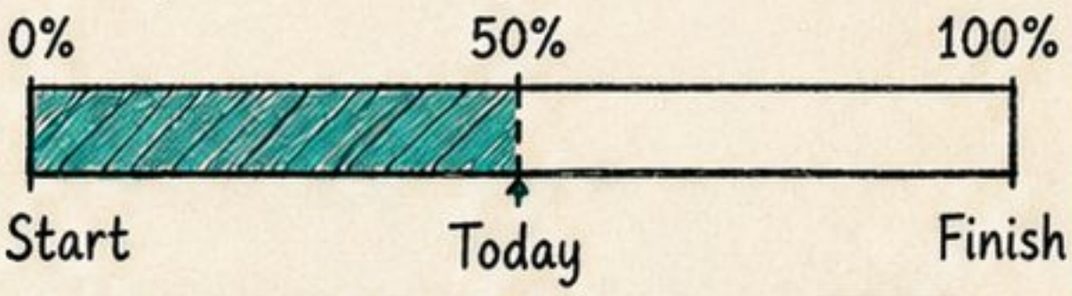




2 Simple Idea / Formula

PV = planned % complete × budget

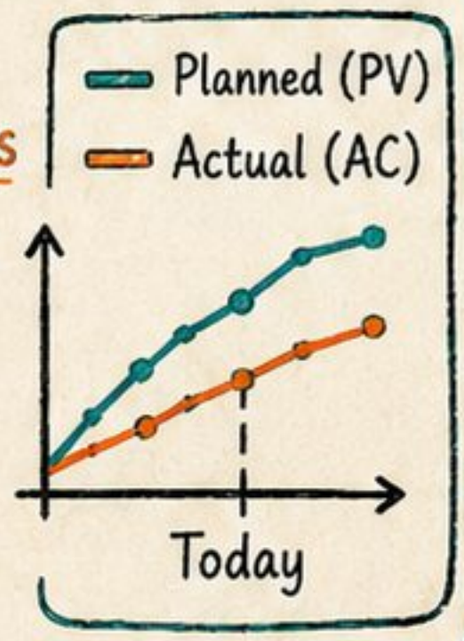
Example timeline (planned):



PV today = 50% × Budget

3 Why It Matters

PV helps compare plan versus progress and supports schedule tracking.





4 Common Mistake

Treating PV as actual spending instead of planned budget.



PV is *not* actual cost. It is the plan.

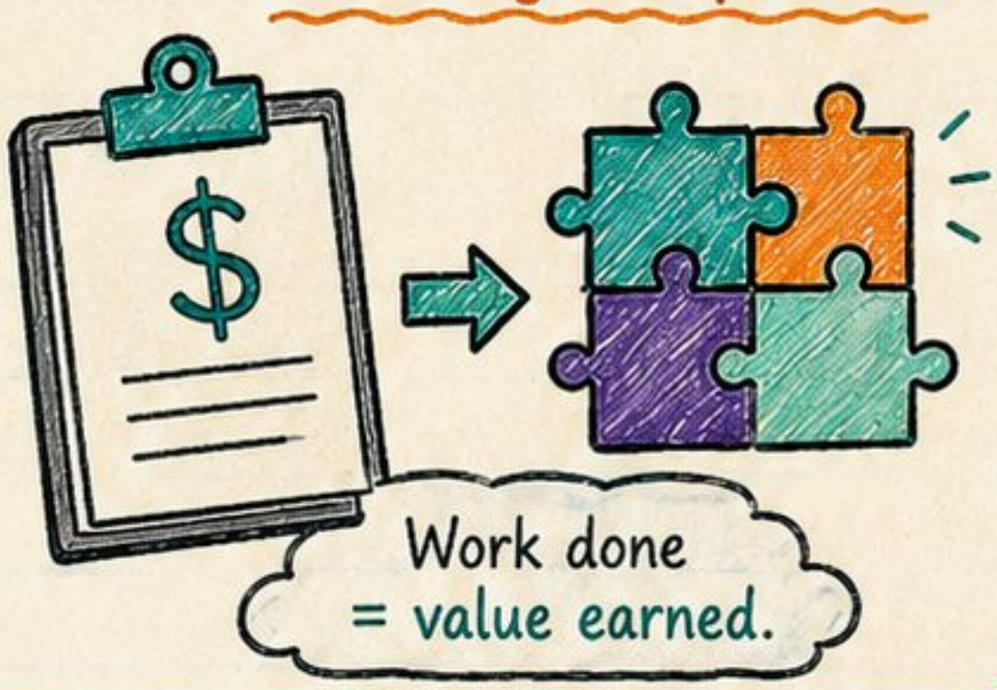
QUICK TIP: PV represents the plan, not the money already spent.

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4. EARNED VALUE (EV)

1. WHAT IS EV?

The budgeted value of work actually completed.



2. SIMPLE IDEA / FORMULA

EV = actual % complete × budget

Example:

60% complete × $100,000 budget
= $60,000 EV

Progress:



3. WHY IT MATTERS

EV shows how much value has really been delivered.



- ☑ See actual progress in budget terms.
- ☑ Compare performance (EV vs PV vs AC).
- ☑ Make better, data-driven decisions.

4. COMMON MISTAKE

Don't confuse EV with:

Percent Complete Only
% complete is progress.
EV is value of that progress.

Actual Cost (AC)
AC is what you spent.
EV is the budgeted value of work done.

Quick Tip: EV converts completed work into budget value.

5. ACTUAL COST (AC)

1 WHAT IS AC?

The **real cost** spent for the work performed.



