LESSON 3

DOING THE WORK

- Assess and Manage Risks
- Execute Project to Deliver Business Value
- Manage Communications
- Engage Stakeholders
- Create Project Artifacts
- Manage Project Changes
- Manage Project Issues
- Ensure Knowledge Transfer to Project Continuity

Assess and Manage Risks

TOPIC A

Deliverables and Tools

Risk Management Plan

Risk Register

Organizational Process Assets

Meetings

Expert judgment

Risk analysis techniques

Update Risk Register

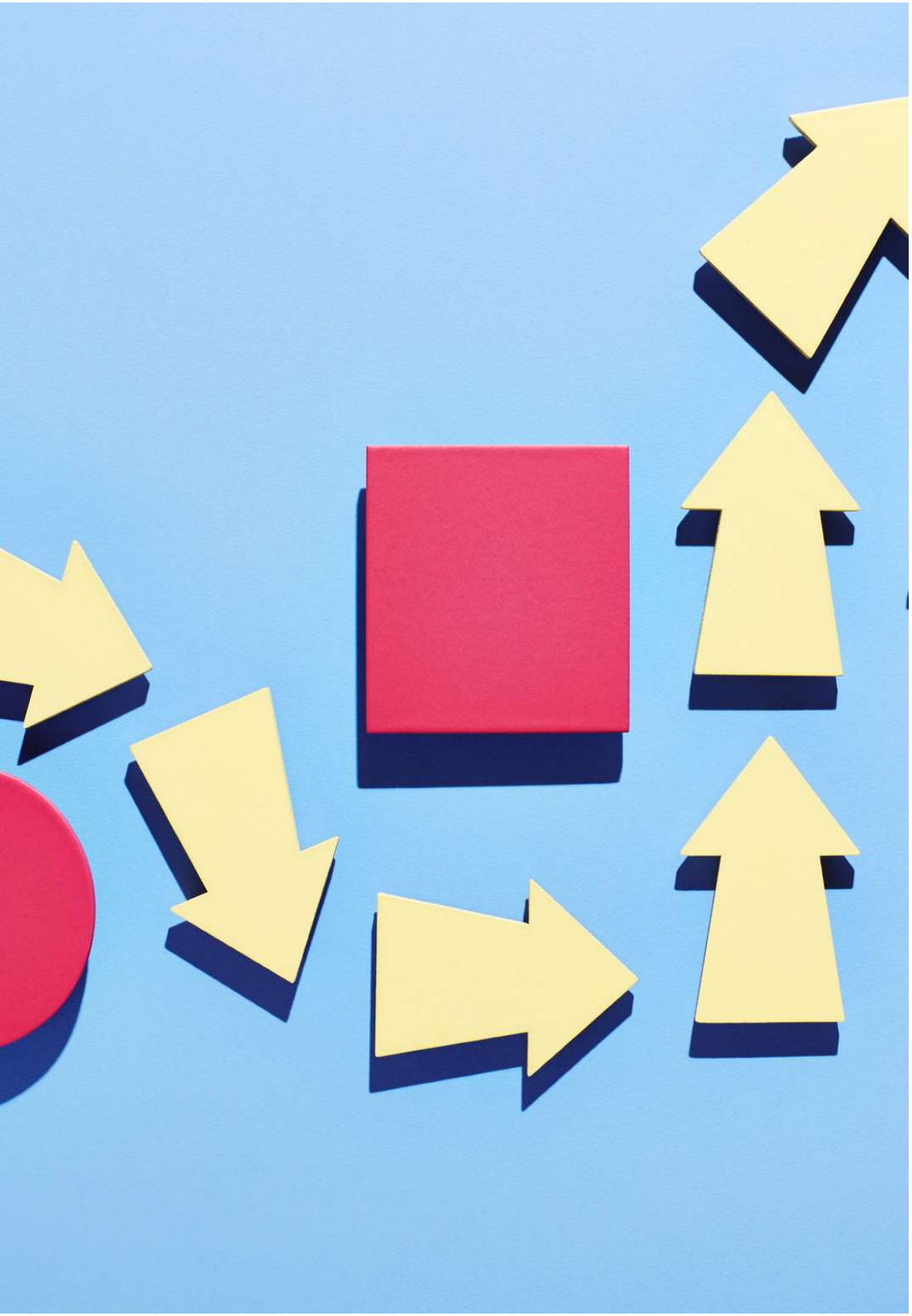
Risk probability and impact assessment

Monitor and manage risks

Risk

DEFINITION

An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.



Risk

Positive risks, or **opportunities**, produce a positive project outcome.

Negative risks, or **threats**, have a negative impact on the project.

Trigger Condition

DEFINITION

An event or situation that indicates that a risk is about to occur.

Project Risk Management

DEFINITION

The project management knowledge area that includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project.

Defining Risk Management Approach

Consider the **likelihood** that the risk event will occur and **the potential impact** of the risk.

Risk Management Plan

DEFINITION

A component of the project, program, or portfolio management plan that describes how risk management activities will be structured and performed.

Risk Management Plan

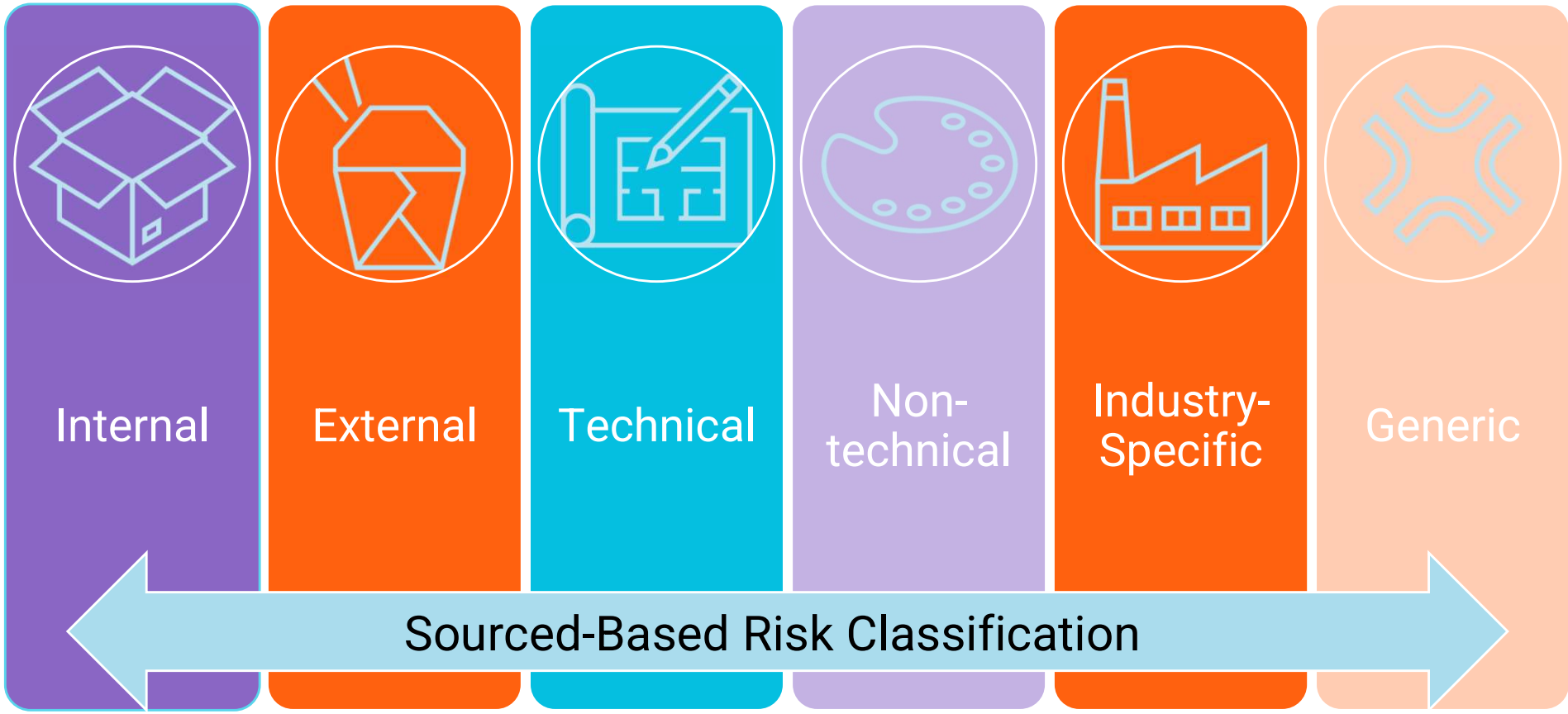
Risk Management Plan

- ✓ Risk strategy
- ✓ Methodology
- ✓ Roles and responsibilities
- ✓ Funding
- ✓ Timing
- ✓ Risk categories
- ✓ Stakeholder risk appetite
- ✓ Definition of risk probability and impact
- ✓ Probability and impact matrix
- ✓ Reporting formats
- ✓ Tracking documents

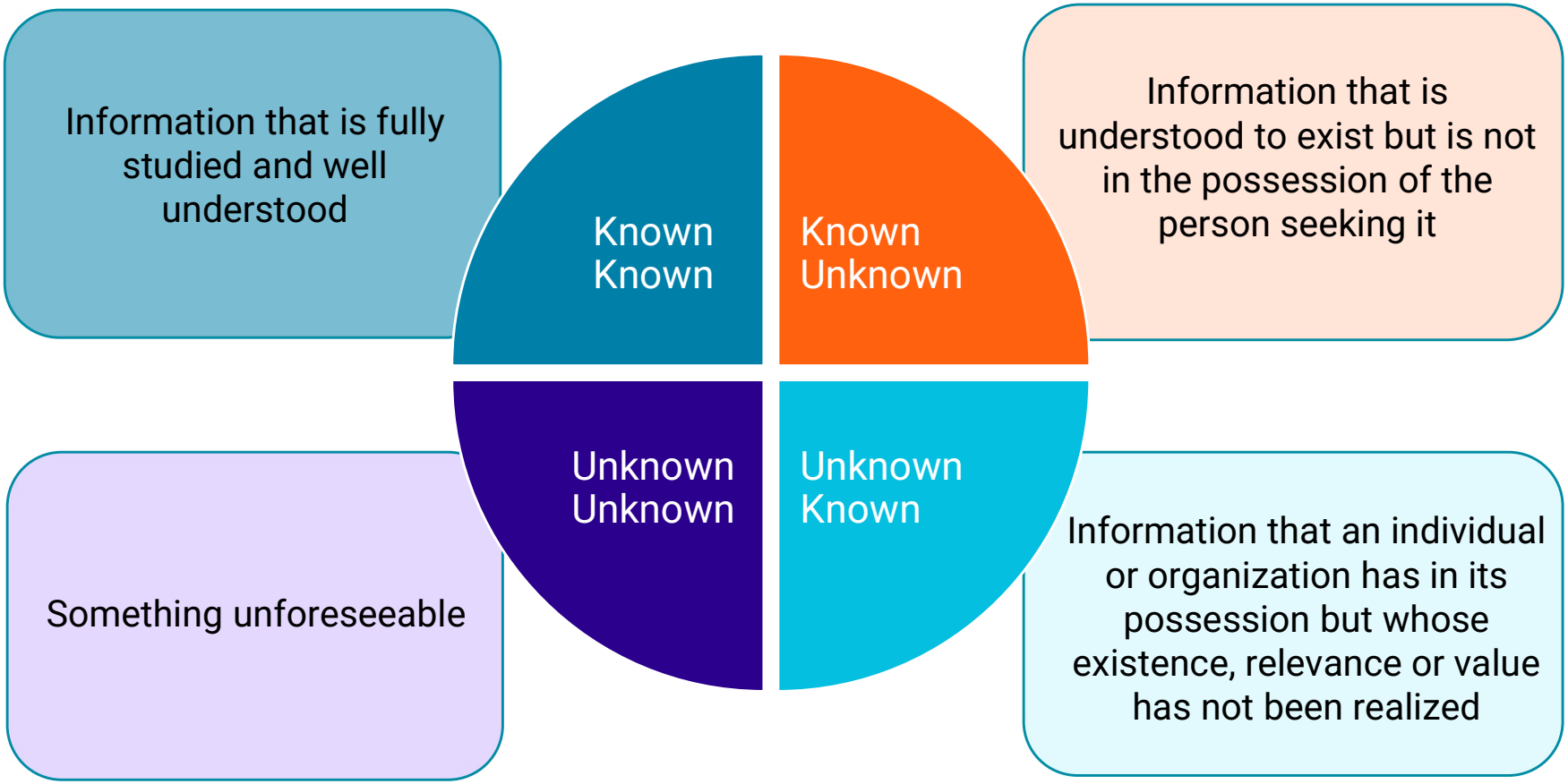
Risk Identification Techniques

Risk Classification Approaches

Risk Classification Approaches



Risk Classifications



Risk Threshold

DEFINITION

The maximum amount of risk, and the potential impact of that risk occurring, that a project manager or key stakeholder is willing to accept.

