LESSON 5

KEEPING THE BUSINESS IN MIND

- Manage Compliance Requirements
- Evaluate and Deliver Project Benefits and Value
- Evaluate and Address Internal and External Business Environment Changes
- Support Organizational Change
- Employ Continuous Process Improvement

Manage Compliance Requirements

TOPIC A

Deliverables and Tools

- Risk Register
- Configuration Management System
- Execution Reports
- Nonfunctional Requirements
- Signoffs/Approvals
- QA Outputs
- Quality Management Plan

- Risk Register
- Risk Response Plan
- Variance Analysis
- Configuration Management System
- Tolerance
- Escalation Procedures
- Audits
- Sampling
- QA Tools

Compliance Requirements

- ✓ In most projects, solutions are subject to **legal** or **regulatory constraints**.
- ✓ Identify, track, and manage compliance requirements **throughout the project**.
- ✓ This might include requirements for **specific practices**, **privacy laws**, **handling of sensitive information**, and so on.

Use of the Risk Register

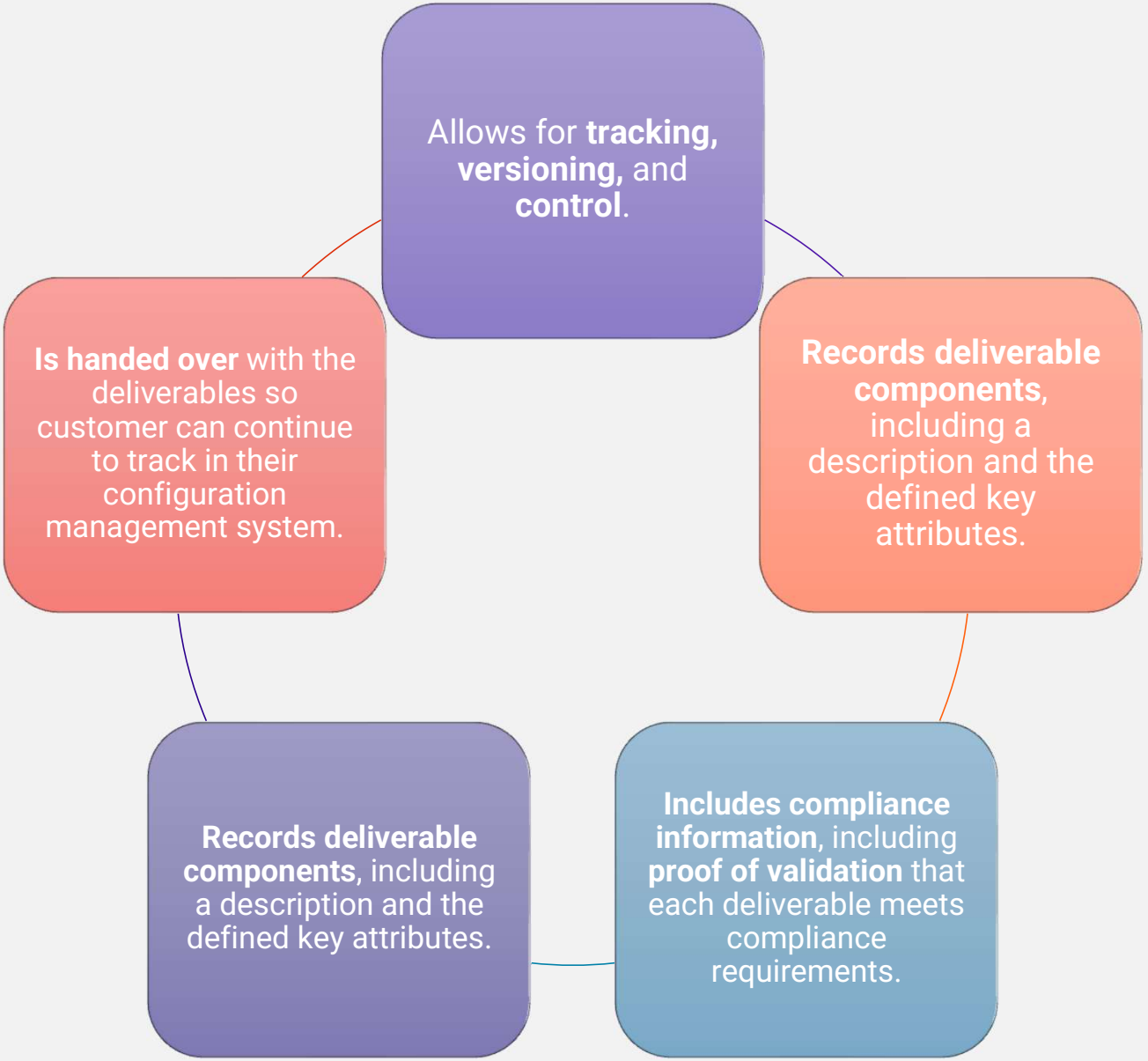
- ✓ Use a Risk Register to **track and manage risks.**
- ✓ Also, **validate legal and regulatory compliance** for deliverables continuously.
- ✓ Perform a **summary check of compliance** before the end of the project.

Compliance-related Risks

For compliance-related risks, include:

- ✓ The identified risk
- ✓ Risk owner
- ✓ Impact of a realized risk
- ✓ Risk responses

Configuration Management System



Compliance Categories Classification

Categories vary based on:

- ✓ **Industry** and **solution** scope.
- ✓ Unique **legal** and **regulatory exposure**.

Compliance Reporting

Update:

Work Performance Reports regularly

With:

- Project activities and changes
- Team improvements
- Deliverable status
- Overall progress
- Risk status

Compliance-related risks, include:

- Risk management actions
- Testing and validation activities
- Audits
- Other actions to verify deliverable compliance

Variance Analysis

- ✓ Create regular reports on project variances and details of **actions** taken to **control and keep the project on track**.
- ✓ Variances related to compliance are **critical** because of potential **impact on usability** of the deliverable.
- ✓ Variance analysis should include:
  - **Identification** of the variant
  - **Plans** for bringing the project or deliverable back into compliance
  - Any proposed **changes** required to meet compliance requirements

Potential Threats to Compliance

- ✓ **Identification** of new vulnerabilities
- ✓ **Changes** in legal or regulatory requirements
- ✓ **Errors** in testing and validation to confirm compliance
- ✓ **Errors** or **bugs** in deliverables
- ✓ **Lack of awareness** of compliance requirements

Signoffs and Approvals

Identify the **stakeholders authorized** to sign-off and approve compliance of deliverables.

This step **follows successful testing and validating** of deliverables. But this can be **throughout the project or at completion**.

Benefits of compliance sign-off:

- ✓ Early warning of potential threats to compliance.
- ✓ The ability to capture variances and determine a course of action.