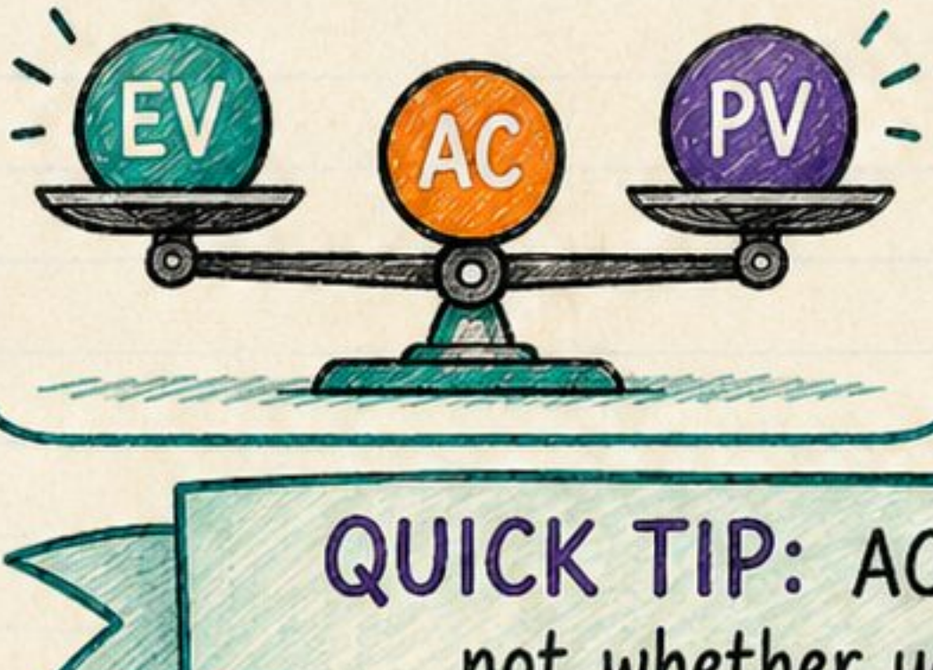
2 KEY IDEA

Money **actually** paid or used.



3 WHY IT MATTERS

Allows **cost control** and **comparison** with **EV** and **PV**.



4 COMMON MISTAKE

Assuming **AC** tells performance **by itself** without comparing to **value earned**.

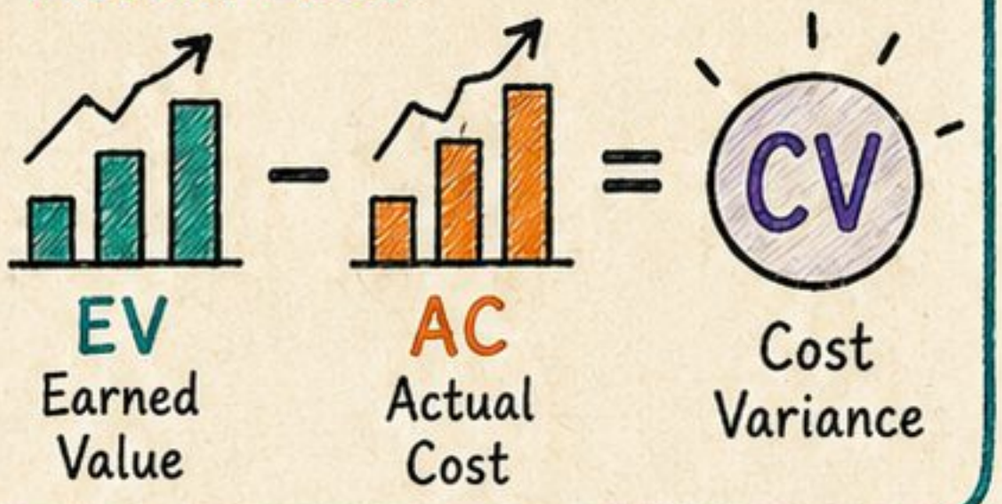


QUICK TIP: AC tells what you spent, not whether you performed well.

6. COST VARIANCE (CV)

1 What is CV?

Cost Variance (CV) is the difference between **Earned Value** and **Actual Cost**.



2 Formula

$$CV = EV - AC$$

- CV > 0 → Under Budget
- CV < 0 → Over Budget
- CV = 0 → On Budget

3 Why It Matters

CV quickly reveals the cost health of your project.



- Instant insight
- Early warning
- Better decisions

4 Common Mistake

Avoid these costly misunderstandings.



Reversing the formula. It's **EV - AC**, not **AC - EV**.



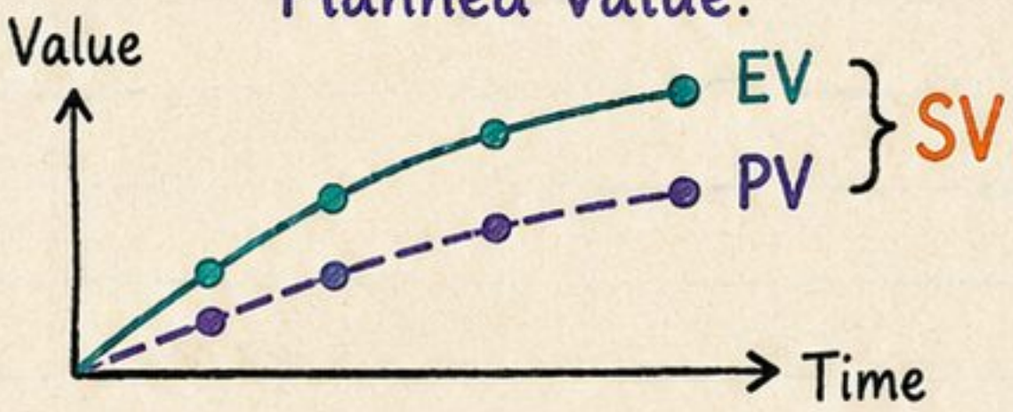
Thinking a negative **CV** is good. Negative **CV** means you are **over budget**.

Quick Tip: Positive **CV** is good because **earned value** is greater than **actual cost**.

7. SCHEDULE VARIANCE (SV)

1 WHAT IS SV?

Schedule Variance (SV) is the difference between Earned Value and Planned Value.



SV shows how much value you are ahead or behind your plan.

2 FORMULA

$$SV = EV - PV$$

Interpretation:

- (+) SV > 0 → Ahead of Schedule
- (−) SV < 0 → Behind Schedule
- (=) SV = 0 → On Schedule

3 WHY IT MATTERS

SV shows schedule performance in value terms—not in days.