Risk Appetite

DEFINITION

The degree of uncertainty an organization or individual is willing to accept in anticipation of a reward.

Risk Tolerance

DEFINITION

The level of risk exposure above which risks are addressed and below which risks may be accepted.

GUIDELINES

Iteratively Identify, Assess, and Prioritize Risks

- Identify risks in every project segment and work package before the project begins.
- Perform a structured review with key stakeholders of documentation from other planning processes to ensure understanding.
- Identify risks and triggers using risk identification techniques.
- Be consistent with risk approach but be mindful of emerging special circumstances.
- Consult relevant historical information for problems and resolutions e.g. risk response plans, final reports, and lessons learned from previous, similar projects.
- Group identified risks into categories reflecting common, relevant risks.
- Use analysis results to initiate the risk register.

Qualitative Risk Analysis

DEFINITION

The process of prioritizing individual project risks for further analysis or action by assessing their probability of occurrence and impact as well as other characteristics.

Qualitative Risk Analysis

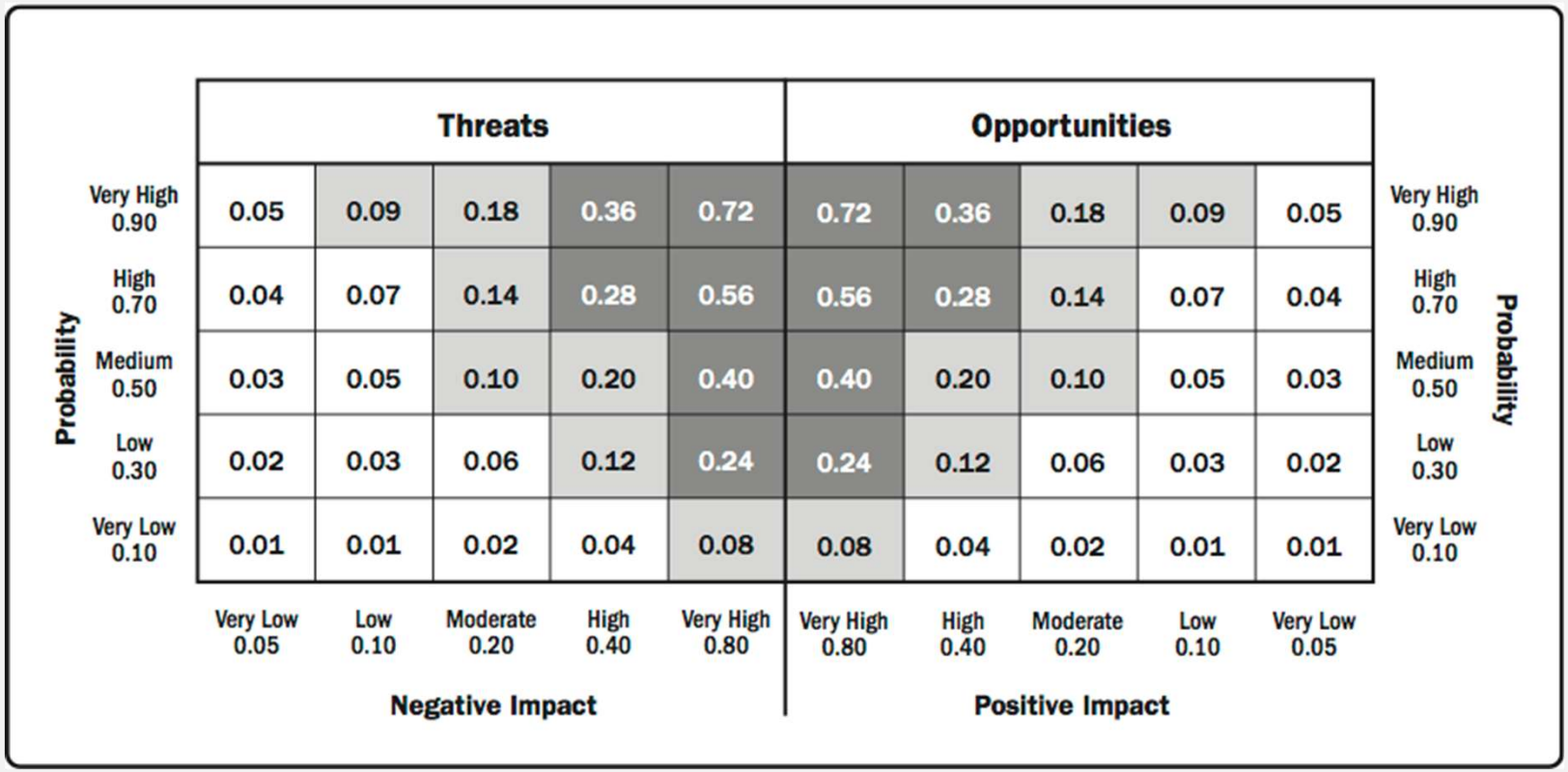
- ✓ Focuses on high priority risks
- ✓ Subjective, based on team's perception of risks
- ✓ Provides the list of prioritized risks for further actions

Probability and Impact Matrix

DEFINITION

A grid for mapping the probability of each risk occurrence and its potential impact on project objectives.

Probability and Impact Matrix



Probability	Threats					Opportunities					Probability
Very High 0.90	0.05	0.09	0.18	0.36	0.72	0.72	0.36	0.18	0.09	0.05	Very High 0.90
High 0.70	0.04	0.07	0.14	0.28	0.56	0.56	0.28	0.14	0.07	0.04	High 0.70
Medium 0.50	0.03	0.05	0.10	0.20	0.40	0.40	0.20	0.10	0.05	0.03	Medium 0.50
Low 0.30	0.02	0.03	0.06	0.12	0.24	0.24	0.12	0.06	0.03	0.02	Low 0.30
Very Low 0.10	0.01	0.01	0.02	0.04	0.08	0.08	0.04	0.02	0.01	0.01	Very Low 0.10
	Very Low 0.05	Low 0.10	Moderate 0.20	High 0.40	Very High 0.80	Very High 0.80	High 0.40	Moderate 0.20	Low 0.10	Very Low 0.05	
	Negative Impact					Positive Impact					

Quantitative Risk Analysis

DEFINITION

The process of numerically analyzing the combined effect of identified individual project risks and other sources of uncertainty on overall project objectives.

Quantitative Risk Analysis

Quantifies overall project risk exposure.

Provides additional quantitative risk information to support risk response planning.

Costly, so best for:

- ✓ Large or complex projects
- ✓ Strategically important projects
- ✓ When required by contract or key stakeholder.

Risk Response

DEFINITION

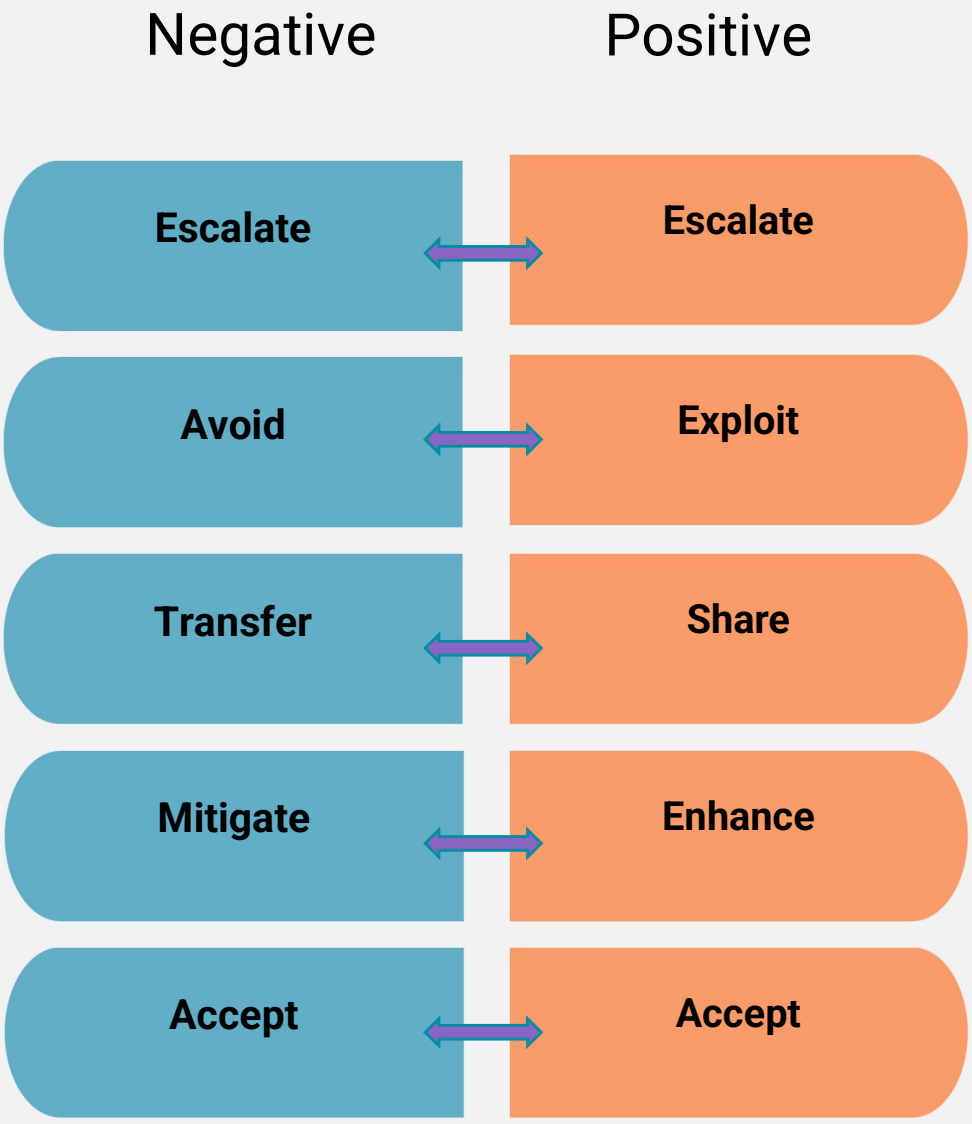
An action to address a risk.

Risk Response

- ✓ Assign a person to implement that action.
- ✓ Develop options, select strategies, and agree on actions to address overall risk exposure and response
- ✓ Address risks by priority–greatest to least.
- ✓ Add resources and activities to the budget, schedule, and project management plan to support risk responses. Assign a response to each risk.
- ✓ Choose from various risk response strategies to determine a response for each risk.
- ✓ Develop a fallback plan in case the primary strategy is not effective.
- ✓ Review secondary risks - These are risks that could occur as a result of implementing a risk response.

Risk Response Strategies

- ✓ Prepare strategies for threats (**negative**) as well as opportunities (**positive**).
- ✓ Plan and implement strategies for **individual** project risks and **overall** project risk.



Contingency Response Strategies

DEFINITION

Responses which may be used in the event that a specific trigger occurs. Also known as “contingency plan” or “fallback plan”.

Contingency Response Strategies

- ✓ Develop strategies **in advance**, before things go wrong.
- ✓ Use if and when identified risks become issues.
- ✓ Allow you to **react quickly** and appropriately to the risk event, mitigating its negative impact or increasing its potential benefits.
- ✓ Strategies should be **holistic**, including time, cost, and impact estimates.

GUIDELINES

Determine and Implement Risk Responses

- Examine identified risks to determine causes and effects on project objectives.
- Brainstorm strategies for each risk.
- Choose the most effective response strategy for each identified risk.
- Ask the project sponsor for help if the rating will exceed organization's risk threshold.
- Identify backup strategies for risks with high risk factor scores.
- Quantify contingency reserve requirement to deal with accepted and unknown risks.
- Consult the risk management plan to understand the content and format of the risk response plan.
- Incorporate the risk response plan into the overall project plan to implement and monitor strategies.

Execute Project to Deliver Business Value

TOPIC B

Deliverables and Tools

No specific deliverables

No specific tools

Lead on Value Delivery

- ✓ **Communicate** the vision.
- ✓ **Model** attentive and responsive behaviors.

Create a Culture of Urgency for Value Delivery

Establish and cultivate that urgency in your culture as an ongoing task.

Lead by **communicating** the project's **importance** and **vision**.

Commit to and **be accountable** for striving towards that vision.

