

## LESSON 5

# SUPPORT PROJECT TEAM PERFORMANCE

- Implement Ongoing Improvements
- Support Performance
- Evaluate Project Progress
- Manage Issues and Impediments
- Manage Changes

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# Learning Objectives

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- Explain the various methods for implementing improvement.
- Explain the various methods for performance measurement.
- Compare these methods with a focus on communication and accountability.
- Identify the methods for implementing a project and the issues and impediments that arise during a project.
- Describe the methods for implementing changes during a project.



# Implement Ongoing Improvements

TOPIC A

# Continuous Improvement (CI)

- An ongoing effort to improve products, services or processes through small, incremental improvements or large breakthroughs
- A business strategy developed at the organizational level for projects to adopt and use
- Typically implemented by an organization's PMO and/or a "structured learning" approach or CI framework such as Agile or Six Sigma

KAI



KAI= Change

ZEN



ZEN=Good

# Kaizen



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# Assess Current CI Methods

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How well are the team and organization equipped for CI?



- Is the **lessons learned register** up to date? Is the team having regular **retrospectives**? Are team members **Lean Six Sigma** or certified in an **agile method**?
- Do they know about **Kaizen, Lean, Crystal Methods** or **Capability Maturity Model Information (CMMI)**?
- Also check the **process improvement plan** and the **project management plan!**



*Use the risk register to assess current CI measures. It includes how the team is prepared to act to address threats to project quality, so it can be a helpful way of assessing current CI measures.*

# Conduct Retrospectives

## Review and Improve Methods



- Prepare topics for inspiration
- On a board, make two columns: “What Went Well” and “What Could Be Improved”
- Ask attendees to add items to these lists
- Allow each participant to identify the reason for the improvement
- Decide common items that need improvement and mark them
- Narrow the list to those improvement areas that will bring value in the next sprint
- Get team consensus on the plan improvement
- Update these tasks on the backlog after a discussion with the product owner
- Implement changes

Went Well	Need to Improve
<ul style="list-style-type: none"><li>• On-time completion</li></ul>	<ul style="list-style-type: none"><li>• Retrospective method</li><li>• Keep workspace tidy</li></ul>

# Improve Your Improvement Methods



In addition to using the **lessons learned register** and **retrospectives** properly, try:

## Experiments

- Use **A/B testing** and team **feedback** to identify improvements
- **Experiments** provide a way to improve team efficiency and effectiveness
- Apply controls – do them one at a time – to isolate the results

## Pareto chart, or the 80/20 rule

- Directs efforts where they can make the biggest impact
- Takes a big problem and breaks it down into smaller pieces

# Update Processes and Standards

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Use what you learned from successful experimentation to fashion and recommend CI steps

Can lessons learned at the project level apply to the organization's continuous improvement process?

If so, escalate these lessons as an opportunity for adoption at the organizational level

# Interactive/Discussion



*What are improvement procedures in your organization?*

*What methods do you use?*



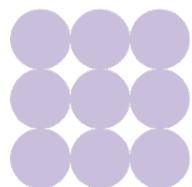
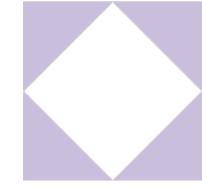
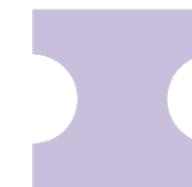
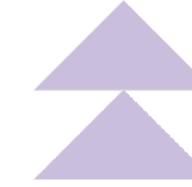
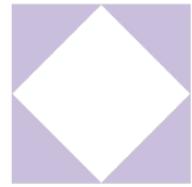
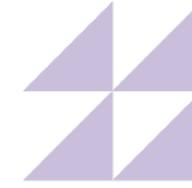
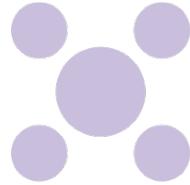
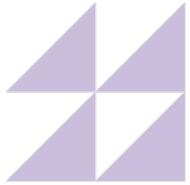
# Lead With an Improvement Mindset

- Educate yourself
- Encourage a “fail fast” mindset
- Identify material improvements, training, processes or equipment
- Measure the effect of any change
- Then repeat!



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# Topics Covered

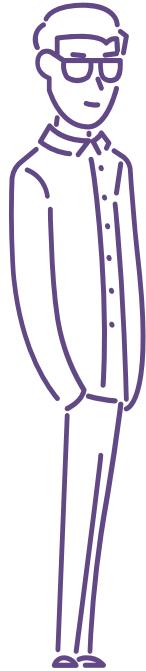




# Support Performance

TOPIC B

# Project Team Leadership Objectives



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Communicate (and re-communicate) the project's objectives

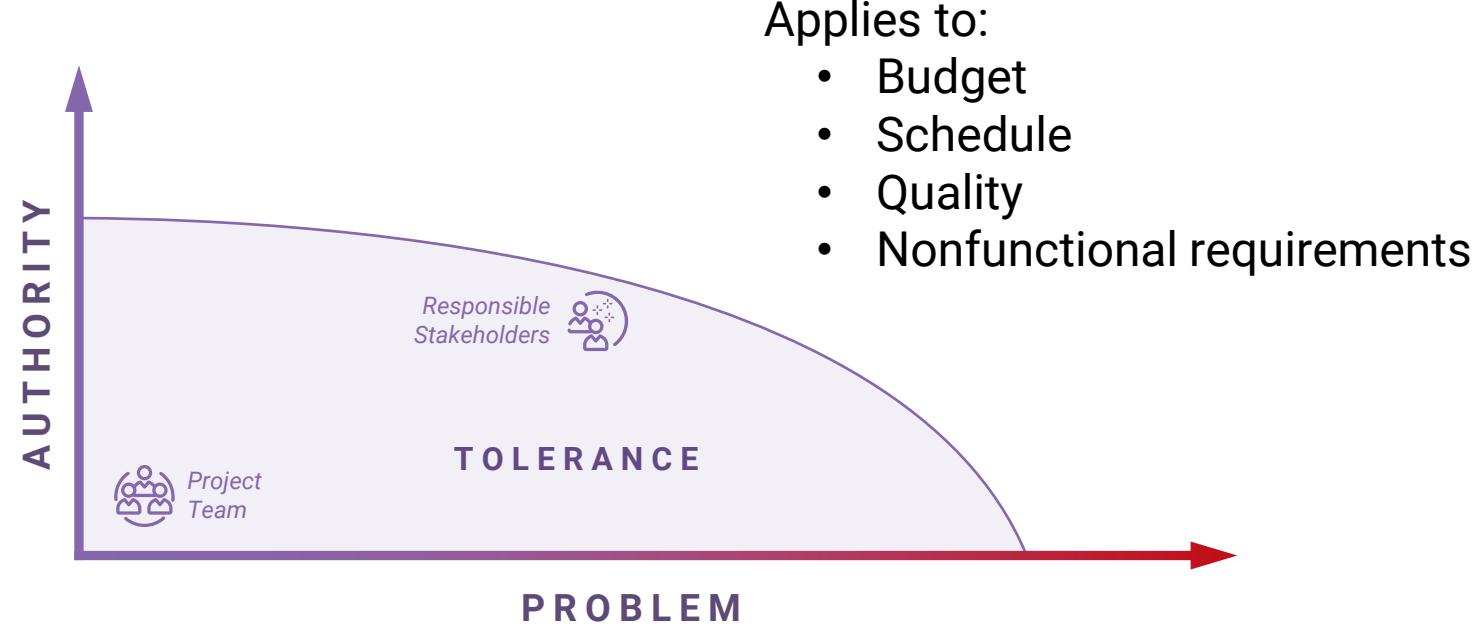
Ensure fluid knowledge-sharing, a continued healthy dynamic on the team, welcome new team members, realign the team.

Focus the team on delivering value

# Manage with Objectives, Tolerances, Thresholds

Use clear and effective communication with clear **objectives** throughout the life cycle for a more productive and driven team.

Know the **thresholds** and **tolerance** levels that enable you to effectively manage a variation without needing to escalate.

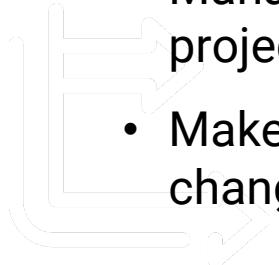


# The Project Manager's Role

## Centralized Model



- Ensures alignment of due dates – project deliverables, project life cycle and benefits realization plan
- Provides a project management plan
- Ensures creation and use of appropriate knowledge to/from the project
- Manages project performance and changes to project activities
- Makes integrated decisions about key changes that impact the project
- Measures and monitors progress, and takes appropriate action
- Collects, analyzes and communicates project information to relevant stakeholders
- Ensures completion of all project work and formally closes each phase, contract and the project as a whole
- Manages phase transitions when necessary



*These tasks cannot be delegated.*

# Team Roles and Responsibilities to Support Performance

## Review Exercise



PROJECT  
MANAGER



TEAM



SCRUM MASTER  
/ AGILE COACH



PRODUCT  
OWNER



# Optimize Communication

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- Use **retrospectives** purposefully – discuss how to improve ways of working
- Communicate in both group and face-to-face settings – especially important for remote or virtual teams
- Make communication positive and regular with **internal** and **external** team members and stakeholders
- Use technology and tools; get **feedback** about them and tailor for optimization



*Where did the team record expectations about communication?  
In the team charter!*

# Use Feedback to Support High Performance

- Feedback is crucial for any team, using any method, in any environment
- Communicate in detail about technical and “soft” performance aspects
- Use appropriate methods – e.g., public or private, individual or group, written or verbal
- Give feedback in a timely manner
- Request feedback regularly, as and when needed



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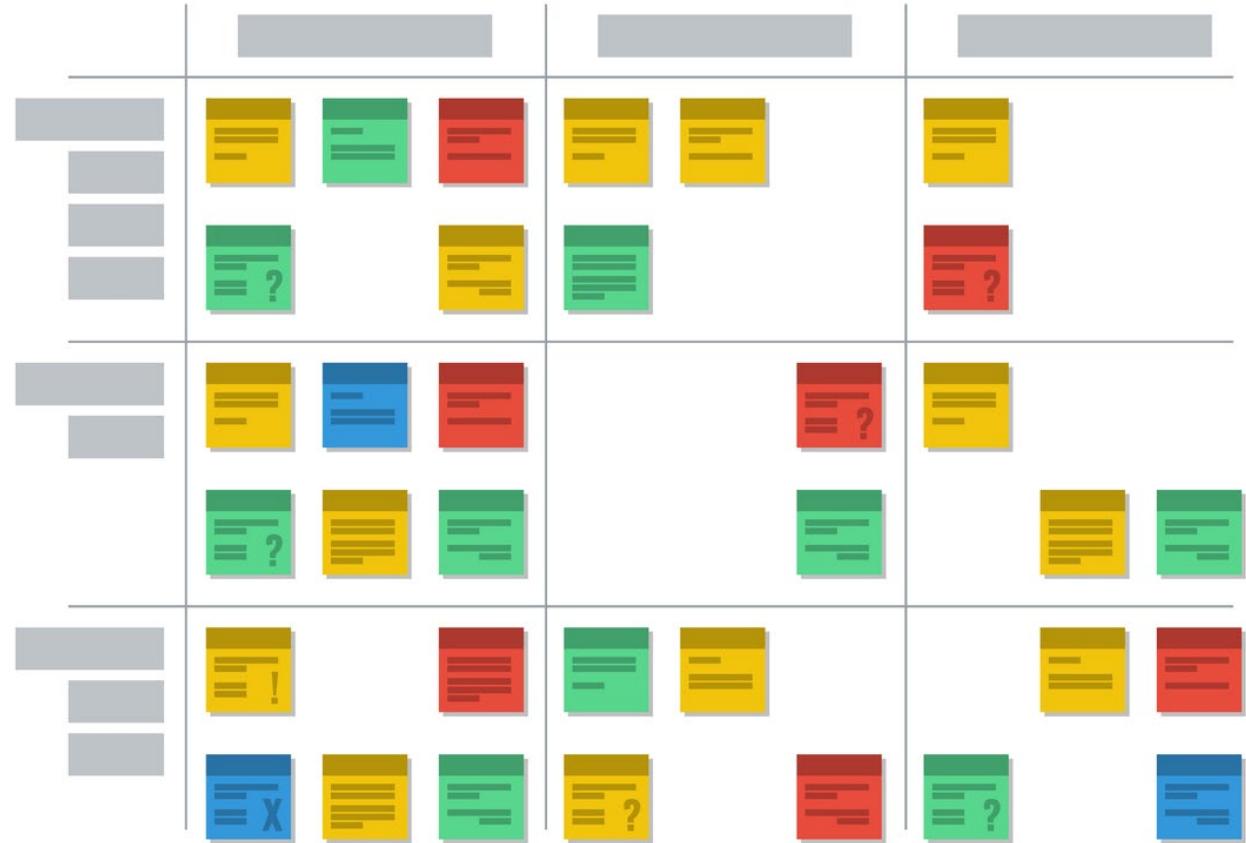
# Support Team Task Accountability

Encourage team members to self-organize in determining:

- What work needs to be done
- How to perform the work
- Who should perform it

Use Kanban boards to promote visibility and collaboration.

Agile teams commit to performing work listed on a backlog during an iteration.



# Show Roles and Responsibilities

## RAM/RACI



Some accountabilities are set and nontransferable, even on agile teams. Can anyone give an example?



### Responsibility assignment matrix (RAM):

- Describes participation by various project roles in completing work or deliverables
- Clarifies roles and responsibilities

### Uses **RACI** nomenclature:

- **Responsible:** Does the work
- **Accountable:** Approves completion
- **Consult:** Gives expert opinion
- **Inform:** Kept up to date



Project manager creates RAM/RACI.



Project manager or team lead works with team to make decisions about roles and responsibilities.

# Curate Knowledge as an Asset

Document **explicit knowledge** for archival and sharing.

Encourage individuals to share **tacit knowledge** and collaborate.

Treat knowledge as an asset to the team and organization.