Remediate compliance issues **to avoid**:

- ✓ Negative impact on the timeline
- ✓ Cost overruns
- ✓ Increased risks

GUIDELINES

Analyze the Consequences of Noncompliance

To identify and manage legal, regulatory, and other compliance requirements, you need to:

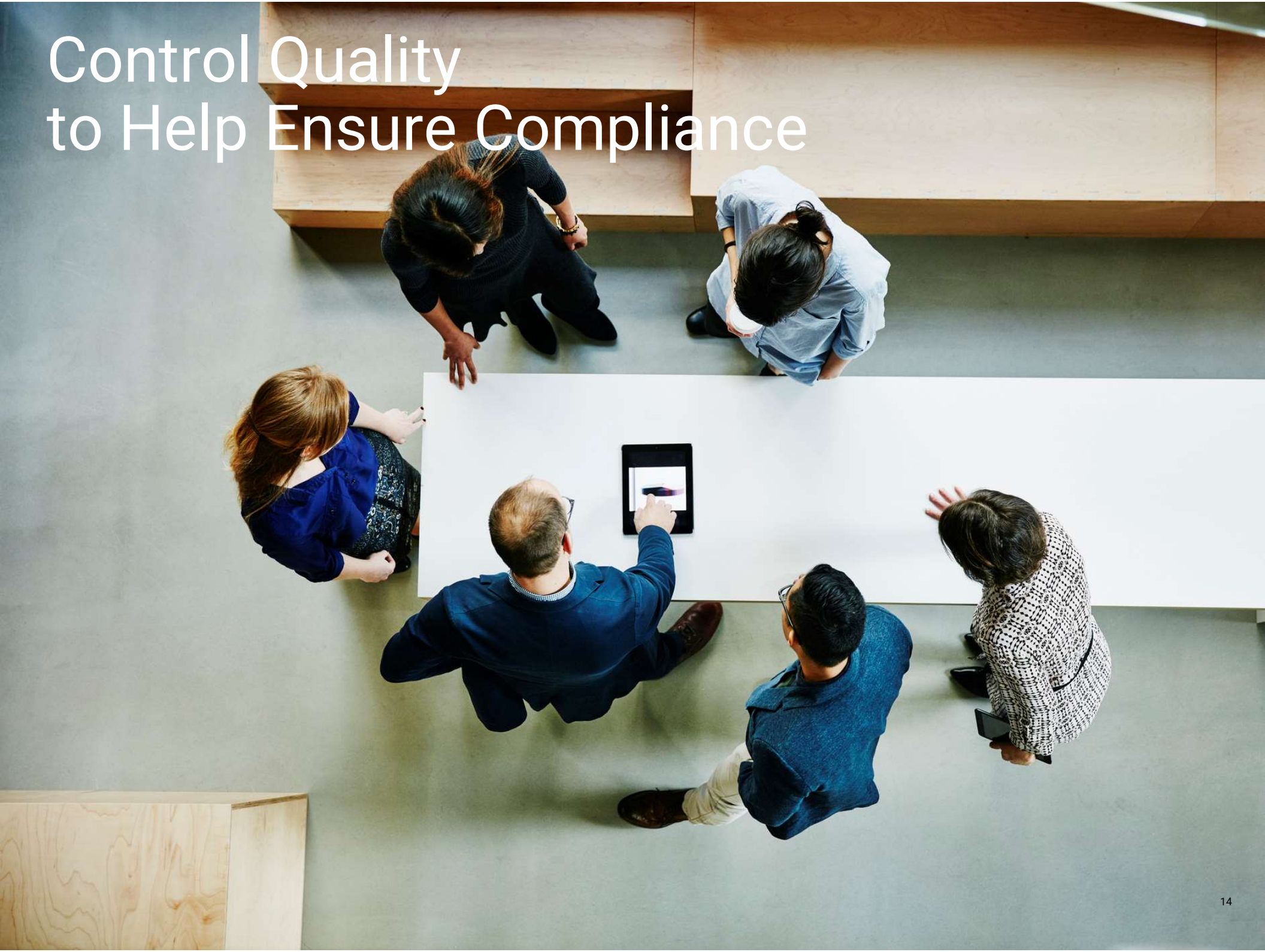
Define:

- Legal, regulatory, and other **constraints**
- The **business rules** that constrain the project solution and improve the likelihood of compliance
- **Parts** of the potential solution **subject to** compliance requirements
- The **scope** of the compliance requirement
- The **stakeholders** responsible for reviewing, approving, and signing-off on compliance.

Track and manage:

- The review and approval activities related to compliance requirements
- The risks and risk responses related to compliance requirements

Control Quality to Help Ensure Compliance



Quality Management Plan

DEFINITION

A component of the project management plan that describes how applicable policies, procedures, and guidelines will be implemented to achieve the quality objectives.

Quality Management Plan

- ✓ Describes **resources and activities** needed to achieve the necessary quality objectives.
- ✓ Sets **expectations** for the project's quality requirements.

Control Quality Process Outputs

As the project team produces deliverables, QA:

- ✓**Verifies** that they meet both functional and nonfunctional requirements.
- ✓Possibly, **identifies** and **suggests** potential **improvements**.
- ✓**Validates alignment** with compliance requirements.
- ✓**Provides feedback** on any identified variances.
- ✓**Identifies potential approaches** to cure defects or other noncompliance.

Continuously **monitor** the QC reports and recommendations and **coordinate** with the project team to **address defects or noncompliance issues**.

Escalation Procedures

Determine whether a noncompliance issue is within the project's tolerance level.

If yes, then **work with the team** to **propose a resolution**.

If it's beyond the tolerance level, then escalate the issue to the **responsible stakeholder** for **adjudication**.

Define these procedures during project and risk planning.

Quality Audits

DEFINITION

A process conducted by an external team that confirms the implementation of approved change requests including updates, corrective actions, defect repairs, and preventive actions.

Audits

- ✓**Verify compliance** with organizational policies, processes, and procedures.
- ✓**Can verify** implementation of **change requests**.
- ✓Identify use of **good/best practices**, **nonconformity**, **gaps**, and **shortcomings**.
- ✓Share **good practices** from other projects in the organization or industry.
- ✓Proactively **offer improvements** to **boost productivity**.
- ✓Highlight contributions to **lessons learned.**

Sampling

If QA can't inspect every product or deliverable, use sampling to **identify quality issues**.

This approach can provide similar results and **reduce the cost of quality**.

attribute sampling - result either conforms or does not conform

variable sampling - result is rated on a continuous scale that measures the degree of conformity

GUIDELINES

Measure Project Compliance

- Establish a clear Quality Management Plan and act on it continuously to identify noncompliance issues as early as possible.
- Use quality control outputs to confirm deliverable and process compliance and identify needs for corrective actions.
- Establish project tolerances and either initiate corrective actions yourself or quickly escalate noncompliance beyond the tolerances.
- Establish where external audit teams can confirm and validate use of appropriate processes and procedures and how audit results can enable the team to identify improvements.
- Leverage effective quality tools and techniques to assess quality deliverables and identify improvements, corrective actions, or defect repairs required.

Evaluate and Deliver Project Benefits and Value

TOPIC B

Deliverables and Tools

Benefits Management Plan

Value Analysis

Cost Analysis

EVM, ETC analysis

ROI, NPV, IRR

Benefit Cost Analysis

Decision Trees, EMV

Monte Carlo

Net Promoter Score

A/B Testing

Business Value

DEFINITION

The net quantifiable benefit derived from a business endeavor, the benefit of which may be tangible, intangible, or both.

