MODULE 7

Monitoring, Control, and Change Management

Week 7 · 4 lessons · ~3.5 hrs

Lessons in this module:

LESSON 7.1

Earned Value Management (EVM)

EVM is a powerful technique for measuring project performance against the plan. It integrates scope, schedule, and cost into a single framework.

Core EVM metrics:

Metric	Formula	Meaning
PV (Planned Value)	—	Budgeted cost of scheduled work
EV (Earned Value)	—	Budgeted cost of work actually done
AC (Actual Cost)	—	Actual cost of work performed
SV (Schedule Variance)	EV – PV	Negative = behind schedule
CV (Cost Variance)	EV – AC	Negative = over budget
SPI (Schedule Performance Index)	EV / PV	<1 = behind schedule
CPI (Cost Performance Index)	EV / AC	<1 = over budget

> Quick rule: If SPI and CPI are both below 1.0, the project is in serious trouble — behind schedule AND over budget simultaneously.

LESSON 7.2

Change control process

Change is inevitable on projects. The goal is not to prevent change but to manage it through a disciplined process so that impacts are understood before approval.

Integrated Change Control process:

1. A change request is submitted (by anyone)
2. The PM analyzes the impact on scope, schedule, cost, quality, and risk
3. The Change Control Board (CCB) reviews and decides: approve, reject, or defer
4. If approved, the Project Management Plan and baselines are updated
5. The change is communicated to all affected stakeholders

> Never implement an approved change without updating the relevant baselines. Baselines are the agreed-upon versions of scope, schedule, and cost that are used to measure performance.

LESSON 7.3

Quality management: plan, assure, control

Quality management ensures the project delivers outputs that meet agreed standards. PMI divides it into three processes:

- Plan Quality Management — define quality standards and how they will be measured
- Manage Quality (Quality Assurance) — audit processes to ensure standards are being followed
- Control Quality — inspect actual deliverables to verify they meet requirements

Key quality tools:

- Flowcharts — visualize processes to identify defect points
- Cause-and-Effect (Fishbone) Diagrams — trace root causes of quality issues
- Control Charts — track process performance over time
- Pareto Charts — identify the 20% of causes responsible for 80% of defects

LESSON 7.4

Project reporting and status updates

Consistent, clear reporting keeps stakeholders informed and builds confidence. Good status reports are brief, honest, and action-oriented.

A strong project status report includes:

- Overall RAG status (Red / Amber / Green) with justification
- Accomplishments since last report
- Planned work for the next period
- Budget and schedule performance (using EVM data)
- Top risks and issues, with owners and actions
- Decisions needed from leadership

BEST PRACTICE

Never hide a Red status. Stakeholders can handle bad news — they cannot handle surprises. An amber warning early gives time to correct; a sudden red at go-live does not.