# Incorporate Knowledge Transfer Opportunities

- Networking
- Special interest groups – e.g., **Communities of Practice**
- Meetings, seminars or other in-person and virtual events
- Training
- **Work/job shadowing**



# Knowledge Management

## Three Levels

### Individual

*What do team members need to know to perform project work?*

### Project

*What's required to achieve project goals?*

### Organization

*What's required to manage programs or portfolios?*

Acquire required knowledge through research and collaboration with other team members

Transfer knowledge from other projects and consult the project management office (PMO)

Adapt knowledge from other programs/portfolios and tailor

# Learn the Right Way to Motivate Your Team



## DO

- Inspire and motivate yourself and the team – provide opportunities, not obligations
- Give virtual teams constant and regular contact
- Provide appropriate training opportunities
- Try self-assessment and reflective moments for professional growth

## DON'T

- Overwhelm with meetings and work interruptions
- Distract with non-project work
- Force group activities

# Continuously Realign Team Efforts with Value Delivery

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Tuckman's ladder

Prioritize team cohesion and focus on value delivery

As team members or external parties join or depart, or during change or disruption, support the team as it realigns itself

- Welcome each new member as a potential **source of new knowledge and motivation**
- Ensure **shared understanding** of project goals and agreements
- Collaborate to find out how they can **add value**
- Navigate disruptions and conflict constructively

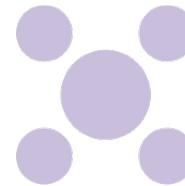
# Check on Artifact Maintenance

- Make it part of regular quality checks
- Keep file storage organized and versioned
- Ensure compliance with data protection and security mandates
- Maintain artifacts in preparation for archiving during project closure



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# ECO Coverage



## 2.2 Manage communications

- Communicate project information and updates effectively (2.2.3)
- Confirm communication is understood and feedback is received (2.2.4)

## 1.4 Empower team members and stakeholders

Support team task accountability (1.4.2)

- Evaluate demonstration of task accountability (1.4.3)

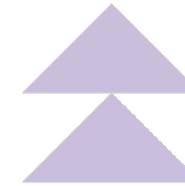
## 1.6 Build a team

- Continuously assess and refresh team skills to meet project needs (1.6.3)
- Maintain team and knowledge transfer (1.6.4)



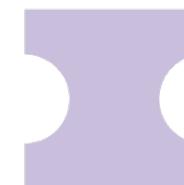
## 1.11 Engage and support virtual teams

- Continually evaluate effectiveness of virtual team member engagement (1.11.4)



## 2.11 Manage project artifacts

- Continually assess the effectiveness of the management of the project artifacts (2.12.3)



## 2.13 Determine appropriate project methodology/methods and practices

- Use iterative, incremental practices throughout the project life cycle (e.g., lessons learned, key stakeholder engagement, risk) (2.13.4)





# Evaluate Project Progress

TOPIC C

# Guidelines to Measuring Performance

“Only Measure What Matters”

- John Doerr

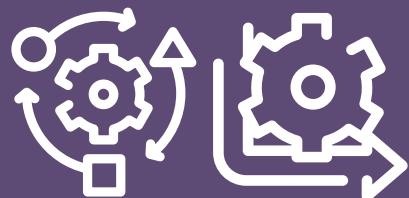


Tailor performance measurement to the project context and stakeholders:

- **Scope**
  - Percentage of work completed
  - Change requests
- **Schedule**
  - Actual duration of work against projected start and finish dates
- **Budget**
  - Actual costs
  - Check procurements are sufficient for needs
- **Resources**
  - Team allocations/availability/procurement
  - Performance appraisals – team, including vendors
  - Contract management
- **Quality**
  - Technical performance
  - Defects
- **Risk**
  - Risk register

# Report on Performance

Tailor If Required



<b>Milestone schedule</b>	High-level visualization of progress on work against planned dates
<b>Quality reports</b>	Charts and reports based on the quality metrics collected
<b>Earned value management (EVM) reports</b>	Graphs and values based on EVM equations
<b>Variance analysis reports</b>	Graphs and their analysis comparing actual results to expected results.
<b>Work performance reports</b>	Physical or electronic representation of work performance information compiled in project documents, intended to generate decisions, actions, or awareness.
<b>Dashboards</b>	Physical or electronic progress summaries, usually with visuals or graphics to represent the larger data set

# Monitor Scope



## Description of Scope

	Description of Scope	Method
	<p>Scope baseline is:</p> <ul style="list-style-type: none"><li>Approved version of the project scope statement</li><li>Work breakdown structure (<b>WBS</b>)</li><li>Associated <b>WBS dictionary</b></li></ul>	<b>Measure completion of project scope against the scope baseline.</b>
	<p>Scope evolves from:</p> <ul style="list-style-type: none"><li>Initial product roadmap to</li><li>Release backlog to</li><li>Iteration backlogs</li></ul> <p><b>Backlogs</b> (including product features and functions and user stories) reflect identified, updated and reprioritized product needs</p>	<b>Check user stories and DoD against customer feedback and product requirements</b>
	<p>Any combination of the above</p>	

# Scope Validation

## Customer Accepts Completed Deliverables



### Acceptance criteria

- Definition of ready (DoR)
- Definition of done (DoD)
- Acceptance criteria
- Iteration reviews



Any combination of the above



*In a predictive development approach, which artifact helps determine the acceptance criteria?*

- a. Responsibility traceability matrix
- b. **Scope statement**
- c. Team charter
- d. Stakeholder engagement plan



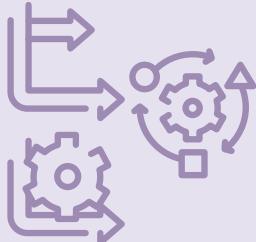
*In an adaptive development approach, what helps determine that the acceptance criteria for user stories has been met?*

- a. Product roadmap
- b. **Definition of done**
- c. Release plan
- d. Kanban board

# Measure Schedule Performance

## Methods

**Gantt charts:** Schedule performance tracking over time



**Earned value:** Cost and effort performance tracking against planned value (PV)

**Quality metrics:** Track quality deliverables, defects and acceptable output

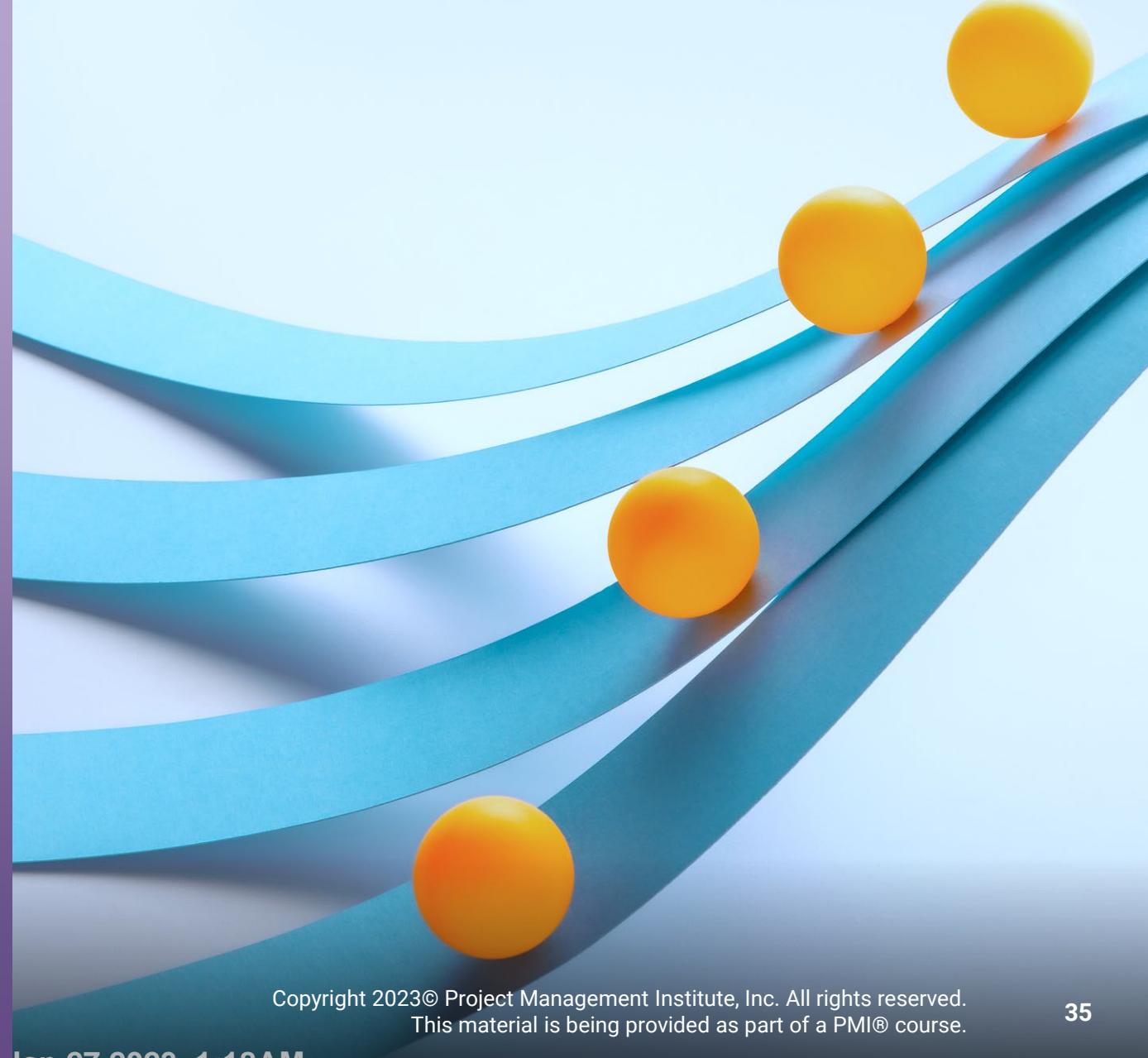
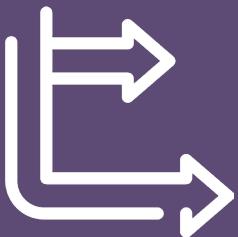
**Variance analysis:** Shows where the project is against where it should be

- Compare work delivered and accepted to estimations for the current iteration/sprint
- Review completed work in regular sprint demos
- Determine production, validation, and acceptance rates for deliverables in **retrospectives**
- Conduct scheduled reviews to record retrospective discoveries



# Schedule Management Tools

- Adjust schedule to reflect resource supply/demand
- Use smoothing and leveling
- Use schedule compression techniques, including fast tracking and crashing



# Visualize Performance

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Show committed versus completed work



- Display visuals or graphics on team dashboards (electronic or physical)
- Show product backlog progress on **burndown** and **burnup** charts
- Display project data and progress on graphic **information radiators** in prominent places
- Measure performance with lead and cycle times with a **cumulative flow diagram**
  - All agile approaches use Kanban boards
  - Continuous flow approaches include **throughput**, **cycle time** and **lead time**
  - Timeboxed approaches include **velocity**

# Information Radiators



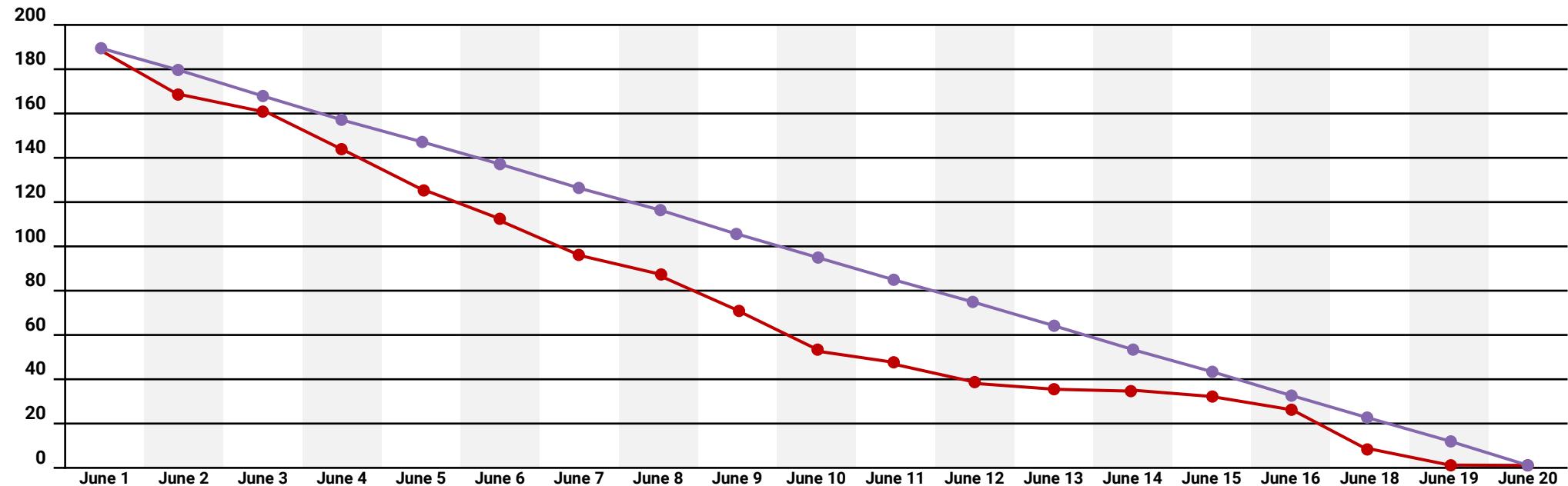
# Burn Charts

## Burndown (Iteration)



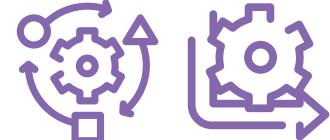
Diagonal line is ideal burndown against which daily actual remaining is charted.