Benefits Management Plan

DEFINITION

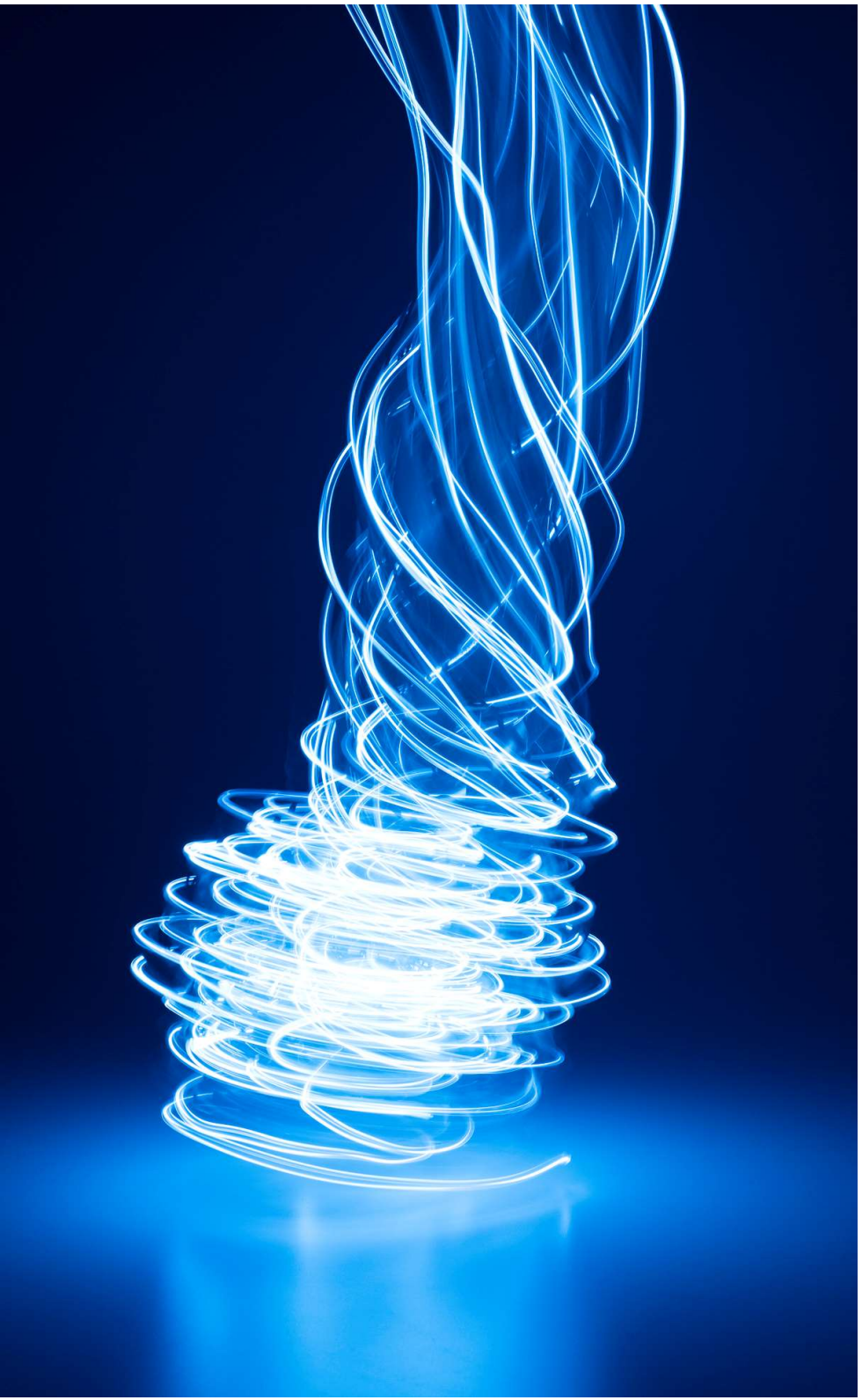
A document that describes how and when the benefits of a project will be derived and measured.

Benefits Management Plan

Target benefits	Expected tangible and intangible business value to be realized from the project.
Strategic alignment	How the benefits align with the organization's business strategies
Timeframe	When the benefits (short-term and long-term) will be realized, usually by project phase
Benefits owner	Person or group that monitors, records, and reports the benefits
Metrics	Direct and indirect measurements of the realized benefits
Risks	Risks associated with achieving the targeted benefits

Sprint Reviews /Demos

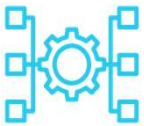
- ✓ At the end of each iteration or sprint, the team conducts a sprint review or demo.
- ✓ In early stages, obtain the product owner's **acceptance of the story** and **any feedback** to enable the team to make changes to **optimize business value**.
- ✓ **Focus on completing whole user stories** in each sprint.
- ✓ Verify that the capability is **"potentially shippable"**.



Release Management

In traditional projects, product release occurs at the end when everything is complete.

However, in today's complex business environment, where **work is hardly ever "done"**, we need to **factor change into our thinking** about work.



Agile projects can convert high-value capabilities into delivered solutions early.

Disciplined Agile

DEFINITION

A hybrid tool kit that harnesses hundreds of agile practices—agile, lean, and traditional sources—to guide you to the best way of working for your team or organization.

Disciplined Agile (DA) Approaches

- ✓ Use DA approaches to support **dynamic work environments**.
- ✓ A Product Owner creates a **minimum business increment (MBI)** that defines work requirements to deliver the stated value.
- ✓ The MBI **creates value quickly** and incrementally, so the business can start using and benefitting from it.

Advantages:

- Feature or capability assessment
- Improve organizational tolerance for change
- A time cadence for subsequent releases

Benefit Cost Analysis

DEFINITION

A systematic approach to estimating the strengths and weaknesses of alternatives used to determine options which provide the best approach to achieving benefits while preserving savings. Also called cost-benefit analysis.

Benefit Cost Analysis

- ✓ Frequently used to **compare potential projects** to determine which one to authorize.
- ✓ Select the alternative which demonstrates that **benefits outweigh costs by the greatest amount**.
- ✓ Alternative **should not be chosen** when costs exceed benefits.
- ✓ The **accuracy of the estimates** of cost and benefit determines the **value of the benefit cost analysis**.

Present Value (PV)

DEFINITION

The current value of a future sum of money or stream of cash flows given a specific rate of return.

Present Value (PV) Calculation

The PV formula is:

$$PV = \frac{FV}{(1+r)^n}$$

Present Value (PV) Calculation

If you need $USD 3,000 in three years and can invest your money at 8 percent (8%) interest, the present value of your initial investment is calculated:

$$\$2{,}381.50 = \frac{\$3{,}000.00}{(1+0.08)^3}$$

Net Present Value

DEFINITION

The present value of all cash outflows minus the present value of all cash inflows.
NPV is a financial tool used in capital budgeting.
NPV compares the value of a currency unit today to the value of the same currency unit in the future, after taking inflation and discount rate into account.

Internal Rate of Return (IRR)

DEFINITION

The interest rate that makes the net present value of all cash flow equal to zero.
IRR is also a financial tool often used in capital budgeting.
IRR is the discount rate at which the NPV of the project is zero. It is calculated iteratively, by setting up the NPV calculation in a spreadsheet or other software and changing the discount rate until the NPV equals zero.

Return on Investment

DEFINITION

A financial metric of profitability that measures the gain or loss from an investment relative to the amount of money invested.
Sometimes called the rate of return
Usually expressed as a percentage
A positive ROI is interpreted as a good investment, and a negative ROI is a bad investment.

Net Promoter Score (NPS)

NPS is a metric used in customer experience programs to measure customer loyalty.

Customers rate their experience with a number from -100 to +100. A higher score is desirable.

A/B Testing


Used in marketing, A/B testing is a method for determining user preferences.
Different sets of users are shown similar services; the difference is the independent variable.
Based on the results of the AB testing experiment, you can optimize the solution you provide to users.