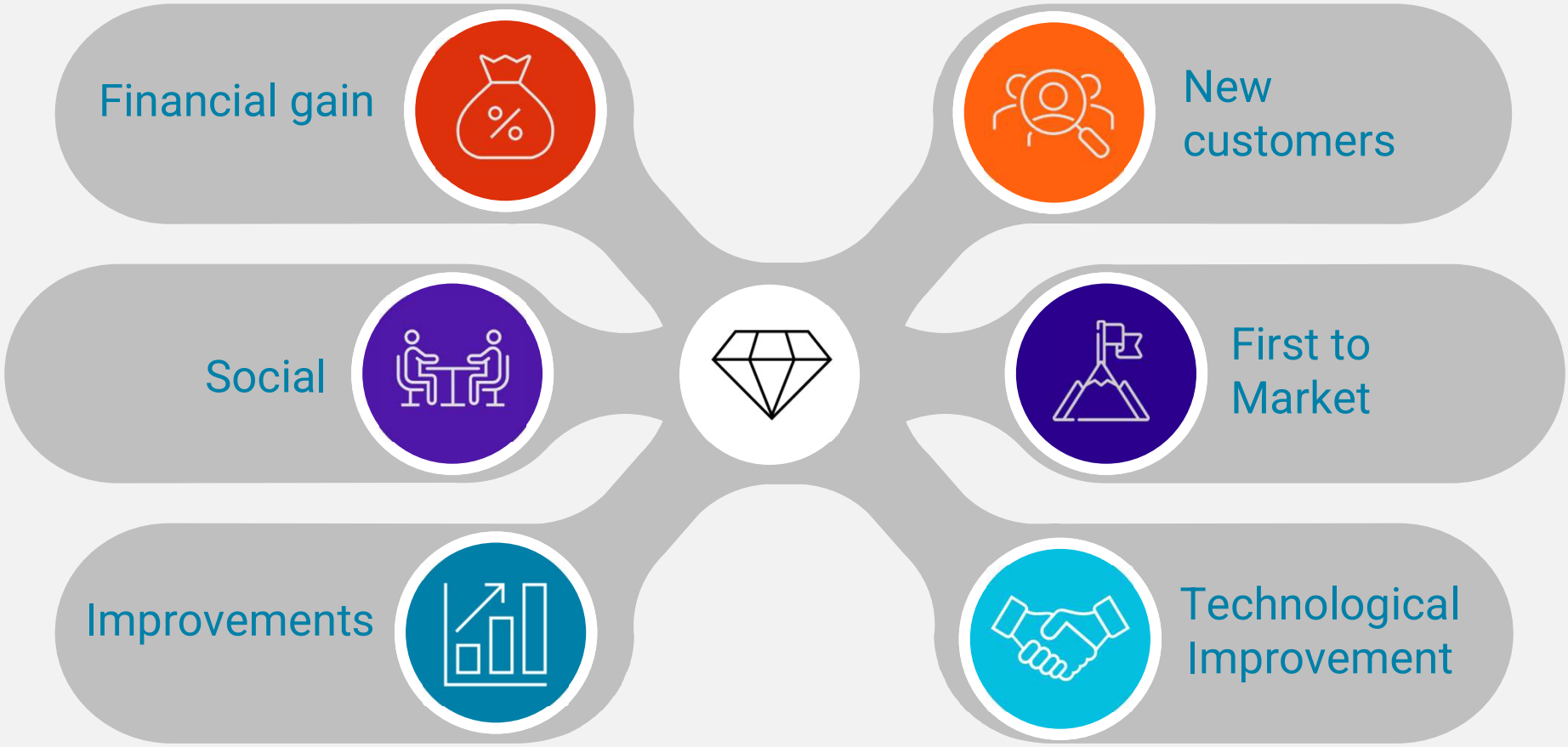
Represent the voice of the customer to create relevancy and personalize the value

Business Value

DEFINITION

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

Business Value



Examine Business Value

Determine exactly what is of value through examination, evaluation, and confirmation.

Use a variety of means for determining what is of value.

Product Roadmap

DEFINITION

A strategic document and plan which guides why the product will be delivered and how the product will meet objectives and the product vision.

Product Roadmaps

- ✓ Vary in appearance and presentation.
- ✓ Display the **strategy** and **direction** of the product and the **value** it will deliver.
- ✓ Lead with the overarching vision of the product.
- ✓ Are progressively **elaborated over time** with information and work inputs and refinement of vision.
- ✓ Use themes (goals) to **provide structure and associations.**
- ✓ Provide **short-term** and **long-term** visualization of the product.

Incremental Delivery

- ✓ Enables value delivery sooner.
- ✓ Get higher customer value and increased market share.
- ✓ Allows partial delivery (or previews) to customers.
- ✓ Enables early feedback for the project team allowing for adjustments to the direction, priorities, and quality of the product.

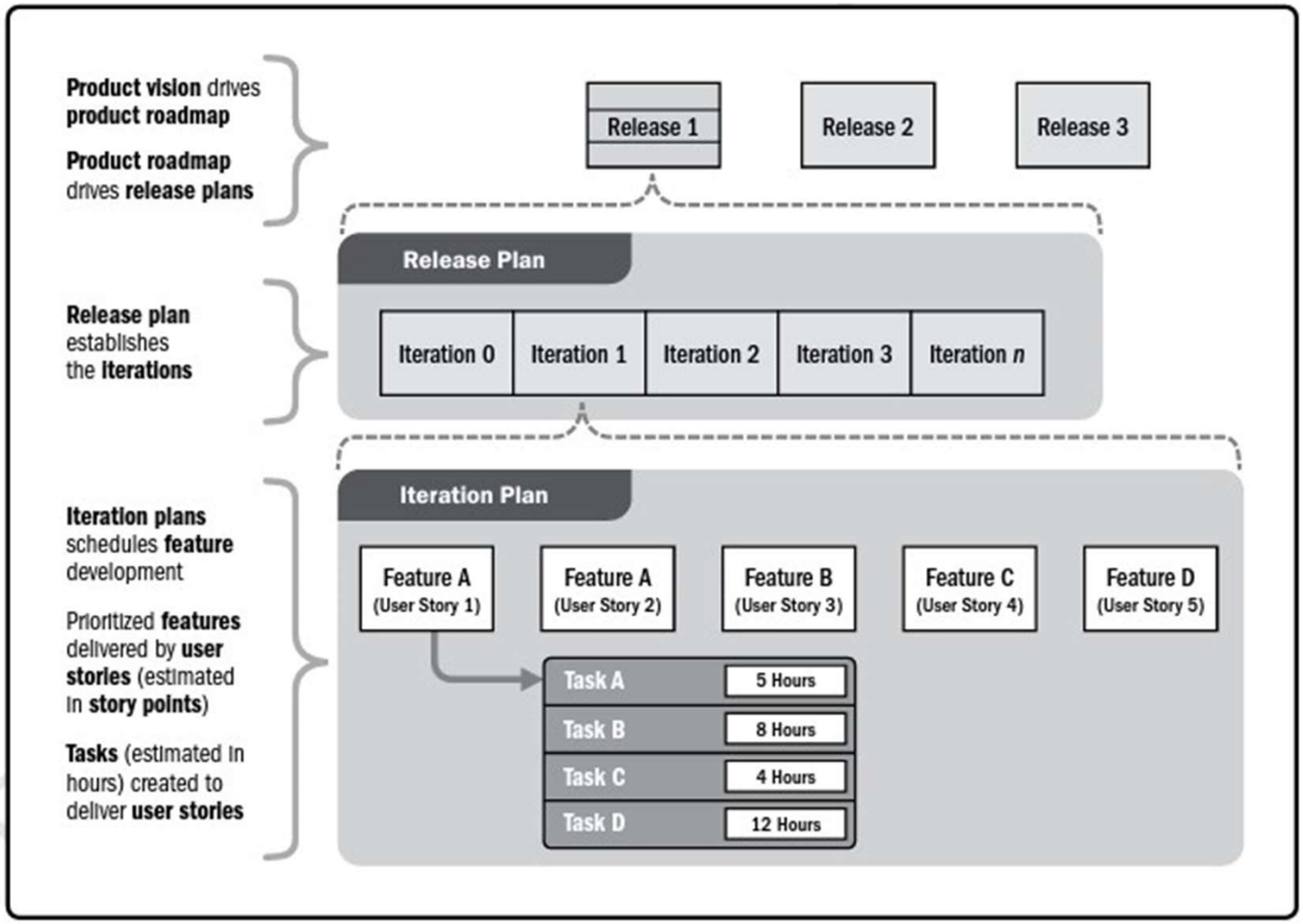


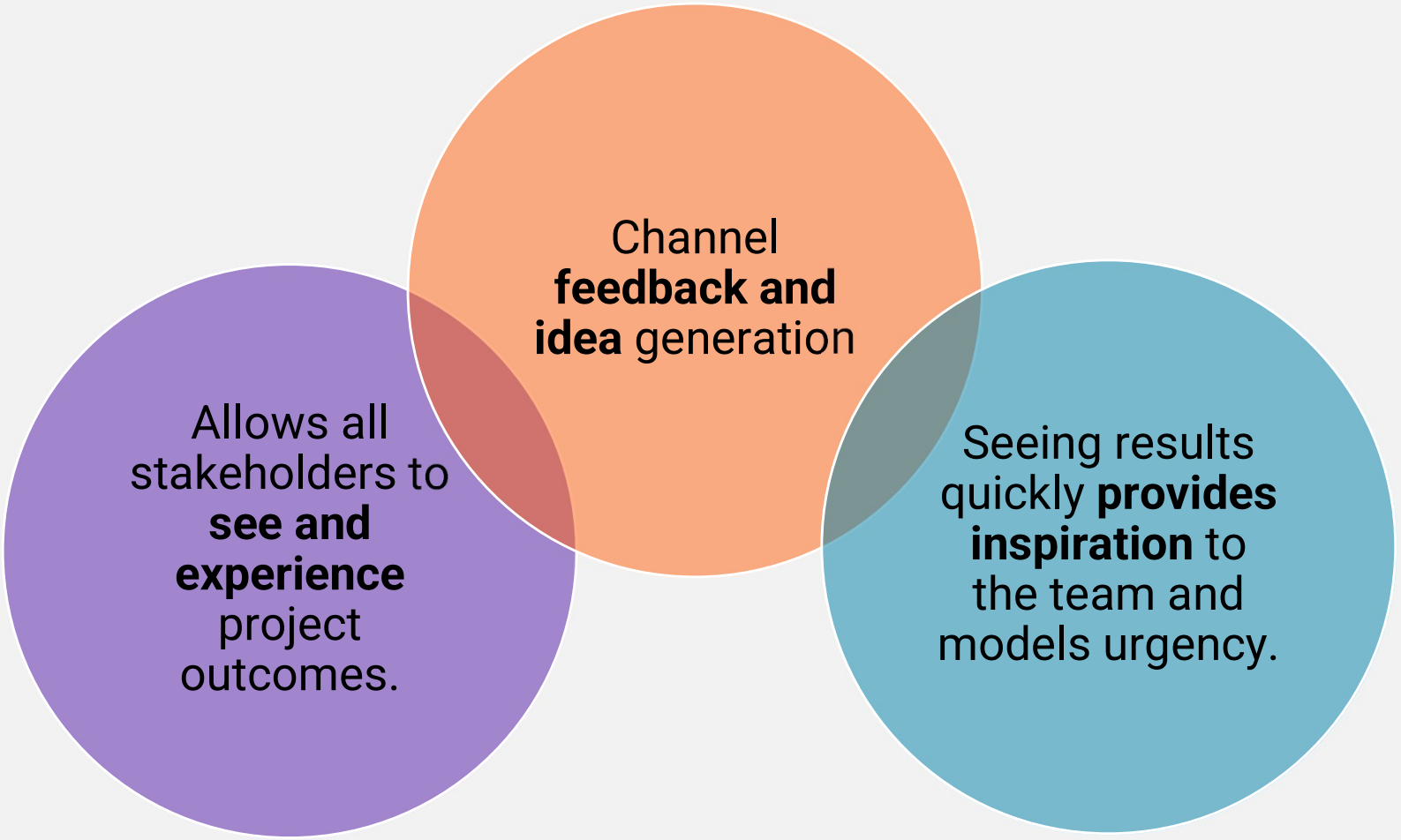
Figure 6-20. Relationship Between Product Vision, Release Planning, and Iteration Planning

Minimum Viable Product (MVP)

DEFINITION

The smallest collection of features that can be included in a product for customers to consider it functional ("bare bones" or "no frills" functionality in Lean).

Minimum Viable Product (MVP)



Minimum Business Increment (MBI)

DEFINITION

In Disciplined Agile - the smallest amount of value that can be added to a product or service that benefits the business.

