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University

Risk management frameworks – Part 2

Lecture 8

PMG510

Risk Management

PMI-Risk Management framework

There are 5 domains and 6 processes in Project Risk Management. The first five processes belong to the planning process group, and the last process belongs to the monitor and control process group.

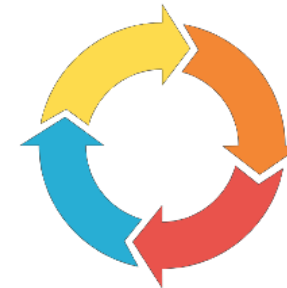
Domains

- Risk strategy and planning (5 tasks)
- Stakeholder engagement (9 tasks)
- Risk process facilitation (7 tasks)
- Risk monitoring and reporting (7 tasks)
- Perform specialized risk activities (3 tasks)



Processes

- Plan risk management
- Identify risks
- Perform qualitative risk analysis
- Perform quantitative risk analysis
- Plan risk responses
- Control risks



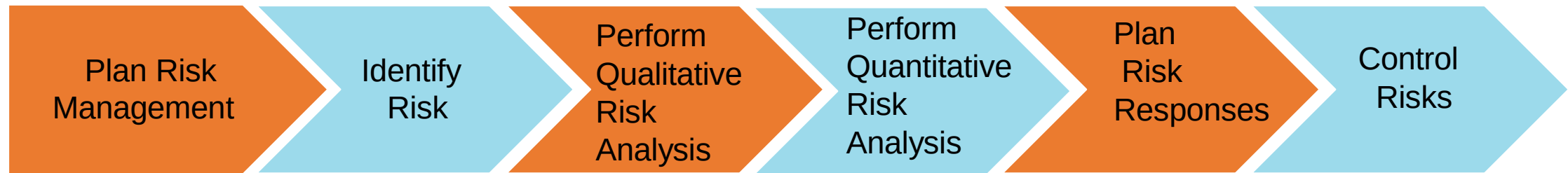
Project Risk Management Processes (contd.)

The following are PMI-RMP processes that could carry out in Project Risk Management:



Project Risk Management Processes (contd.)

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Identifying the tailored mechanism for each process; risk thresholds; and process rules.

* The risk threshold is **an amount of risk that an organization or individual is willing to accept.**

Project Risk Management Processes (contd.)

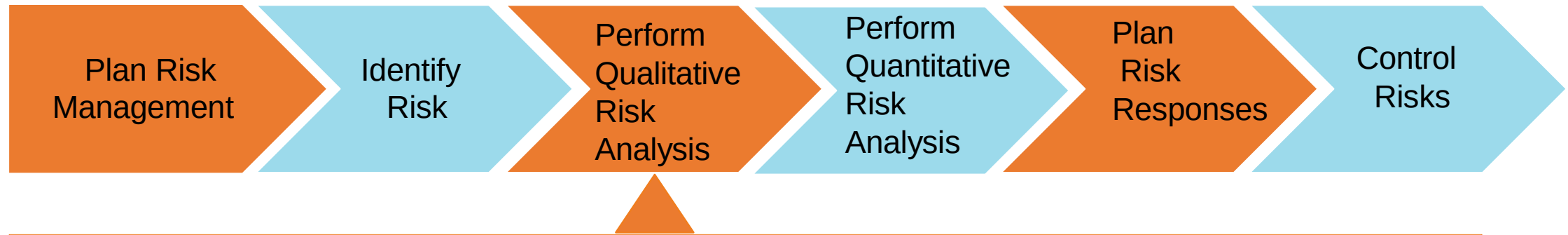
The working and typical flow of the six Project Risk Management processes is shown below:



Listing down the risks and the risk owners against each risk.

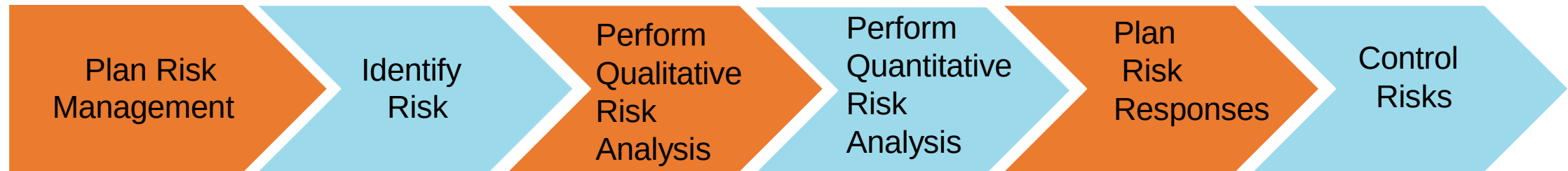
Project Risk Management Processes (contd.)