Monte Carlo Simulation

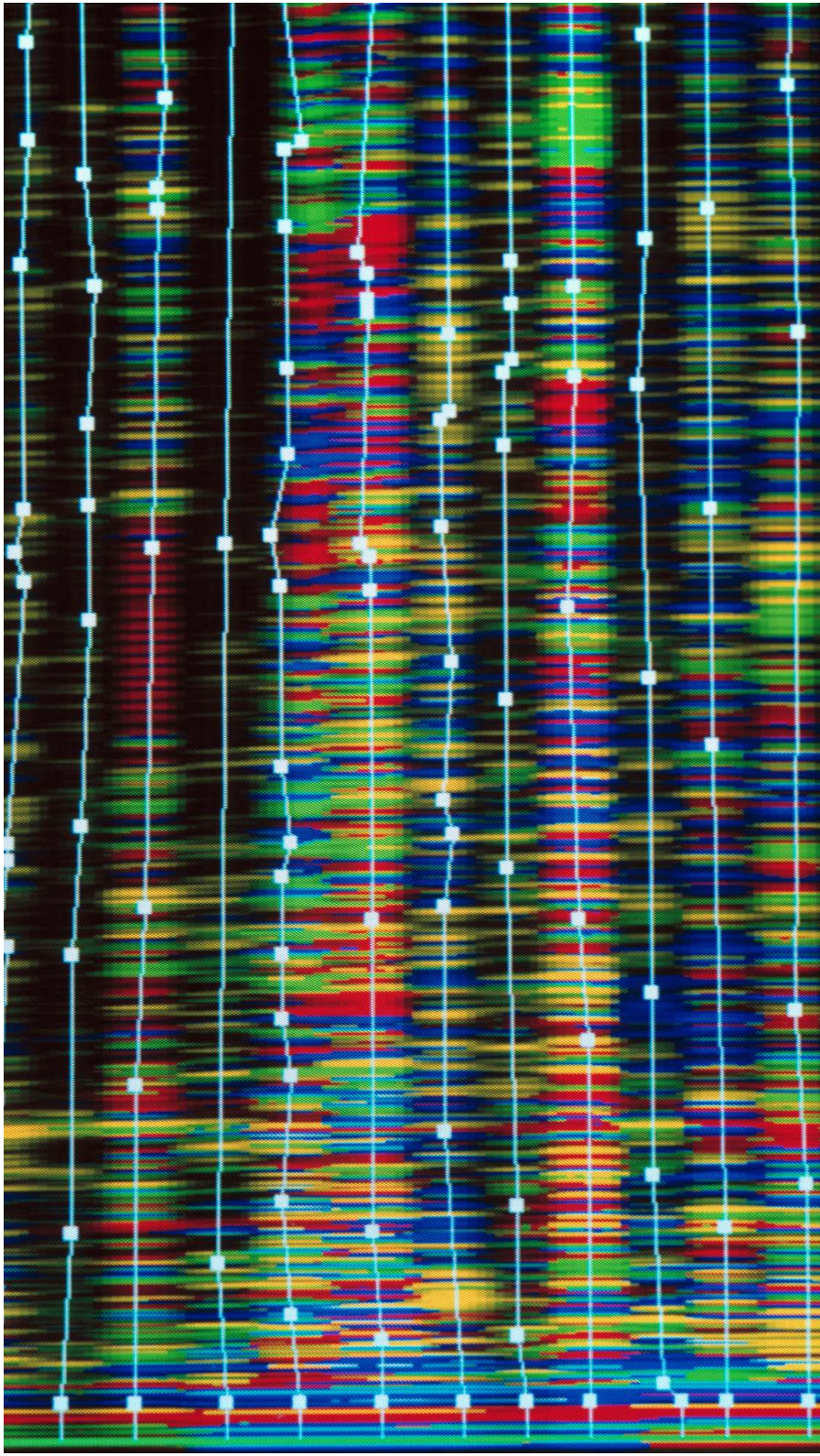
DEFINITION

An analysis technique in which a computer model is iterated many times, with the input values chosen at random for each iteration driven by the input data, including probability distributions and probabilistic branches.

Monte Carlo Simulation

Outputs are generated to represent the **range of possible outcomes** for the project.

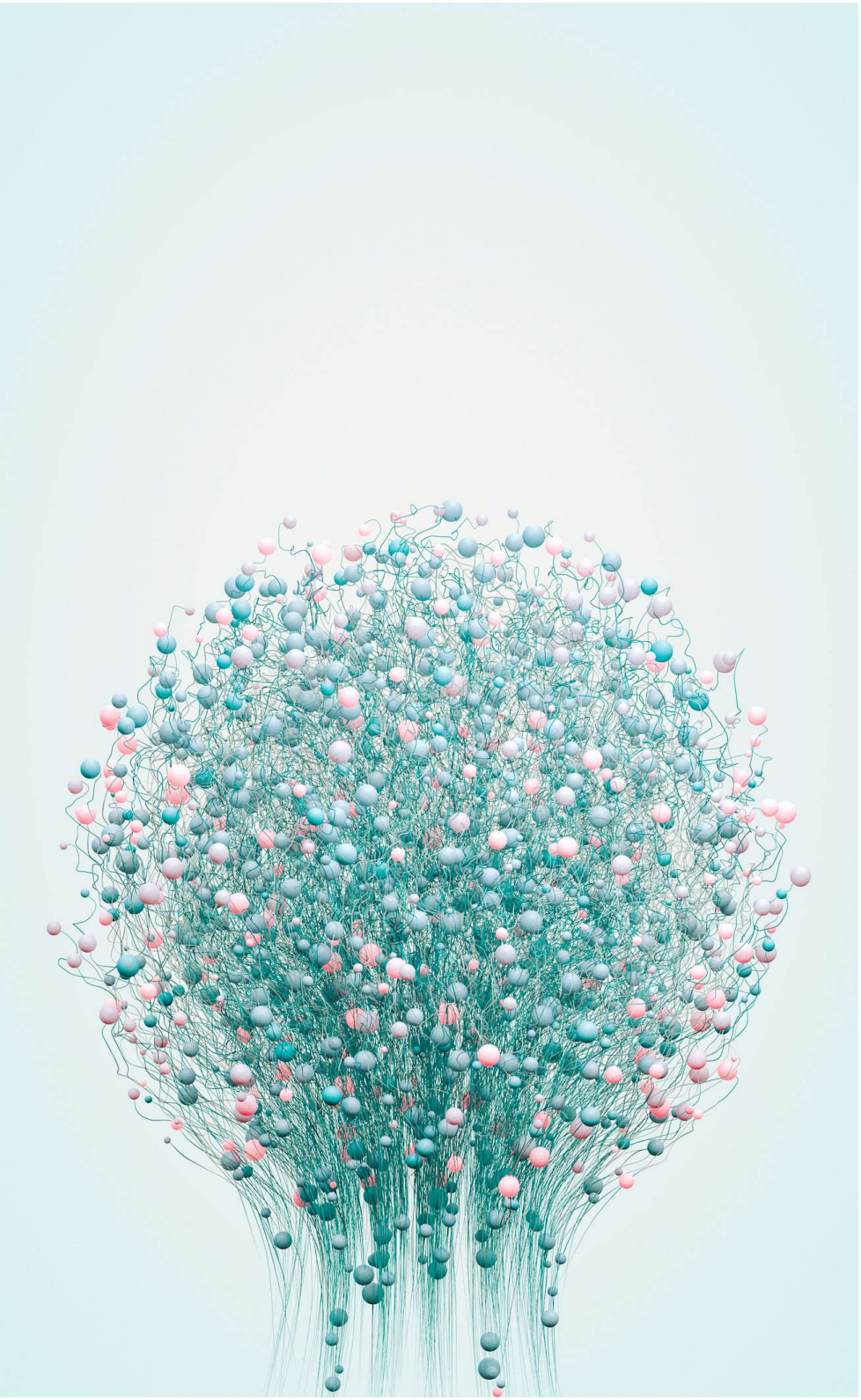
Monte Carlo refers to not one single analysis method but to a **wide class of techniques**, mostly making use of sophisticated computers and inputs of **random numbers, probabilities, and algorithms**.



Simulation

DEFINITION

An analytical technique that models the combined effect of uncertainties to evaluate their potential impact on objectives.



Using Simulations

- ✓Uses computer models and **estimates of risks.**
- ✓Translates **uncertainties** into **potential impact**.
- ✓Involves **calculating multiple project durations**, using **varying sets of assumptions**.