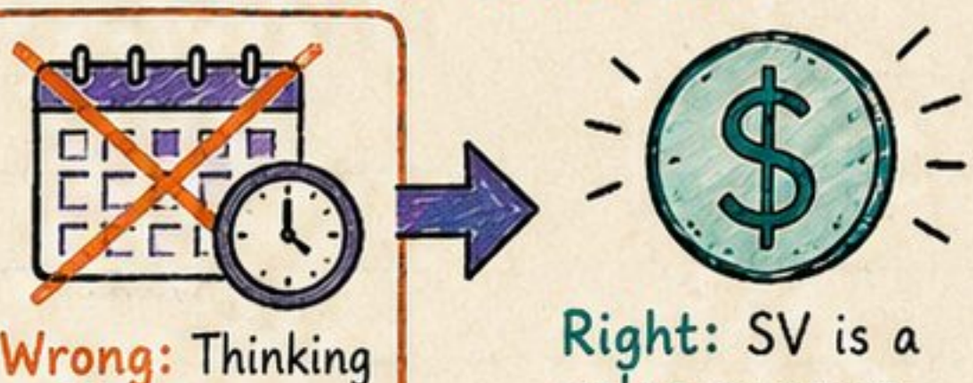




It tells you how much value you've gained compared to what you planned to achieve.

4 COMMON MISTAKE

Don't read SV as days or calendar duration.



Wrong: Thinking SV means "7 days ahead" or "3 days behind".

Right: SV is a value measure—it tells you how much value you're ahead or behind.

QUICK TIP: SV is measured in value units, not directly in time units.

8. COST PERFORMANCE INDEX (CPI)

1 WHAT IS CPI?

A ratio that measures **cost efficiency.**



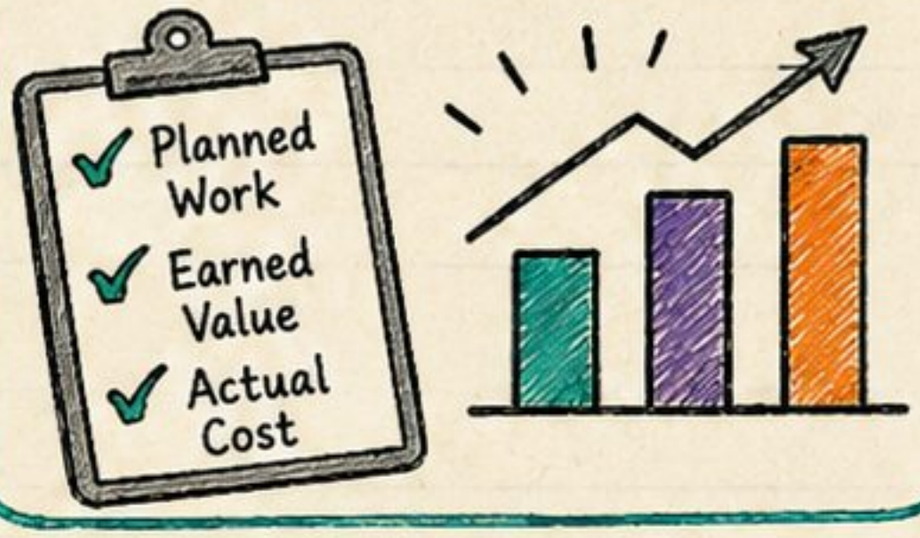
2 FORMULA

$$CPI = \frac{EV}{AC}$$

CPI > 1	Good cost efficiency
CPI = 1	On target
CPI < 1	Poor cost efficiency

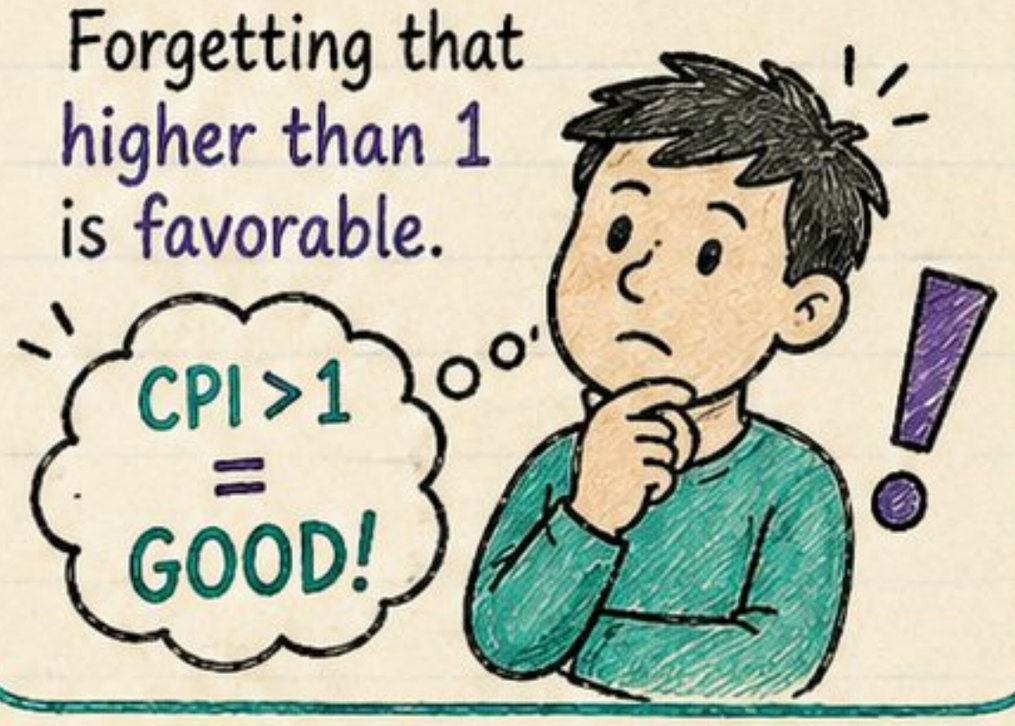
3 WHY IT MATTERS

Shows how **efficiently** the project is using money.



4 COMMON MISTAKE

Forgetting that **higher than 1** is favorable.



QUICK TIP: CPI below 1 means the project is getting **less value** than the money spent.

9. SCHEDULE PERFORMANCE INDEX (SPI)

1 WHAT IS SPI?

A ratio that measures schedule efficiency.