The working and typical flow of the six Project Risk Management processes is shown below:



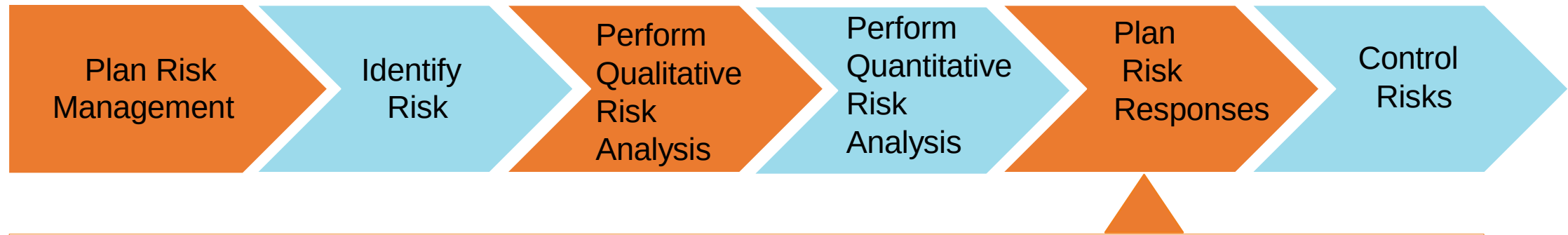
Analyzing identified risk with respect to the probability, impact, and root causes. Importance and prioritized lists can be derived by using different tools.

The working and typical flow of the six Project Risk Management processes is shown below:



Using numerical models this process can be effective. Quantitative techniques provide insights into the combined effect of identified risks on project outcome. Agreed confidence limits or levels and sensitivity analysis techniques can be used to increase the effectiveness.

The working and typical flow of the six Project Risk Management processes is shown below:



Finding the response for each risk, based on the opportunity and threat. Identifying contingency plans, strategies, actions, action owners, timing, analysis, project plan updates, and communication are also involved in this step.

Project Risk Management Processes (contd.)

The working and typical flow of the six Project Risk Management processes is shown below:



Tracking of the risks in terms of its status and trends, and taking actions as appropriate. This step is also about reporting and trends in risk exposures.

Risk Management—Roles and Responsibilities

The roles and responsibilities of risk management are as follows:



Risk Manager

Creates the risk management plan, the risk register, and the RBS.



Risk Owner

Ensures that the appropriate risk response actions are performed when the risks occur.



Risk Action Owner

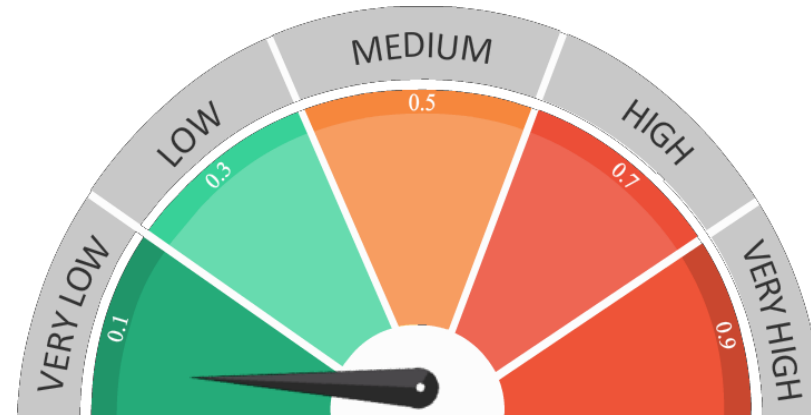
Ensures that the risk response, as defined in the plan, is carried out in a timely manner when a risk occurs.