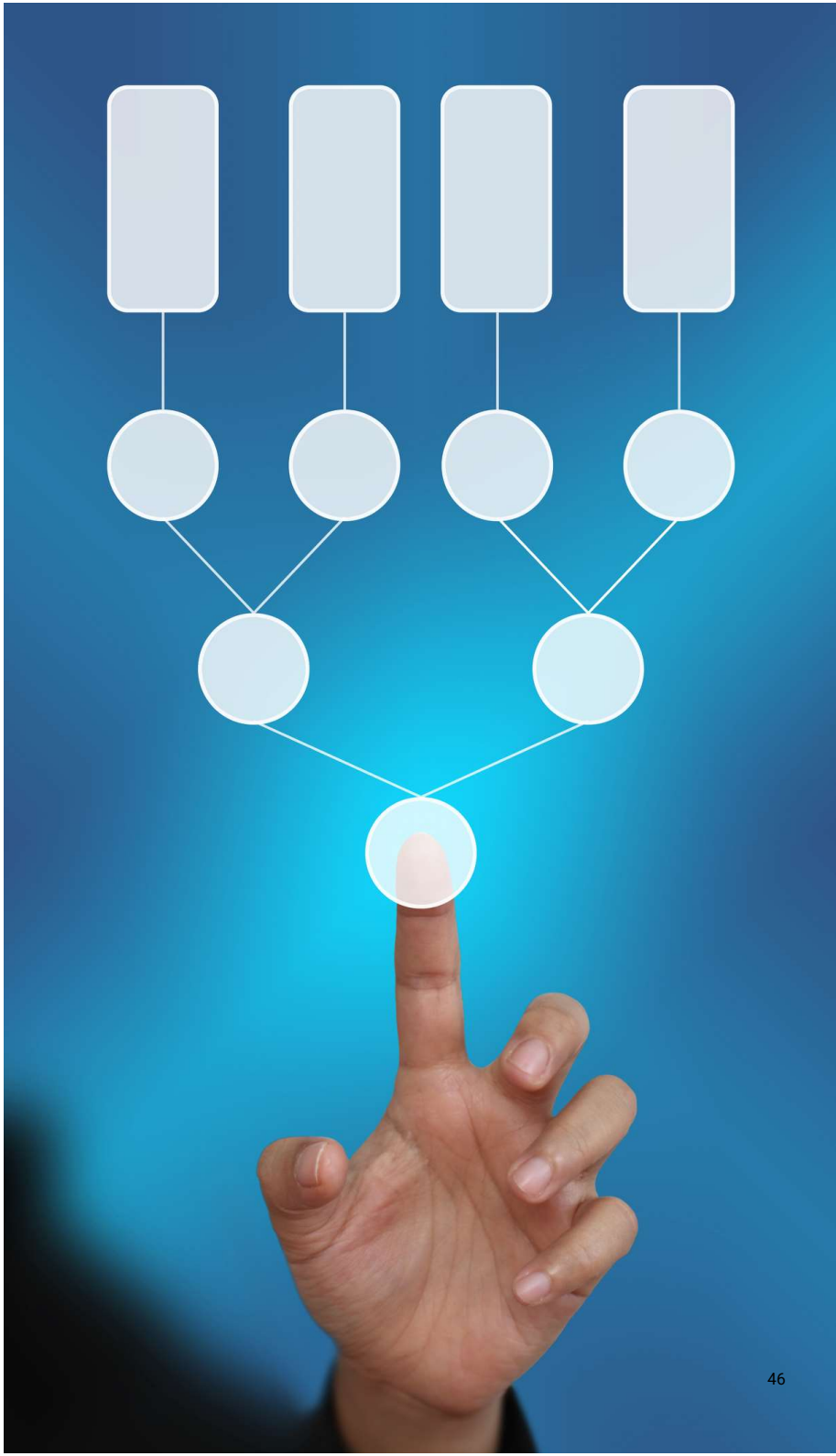
Decision Tree Analysis

DEFINITION

A diagramming and calculation technique for evaluating the implications of a chain of multiple options in the presence of uncertainty.

Use Decision Trees to Find Benefit and Value

- ✓ Use to support **selection** of the best of several action options.
- ✓ Branches represent different **decisions or events**, each of which can have **associated costs and risks**.
- ✓ The **end-points** of branches in the decision tree represent the **outcome** from following that path, which can be **negative** or **positive**.
- ✓ **Calculate** the **expected monetary value** of each branch and select the optimal one.



Evaluate and Address Internal and External Business Environment Changes

TOPIC C

Deliverables and Tools

Baselines

Configuration Management System

Backlogs

(Updated) Roadmaps

Change Control Boards

Backlog Reprioritization

Product Owner Duties

Release Planning

Governance

Internal Business Environment

- ✓ **Organizational changes** can make a dramatic impact on the **scope** of a project.
- ✓ The **project manager** and **project sponsor** need to have visibility into business plans, reorganizations, process changes, and other internal activities.
- ✓ Because internal business changes might cause:
  - Need for new deliverables
  - Reprioritization or removal of existing deliverables

Get to Know the External Business Environment

The PESTLE acronym identifies the external business environment factors that can **affect the value and desired outcomes** of a project.

Others are:

- ✓ **TECOP** (technical, environmental, commercial, operational, political)
- ✓ **VUCA** (volatility, uncertainty, complexity, ambiguity)

These frameworks can help you to better understand external factors that can introduce **risk, uncertainty, or provide opportunities**.

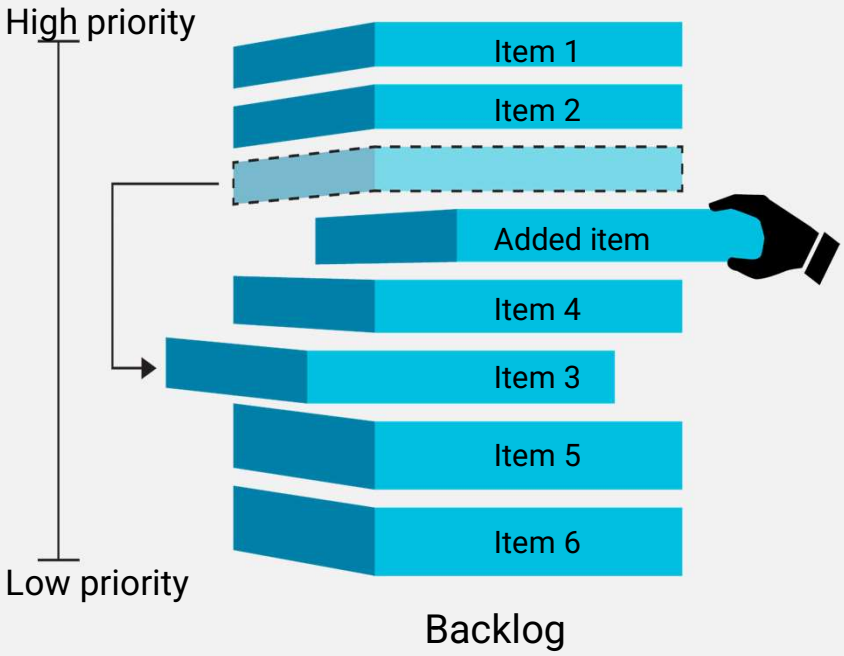
Update Baselines

- ✓ In traditional project plans, the **completed initial plan** contains the baseline.
- ✓ As changes occur in the project, you **update** the baseline to reflect any **new requirements**.
- ✓ Agile projects process change continuously, in iterations or increments. Work is prioritized and updated in the **product backlog** or in the **value stream** (Disciplined Agile).