- Tracks the work to be completed in the iteration
- Used to analyze variance to ideal burndown of work committed to during planning



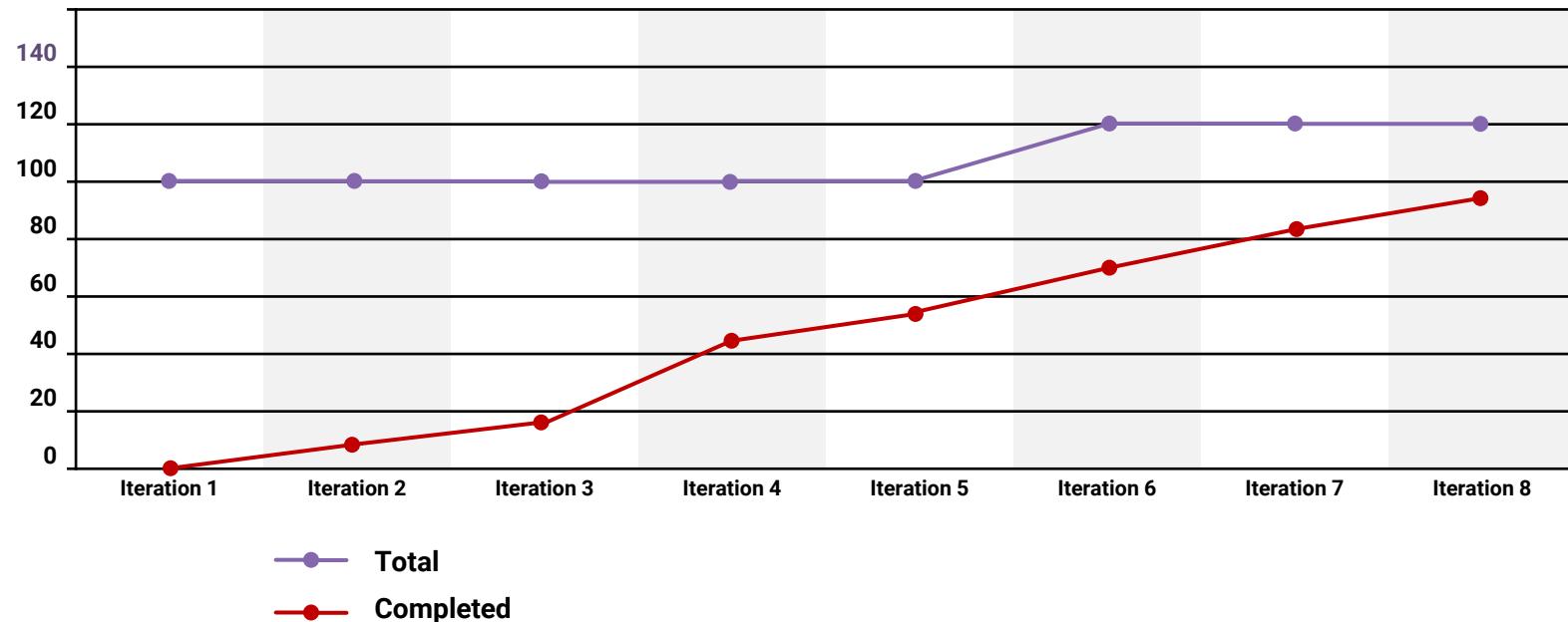
# Burn Charts

## Burnup (Release)



aka Feature Complete Graph  
in feature-driven development (FDD)

- Show accumulated progress of completed work
- Update after each iteration

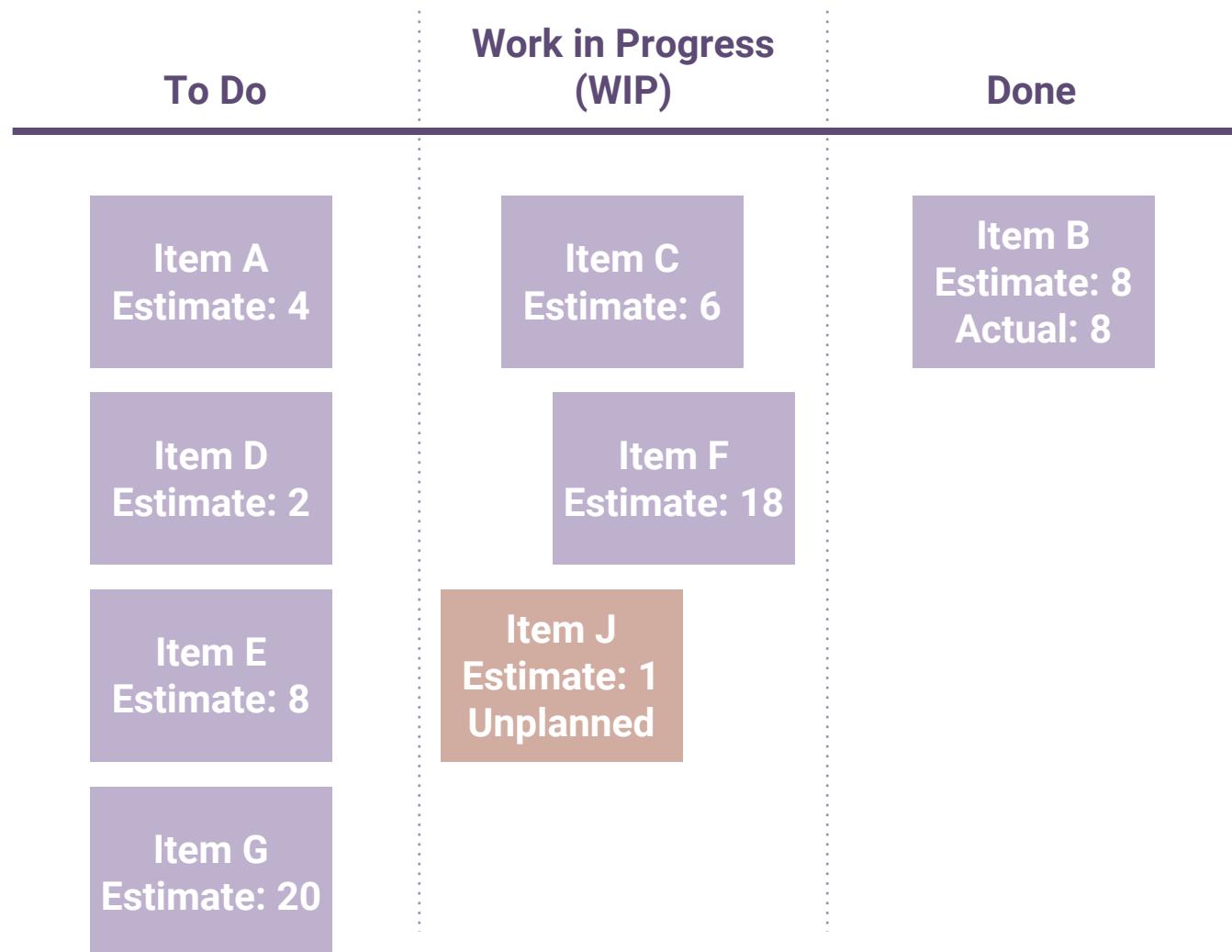


# Task Board

- Organize work into tasks on cards
- Display task information at every stage of the workflow
- Tailor your task board workflow stages



Task board types include Kanban, to-do lists, procedure checklists and scrum boards



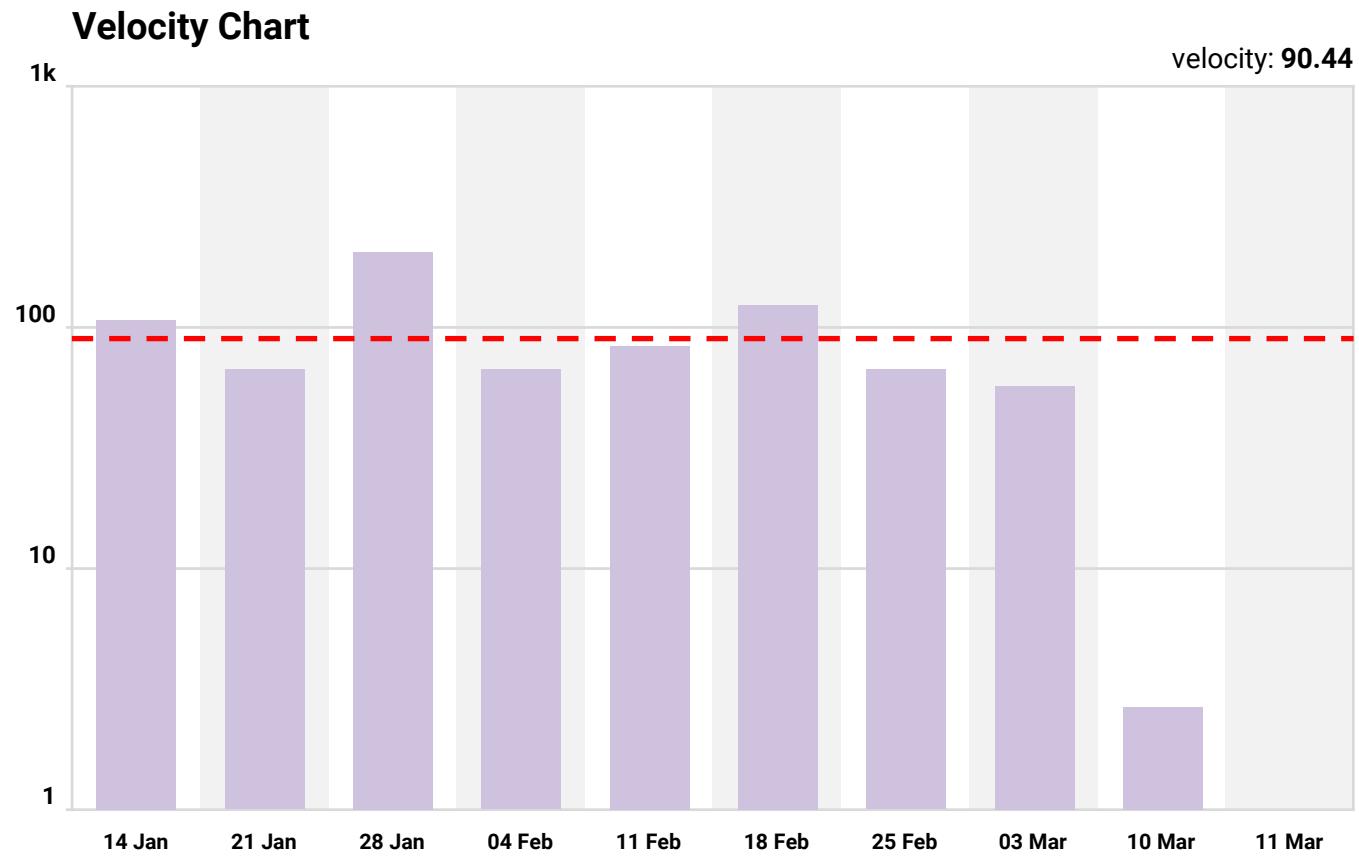
# Estimate Velocity

## Aim for Constant Rate (with optional discussion)

- Team's estimated rate of progress of completed work
- Calculate by estimating number of story points that can be completed during an iteration
- Then modify during subsequent iterations
- Goal: Achieve constant velocity from one iteration to the next



*Velocity is a unique metric to a project; it can't be used to compare the performance of teams.*

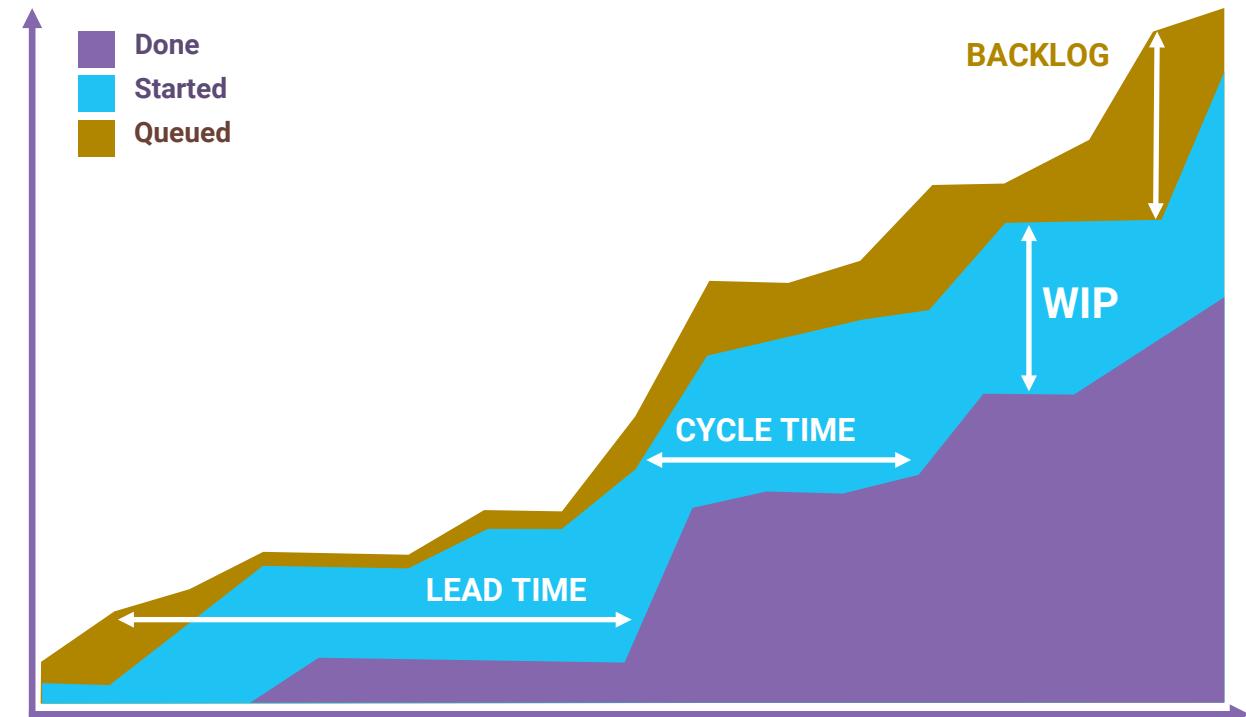


# Continuous Flow Diagram

## Measure Throughput, Lead and Cycle Time

- **WIP** - Measure of work in progress but not completed
- **Lead time** - Length of time work item goes through entire process
- **Cycle time** - Length of time work item is being worked on
- **Throughput** - Number of items entering or exiting the system

The Cumulative Flow Diagram



# Budget Challenges

- New/changed project requirements
- New risks, or changes to the probabilities or impacts of existing risks
- Changes to cost estimates