2 FORMULA

$$SPI = \frac{EV}{PV}$$

↑	SPI > 1	AHEAD of schedule
=	SPI = 1	ON PLAN
↓	SPI < 1	BEHIND schedule

3 WHY IT MATTERS

Helps show whether the team is progressing as planned.



4 COMMON MISTAKE

Confusing SPI with CPI or treating it as a calendar date metric.



QUICK TIP: SPI tells how efficiently planned work is being achieved.

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10. BUDGET at COMPLETION (BAC)

1 WHAT IS BAC?



The total **approved budget** for the project.

2 KEY IDEA

Baseline budget for all planned work.



3 WHY IT MATTERS

Serves as the reference point for:

- **EAC** (Estimate at Completion)
- **ETC** (Estimate to Complete)
- **VARIANCE ANALYSIS**

4 COMMON MISTAKE

Changing BAC casually without formal baseline control.



QUICK TIP: BAC is the original total budget baseline unless formally changed.

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11. ESTIMATE AT COMPLETION (EAC)

1. WHAT IS EAC?

The forecasted total cost of the project at finish.



2. COMMON FORMULAS

$$EAC = \frac{BAC}{CPI}$$

When current cost efficiency continues.

$$EAC = AC + ETC$$

When ETC is estimated directly.

$$EAC = AC + (BAC - EV)$$

When future work will perform as planned.

3. WHY IT MATTERS

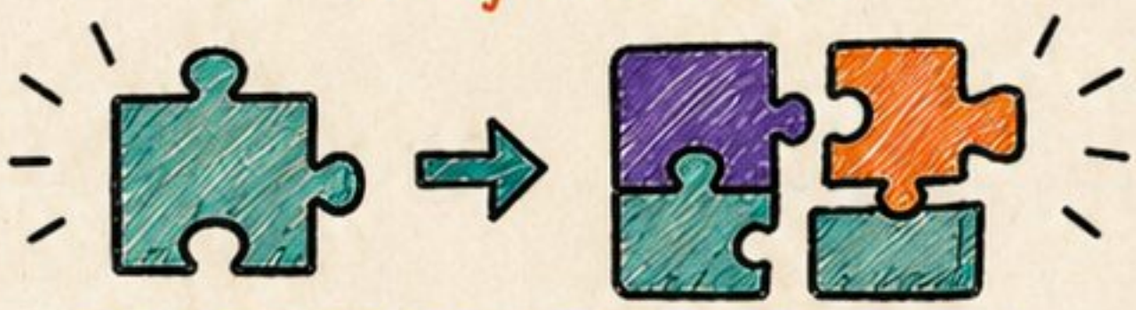
Predicts final cost early.

Supports sponsor decisions.

Triggers corrective action.

4. COMMON MISTAKE

Using one EAC formula for every situation.



Choose the formula that matches your assumption.

QUICK TIP: EAC is your best estimate of total cost at project completion.

15. Earned Value Management

① What is EVM?



A method to measure performance using scope, schedule, and cost.

② Core Terms

PV	EV	AC
= Planned Value	= Earned Value	= Actual Cost

③ Key Metrics

- CV = EV − AC
- SV = EV − PV
- CPI = EV / AC
- SPI = EV / PV

④ How to Read It

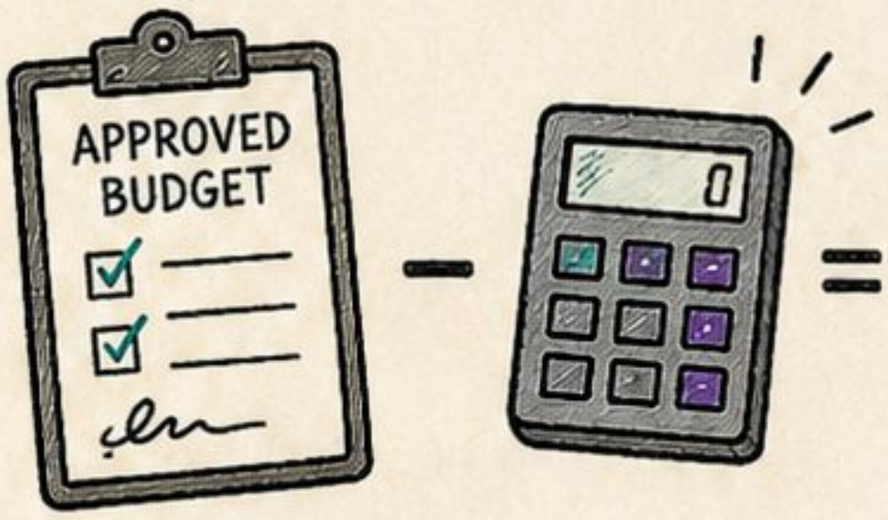
CPI or SPI > 1 is good;
< 1 is a warning.

Quick Tip: Use EVM to forecast early, not just report late.

13. VARIANCE AT COMPLETION (VAC)

1. WHAT IS VAC?

Variance At Completion is the difference between the approved budget and the forecasted final cost.



2. FORMULA

VAC = BAC - EAC

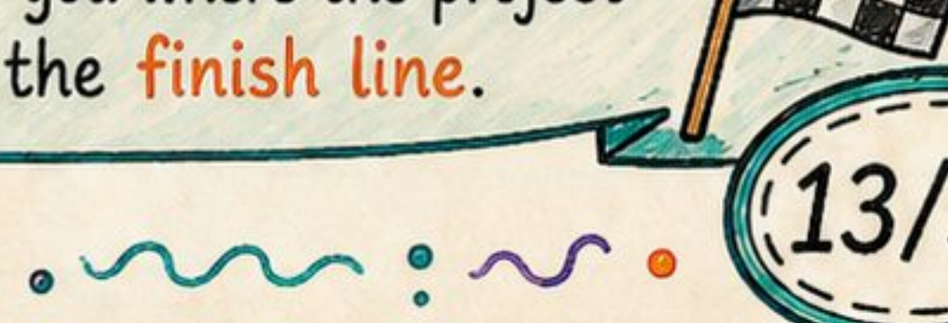
- **VAC > 0 =** Under Budget at Finish
- **VAC < 0 =** Over Budget at Finish
- **VAC = 0 =** On Budget at Finish

3. WHY IT MATTERS

- Shows the expected end-state.
- Highlights forecast savings or overruns.
- Supports executive conversations.