Backlog Reprioritization

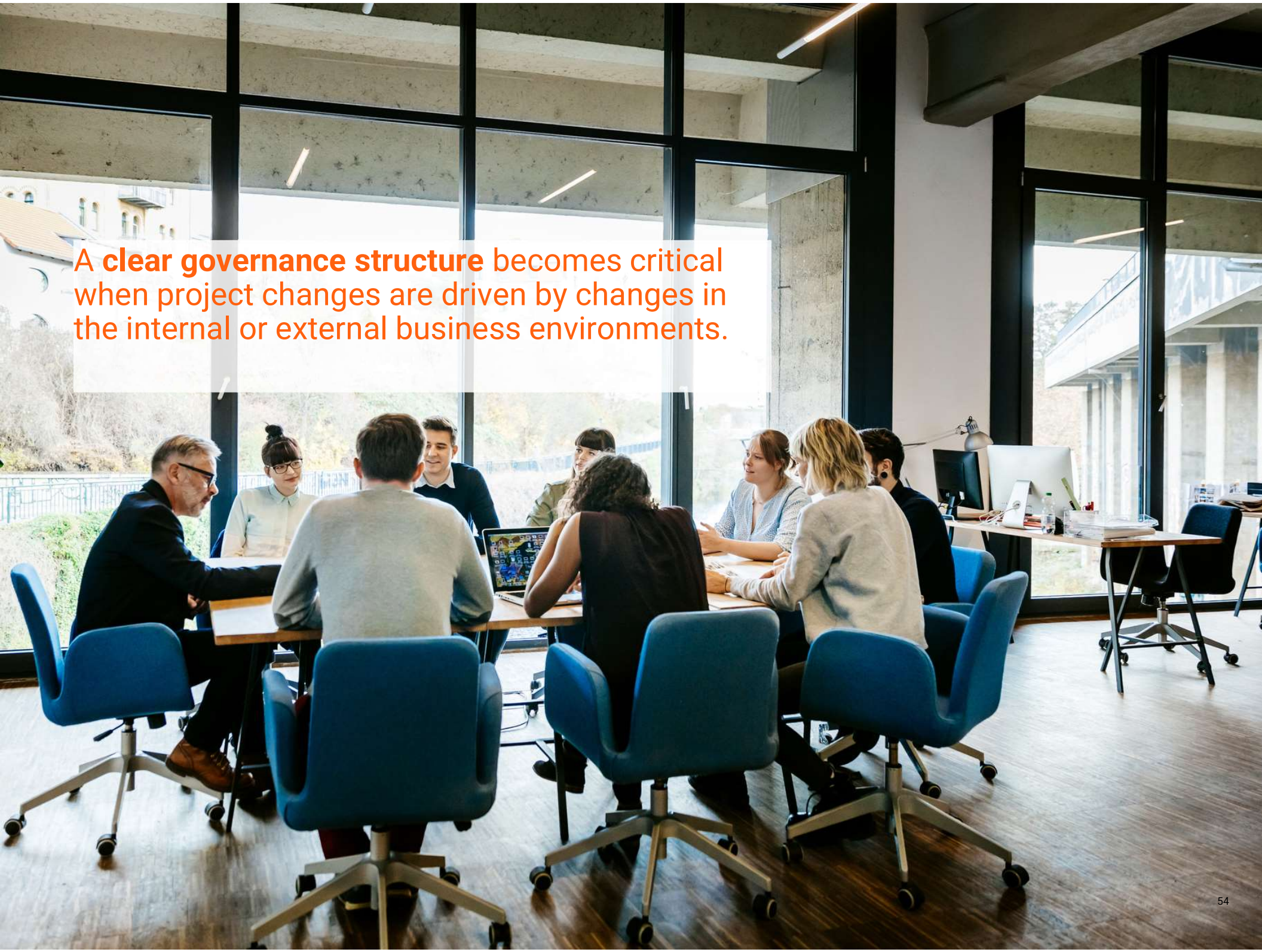
Product owner **re-prioritizes** the backlog as stories or requirements change.

Business value determines the priority of the changes.



Recommended Options for Changes

- ✓ When change is proposed, the product owner should **focus on the intended business value** of the change.
- ✓ Give the **project team** discretion to consider the change and **identify potential solution options**.


A **clear governance structure** becomes critical when project changes are driven by changes in the internal or external business environments.

Governance Steering Committee

- ✓ ‘The Project Board’ or overall governance or steering committee that coordinates the project:
- ✓ Might include: the project sponsor, a senior user, and PMO resources.
- ✓ Are responsible for:

  Clarifying the **project charter and objectives**; and **allocating resources** to the project.

GUIDELINES

Assessing the Impact on Project Backlog Based on Business Environment Changes

- Understand the project's organizational context.
- Understand the external factors that may impact your project.
- How is the project work prioritized?
- What is the project governance model?

Support Organizational Change

TOPIC D

Deliverables and Tools

Change Management Plan

Roll Out Plan

Training Plan

Training Artifacts

Project Management Plan updates

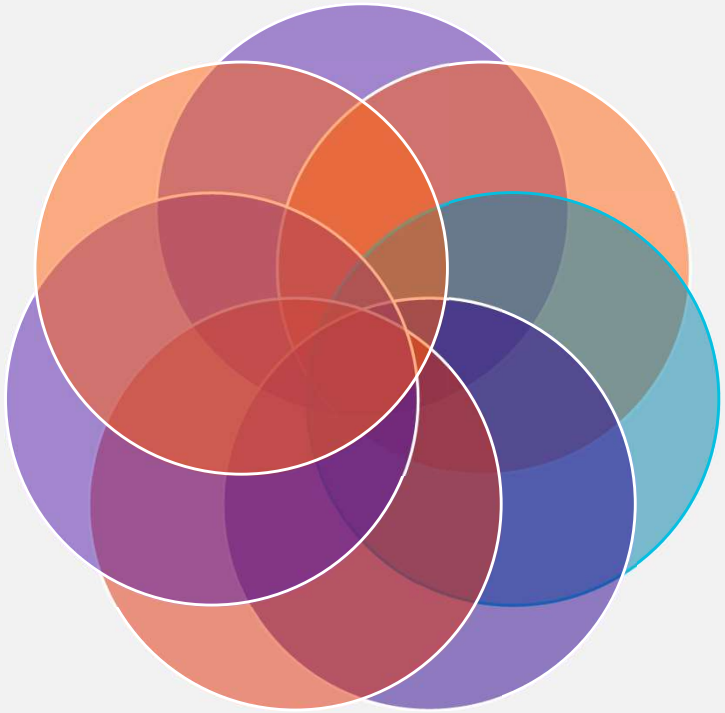
EEFs

OPAs

Demos

PM / PMO org structures

Organizational Cultures and Styles



Organizational Structures

- ✓ Affect **resource availability**
- ✓ Affect how projects are **conducted**
- ✓ Main structures include **functional**, **project-oriented**, **matrix**, and **composite.**

Relative Authority in Organizational Structures

Consider your authority relative to the functional manager's authority over the project and the project team.

Relationship	Functional	Matrix	Project-oriented
Team members are loyal to	Functional department	Conflicted loyalty	Project
Team members report to	Functional manager	Both functional manager and project manager	Project manager
Project manager's role is	Part-time	Full-time	Full-time
Team members' role is	Part-time	Part-time	Full-time
Control of project manager over team members is	Low	Medium	High

Project Management Office (PMO)

DEFINITION

A management structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.Types of PMOs include supportive, controlling, and directive

Roll Out Plan

- ✓ You need to plan for successful implementation of changes.
- ✓ Roll out plans enable you to define the knowledge transfer, training, and readiness activities required to implement the change.
- ✓ Depending on the size, scope, and nature of the change, the plan details might include:
  - The Project team and the affected customer and users
  - Training and support activities

Project Management Plan Updates

Based on the scope of changes, you may need to **update the project management plan** for:

- ✓ Scope
- ✓ Timelines
- ✓ Work packages
- ✓ Team member assignments

In **agile** projects, the team might remove lower-value deliverables from scope to make room for the change.