Minimum Business Increment (MBI)

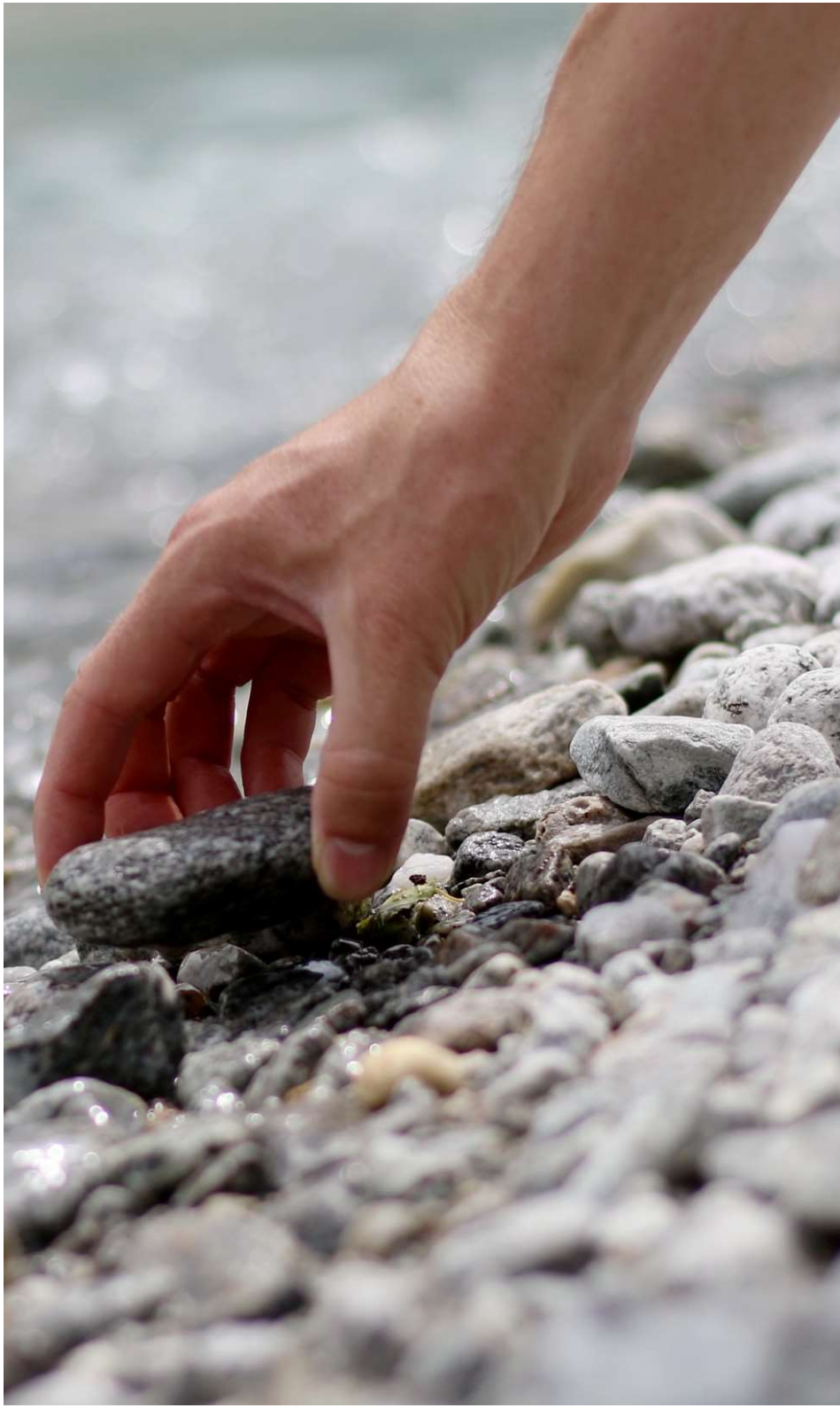
MBI is more viable when an MVP might disrupt the users and business, especially when a basic preliminary product, to gauge interest, is not necessary.

Optimize use of MBIs by:

- ✓ Ensuring the product and functions are understood.
- ✓ Pinpointing an incremental value increase.

Advantages of MBIs:

- ✓ Enable project team to deliver value sooner.
- ✓ Help team validate improvements.
- ✓ Enables team to incrementally build on success or pivot as needed.



Cycles and Timeboxes

Benefits:

- ✓ Timeboxes allow for **better telemetry** over time.
- ✓ Timeboxes create a **sense of urgency**.
- ✓ Cycling the project through similar timeboxes provides **progress measurements** from one timebox to the next.
- ✓ Teams gain more **predictable measurements** that can communicate expectations of cycle times, throughput, and velocity.
- ✓ Organize work into **release cycles** and working **time blocks.**

GUIDELINES

Measure Ongoing Progress

- Define value from the customer's, business, and/or user's perspective.
- Determine value expectations.
- Set targets and baselines based on expectations.
- Employ metrics that communicate progress towards value expectations.
- Use efficient data collection metrics and methods.
- Collect data at regular intervals.
- Present progress data to stakeholders.
- Compare progress with baselines and expectations.
- Improve on success or correct areas where progress does not meet expectations.

Manage Communications

TOPIC C

Deliverables and Tools

- Communications Management Plan
- Project Communications
- Stakeholder Register
- Work performance and change updates

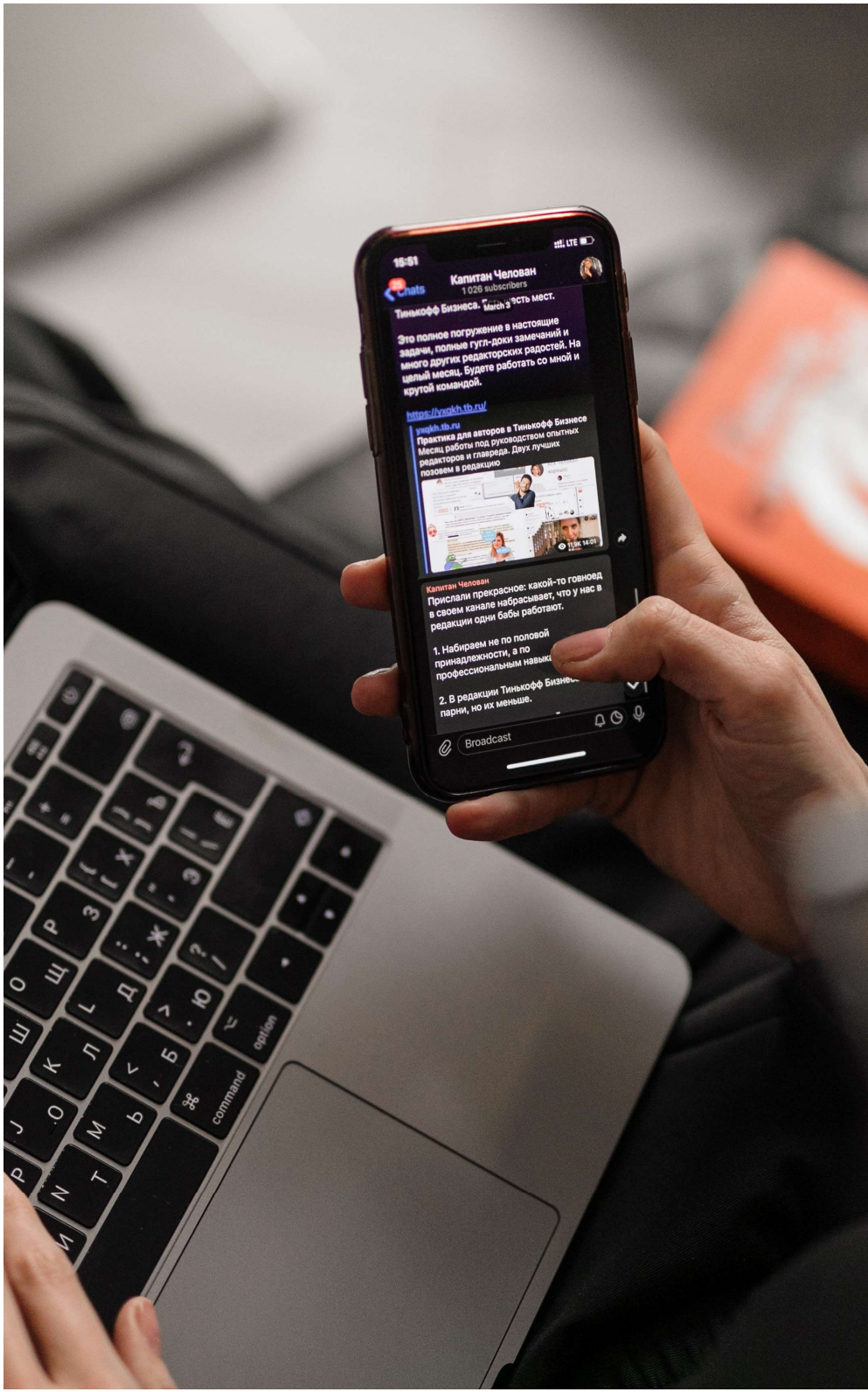
- Stakeholder analysis
- Create and update project communications plan
- Update documents
- Understand and practice Sender-Receiver Model

Communications

Project Communications

Consider these dimensions:

- ✓ Internal and external stakeholders
- ✓ Formality or informality - content and format
- ✓ Hierarchy – adjust tone upward, downward, or horizontally
- ✓ Official or unofficial need e.g. annual reports or governance related vs. project team communication
- ✓ Written or verbal – remember tone, inflection, and nonverbal gestures are influential!



Communications Management Plan

DEFINITION

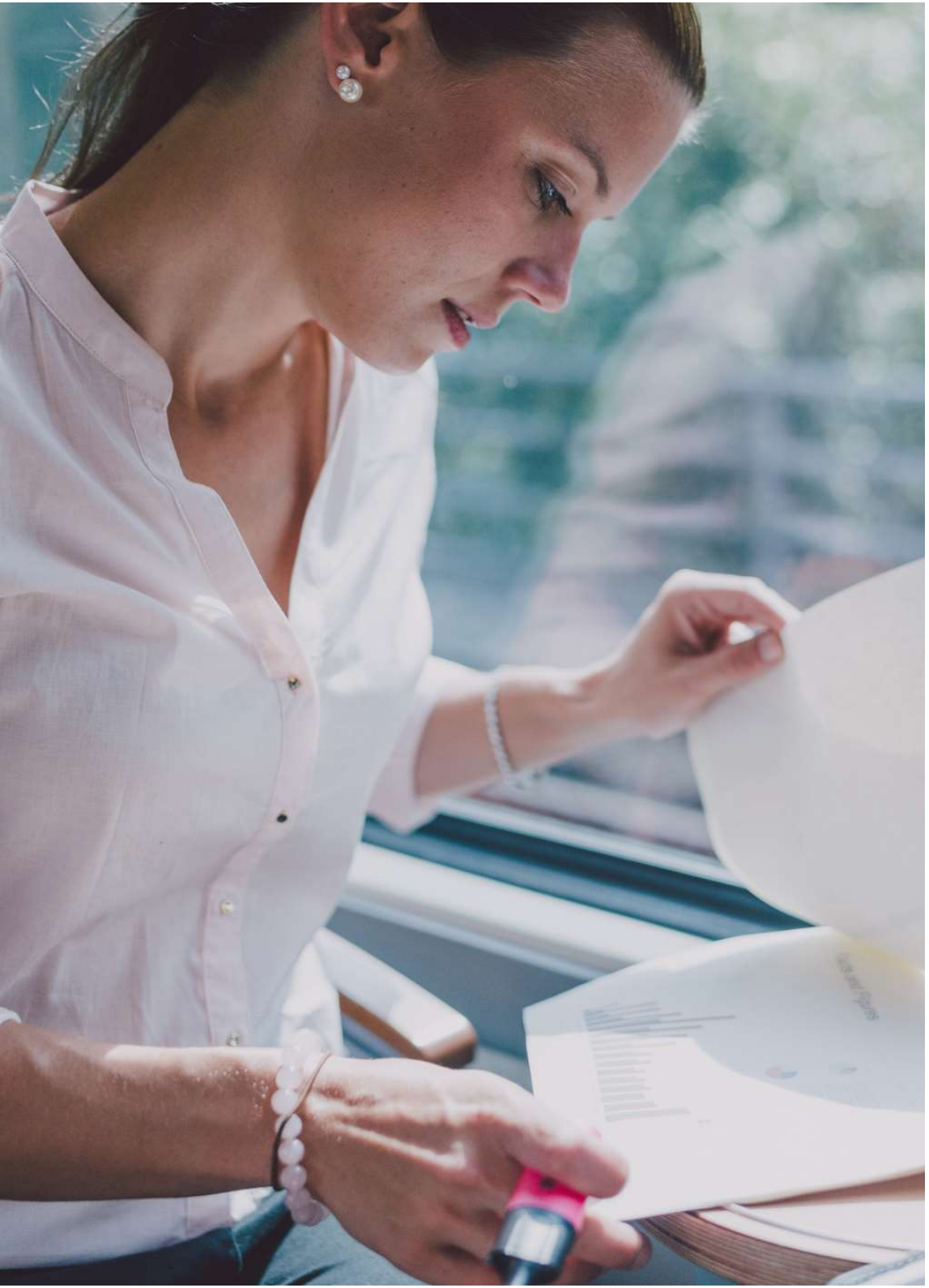
A component of the project, program, or portfolio management plan that describes how, when, and by whom information about the project will be administered and disseminated.

