April 2026

Risk Management

Resistance is not futile.

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Agenda

Risk Management Performance Domain

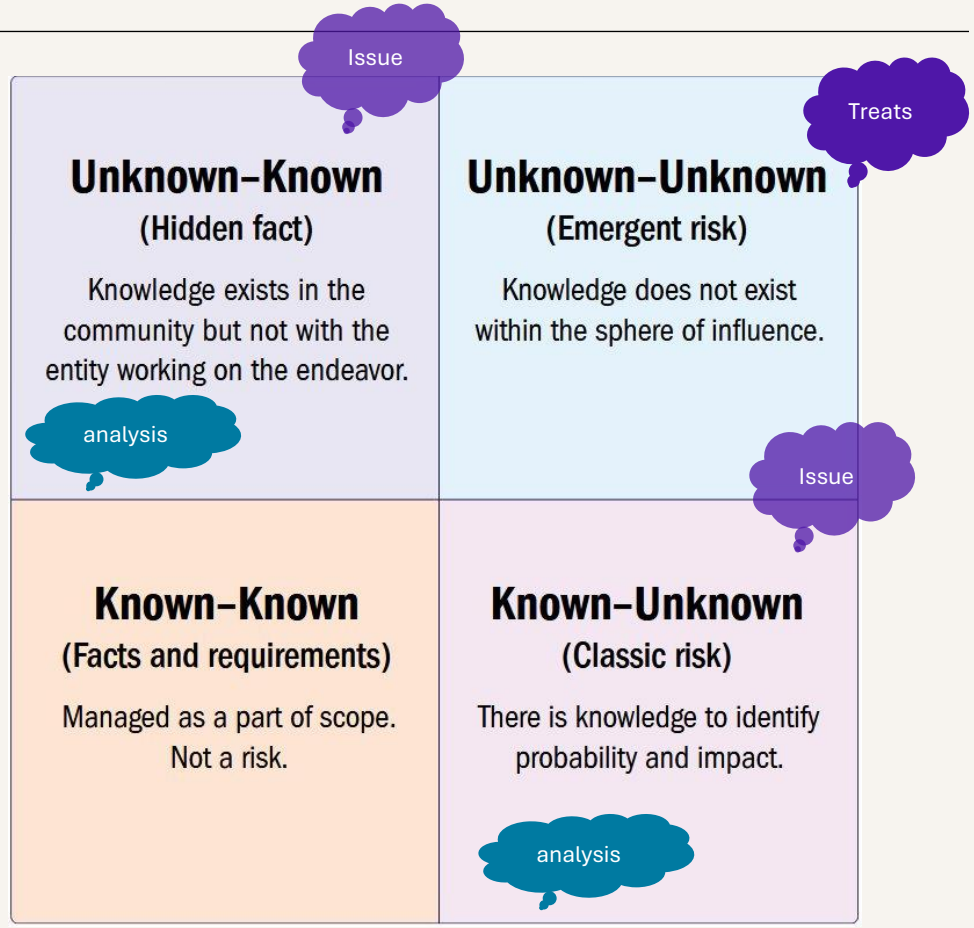
Key Concepts

Foundation & Classification

Key Concepts

Risk management cannot be omitted, as issue management is an integral part of it.

Every change and every decision carries risks and opportunities; managing them means being prepared.
Otherwise, unmanaged risks turn directly into threats and require workarounds.



Risk Classification, PMI, p.93

Terms

Key Concepts

RISK

A risk is an *uncertain* **event or condition** that, if it occurs, has a **positive or negative** *effect* on one or more portfolio, program, or project objectives.

ISSUE

An issue is a *current* **condition or situation** that may have an *impact* on one or more project objectives.

Unknown risks manifest as issues.

WORKAROUND

An *immediate* & *temporary* response to a realized risk for which a prior response has *not been planned or was not effective*.

Issue handling without proper risk management is a workaround.

Terms

Key Concepts

RESIDUAL RISK

The risk that **remains** after *risk responses* have been implemented.

Only avoidance strategy can eliminate a risk.

RISK APPETITE

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

SECONDARY RISK

A risk that arises as a *direct result* of implementing a risk response.