Training Plan

Changes to the project plan that will likely impact the training plan:

- ✓ Scope of the training and knowledge transfer required
- ✓ Roles and responsibilities of the stakeholders
- ✓ Timelines

Training Artifacts

Changes to the plan and deliverable set requires changes to the training artifacts, including:

- ✓ Training courseware
- ✓ Lab configurations and exercises
- ✓ Knowledge requirements and potentially credentials, if certification of skills is expected
- ✓ Updates for the trainers to gain the necessary knowledge transfer required to deliver the updated training

Whether in-house or outsourced, you have to ensure these changes to training are made.

Demos

- ✓ Changes to **software solutions** may require demonstration of changed configurations, processes, workflows, and roles and responsibilities.
- ✓ **Key customer and user stakeholders** need to review the demo and provide feedback to ensure the changes work as intended and do not impact the workflow of the solution.
- ✓ Early feedback allows for adaptation, while the feedback is immediately relevant and should **improve the quality of the change** while **reducing overall cost and risk**.

GUIDELINES

Recommend, Plan, and Facilitate Change (Part 1 of 2)

- Establish a **single change request method** which includes:
  - A description of the proposed change
  - The business value of the change
  - Any risk and risk mitigation recommendations
  - Likely cost of the change
- Ensure that a CCB can assess the change cost, risk, and value, other potential impacts to the project, and make recommendations.
- Check the project's tolerance – can you can approve the change or do you need to escalate it to the governing board for review and approval?

GUIDELINES

Recommend, Plan, and Facilitate Change (Part 2 of 2)

- Follow **organizational change management** best practices:
  - Build a compelling case for change
  - Get buy-in and commitment of key stakeholders
  - Communicate the change vision
  - Enable other stakeholders to engage
- Ensure changes are properly aligned and updates are made to relevant project artifacts – i.e. project plan, training plans, training artifacts, and software configurations or demos.

Employ Continuous Process Improvements

TOPIC F

Deliverables and Tools

Processes and standards

Quality Theory methods

CI approaches

Lessons learned

Retrospectives

Experiments

Continuous Improvement

DEFINITION

An ongoing effort to improve products, services, or processes.

Institute of Quality Assurance definition includes improving business strategy, business results, and customer, employee, and supplier relationships.

Continuous Improvement

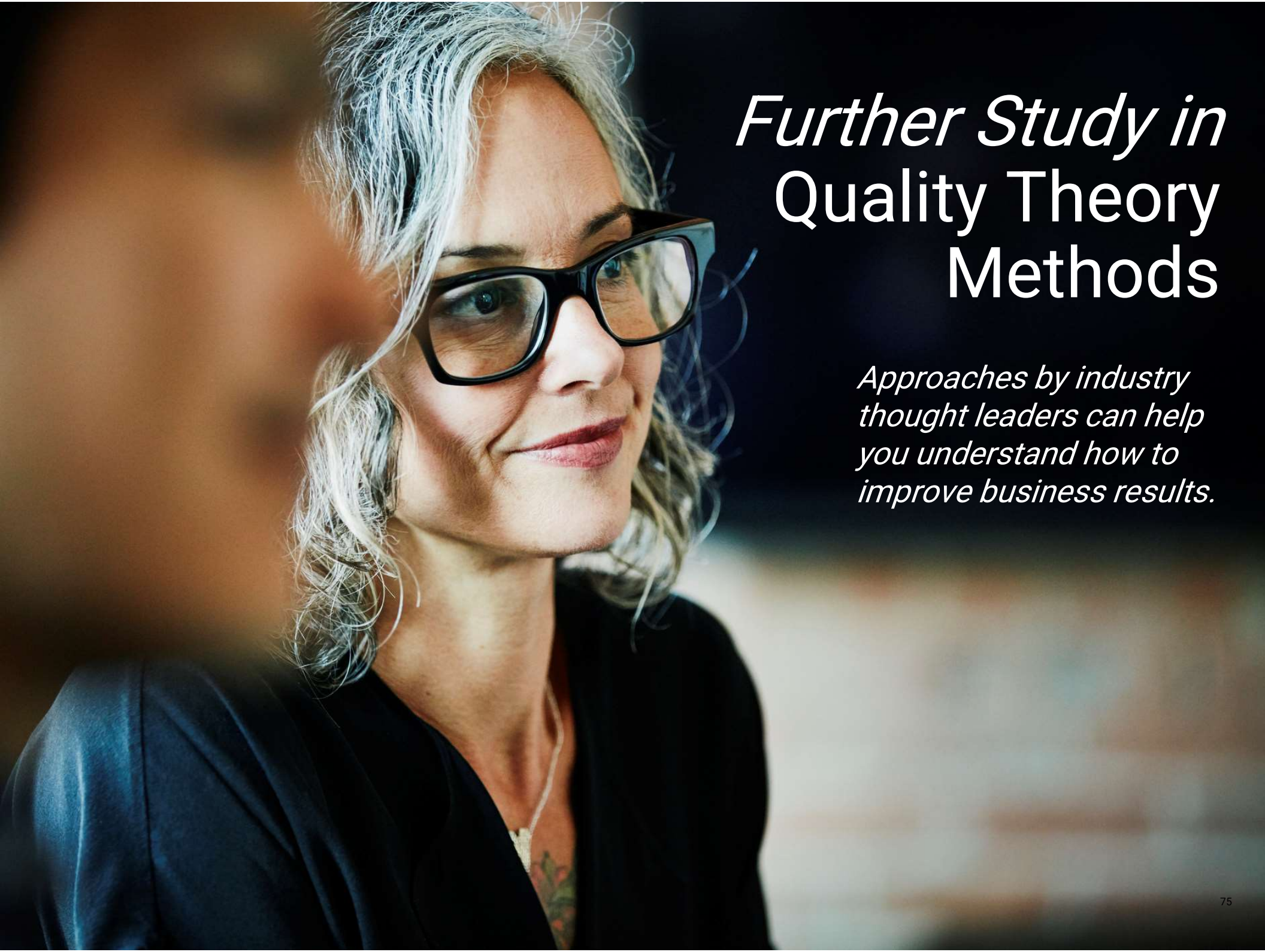
- ✓ Aim for small, incremental improvements or large breakthroughs.
- ✓ A business strategy that is developed at the organizational level for projects to adopt and use.
- ✓ Might be implemented by an organization’s PMO.

Culture of Continuous Improvement

W. Edwards Deming's philosophy of improving quality aims to reduce expenses, increase productivity, and thus increase market share.

Be guided by these four concepts:

- ✓**Better design** of products to improve service.
- ✓**Higher level** of uniform product quality.
- ✓**Improvement** of product testing in the workplace and in research centers.
- ✓**Greater sales** through global markets.



Further Study in Quality Theory Methods

Approaches by industry thought leaders can help you understand how to improve business results.

Six Sigma - respond to customer needs and improving processes by systematically removing defects.

William Smith, Jr.

Continuous process improvement in which quality must be continuously improve to meet customer needs

W. Edward Deming

Four absolutes: conforming to requirements, quality achieved by prevention, standard of zero defects, and quality measured by determining CoQ.