# Earned Value Management (EVM)

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- Measure project progress by comparing actual schedule and cost performance against planned performance, per the schedule and cost baselines
- Evaluate progress of schedule and budget
- Prevent further degradation of budget or schedule

# Earned Value Management (EVM)

## Visual

### VARIABLES



#### Planned Value

The authorized budget assigned to scheduled work



#### Earned Value

The measure of work performed expressed in terms of the budget authorized for that work

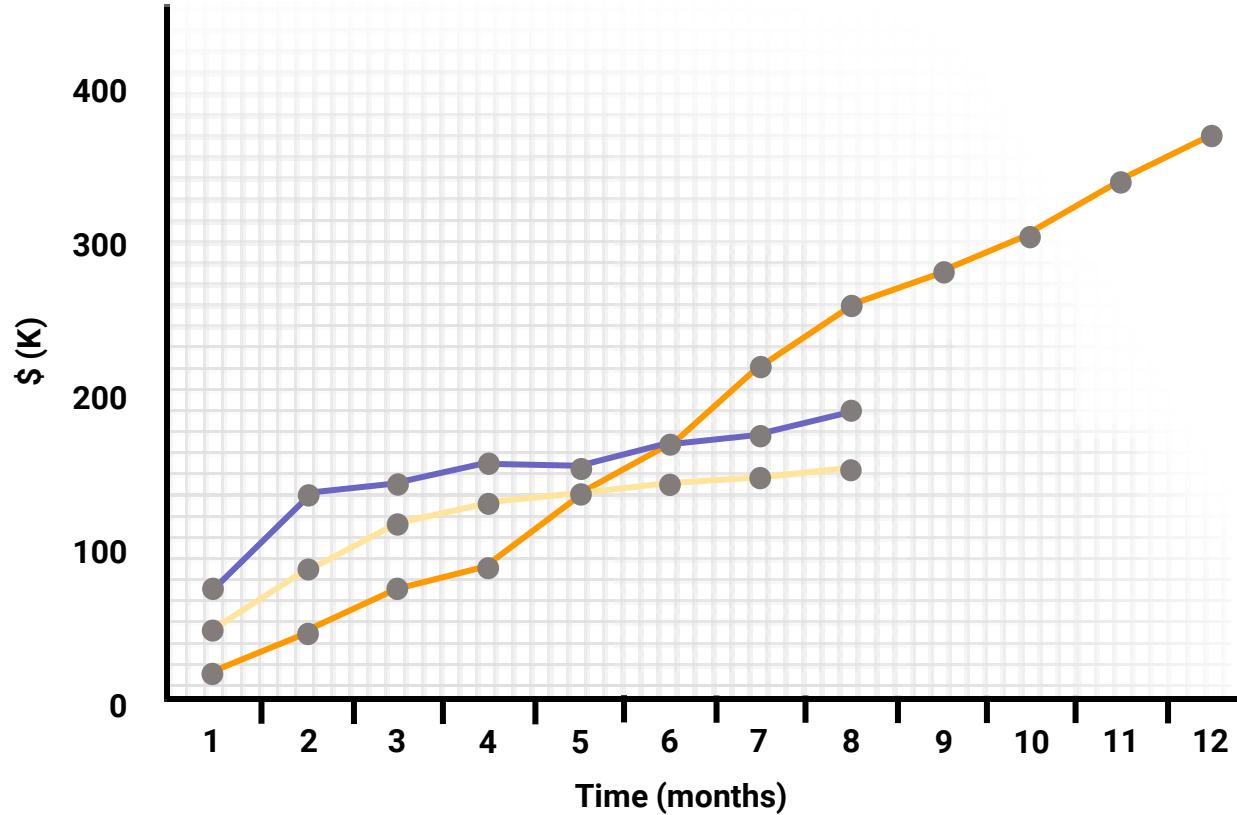


#### Actual Cost

The realized cost incurred for the work performed on an activity during a specific time period

- Planned Value (PV)
- Earned Value (EV)
- Actual Cost (AC)

$$EV = \% \text{ work complete to date} \times \text{budgeted cost}$$

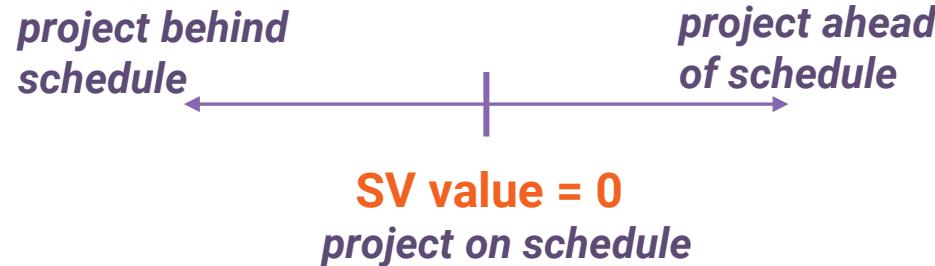


# EVM Measures for Schedule Control

**Is the project progressing on schedule?**

**Schedule variance** measures performance – by calculating the difference between EV and PV

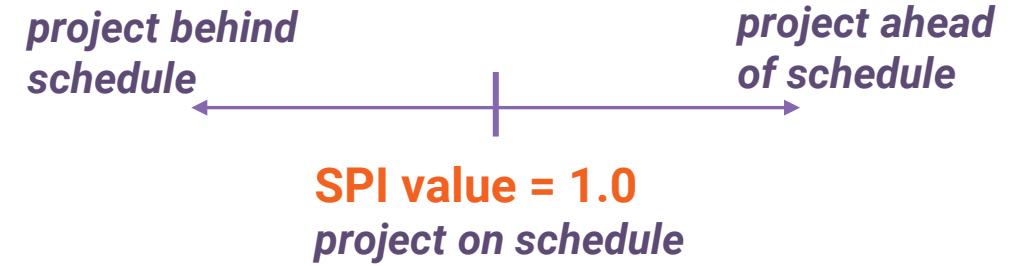
$$SV = EV - PV$$



**How efficiently is the team working?**

**Schedule performance index** measures efficiency by calculating the ratio of EV to PV

$$SPI = EV / PV$$

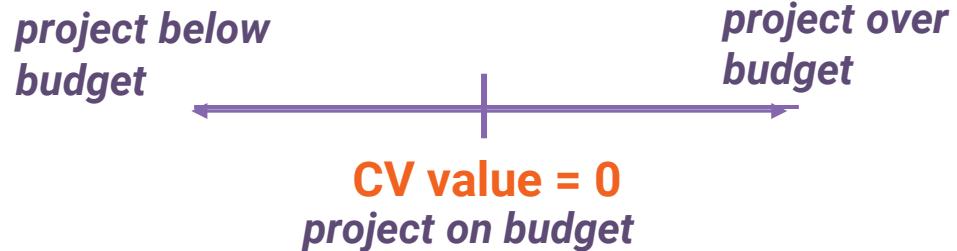


# EVM Measures for Cost Control

## Is the project on budget?

Calculate **cost variance (CV)** to find the current amount of budget deficit/surplus

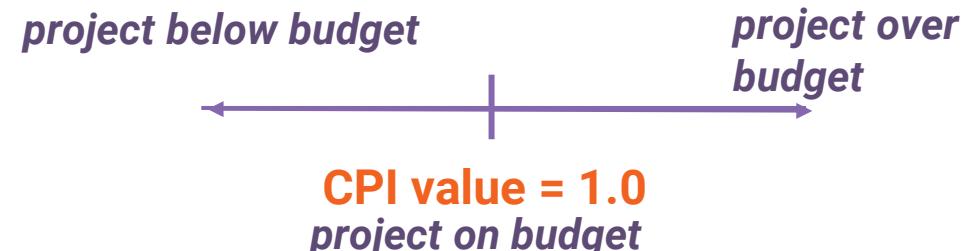
$$CV = EV - AC$$



## How efficient is my project?

Calculate **cost performance index (CPI)** to measure the cost efficiency of budgeted resources

$$(CPI = EV / AC)$$



# EAC/ETC Analysis



*Are more funds required?*

## What will the project cost in total?

### Use Estimate At Completion (EAC)

Based on:

- CPI: current spending efficiency
- BAC: budget at completion

Formula

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

## How much more cost is required to complete the remainder of the project?

### Use Estimate To Complete (ETC)

Based on:

- CPI
- AC – actual cost

Formula

$$ETC = EAC - AC$$

# EVM

Enables comparison of release plan against the actual work done



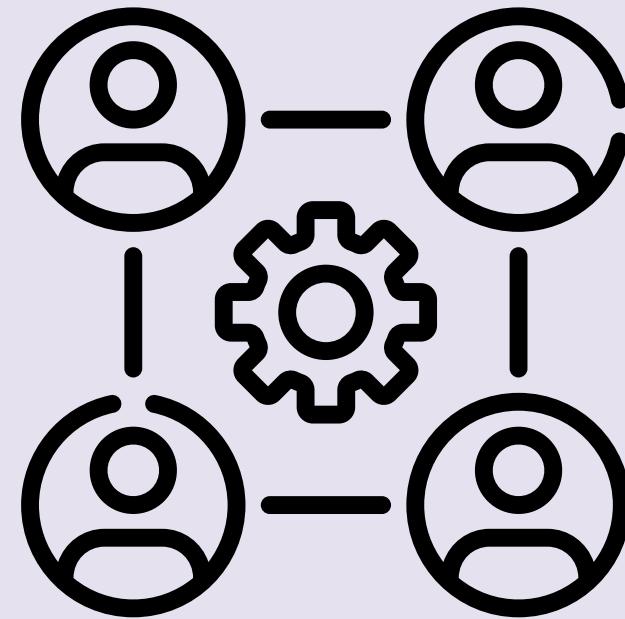
*Helps teams spot any problem areas and ensure they stay on schedule and within budget.*

## Example Process:

1. Establish a performance measurement baseline (PMB) to creates a reference point for the metric
2. Answer three questions:
  - How many iterations are planned?
  - How many story points are there?
  - What is the release budget?
3. Collect data at the end of every iteration:
  - **Planned value (PV)**: Budget for planned work in an iteration
  - **Earned value (EV)**: Budget for completed work in an iteration
  - **Actual cost (AC)**: Actual cost incurred to complete an iteration deliverable

# Manage and Lead Resources

- Include team and external contractors
- Monitor for risks – e.g., cost overruns, schedule delays or potential disputes
- Conduct checks on contracts:
  - Procurement process compliance
  - Periodic progress or activity reports
  - Required advance notification and acknowledgment to suppliers
  - Formal acceptance of contracted deliverables
- Notify accounts payable of completed work so that payments can be made



*Consult the communications management plan and contract terms and conditions for vendor/supplier working provisions.*

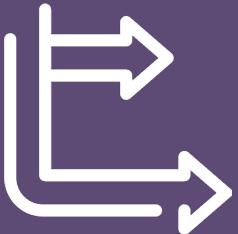
# Physical Resource Management

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- Means physical resources (not human)
  - Equipment
  - Materials
  - Facilities
  - Infrastructure
- Ensures assigned resources are available “just in time” (JIT) and released when no longer needed
- Ensures physical resources assigned are available as planned
- Monitors planned vs actual utilization of resources
- Performs processes throughout the project

# Update Resource Allocation

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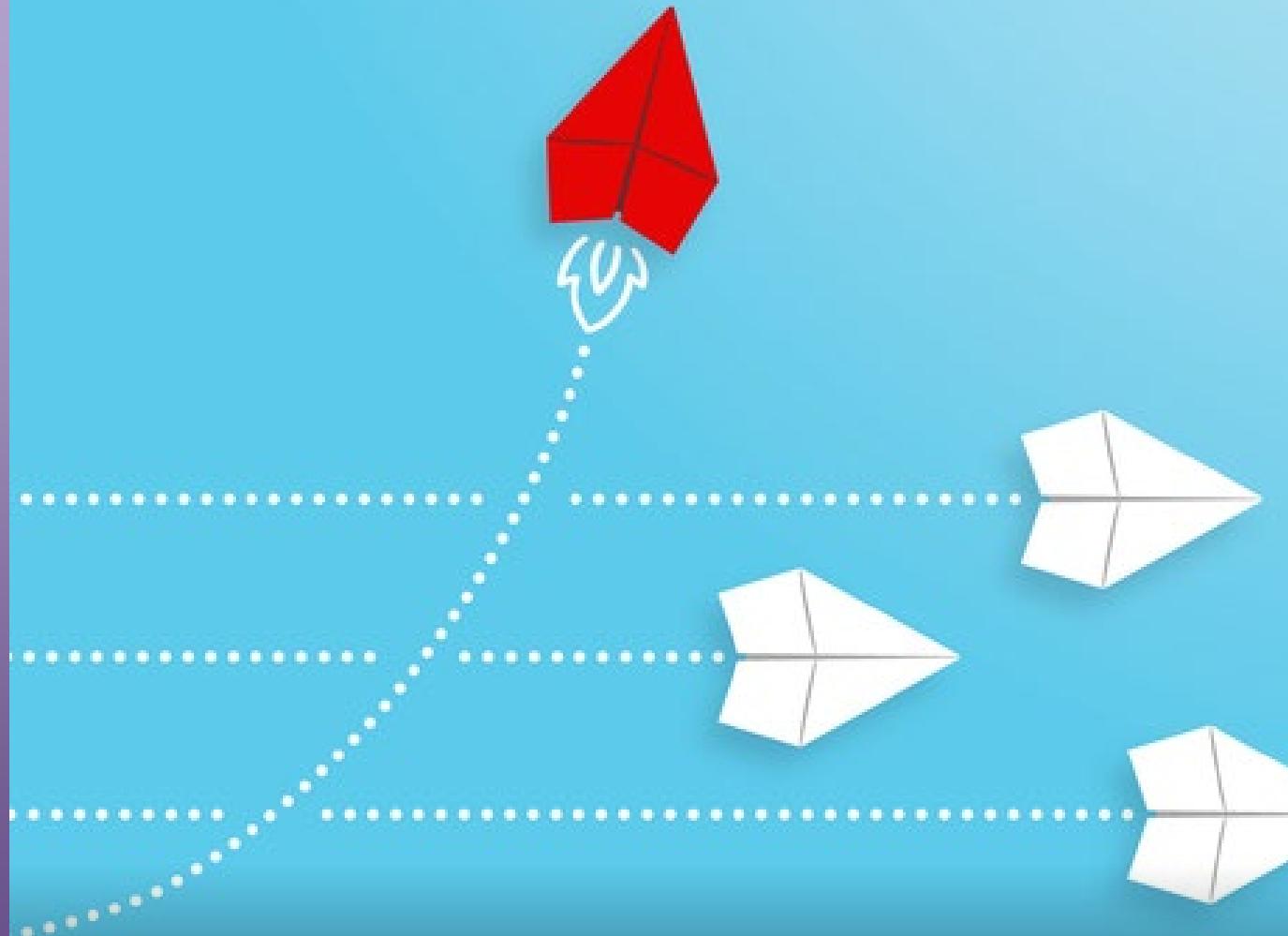
- What has been used to date?
- What is still needed?
- Review performance usage to date, including:
  - Monitoring expenditures
  - Identifying and dealing with resource shortage/surplus in a timely manner
  - Ensuring resource use and release
  - Informing stakeholders of issues with relevant resources
  - Influencing factors that can create changes in resource utilization
  - Managing changes as they occur
- Changes that impact schedule or cost baselines must be approved through Perform Integrated Change Control.