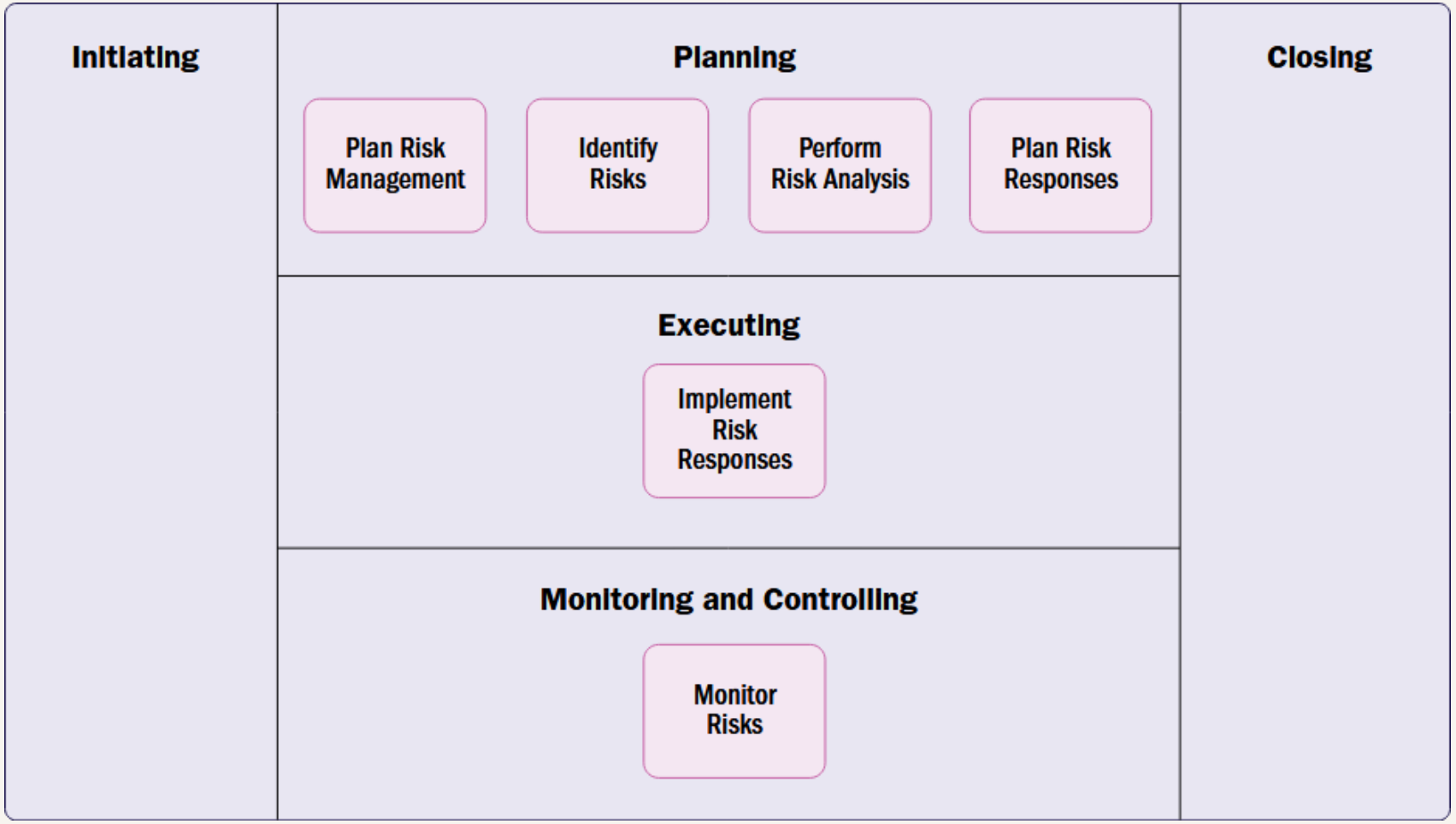
e.g.: retrieving twice after ordering a second product because of delays