Communications Management Plan Example

Communication	Frequency	Responsibility	Stakeholder	Notes
Project Kickoff Meeting	Start of project	PMO	Key Stakeholders	Both team and client kickoff meetings recommended
Extranet	Ongoing	PMO		Includes project schedule, key project deliverables, meeting minutes, change request log, issues log
Executive Steering Committee	Monthly – first Wednesday of each month	Account Manager	Client Executive	Review status, milestones met, earned value indicators, key issues
Status Meetings Status Report (Email)	Weekly – Friday 2 p.m.	Project Manager	Client Sponsor	Review project status, schedule, change requests, issues
Status Meetings	Weekly – Friday 11 a.m.	Project Manager	Development Team	Provides input for subsequent meetings with client sponsor
Newsletter (Email)	Weekly – Friday	PMO	Client Managers	
Client Satisfaction Survey	Monthly/end of each phase	Account Manager/Project Manager	Client Sponsor/Key Client Stakeholders	Informal (Monthly) Formal (End of each phase)

Communications Management Plan - Components

- ✓ Stakeholder communications requirements
- ✓ Information to be communicated, including language to be used
- ✓ Reason
- ✓ Time frame and frequency
- ✓ Responsible person – i.e. release of confidential information
- ✓ Receivers
- ✓ Methods or technologies of conveyance
- ✓ Time and budget allocation
- ✓ Escalation process for issues that need visibility
- ✓ Update method for the plan
- ✓ Glossary of common terminology
- ✓ Flowcharts depicting flow of information
- ✓ Constraints due to regulation or policies



Communication Requirements Analysis

- ✓ Leads to a clear articulation of the **stakeholders' communications needs.**
- ✓ Enables **effective choices** regarding the technologies to be recommended.
- ✓ Takes the form of a **grid**, **questionnaire** or **survey** that documents the communications and technology requirements for each stakeholder.

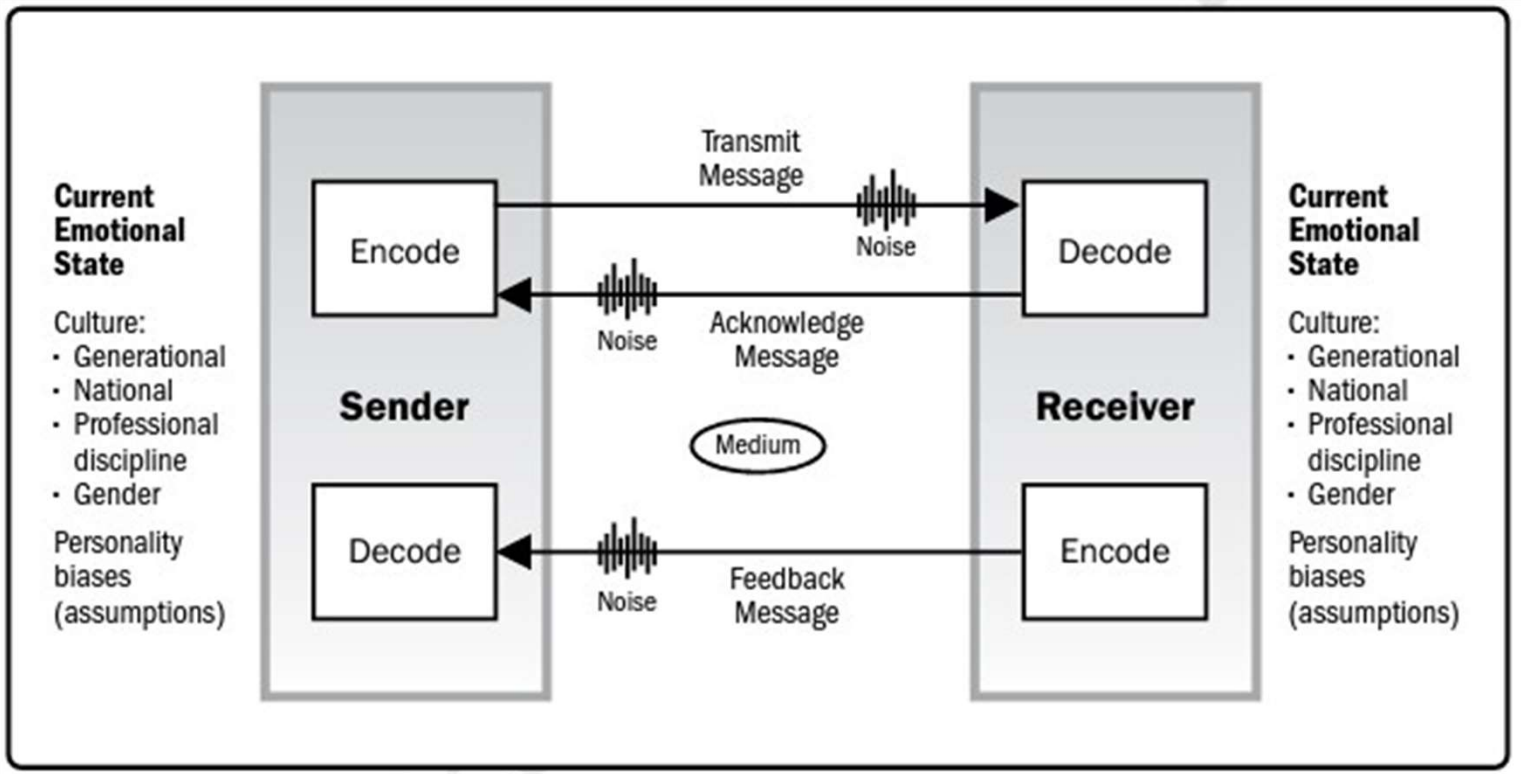
Communication Types

Communication Models

DEFINITION

A description, analogy, or schematic used to represent how the communication process will be performed for the project.

Communication Model



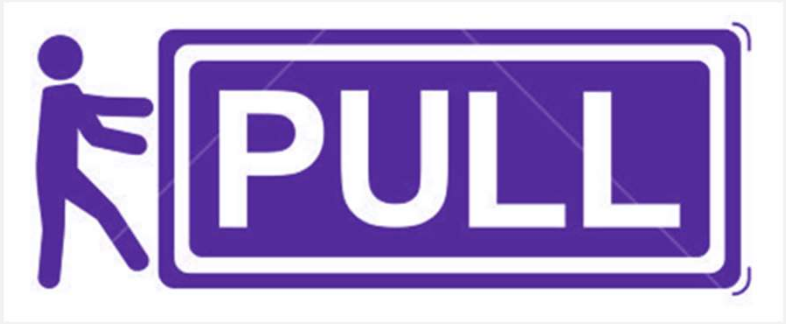
Sender-Receiver Model

Communication Methods

DEFINITION

A systematic procedure, technique, or process used to transfer information among project stakeholders.

Communication Methods



Feedback

- ✓ Communication is **a two-way street.**
- ✓ Both **critical** and **affirming** feedback are key.
- ✓ Feedback **can be positive** if received and understood as intended.
- ✓ Feedback can be negative because of misunderstanding.
- ✓ No feedback provides an implicit acceptance of the message by the receiver.
- ✓ **Effective feedback** is clear, specific, and offered in a timely manner.

GUIDELINES

Effectively Manage Communication

- Gather and distribute contact information for all involved parties.
- Determine the **communication needs** of project stakeholders.
- Tailor amount of **detail and frequency** to recipient needs; project team members may require more detail on a more frequent basis. Senior management typically requires summary information on a less frequent basis.
- Analyze the value to the project of providing the information.
- Evaluate any constraints and assumptions to determine their possible impact on communication planning.
- Determine the **appropriate communications technologies** to use for communicating project information.
- Ensure your communications management plan includes all key elements.
- Integrate the communications management plan into the project plan.
- **Distribute** the plan to project stakeholders.

Engage Stakeholders

TOPIC D

Deliverables and Tools

Stakeholder Register

Stakeholder Engagement Plan

Work performance information assessment

Organizational Process Assets

Expert judgment

Meetings

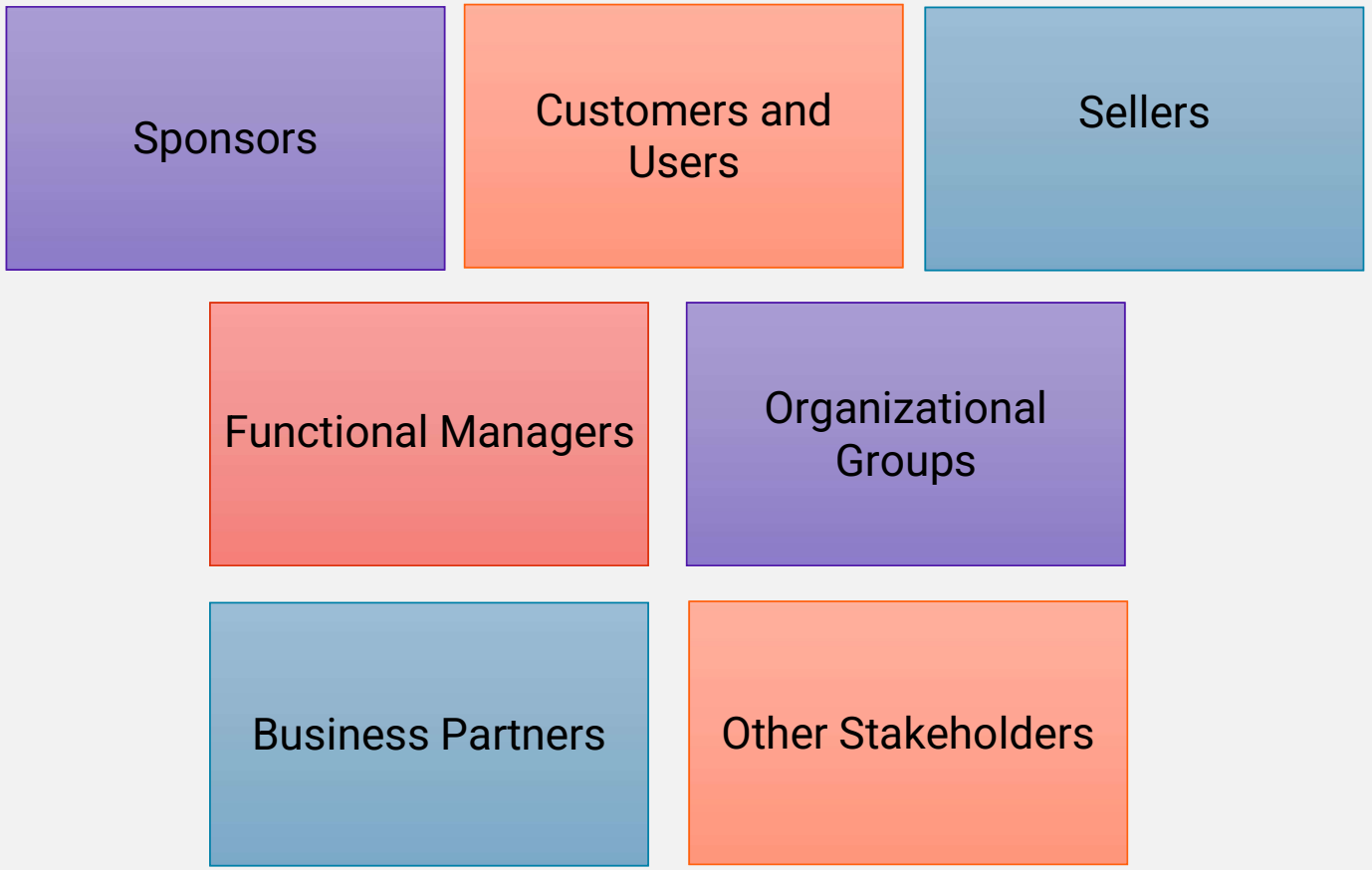
Power or Influence vs. Impact Grid

Interpersonal skills

Management skills

Stakeholder Register

Stakeholder Categories



Stakeholder Register

- ✓ Main output of the Identify Stakeholders process.
- ✓ Includes, but is not limited to:

  Identification information - Name, position, contact details, etc.