4. COMMON MISTAKE

Thinking a positive VAC is bad.



Positive VAC means expected savings.

QUICK TIP: VAC tells you where the project is expected to land at the finish line.

14. TO-COMPLETE PERFORMANCE INDEX (TCPI)

1. WHAT IS TCPI?

A ratio that shows the cost efficiency needed on the remaining work to meet a target.



2. FORMULAS

$$\text{TCPI}_{(\text{BAC})} = \frac{\text{BAC} - \text{EV}}{\text{BAC} - \text{AC}}$$

$$\text{TCPI}_{(\text{EAC})} = \frac{\text{BAC} - \text{EV}}{\text{EAC} - \text{AC}}$$

3. WHY IT MATTERS

- Shows how hard the team must perform. ✓
- Helps judge if the target is realistic. ✓
- Supports recovery decisions. ✓

4. COMMON MISTAKE

Ignoring very high TCPI values.



If TCPI is much greater than 1, the target may be unrealistic.



QUICK TIP: TCPI above 1 means the remaining work must be more efficient than the baseline target.



15. PERCENT COMPLETE

1 WHAT IS IT?

The portion of work that has been finished.



2 EVM LINK

EV = % Complete × BAC



3 WHY IT MATTERS

Drives Earned Value.

Supports objective progress tracking.

Improves forecasting quality.

4 COMMON MISTAKE

Guessing percent complete without evidence.

Use measurable rules, milestones, or physical progress.

QUICK TIP: Reliable percent complete is the foundation of reliable EVM.

16. COST FORECASTING WITH EVM

1. KEY INPUTS

AC — ACTUAL COST
What you've spent so far.

EV — EARNED VALUE
Value of work performed.

CPI — COST PERFORMANCE INDEX
Efficiency of cost performance.

BAC — BUDGET AT COMPLETION
Approved total budget.

2. COMMON FORECASTS

$$EAC = \frac{BAC}{CPI}$$

When current cost performance continues.

$$EAC = AC + (BAC - EV)$$

When future work will perform as planned.

$$EAC = AC + \frac{(BAC - EV)}{(CPI \times SPI)}$$

When both cost and schedule affect future performance.

3. WHY IT MATTERS

- Makes final-cost discussions realistic.
- Improves planning and action.
- Supports decision-making.

4. COMMON MISTAKE

Choosing a formula without stating the assumption.

QUICK TIP: Every forecast tells a story—make the assumption visible.

17. SCHEDULE FORECASTING WITH EVM

1. WHAT IT USES

PV — Planned Value (Baseline)

EV — Earned Value (Progress)

SPI — Schedule Performance Index

2. SIMPLE IDEA

SPI shows schedule efficiency.

SPI > 1 = faster than plan

SPI < 1 = slower than plan

3. WHY IT MATTERS

Supports finish-date conversations.

Helps recovery planning.

Adds insight to schedule reviews.

4. COMMON MISTAKE

Converting **SV** directly into days.

Use **EVM** with the project schedule for time forecasting.

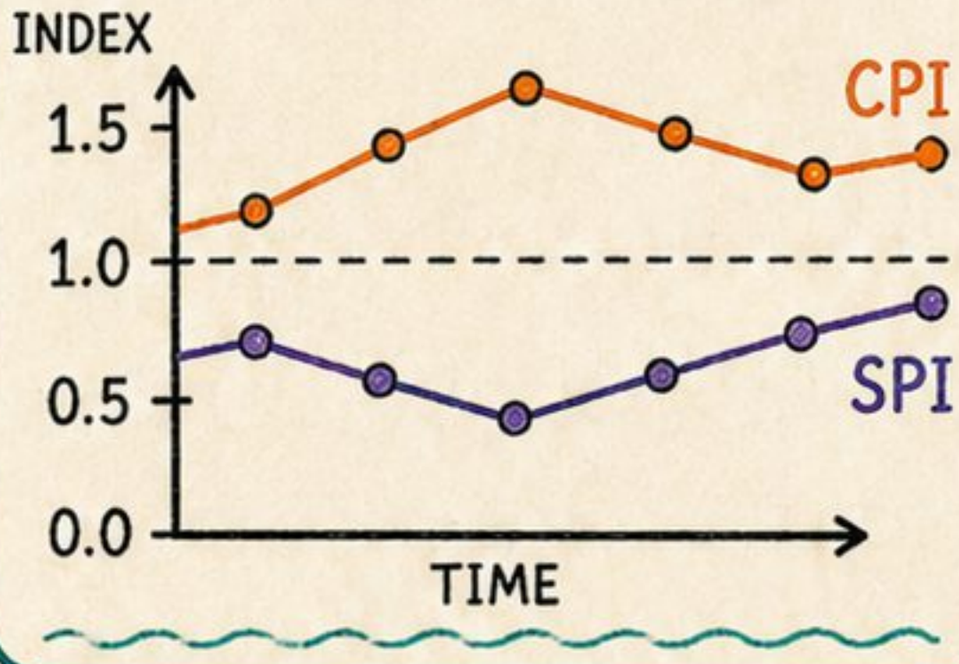
QUICK TIP: EVM signals schedule performance, but the detailed schedule explains the dates.

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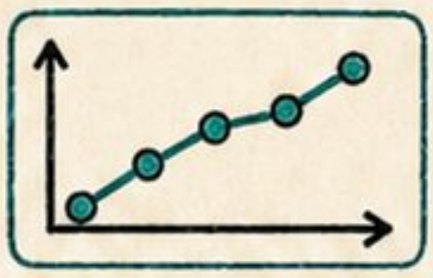
18. PERFORMANCE TRENDS

1. WHAT ARE TRENDS?

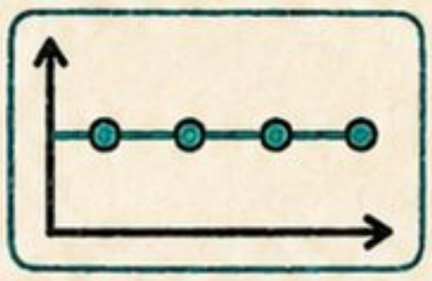
The direction of metrics over time, such as **CPI** and **SPI**.