# Handle Contract Changes and Disputes

When change is required, follow your project's change process:

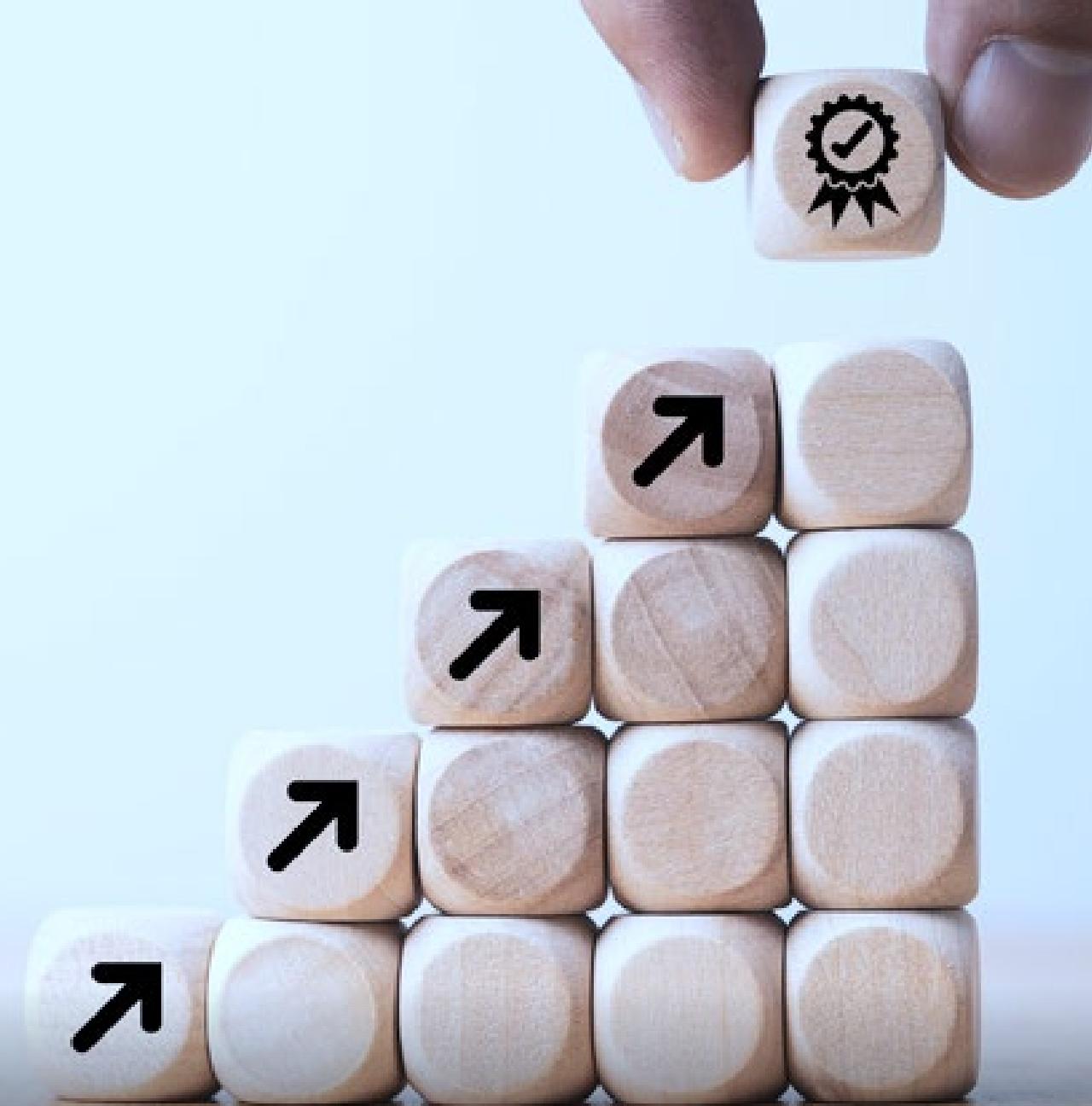
- ➡ Perform Integrated Change Control
- ➡ Backlog reprioritization

For contract disputes, consult OPAs and the contractual agreement first



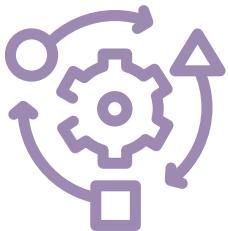
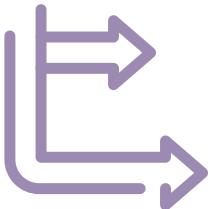
# Quality Management Guidelines

- Assess quality of project approaches and activities
- Evaluate deliverable quality through inspection and testing
- Evaluate quality of project activities and processes through reviews and audits
- Focus on detecting and preventing errors and defects



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# Evaluate and Manage Quality



- Project manager uses Control Quality process to:
    - **Verify** that deliverables meet functional and nonfunctional requirements
    - **Identify and suggest improvements**
    - **Verify alignment** with compliance requirements
    - **Give feedback** on any identified variances
    - **Identify potential approaches** to cure defects or other noncompliance
  - And continuously monitors quality **reports** and **recommendations!**
- 
- Team, customer and product owner are responsible for setting and meeting quality goals and metrics
  - Feedback from iterations continuously monitor quality
  - Measure performance of quality with:
    - Service-level agreements (SLAs)
    - KPIs
    - Contractual measures
    - Quality methods/frameworks – e.g., Lean Six Sigma

# Quality Audit\*

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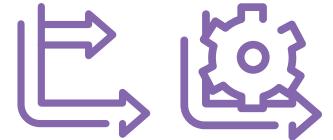
May be scheduled or conducted ad hoc

Topics include:

- Quality management policy
- Collection and use of information
- Analytical methods
- Cost of quality
- Quality process design

*Use audits to enhance or formalize the quality management complement in adaptive development approaches.*

# Control Quality Tools



## Data gathering

- Checklists/check sheets
- Statistical sampling
- Questionnaires and surveys

## Data analysis

- Performance reviews
- Root cause analysis

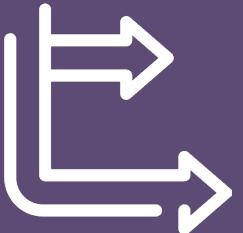
## Data representation

- Cause-and-effect diagram
- Scatter diagrams
- Control charts
- Histograms
- Pareto chart

# Control Quality Process

## Example

1. Use check sheets to collect data
2. Plot data on a histogram
3. Understand the significant ones using the Pareto chart (80/20 rule)
4. Use the cause-and-effect analysis on the chosen problems/solutions
5. Finally, perform a scatter analysis to understand the correlation

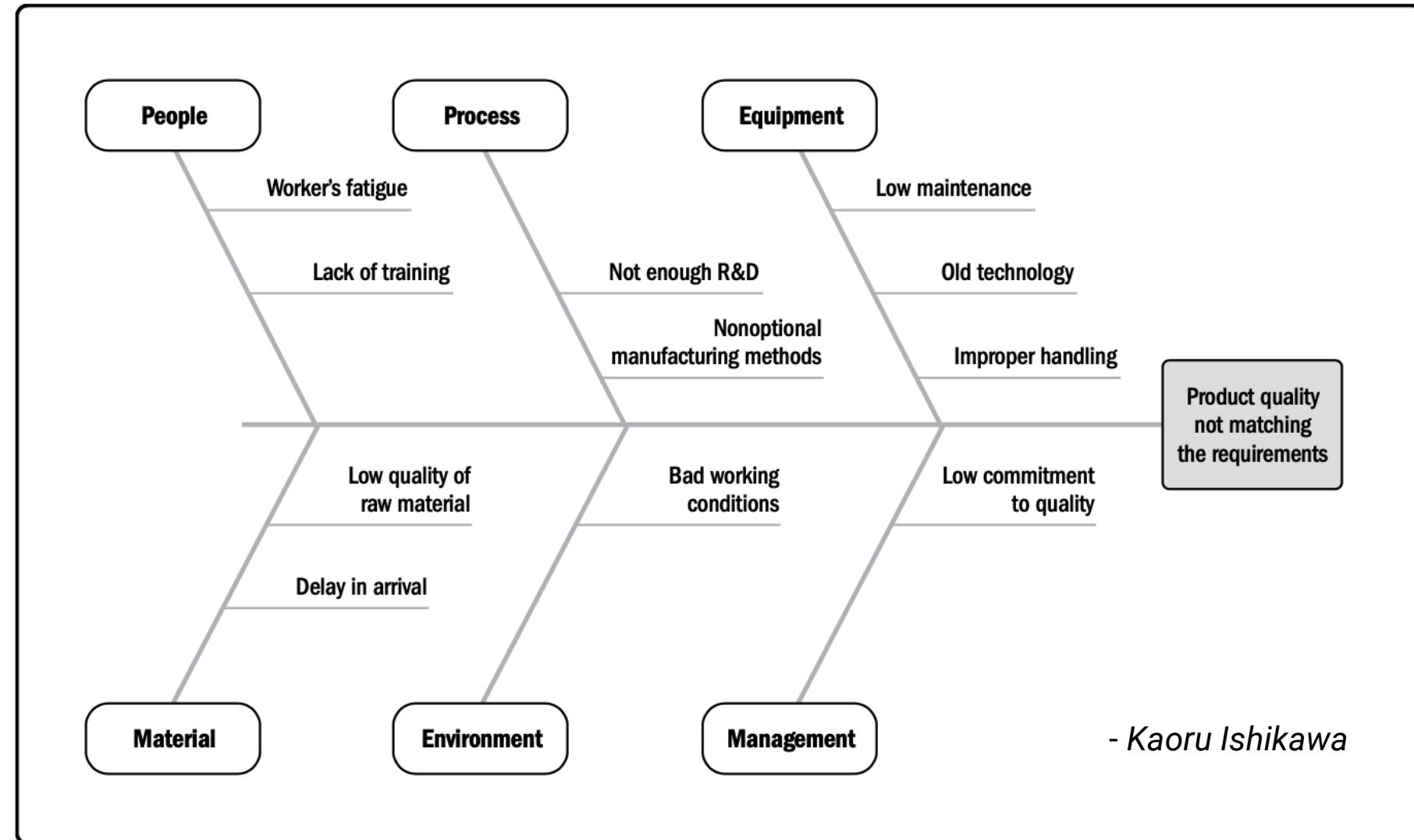


# Data Visualization

## Quality Tool - Cause and Effect Diagram

Break down the problem statement to identify causes in discrete branches

Keep asking “why” to help identify the main or root cause of the problem



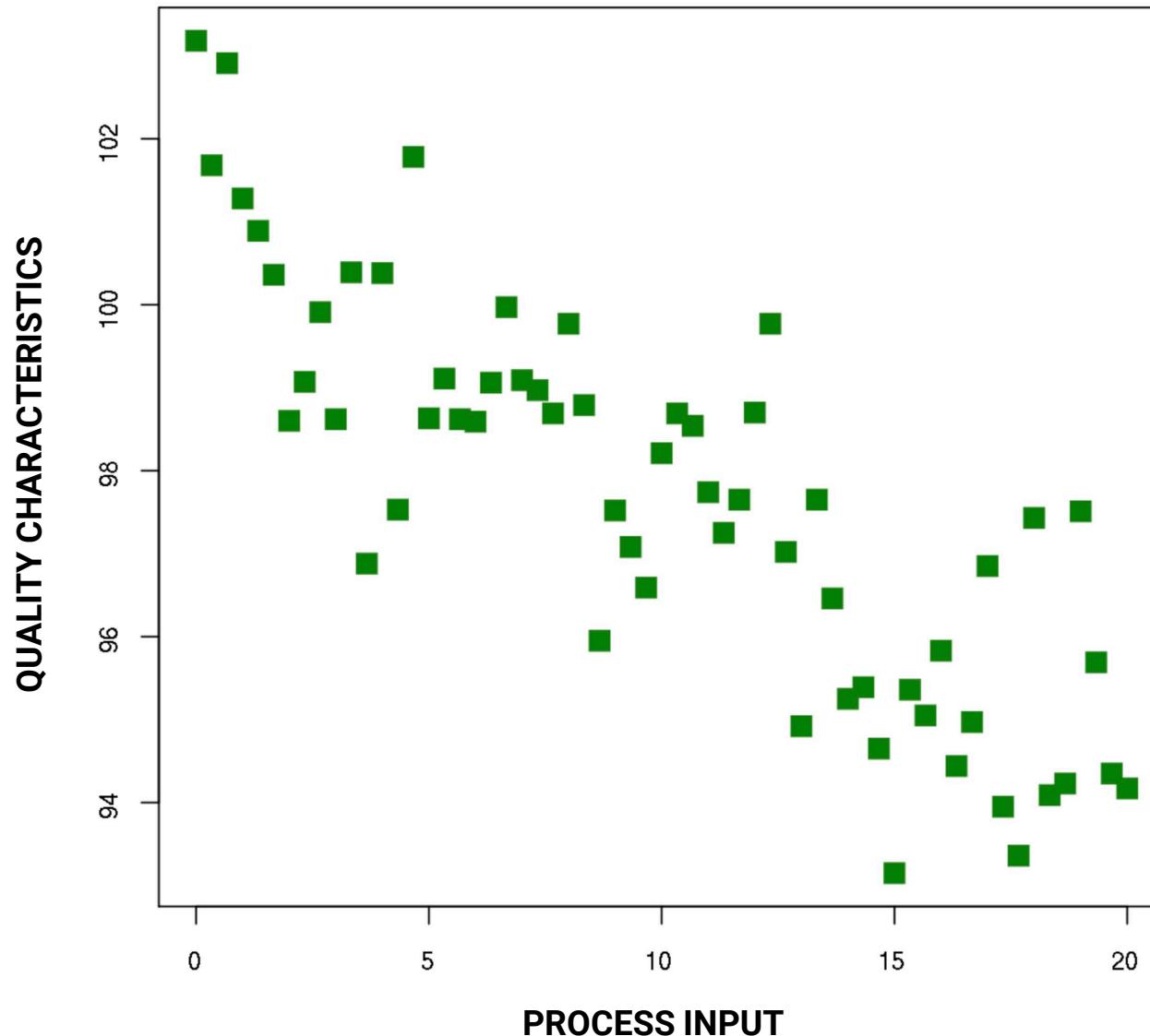
**Example fishbone diagram (aka Ishikawa or Why-Why)**