Risk Management Plan—Components

Component	Description
Risk management methodology	Defines the tools, approaches, and data sources that may be used to perform risk management on the project.
Roles, responsibilities, and Authority	Defines the lead, support, and risk management team membership for each type of action in the risk management plan.
Definitions of risk probability and impact	Scales of risk probabilities and impact are defined in qualitative risk analysis, using terms such as “very unlikely” to “almost certain” with respective values in numbers for these terms.
Probability and impact matrix	A predefined matrix with risk priority areas is marked, which has the product of impact value on X axis and the probability value on Y axis.
Revised stakeholder tolerances	Revised stakeholder tolerances may need to be updated as a result of the Plan Risk Management process.

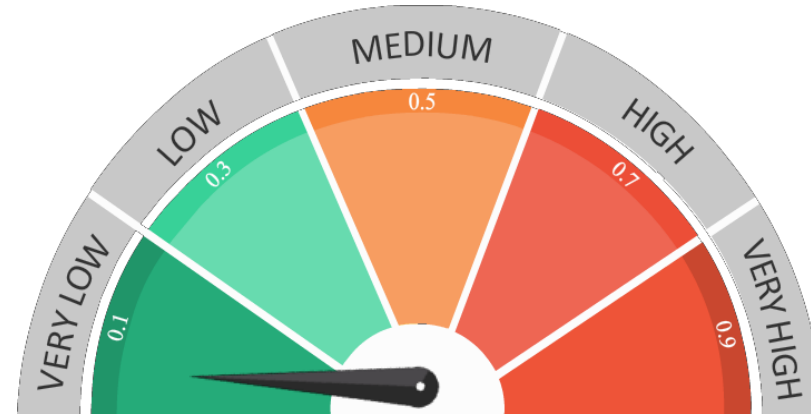
Risk Management Plan—Components

Component	Description
Budgeting	A budget for project risk management should be established and included in the risk management plan. Budgeting also specifies how the contingency reserve should be applied.
Timing	Defines how often the risk management activities will be performed throughout the project lifecycle.
Risk categories	Documentation such as a Risk Breakdown Structure (RBS) or categories from previous projects will help in identifying and organizing risks.
Reporting formats	Define how outputs of this process will be documented, analyzed, and communicated.
Tracking	Documents how risk activities will be recorded and audited.



- **Very Low (0.1):** The event is unlikely to occur: 1% to 20% probability.
- **Low (0.3):** The event may occur: 21% to 40% probability.
- **Medium (0.5):** The event is likely to occur: 41% to 60% probability.
- **High (0.7):** The event will probably occur: 61% to 80% probability.
- **Very High (0.9):** The event will most likely occur: 81% or higher probability.

Impact scales



- **Very Low (0.1):** Slippage on noncritical paths, yet the float exists.
- **Low (0.3):** Noncritical paths have made use of all their float, or an overall increase in schedule by 1% to 5%.
- **Medium (0.5):** Between 5% and 10% overall schedule increase.
- **High (0.7):** Between 10% and 20% overall schedule increase.
- **Very High (0.9):** Greater than 20% overall schedule increase.

Probability and Impact Matrix



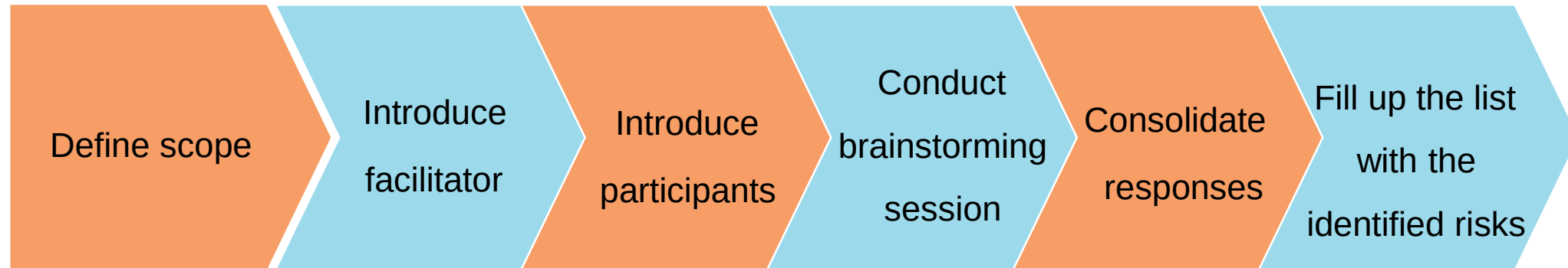
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Impact Scales