  Assessment information - Major requirements, expectations, influence on project outcomes, primary involvement

  Stakeholder classification -
  - Internal, external
  - Impact/influence/power/interest
  - Upward/downward/outward/sideways

Stakeholder Engagement Strategy

Stakeholder Engagement Assessment Matrix

DEFINITION

A matrix that compares current and desired stakeholder engagement levels.

Stakeholder Engagement Assessment Matrix - Example

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
Stakeholder 1	C			D	
Stakeholder 2			C	D	
Stakeholder 3				C	D

C = Current engagement level

D = Desired engagement level

GUIDELINES

Develop, Execute, and Validate a Strategy for Stakeholder Engagement

- Review the Project management plan, Stakeholder register, EEFs and OPAs
- Use tools and techniques such as expert judgment.
- Hold meetings with experts and the project team.
- Use analytical techniques to classify stakeholder engagement levels.
- Document the stakeholder engagement plan.

Create Project Artifacts

TOPIC E

Deliverables and Tools

No specific deliverables

No specific tools

Artifacts vs. Deliverables and Project Documents

Artifacts

Project teams create artifacts during project work; these facilitate management of the project.

Project Documents

are integral documents for a project; they define and support the work of the project. They are regularly updated by project management processes.

A Deliverable

is any unique and verifiable product, result, or capability (tangible or intangible) to perform a service, that is required to be produced to complete a process, phase, or project.

Project Artifact

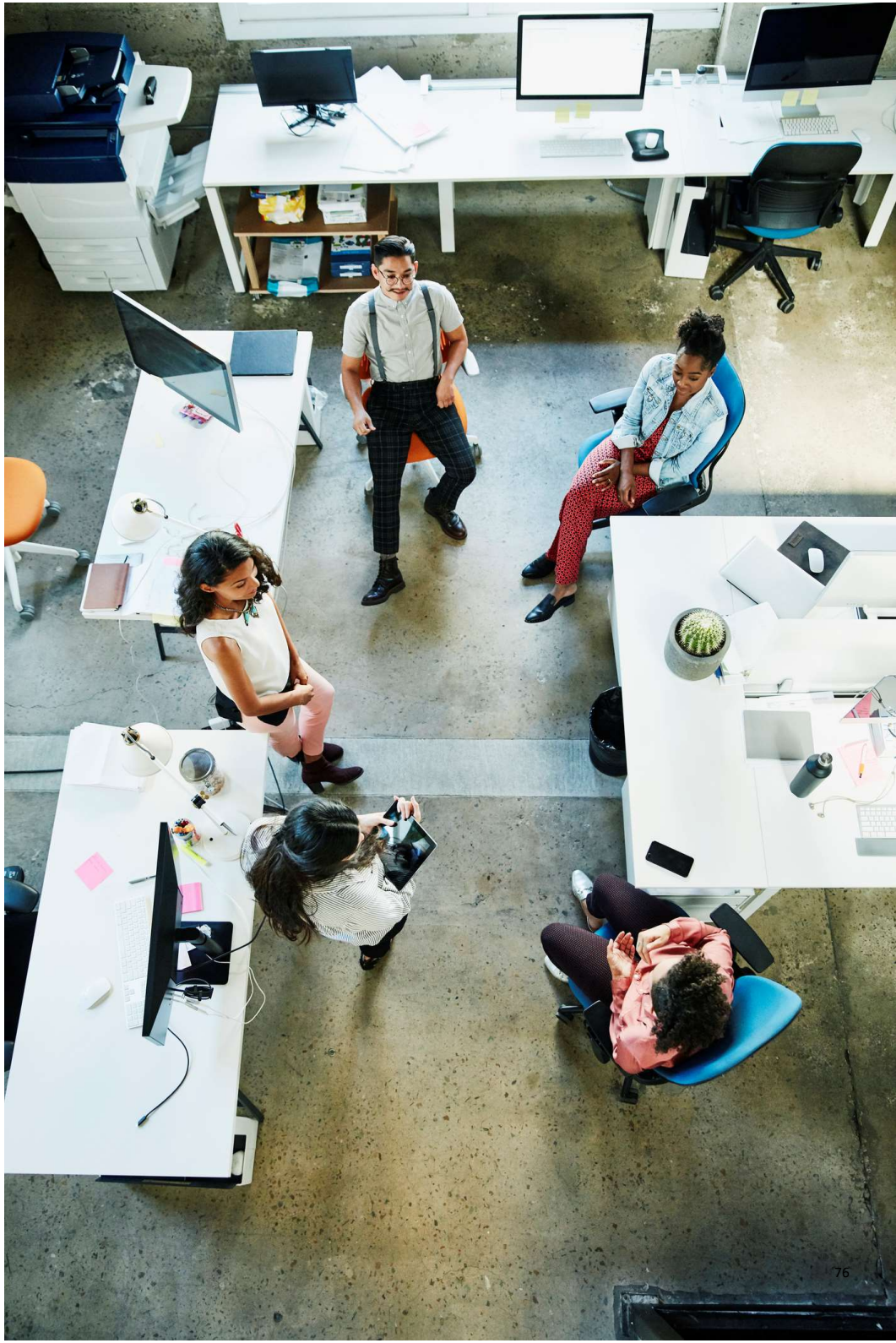
Artifacts enable reconstruction of the history of the project and to benefit other projects.

Project teams create and maintain many artifacts during the life of the project.

Project Artifact Examples

Project artifacts might include:

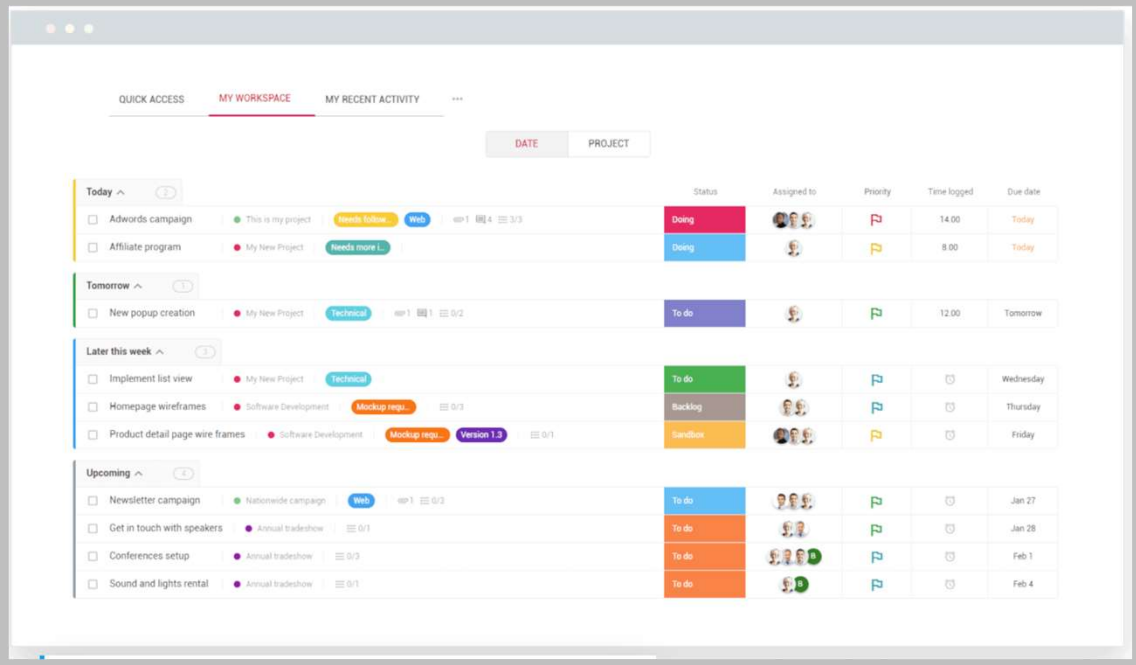
- ✓ Acceptance Criteria
- ✓ Assumptions
- ✓ Business Case
- ✓ Change Requests
- ✓ Constraints
- ✓ Lessons learned
- ✓ Minutes of status meetings
- ✓ Project Charter
- ✓ Slide decks
- ✓ Requirements
- ✓ Scope
- ✓ Scope Baseline
- ✓ Subsidiary project management plans



Project Artifact Examples

Artifacts unique to agile projects:

- ✓ Product Backlog
- ✓ Product Increment
- ✓ Product Roadmap
- ✓ Product Vision Statement
- ✓ Release Plan
- ✓ Sprint Backlog



Configuration Management

DEFINITION

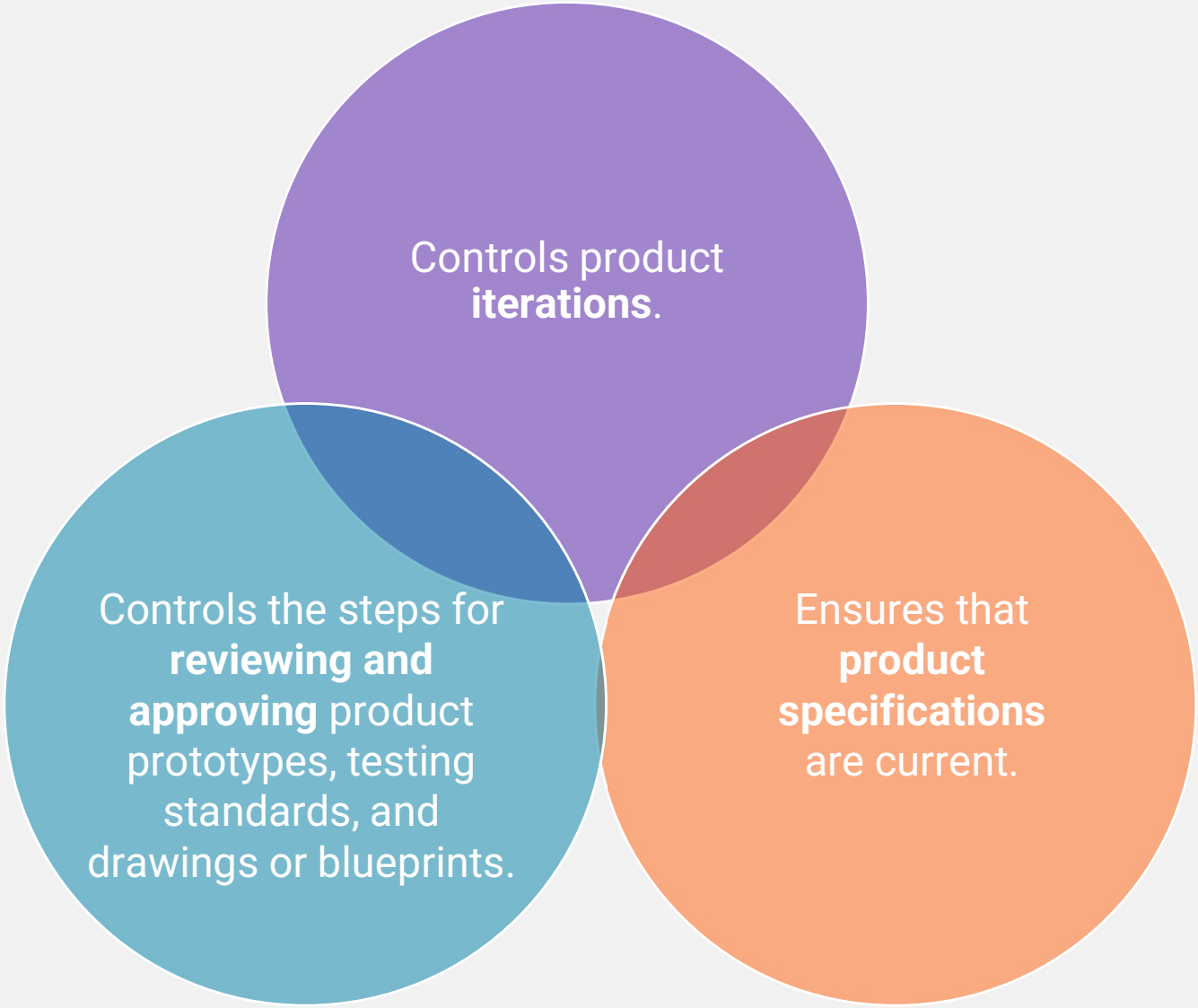
A tool used to manage changes to a product or service being produced as well as changes to any project documents.