# Data Visualization Quality Tool

## Scatter Diagram

Shows the relationship between two variables

Demonstrates relationships among any element of a process, environment, or activity on one axis and a quality defect on the other

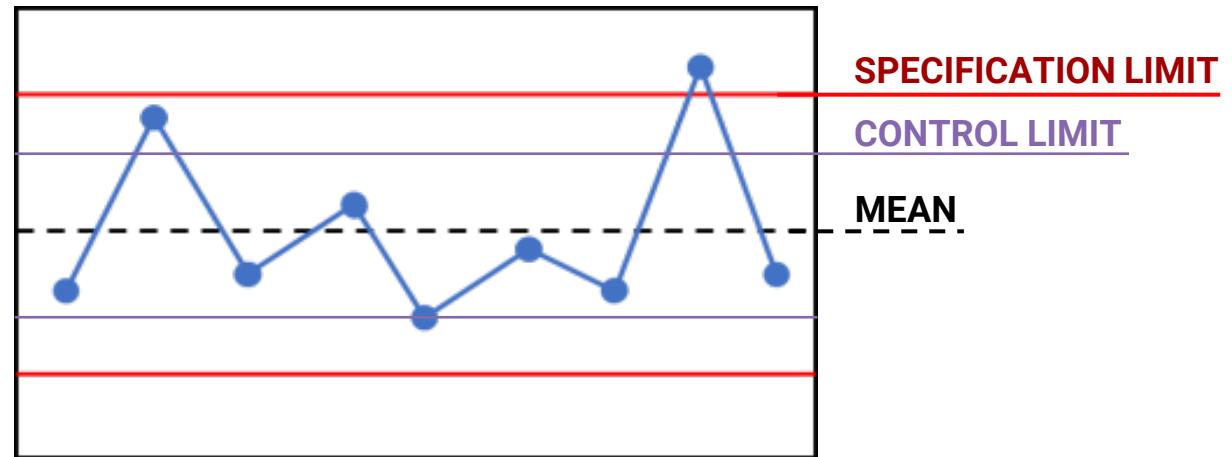


# Data Visualization

## Quality Tool

### Control Chart

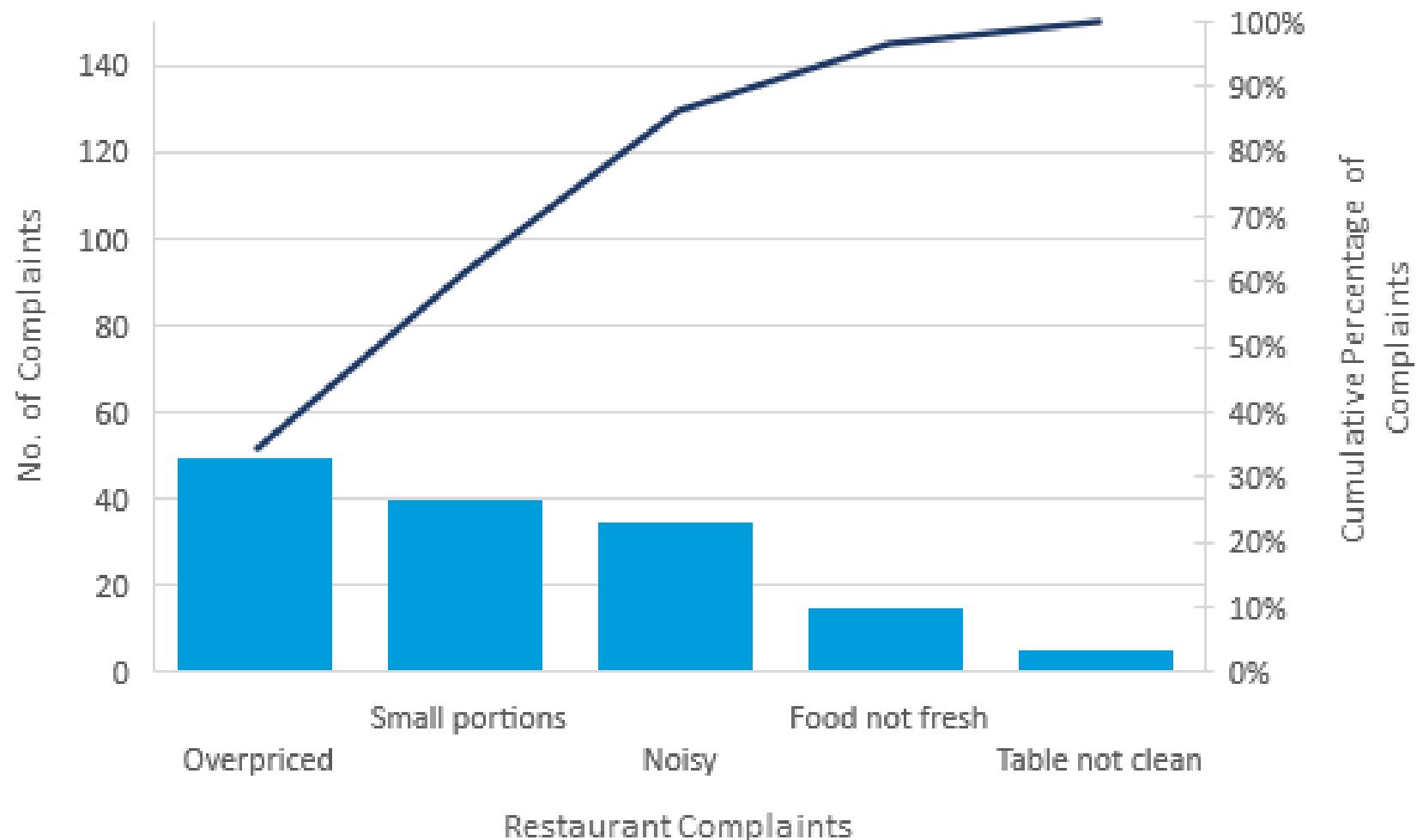
- A tool used to determine the predictability, behavior and stability of a process over time
- Ideal for repetitive processes with predictable results
- Shows a **mean** and established **control limits** and **specification limits**
- Follow the “rule of seven” = investigate increases/decreases of seven consecutive points, indicating a trend/potential issue



# Data Visualization Quality Tools

## Histogram and Pareto Chart

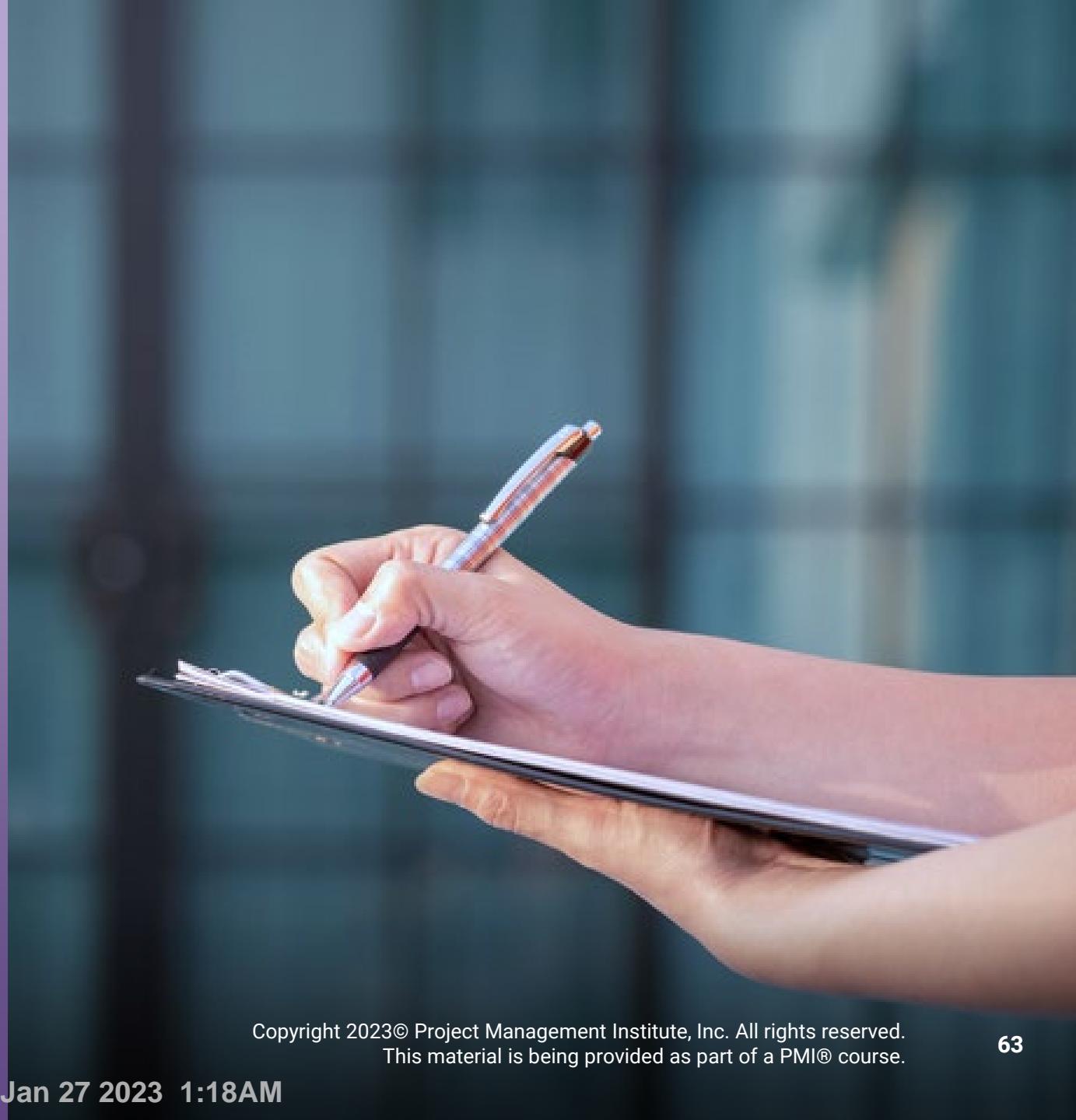
- A Pareto chart is a type of **histogram**
- Uses **80/20 rule**
- Demonstrates frequency of problem occurrence
- Analyzes data sets related to a specific problem or issue, but does not define the root cause of a problem



# Ensure Quality of Processes and Product

Quality is closely linked to the product acceptance criteria, as described in the statement of work (SOW) or other design documents.

Update these criteria as experimentation and prioritization occur and then validate them as part of the acceptance process.



# Verify Deliverables

---



- Project team verifies deliverables based on quality standards and requirements:
  - Quality metrics
  - Tolerance
- The verified deliverables are presented to and accepted (validated) by the customer – resulting in accepted deliverables
- Measure products and outputs against the project's quality standards
- Implement corrections and controls when quality standards are neither met nor within acceptable ranges
  - Iteration H (agile) – quality assurance cycle
  - Sprint/iteration review in Scrum

# Evaluate and Manage Risk



Adaptive development approaches incorporate risk management in iterative and incremental practices.



Predictive risk management approaches are methodical.



(Optional)

Can you identify some typical risk management practices or use cases for each approach?



# Monitor Risks



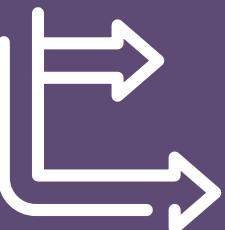
## GUIDELINES

- Enable decision-making based on current information about overall risk exposure and individual risks
- Continuously monitor status, probability and impact
- Identify new risks
- Reassess current risks
- Close outdated risks
- Perform on a regular basis
- Continuously improve risk effectiveness

## QUESTIONS TO ASK

- Are project assumptions still valid?
- Have risks changed or been retired?
- Are risk management policies and procedures being followed?
- Have contingency reserves been modified?
- Do we need a risk audit?