Very High (0.9)	0.09	0.27	0.45	0.63	0.81
High (0.7)	0.07	0.21	0.35	0.49	0.63
Medium (0.5)	0.05	0.15	0.25	0.35	0.45
Low (0.3)	0.03	0.09	0.15	0.21	0.27
Very Low (0.1)	0.01	0.03	0.05	0.07	0.09
	Very Low (0.1)	Low (0.3)	Medium (0.5)	High (0.7)	Very High (0.9)

Probability Scales

The process of brainstorming includes the following:



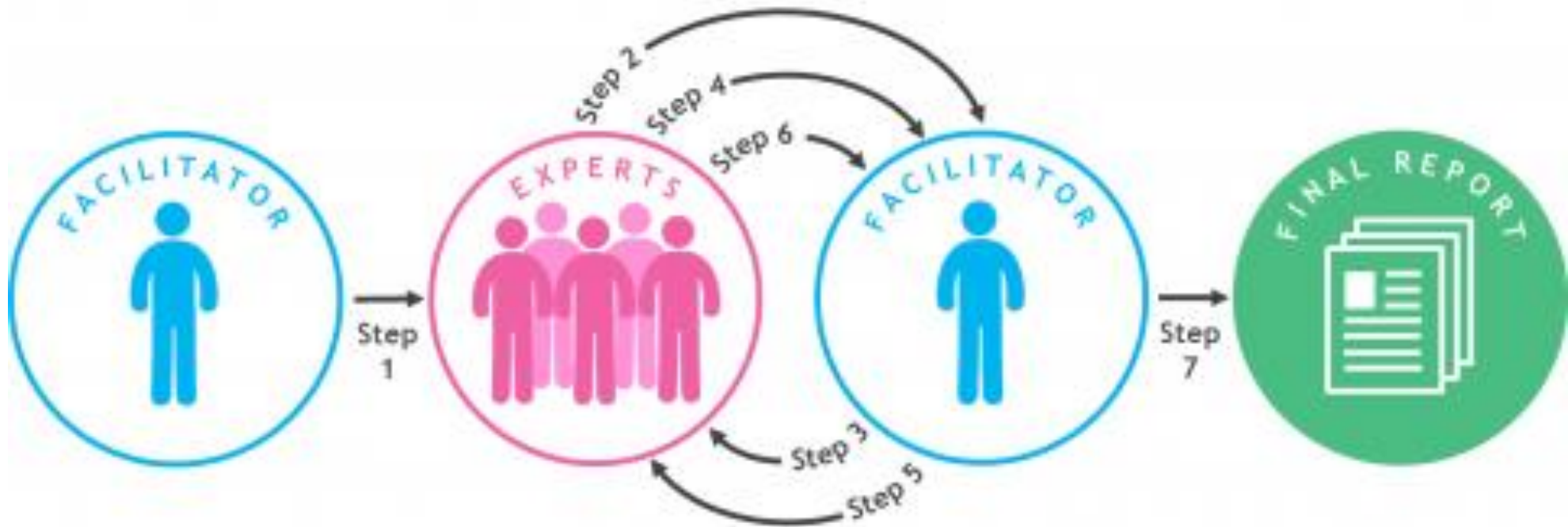
The main pitfalls include:

- Time consuming
- Utopian Ideas
- Wiseacres
- Facilitator required

Assumptions analysis is a process of validating the assumptions made. Assumptions need to be validated on the project; otherwise, they turn out to be risks on the project. It involves documenting the assumptions and then determining the risks that may be caused due to inaccuracy, instability, or incompleteness of the project assumptions.

Delphi Technique

The Delphi technique structures repeated **group communication** of experts to arrive at an **agreement** on complex issues. It includes multiple and iterative rounds of data collection and providing participants with structured summary feedback between rounds. The results can be **qualitative or quantitative**.



One invaluable source of information for a project is any available data on previous projects that were similar to the current one. There are many risks that will reoccur from one project to the next.

To capitalize on lessons learned, you will need access and it must be well structured.

Examples of historical documentation includes previous:

- risk plans,
- risk registers,
- contracts,
- project post-mortem documentation,
- change requests,
- cost and time estimates, etc.

Variance analysis is the measurement of deviation from expected results, or the analysis of variance from the planned and the actual risk impacts.

On the basis of variance analysis, corrective action is taken for the progress of the project.