Philip B. Crosby

Break quality management into quality planning, control and improvement

Joseph M. Juran

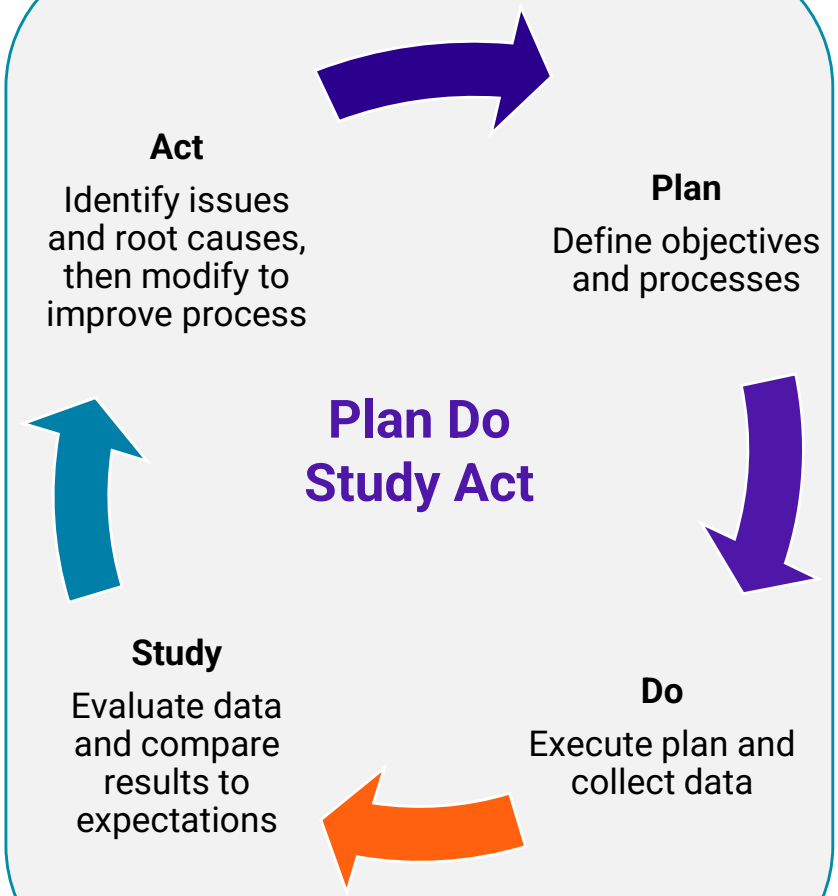
Design quality into the product so factors that cause variation can be identified and controlled.

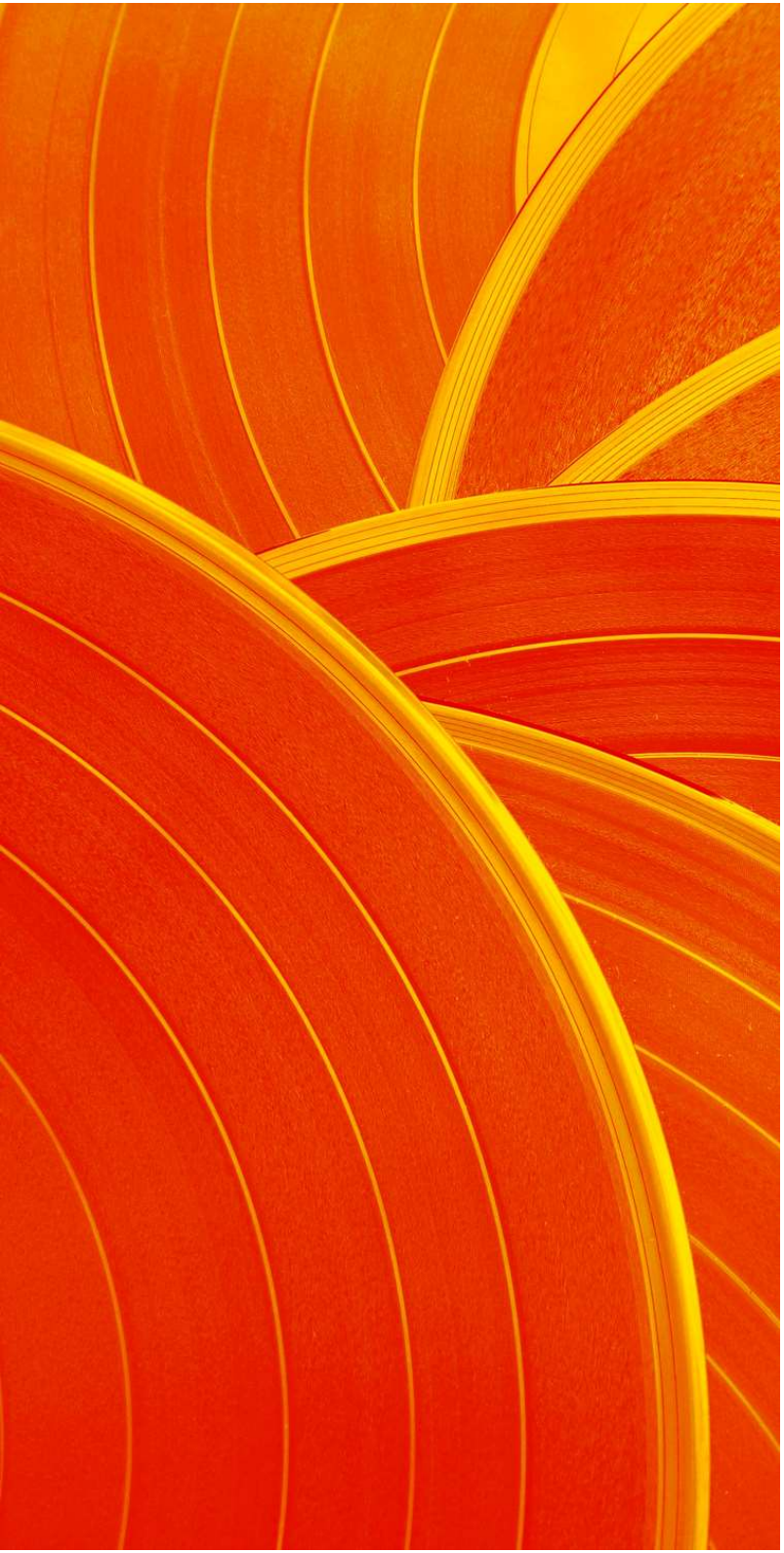
Genichi Taguchi

Continuous Improvement Approaches

Kaizen

- ✓ Many small changes or improvements.
- ✓ Small changes less likely to require major expenditures of capital.
- ✓ Ideas come from workers—not expensive research, consultants, or equipment.
- ✓ All employees should continually improve their own performance.
- ✓ All are encouraged to take ownership of their work to improve motivation.





Continuous Improvement Tools

Lessons Learned Register is an important component of each project.

- ✓ Use it as a source of improving the processes in other projects.
- ✓ Avoid filing it away at the end of a project and not referring to it.

Retrospectives:

- ✓ Common in agile projects at the end of each iteration.
- ✓ Helps the team look back at an iteration and plan improvements for the next one.

Experiments provide a way to improve team efficiency and effectiveness:

- ✓ Some techniques include A/B testing and team feedback to identify improvements.
- ✓ Perform experiments one at a time to isolate the results.

Update to Process and Standards

- ✓ Lessons learned at the project level can apply to the **organization's continuous improvement process**, in addition to the project management processes.
- ✓ Escalate these lessons and evaluate them for consideration at the organizational level.

GUIDELINES

Execute Continuous Improvement Steps

- Review the organization’s continuous improvement strategy.
- Develop a continuous improvement approach for your project, keeping in mind the project goals and the expectations of the stakeholders.
- Use lessons learned from your project and other projects—as sources of continuous improvement.
- For agile projects, use retrospectives to improve the next iteration.
- Use lessons learned at the project level to improve the organization’s continuous improvement process.

End of Module 5