# Review your Reserves



## Reserve analysis:

- Establishes the amount of contingency and management reserves needed
- Is performed throughout the project
- Compares amount remaining to determine if adequate
- May be communicated with a burndown chart

# Risk Register

- Add risks raised during status meetings, standups or daily scrums, iteration reviews, retrospectives – or even informally – to the risk register
- Update newly identified and existing risks based on the current knowledge and situation



*Agile teams may use a *risk list* or *log*, similar to a risk register*



# Interactive/Discussion



*When you think about risks in a project,  
which do you think are the most serious?*

*How do you know?*



# Manage Compliance as the Highest Priority

---

- Test and validate deliverables (continuously and at project/ phase end)
- Identify authorized stakeholders to approve
- Remediate compliance issues to avoid:
  - Negative impact on the timeline
  - Cost overruns
  - Increased risks
- Benefits of compliance sign-off:
  - Early warning of potential threats to compliance
  - Ability to capture variances and take action

# Examine Business Value

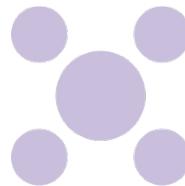
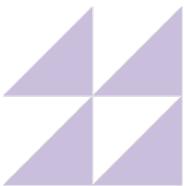
- Connects Ways of Working with Business Acumen
- Tailor work processes, approaches and tools along with leadership skills to examine and improve value delivery



*How often and how well does your project team really focus efforts on examining the business value of the project?*



# ECO Coverage



## 2.8 Plan and manage scope

- Monitor and validate scope (2.8.3)

## 2.6 Plan and manage schedule

- Measure ongoing progress based on methodology (2.6.4)
- Modify schedule, as needed, based on methodology (2.6.5)
- Coordinate with other projects and other operations (2.6.6)

## 2.5 Plan and manage budget and resources

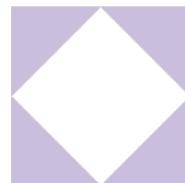
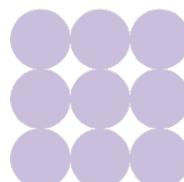
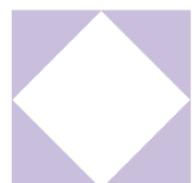
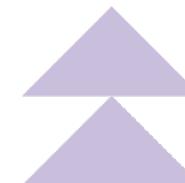
- Monitor budget variations and work with governance process to adjust as necessary (2.5.3)

## 2.1 Execute project with the urgency required to deliver business value

- Examine the business value throughout the project (2.1.2)

## 2.7 Plan and manage quality of products/deliverables

- Continually survey project deliverable quality (2.7.3)
- Recommend options for improvement based on quality gaps (2.7.2)





# Manage Project Issues and Impediments

TOPIC D

# Problem Vocabulary

## Impediments, Obstacles and Blockers

---

**Obstacle removal.** Since it is the project team who generates the majority of business value, a critical role for the servant leader is to maximize delivery by removing **impediments** to their progress. This includes solving **problems** and removing **obstacles** that may be hampering the project team's work. By solving or easing these **impediments**, the project team can deliver value to the business faster.



*'Impediment' and 'blocker' are synonyms; they both mean, "an **obstacle** that prevents the team from achieving its objectives."*

**Remove obstacles** (*Step 5 in the Process for Leading Change*)

All change comes with **obstacles**. Sometimes the **obstacles** are outdated processes, sometimes they are based on the organizational structure, and sometimes they are people resistant to change. Regardless, all **obstacles** need to be addressed.

- PMBOK® Guide – 7<sup>th</sup> Edition

# Issue or Impediment? Just Solve the Problem!

- 
- **Issue:** A condition or situation that may have an impact on the project objectives.
  - **Impediment:** An obstacle that prevents the team from achieving its objectives. Also known as a blocker.



Predictive teams use the term issue log



Adaptive teams tend to use an impediment log.



*This term is related to Scrum.*

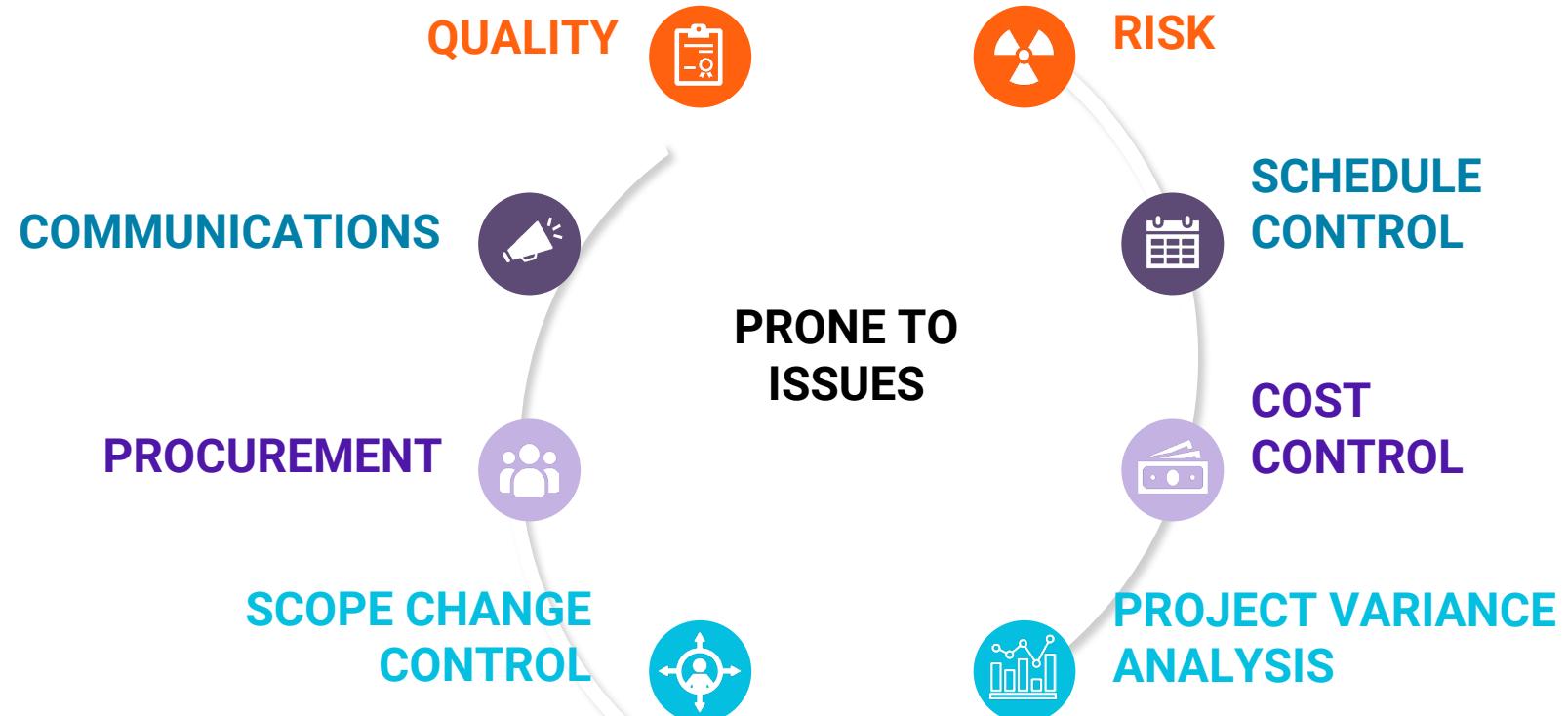
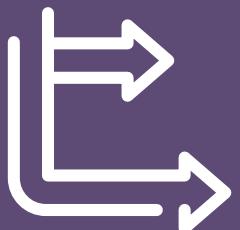
# Risks and Issues



- Focused on the future
- Can be positive or negative
- Are documented in the risk register
- Response is called a “risk response”

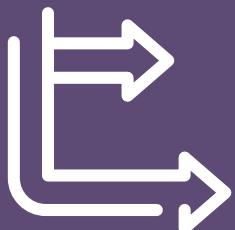
- Focused on the present
- Will always be negative
- Are documented in the issue log
- Response is called a “workaround”

# Issues



# Issue Resolution Guidelines

Track problems, inconsistencies or conflicts and conduct investigation towards resolution



- As issues arise, promptly add them to the **issue log**.
- Assign an owner to each issue
- Give realistic due dates
- Discuss issues at every status meeting
- Limit open issues to a manageable number
- Don't hesitate to escalate if effects are major!

ID	Description	Opened	Due Date	Priority	Owner	Response	Status	Comments
25	Truck strike	15 Jan 20xx	01 Feb 20xx	High	A. Fen	TBD	Open	Tasks are on the critical path
26	Glazing service down	15 Jan 20XX	01 Feb 20xx	Med	Gen Contractor	working	open	Looking into another supplier
27	Josie Bynoe dissatisfied	15 Jan 20xx	01 Feb 20xx	High	A. Fen	working	open	Risks board withholding operating funds

# Discover and Solve Impediments Using Scrum

## Steps:

- Discover the problem/cause
- Solve it. The scrum master is responsible for finding a resolution with concerned parties:
  - Often involves dealing with conflict somewhere in the organization
  - Resolution can help the organization grow in agility



# Remove Impediments

## Overview

- Track impediments
- Reprioritize product backlog
- Use daily standup meeting
- Be a servant leader



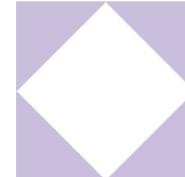
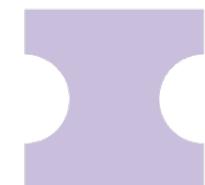
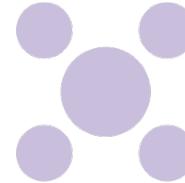
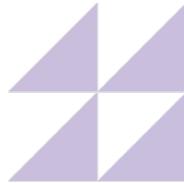
# Discussion



How does your team solve problems?



# ECO Coverage



## 2.15 Manage project issues

- Recognize when a risk becomes an issue (2.15.1)
- Attack the issue with the optimal actions to achieve project success (2.15.2)
- Collaborate with relevant stakeholders on the approach to resolve the issues (2.15.3)

## 1.7 Address and remove impediments, obstacles, and blockers for the team

- Determine critical impediments, obstacles, and blockers for the team (1.7.1)
- Prioritize critical impediments, obstacles, and blockers for the team (1.7.2)
- Use network to implement solutions to remove impediments, obstacles, and blockers for the team (1.7.3)
- Re-assess continually to ensure impediments, obstacles and blockers for the team are being addressed (1.7.4)



# Manage Project Changes

TOPIC E

# Interactive/Discussion



- *What constitutes a change in a project?*
- *Can a change come from anywhere?*
- *How does the life cycle and development approach affect our response to change?*

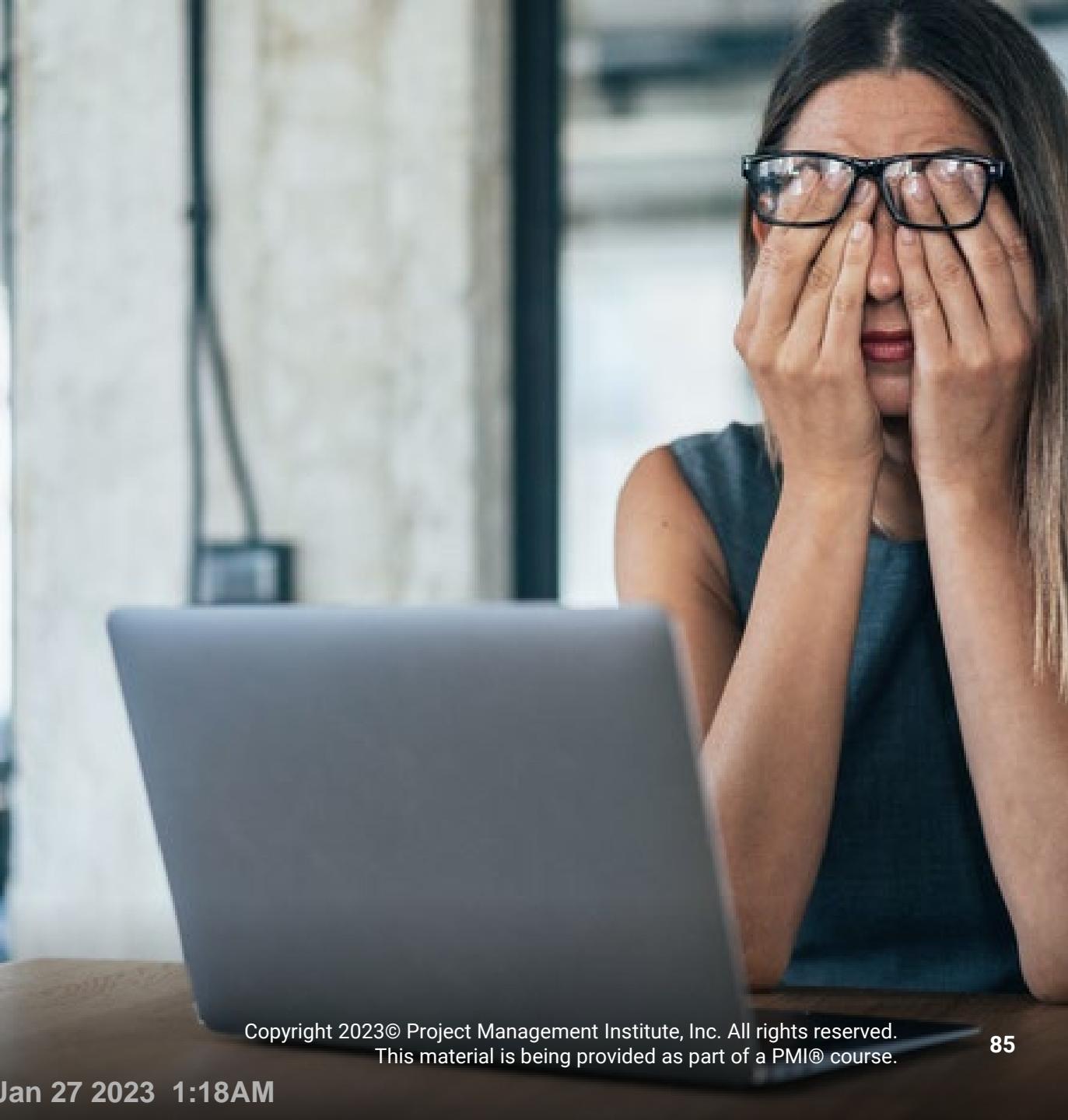


# Causes of Project Changes

- Inaccurate initial estimates
- New regulations
- Missed requirements
- Specification changes



*Are any of these also causes of changes in adaptive projects?*

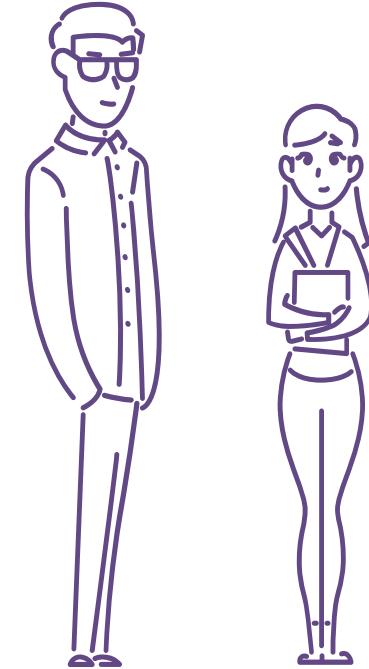


# Be a Changemaker and a Change Leader



*Which of the project management principles deal with the subject of change?*

- a. Be a diligent, respectful and caring steward
- b. Recognize, evaluate and respond to system interactions
- c. Navigate complexity
- d. Create a collaborative project team environment
- e. Demonstrate leadership behaviors
- f. Optimize risk responses
- g. Effectively engage with stakeholders
- h. Tailor based on context
- i. Embrace adaptability and resiliency
- j. Focus on value
- k. Build quality into processes and deliverables
- l. Enable change to achieve the envisioned future state



# Monitor the External Business Environment

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Change can bring negatives as well as positives, such as opportunities to add or extend value!