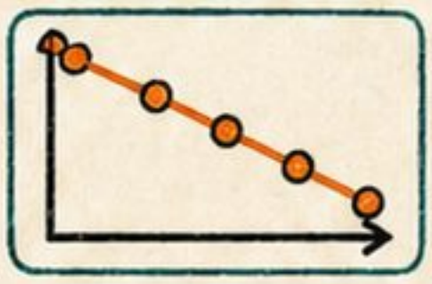
2. WHAT TO WATCH



Improving
Values moving upward over time.



Stable
Values staying about the same.



Declining
Values moving downward over time.

3. WHY IT MATTERS



One data point is a **snapshot**.



Trends show **momentum**.



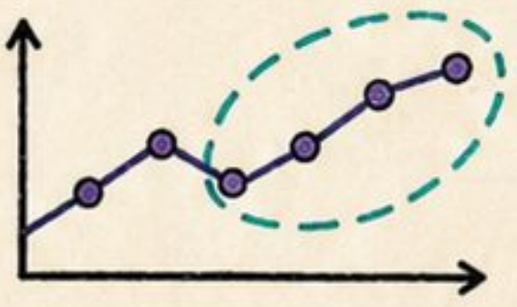
Trends help **predict future** performance.

4. COMMON MISTAKE

Reacting to **one period** only.



Review **several** periods **before** taking action.



QUICK TIP: Trend lines often speak louder than a single status number.

19. CONTROL ACCOUNT

1. WHAT IS A CONTROL ACCOUNT?

A management control point where scope, schedule, cost, and performance are integrated.

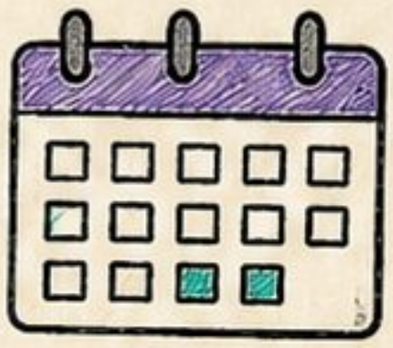


2. KEY PARTS

Scope



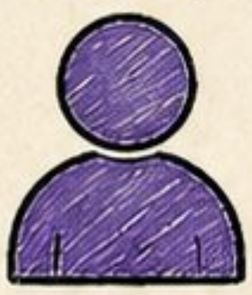
Schedule



Budget



Owner (CAM)



3. WHY IT MATTERS



Creates a clear measurement point.



Improves accountability.



Supports consistent EVM reporting.

4. COMMON MISTAKE

Trying to measure performance without a clear control point.



QUICK TIP: A strong control account connects planning, execution, and reporting.

20. WORK PACKAGE

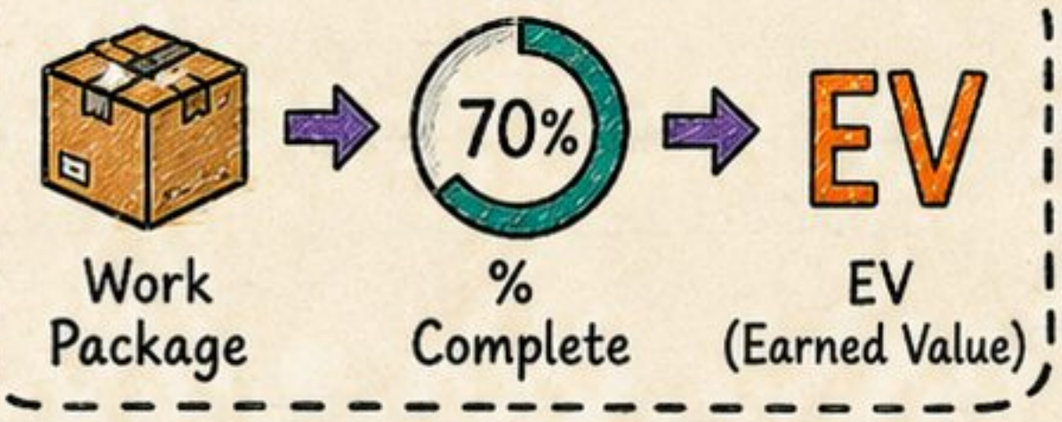
1. WHAT IS A WORK PACKAGE?

A small, manageable unit of work with defined scope, budget, and measurable output.



2. EVM LINK

Work packages connect planned work to actual progress and value.



The percent complete of each work package drives earned value.

3. WHY IT MATTERS



Makes progress measurable.



Improves accountability.



Strengthens cost and schedule control.

4. COMMON MISTAKE

Making work packages too large or too vague.



Smaller measurable packages improve EVM quality.

QUICK TIP: Good work packages make earned value easier to measure and trust.

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21. PERFORMANCE MEASUREMENT BASELINE (PMB)

1. WHAT IS PMB?

The approved integrated baseline for scope, schedule, and cost. It is the plan used to measure project performance.



2. KEY PARTS

- Scope baseline
- Schedule baseline
- Cost baseline
- Approved plan

3. WHY IT MATTERS

- EVM compares actual performance against the PMB. ✓
- Creates a reliable measurement point. ✓
- Supports control and forecasting. ✓

4. COMMON MISTAKE

Measuring performance without an approved baseline.



No baseline = no reliable EVM.

QUICK TIP: No baseline = no reliable EVM.

22. BASELINE CONTROL

1. WHAT IS BASELINE CONTROL?

The formal process used to protect and manage the approved project baseline.

It controls changes to scope, schedule, and cost before updating the plan.



2. TYPICAL STEPS

- Request change
- Assess impact
- Approve or reject
- Update baseline if approved

3. WHY IT MATTERS

- Protects performance measurement integrity.
- Prevents uncontrolled baseline changes.
- Keeps EVM results trustworthy.