Configuration Management System

DEFINITION

A collection of procedures used to track project artifacts and monitor and control changes to these artifacts.

Configuration Management



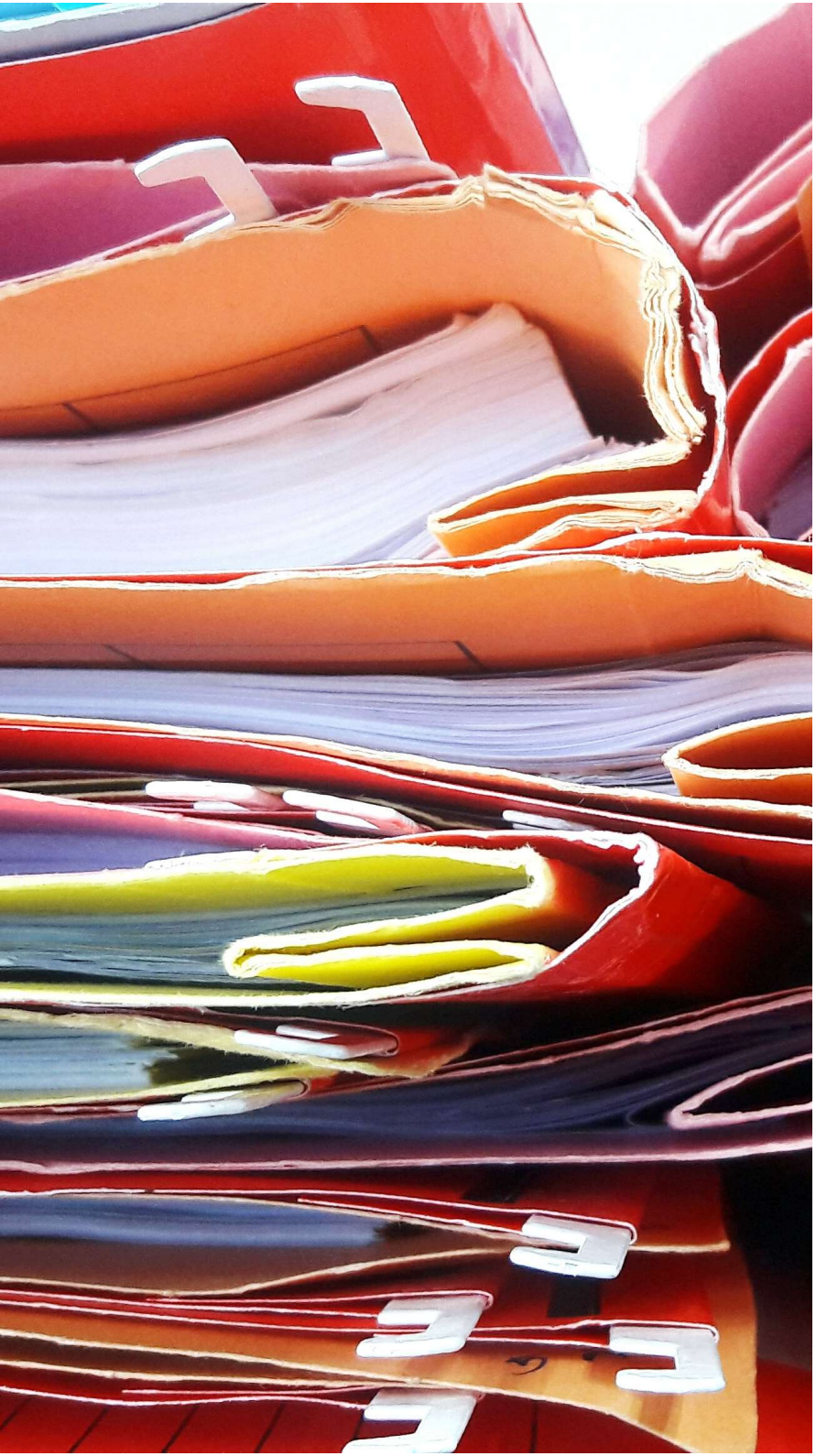
Version Control

DEFINITION

A system that records changes to a file in a way that allows you to retrieve previous changes made to it.

Version Control

- ✓ Each time a file is updated, give it a **new version number**.
- ✓ Include a **date/time stamp** and the name of the user who made the changes, providing a digital "paper trail" of the document's history.
- ✓ Use version control for **important artifacts** such as the project management plan, the subsidiary project management plans, the scope, and other documents.



Storage and Distribution of Artifacts

- ✓ Store artifacts in an accessible location for users.
- ✓ Use a storage and distribution system that matches the complexity of the project –
- ✓ Use cloud-based document storage and retrieval systems for larger projects, especially where team members are geographically distributed.
- ✓ Typical systems may include:
  - Built-in version control
  - Document check-out and check-in
  - User-based document security
  - Automatic email notification to specified users when a document is created or edited

Project Artifact Management

An effective archive management system includes:

- ✓ A simple way to **produce** and **control** documents
- ✓ **Standardized** formats and templates
- ✓ A structured process for the **review** and **approval** of documents
- ✓ Version control and security
- ✓ **Timely distribution** of documents

Manage Project Changes

TOPIC F

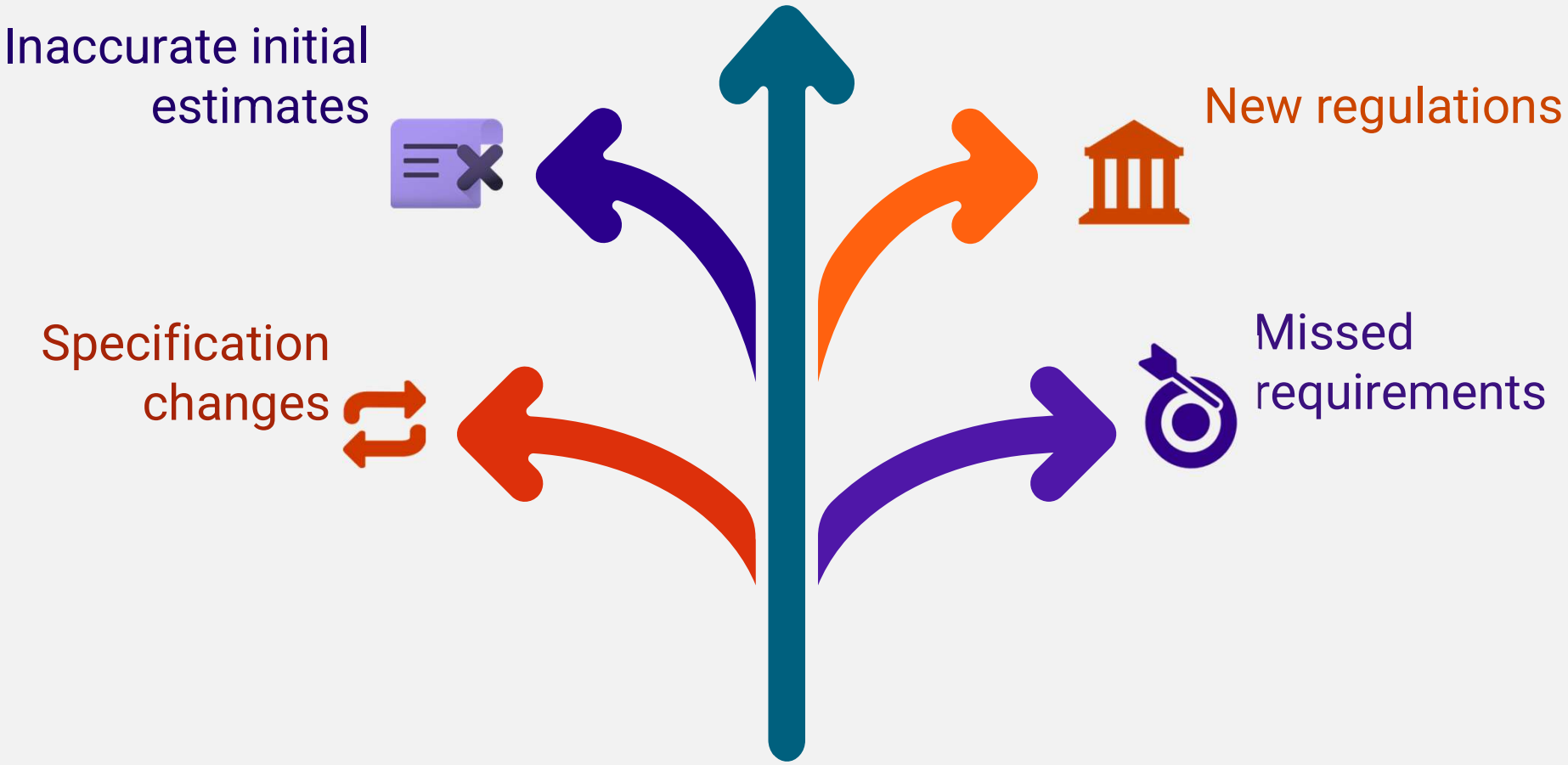
Deliverables and Tools

- Issues Log
- Risk Register
- Stakeholders Register
- Updated Issues Log

- Manage and update Issues Log
- PMIS
- Communicate with stakeholders
- Negotiate with stakeholders

Projects are about CHANGE.

Causes of Project Changes

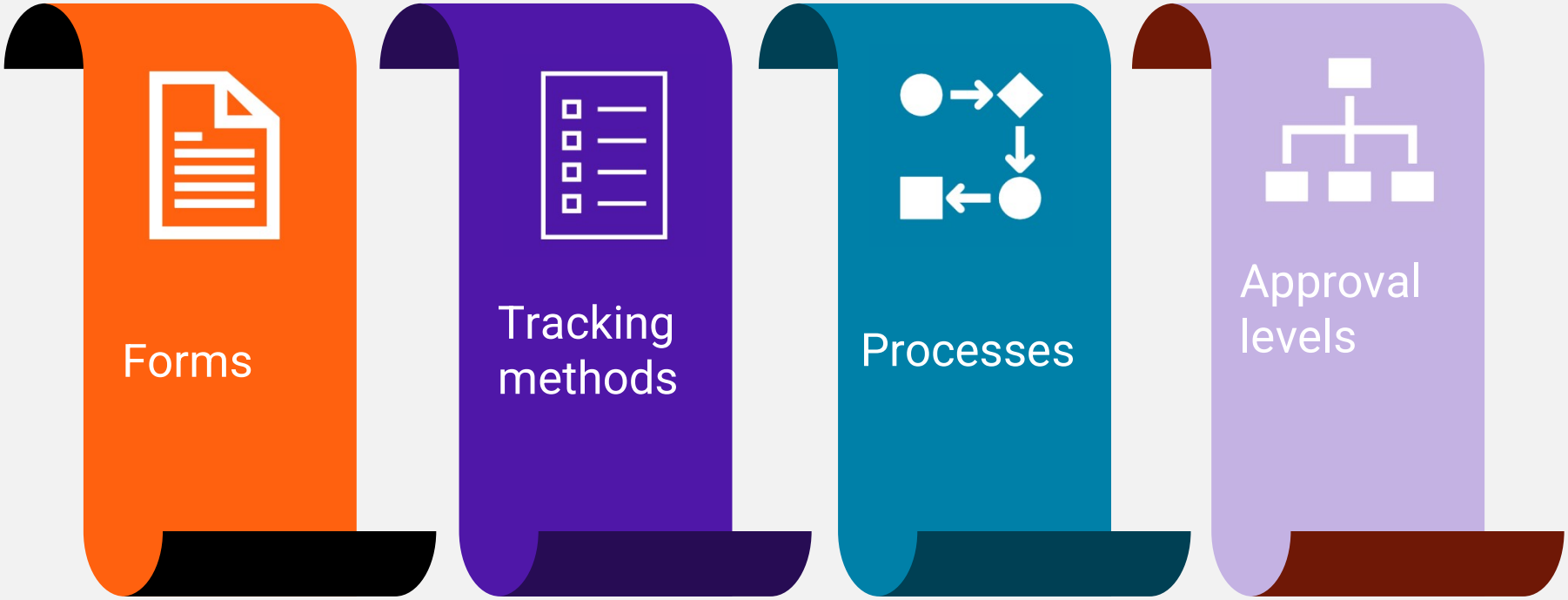


Change Control Systems

DEFINITION

A set of procedures that describes how modifications to the project deliverables and documentation are managed and controlled.