- Monitor the external environment
- Remain vigilant for threats
- Constantly update the risk register and thresholds
- Use tools



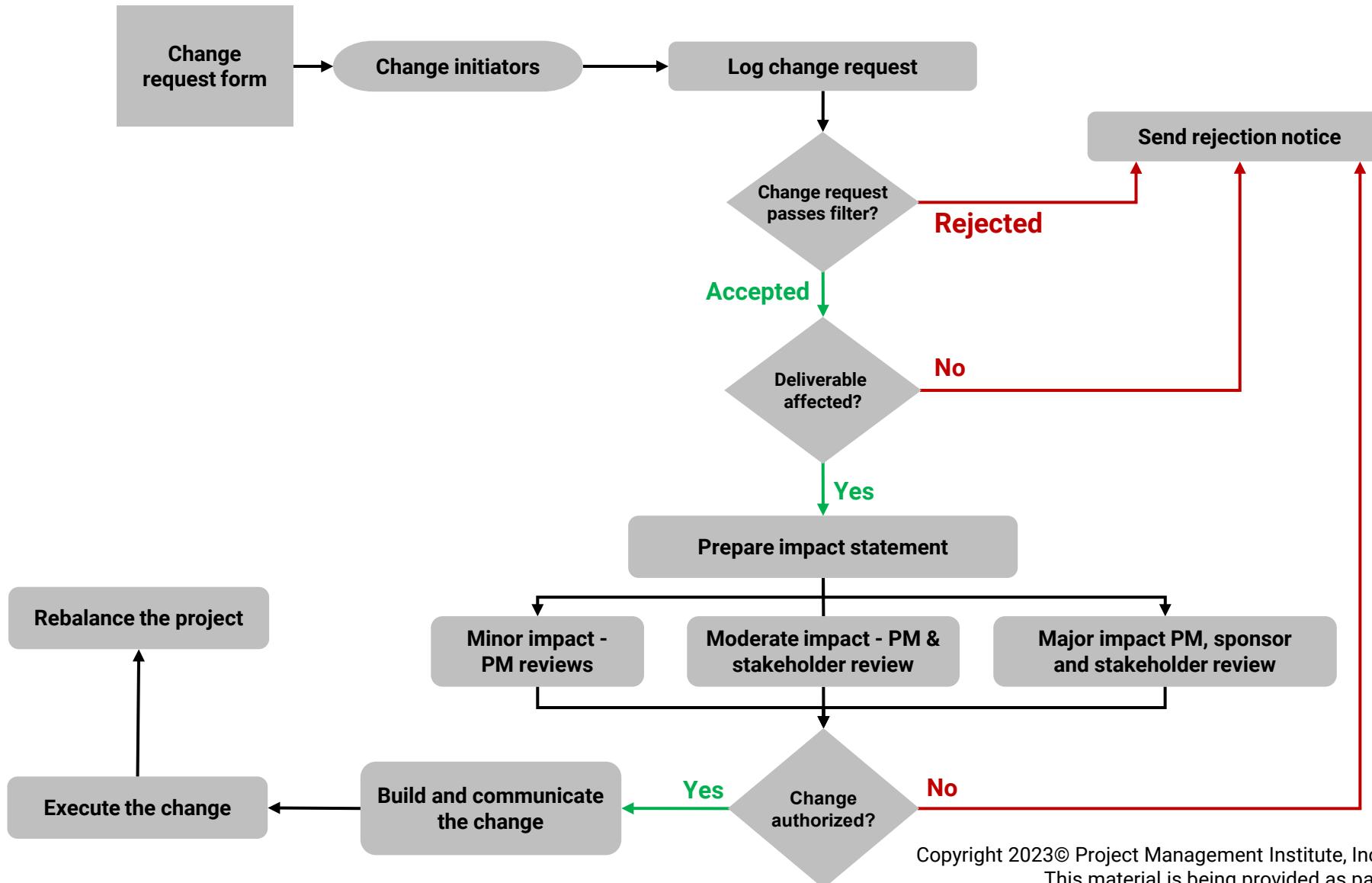
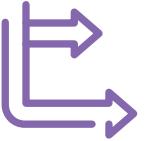
- **PESTLE**
- **TECOP**
- **VUCA**

# Manage Change

## Overview and Controls

Overview	Controls
<p>Perform Integrated Change Control linear <b>process</b></p> 	<ul style="list-style-type: none"><li>• Perform Integrated Change Control process</li><li>• Change request process</li><li>• Change control board (CCB)</li><li>• Artifact management (updates)</li></ul>
<p>Feedback and development <b>cycle</b></p> 	<ul style="list-style-type: none"><li>• Product owner role - key decision maker and runs backlog</li><li>• Everyone participates in backlog refinement</li><li>• Use demos to understand requirements</li><li>• No changes allowed during a sprint</li></ul>
	<p>Any of the above</p> 

# Change Management Process Flowchart



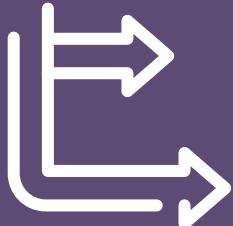
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# Change Requests

## Four Types



*Can you think of examples of each kind for the Shawpe project?*



- **Corrective action** - Adjusts the performance of the project work with the project management plan
- **Preventive action** - Ensures future performance of the project work with the project management plan
- **Defect repair** - Modifies a nonconformance within the project
- **A change** - Modifies a project baseline

# Change Control Systems

## Change Control Board



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Forms, tracking methods, processes, and approval levels required for authorizing or rejecting requested changes.

One approval level may be the **Change control board (CCB)** which handles some change requests based on the approval levels documented in the change management plan.

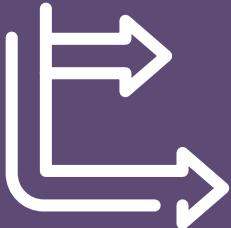
# Manage Contract Changes and Resolve Problems

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- Work with the vendor to manage contract changes
- Work with partners in the organization (procurement, finance, functional departments) and take action within the project manager's or team's domain/threshold
- Legal problems that are serious enough to cause issues may need expert help

# Contract Change Control System

The system used to collect, track, adjudicate and communicate changes to a contract



- Might be a component of the integrated change control or a separate organizational system
- Specifically dedicated to control contract changes
- Specifies contract change
- Includes documentation, dispute-resolution processes and approval levels

# Types of Contract Changes



*Which kinds of changes do you think are more likely to cause conflict? Why? How can these be avoided?*

Component	Description
Administrative changes	Non-substantive changes, usually about contract administration method
Contract modification	Substantive change to contract requirements or product requirements
Supplemental agreement	An additional agreement related to the contract but negotiated separately
Constructive changes	Changes made by the buyer through action or inaction
Termination of contract	Vendor default or buyer's need changes

# Legal Concepts When Managing Disputes



*Seek legal advice if the terms of a contract have not been met.  
Negotiate settlements to arrive at a final equitable settlement of all outstanding issues, claims, and disputes by negotiation.*

Legal Issue	Description
Warranty	A promise, explicit or implied, that goods or services will meet a pre-determined standard. The standard may cover reliability, fitness for use, and safety.
Waiver	A legally binding provision in which one party in a contract agrees to forfeit a claim without the other party becoming liable, even inadvertently.
Breach of contract	Failure to meet some or all the obligations of a contract. It may result in damages paid to the injured party, litigation or other ramifications.
Cease and desist (C&D) letter	A letter sent to an individual or a business to stop (cease) allegedly illegal activities and to not undertake them again (desist). Often used as a warning of impending legal action if it is ignored.

# Process, Adjudicate, and Communicate Claims

---

- Contested changes and potential constructive changes, including:
  - Lack of agreement on compensation for change
  - Lack of agreement that change occurred
- If not resolved, handle through alternative dispute resolution (ADR) established in contract
- Settlement through negotiation is preferred
- The "last resort" is litigation

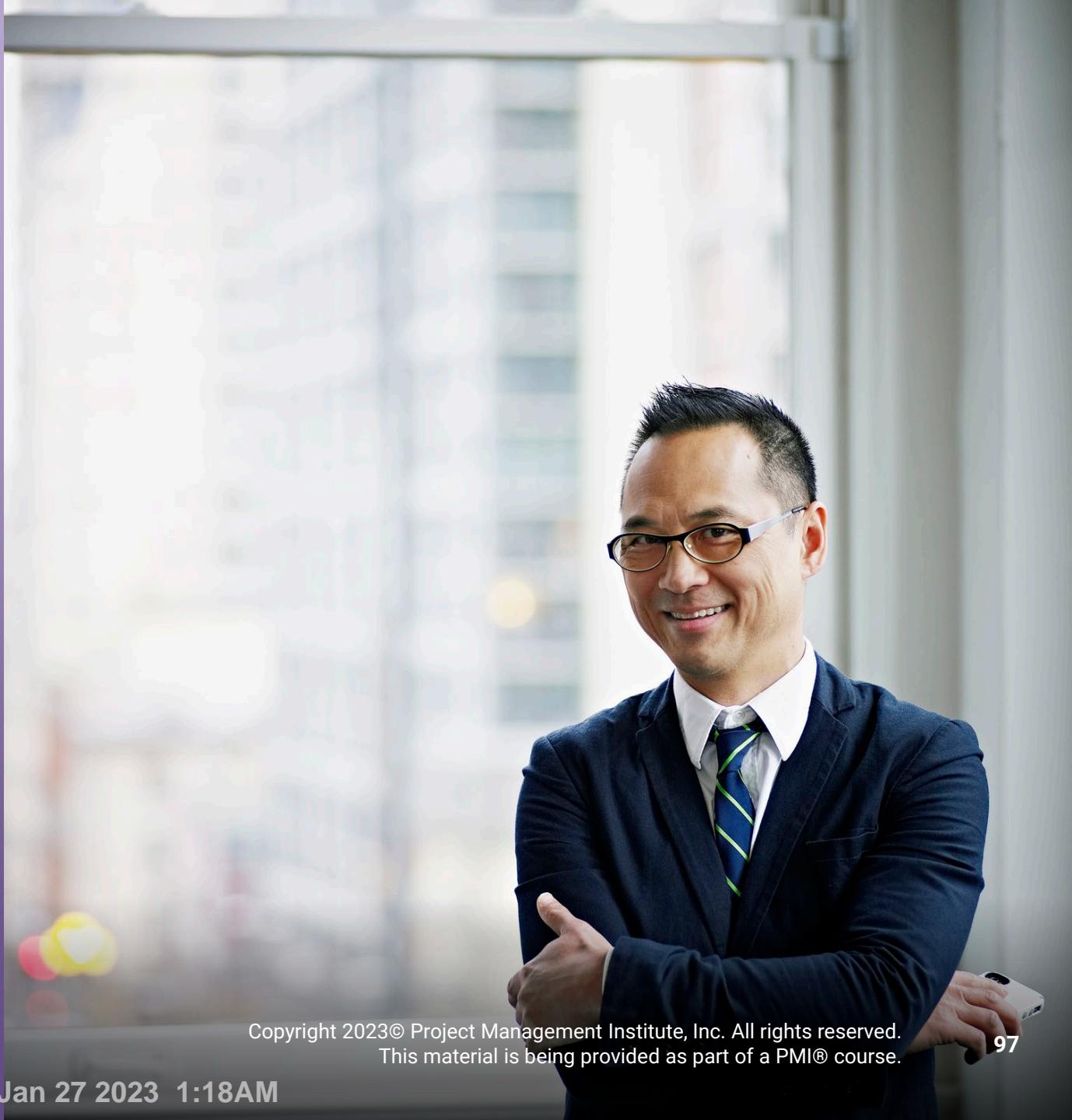
# Update Project Management Plan

Based on the scope of changes, you may need to update:

- Scope
- Time lines
- Work packages
- Team member assignments



Agile teams might remove lower-value deliverables from the scope to make room for the change.



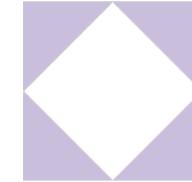
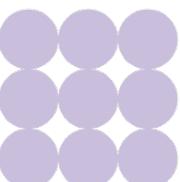
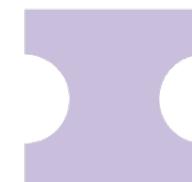
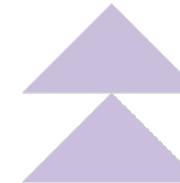
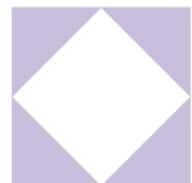
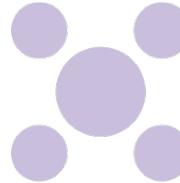
# ECO Coverage

## 3.3 Evaluate and address external business environment changes for impact on scope

- Survey changes to external business environment (e.g., regulations, technology, geopolitical, market) (3.3.1)
- Assess and prioritize impact on project scope/backlog based on changes in external business environment (3.3.2)
- Recommend options for scope/backlog options (e.g., schedule, cost changes) (3.3.3)
- Continually review external business environment for impacts on project scope/backlog (3.3.4)

## 2.10 Manage project changes

- Anticipate and embrace the need for change (e.g., follow change management practices (2.10.1))
- Execute change management strategy according to the methodology (2.10.3)
- Determine a change response to move the project forward (2.10.4)



# End of Lesson 5