4. COMMON MISTAKE

Changing the baseline to hide poor performance.



Bad control = misleading EVM.

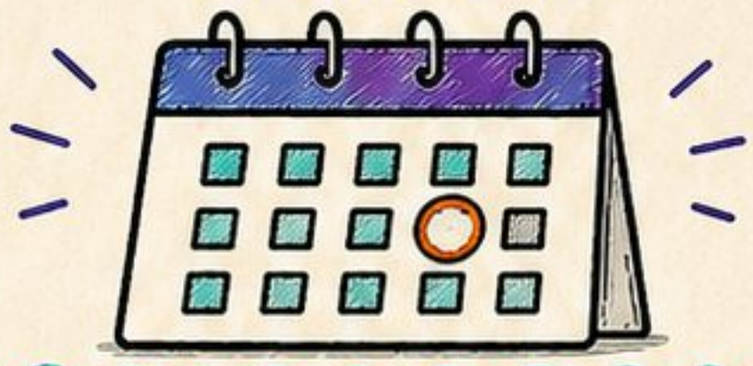
QUICK TIP: Rebaseline only through formal change control.

23. DATA DATE / STATUS DATE

1. WHAT IS IT?

The cut-off date used to capture progress and actual cost.

All EVM calculations should use the same status date.



2. KEY IDEA



Freeze the reporting date.



Measure EV and AC up to that date.



Keep all updates aligned.

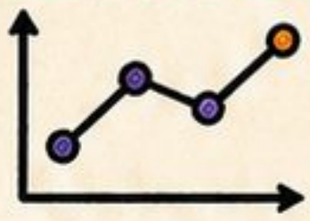
3. WHY IT MATTERS



Improves reporting consistency. ✓



Prevents mixed-period data. ✓



Makes trend analysis reliable. ✓

4. COMMON MISTAKE

Using progress from one date and costs from another.



Mixed dates = weak analysis.

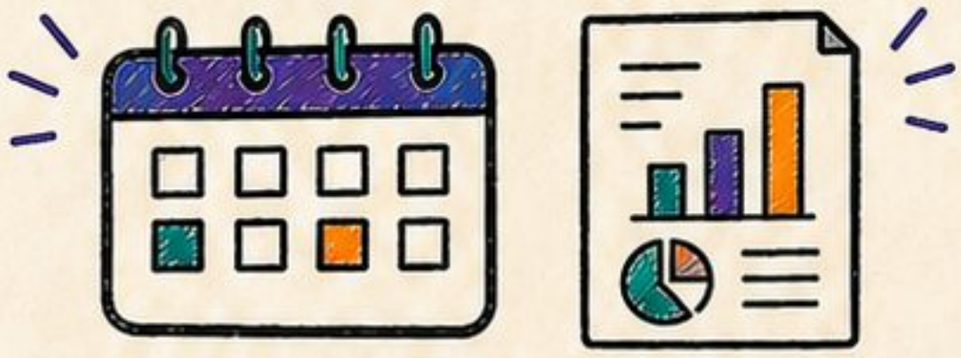
QUICK TIP: One status date keeps the whole report aligned.

24. REPORTING PERIOD

1. WHAT IS IT?

The time window used to collect and report project performance.

It may be weekly, monthly, or tied to a sprint cycle.



2. EXAMPLES

- Weekly reporting
- Monthly reporting
- Sprint reporting
- Cut-off cycle

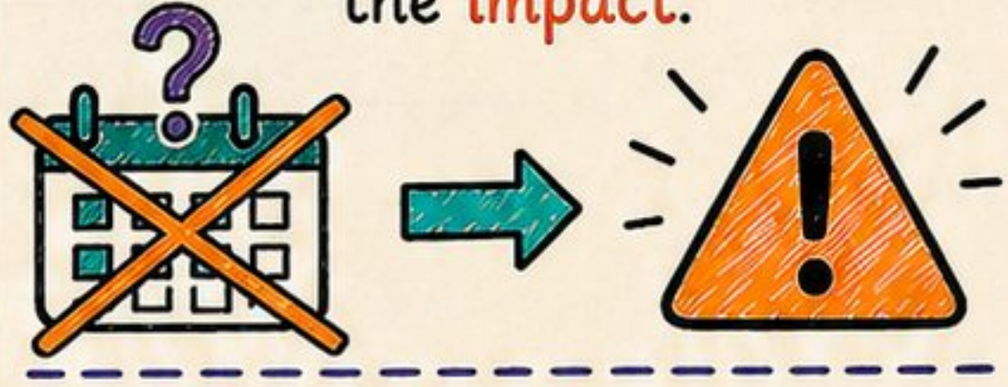
3. WHY IT MATTERS



- Supports consistent performance reviews.
- Makes trends easier to compare.
- Improves management communication.

4. COMMON MISTAKE

Changing the reporting period without explaining the impact.



Inconsistent periods confuse trends.

QUICK TIP: Keep the reporting rhythm consistent for better insight.

25. PHYSICAL PROGRESS MEASUREMENT

1. WHAT IS IT?

An objective way to measure how much work is **actually** complete.

It is based on **evidence**, not **guesswork**.



2. COMMON METHODS

- 0/100 rule
- 50/50 rule
- **Milestone** method
- **Units** complete

3. WHY IT MATTERS

- Improves **EV** accuracy.
- Supports **fair** progress tracking.
- Strengthens **forecasting**.

4. COMMON MISTAKE

Guessing percent complete without **measurable** criteria.



Bad progress data = weak **EV**.

QUICK TIP: Define measurement rules **before** the work starts.

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26. EVM DASHBOARD

1. WHAT IS IT?

A visual summary of key EVM metrics and project health.

It helps leaders understand performance at a glance.



2. WHAT TO SHOW



PV, EV, AC



CV and SV

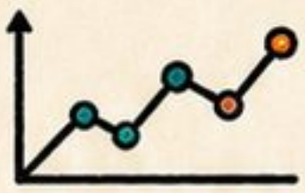


CPI and SPI



EAC and VAC

3. WHY IT MATTERS



Turns data into clear decisions.



Makes trends easier to spot.



Improves stakeholder communication.