Change Control Systems

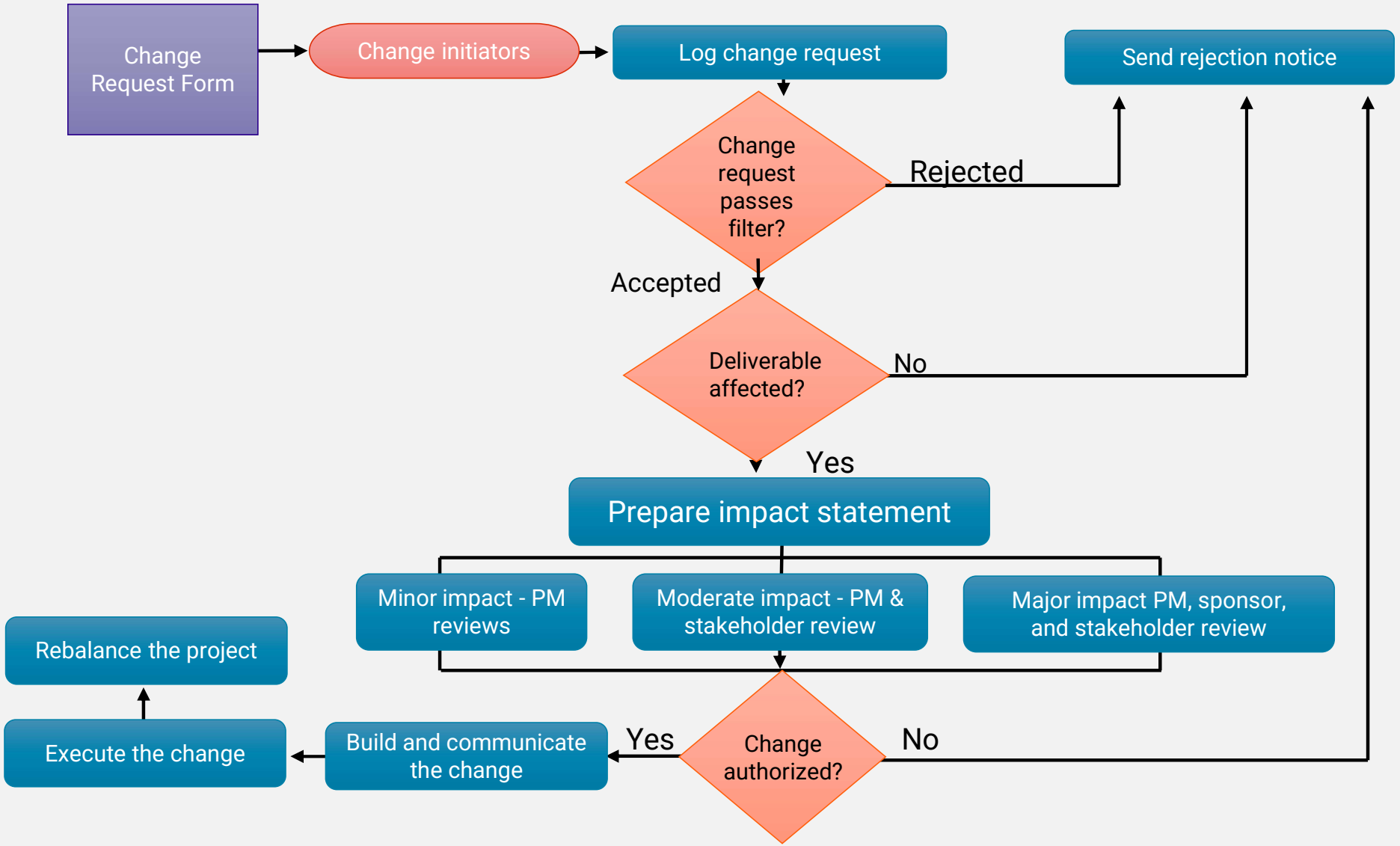


Change Control Board (CCB)

DEFINITION

A formally chartered group responsible for reviewing, evaluating, approving, delaying, or rejecting changes to the project, and for recording and communicating such decisions.

Change Management Process Flowchart



Approved Change Requests

DEFINITION

Requests that have been received and approved in accordance with the integrated change control plan and are ready to be scheduled for implementation.

Change Requests

Types of change requests:

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 non-conformance within the project.

Update

Modifies a project document or plan.

Manage Project Issues

TOPIC G

Deliverables and Tools

Issue log

No specific tools

Issues

DEFINITION

A current condition or situation that may have an impact on the project objectives - an action item that the project team must address.

Issues


Quality
Risk
Communications
Schedule control
ISSUES
Procurement
Cost Control
Scope change control
Project variance analysis

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”

Issue Log

DEFINITION

A document where information about issues is recorded and monitored.

Issue Log

ID	Description	Opened	Due Date	Priority	Owner	Response	Status	Comments
25	Truck strike	10/15/20xx	11/01/20xx	High	R. Smith	TBD	Open	Tasks are on the critical path

Use it to track problems, inconsistencies, or conflicts that occur during the life of the project and require investigation in order to work toward a resolution.

Issue Resolution

- ✓ As issues arise, promptly add them to the issue log.
- ✓ Assign an owner to each issue. The owner is responsible for tracking the progress of the workaround and reporting back.
- ✓ Give realistic due dates and make every reasonable attempt to meet it.
- ✓ Issues should be a regular topic of every status meeting.
- ✓ Limit the number of open issues to a manageable number.
- ✓ Don’t hesitate to escalate an issue to the project sponsor if it begins to have a major effect on the project.

GUIDELINES

Resolving Issues

- Use your organization’s Issue Log template; in the absence of one, create an Issue Log.
- Train project team members to promptly report potential issues.
- Enter the issue into the Issue Log and assign an owner and a due date.
- Monitor progress and discuss each open issue at every project status meeting.
- Develop a response (also known as a workaround) to the issue.
- Assess the impact of the response.
- Approve the response.
- Close the issue.

Ensure Knowledge Transfer For Project Continuity

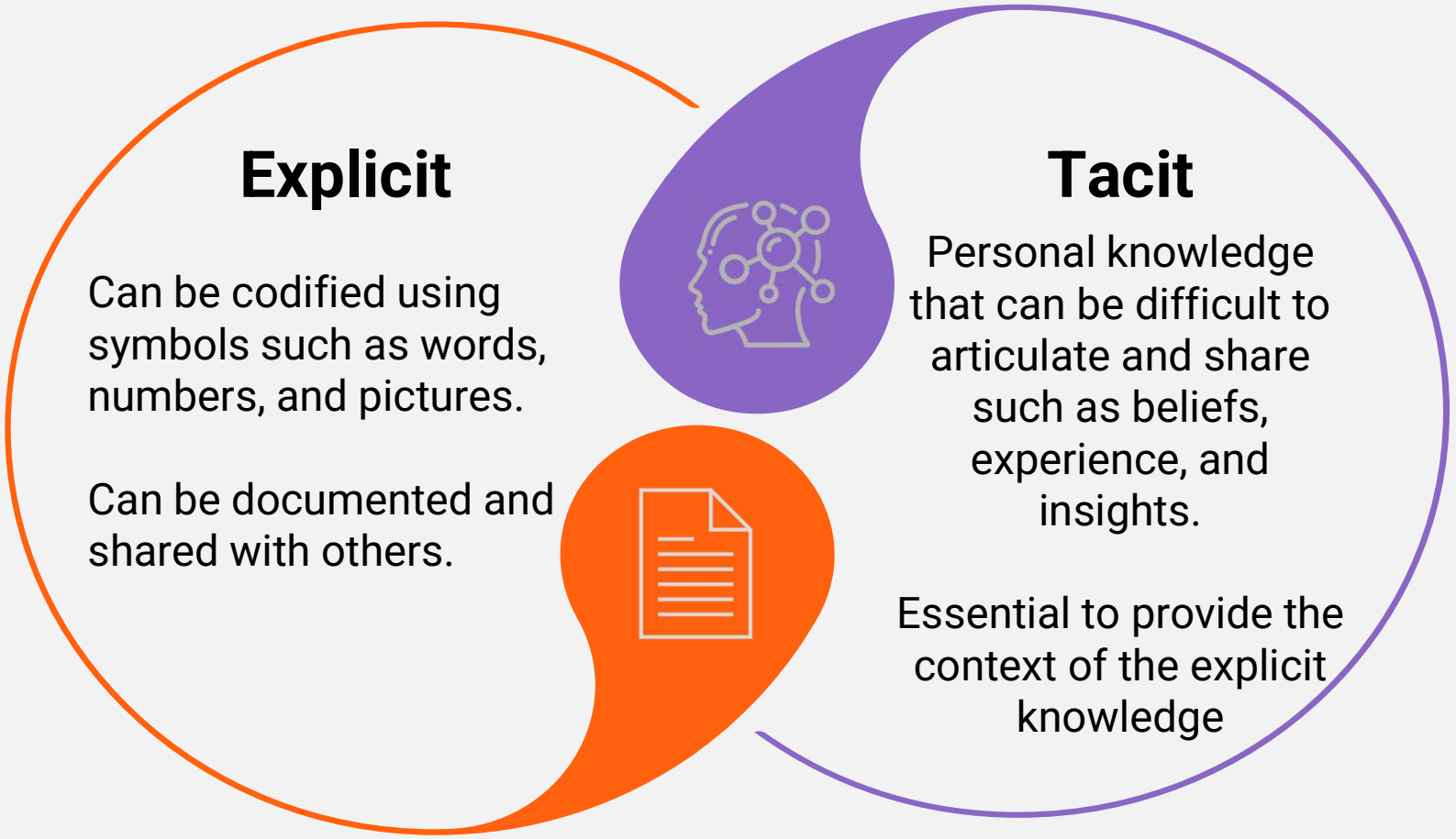
TOPIC H

Deliverables and Tools

Lessons Learned Register

No specific tools

Knowledge Types



Knowledge Management

Level	Description
Individual	Each team member needs to know how to perform their work in accordance with each assigned task's scope, schedule, and cost. Acquire required knowledge by: • Research • Collaboration with team members • Examination of the project's or organization's knowledge repository
Project	• Focus on achieving the goals of the current project. • Solicits knowledge about other projects that can be applied to the current project. • Project Management Office (PMO) is an excellent source of knowledge, as it exists for the purpose of defining and maintaining standards for project management within an organization.
Organization	• Focus on managing programs or portfolios. • The program manager or portfolio manager seeks information from peers who manage other programs or portfolios, to adapt this knowledge to their specific need.

Lessons Learned

DEFINITION

The knowledge gained during a project which shows how project events were addressed or should be addressed in the future for the purpose of improving future performance.

Lessons Learned

- ✓ Knowledge gained during a project can be useful to subsequent phases of a project and to other projects.
- ✓ Include both **positive** and **negative** experiences that occur throughout the project life cycle.
- ✓ Avoids "**reinventing the wheel**"
- ✓ Long-term learning tool.

Considerations for Lessons Learned

Schedule at the **right time**

Include topics on:

- ✓ Conflict management
- ✓ Vendor relationships
- ✓ Customers
- ✓ Strategy
- ✓ Tactics

Lessons-Learned Register

DEFINITION

A project document used to record knowledge gained during a project so that it can be used in the current project and entered into the lessons-learned repository.

Lessons-Learned Repository

DEFINITION

A store of historical information about lessons learned in projects.

Project Responsibilities Within the Team

Working Environment Expectations

- ✓ Knowledge is not constant, what we knew yesterday can change based on what we did today.
- ✓ Continuously evaluate the project environment for new risks and follow the risk management plan to proactively address them before they become issues that will affect the project objectives.
- ✓ Don't hoard knowledge; follow the communications management plan and inform stakeholders of changes affecting their work.
- ✓ Use appropriate tools to share knowledge with stakeholders:
  - Face-to-face during formal meetings
  - Face-to-face during informal meetings and discussions
  - Telephone
  - Email
  - Wikis
  - Intranet
  - Printed documents

Knowledge Transfer Approach

Connect individuals, in person or virtually, to share tacit knowledge and collaborate together.

Knowledge Transfer Techniques

- ✓ Networking
- ✓ Facilitating special interest groups
- ✓ Meetings, seminars, and various other types of in-person and virtual events that encourage people to interact and exchange ideas and knowledge.
- ✓ Training that involves interaction between attendees.
- ✓ Work shadowing and reverse shadowing provide a more individualized method to the exchange of specialized knowledge.

GUIDELINES

Maintain Team and Knowledge Transfer

- Follow your PMO's guidelines on documenting new knowledge.
- Be alert to new sources of project knowledge and follow the communications management plan to convey that knowledge to stakeholders.
- Proactively seek new knowledge.
- Compile a lessons-learned register throughout the project's lifecycle and add it to a lessons-learned repository with registers from other projects.

End of Module 3