4. COMMON MISTAKE

Showing numbers without meaning or actions.

A dashboard must guide decisions.

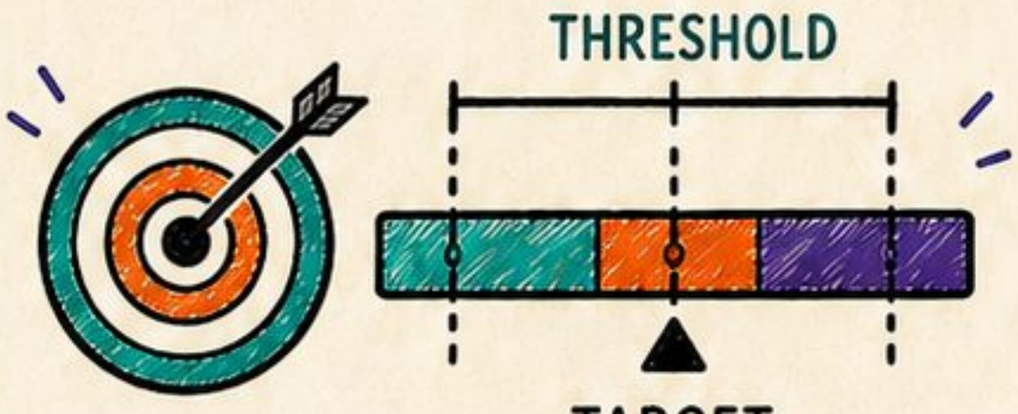
QUICK TIP: A good dashboard shows metrics, trends, and actions.

Created by Project Management Skills

27. VARIANCE THRESHOLDS

1. WHAT ARE THEY?

Predefined limits that trigger **attention** or **action** when performance drifts.



2. EXAMPLES

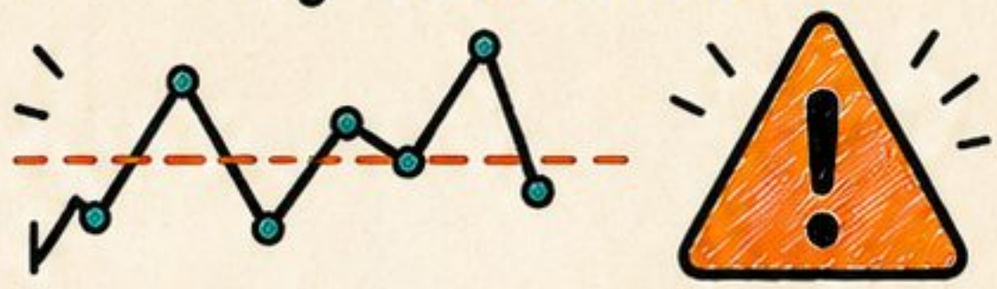
- **CPI** below 0.95
- **SPI** below 0.90
- **CV** over 10%
- **SV** over 10%

3. WHY IT MATTERS

- Focuses management **attention**.
- Flags **material** problems early.
- Supports **timely** action.

4. COMMON MISTAKE

Reacting to every tiny **fluctuation**.



Not every variance needs **escalation**.

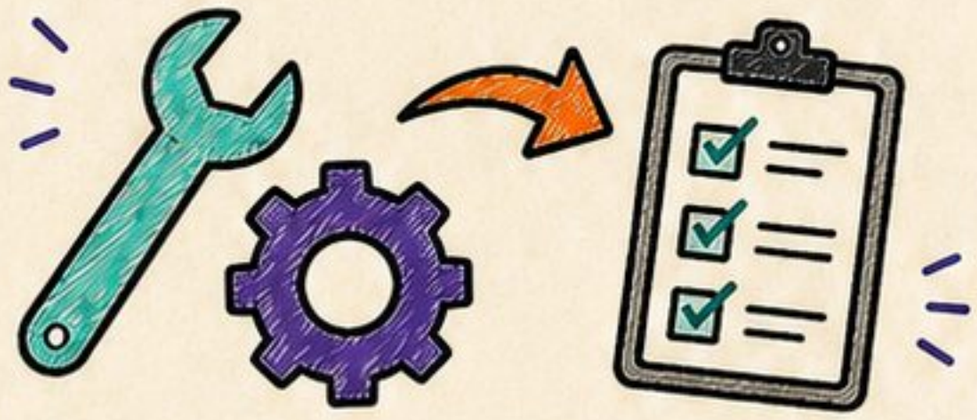
QUICK TIP: Agree thresholds early so everyone knows when to **act**.

28. CORRECTIVE ACTION

1. WHAT IS IT?

Action taken to bring project performance back on track.

It responds to meaningful cost or schedule variances.



2. EXAMPLES



Re-sequence work



Add focused support



Remove blockers



Negotiate recovery plan

3. WHY IT MATTERS



Turns analysis into action.

Supports recovery planning.



Reduces future overruns.

4. COMMON MISTAKE

Reporting a problem without assigning any recovery action.





Metrics alone do not fix projects.

QUICK TIP: Every red metric should lead to a clear action owner.

29. EVM COMMON MISTAKES

1. POOR INPUTS

No approved baseline

Weak progress measurement

Late actual costs

2. FORMULA ERRORS

CV = EV – AC
SV = EV – PV

Reversing CV or SV

Using wrong forecast formula

Ignoring assumptions

3. WHY IT HURTS

Creates misleading reports.

Weakens decisions.

Damages trust in EVM.

4. BETTER PRACTICE

Validate the data, the formula, and the story behind the metric.

Good EVM starts with good inputs.

QUICK TIP: Validate the data before trusting the dashboard.

30. EVM FORMULA CHEAT SHEET

1. CORE VALUES

PV = Planned Value

EV = Earned Value

AC = Actual Cost

2. VARIANCES

CV = EV – AC

SV = EV – PV

VAC = BAC – EAC

3. INDEXES

CPI = EV / AC

SPI = EV / PV

TCPI =
Needed efficiency

4. FORECASTS

EAC = Forecast
at completion

ETC = EAC – AC

Choose the formula
by assumption

QUICK TIP: Memorize the formulas, but understand the story behind them.

30/30

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