Processes & ITTOs

Inputs, Tools, Techniques, Outputs

Processes Overview

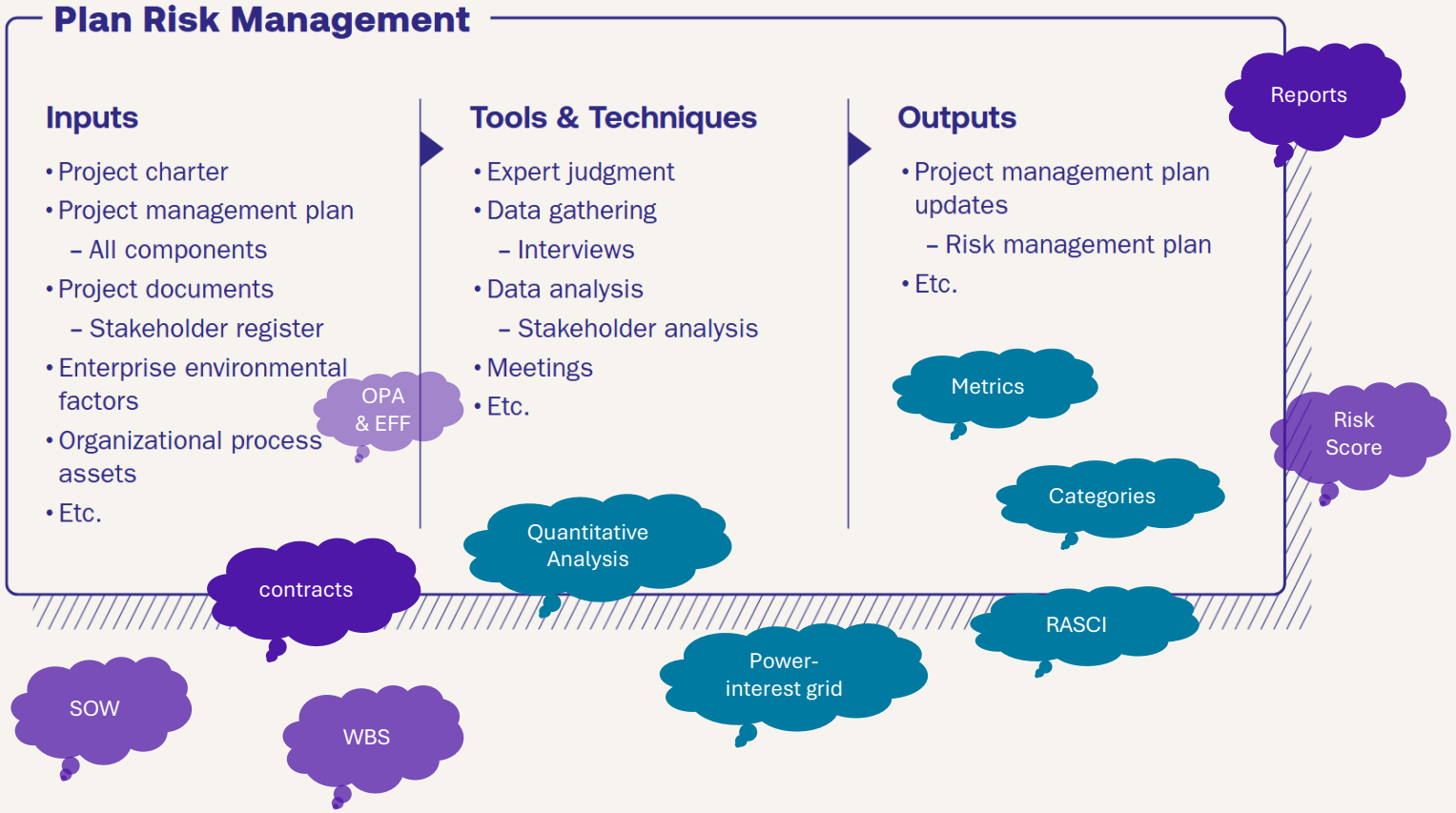
Mapped to Focus Areas



Risk Performance Domain Processes Overview; p.95

Planning / Initialization

Risk matrix and metrics



Impact	Likelihood			
	Low	Medium	High	Critical
Low	Low	Low	Medium	Medium
Medium	Low	Medium	Medium	High
High	Medium	Medium	High	Critical
Critical	Medium	High	Critical	Critical

Example Risk Matrix

METRICS

Must-Have (regulations, policies...)

Likelihood, Impact

Temporal factors (Detection Delay, Response urgeny)

Risk appetite

Risk Threshold

Identify & Analyze risks

Planning

Identify Risks

Inputs

- Project management plan
  - Requirements management plan
  - Schedule management plan
  - Financial management plan
  - Quality management plan
  - Resource management plan
  - Risk management plan
  - Scope baseline
  - Schedule baseline
  - Cost baseline
- Project documents
  - Assumption log
  - Cost estimates
  - Duration estimates
  - Issue log
  - Lessons learned register
  - Requirements documentation
  - Resource requirements
  - Stakeholder register
- Agreements
- Enterprise environmental factors
- Organizational process assets
- Etc.

Tools & Techniques

- Expert judgment
- Data gathering
  - Brainstorming
  - Checklists
  - Interviews
- Data analysis
  - Root cause analysis
  - Assumption and constraint analysis
  - SWOT analysis
  - Document analysis
- Interpersonal and team skills
  - Facilitation
- Prompt lists
- Meetings
- Artificial intelligence
- Etc.

Outputs

- Risk register
- Risk report
- Project document updates
  - Assumption log
  - Issue log
  - Lessons learned register
- Etc.

RAID-Log

Dashboard

Best Practices

Lessons Learned

METRICS

ID	(Sub-)Category
Likelihood, Impact	Secondary risks
Temporal factors	[...]

Perform Risk Analysis

Inputs

- Project management plan
  - Risk management plan
  - Scope baseline
  - Schedule baseline
  - Cost baseline
- Project documents
  - Assumption log
  - Cost estimates
  - Duration estimates
  - Resource requirements
  - Risk register
  - Stakeholder register
- Enterprise environmental factors
- Organizational process assets
- Etc.

Tools & Techniques

- Expert judgment
- Data gathering and analysis
  - Interviews
- Interpersonal and team skills
  - Facilitation
- Risk categorization
- Data analysis
  - Risk probability and impact assessment
  - Simulations
  - Sensitivity analysis
  - Decision tree analysis
  - Influence diagrams
- Data representation
  - Probability and impact matrix
- Etc.

Outputs

- Project document updates
  - Assumption log
  - Issue log
  - Risk register
  - Risk report
- Etc.

Quantitative

Qualitative

Metrics

Cause & Effect

Identify & Analyze risks

Risk Register & RAID Log

METRICS

ID

Likelihood, Impact

Temporal factors

(Sub-)Category

Secondary risks

[...]

RAID-Log

Knowledge

Assumptions

Best Practices

Dependencies

Dashboard

Pattern

Analysis

Risk & Issue Log

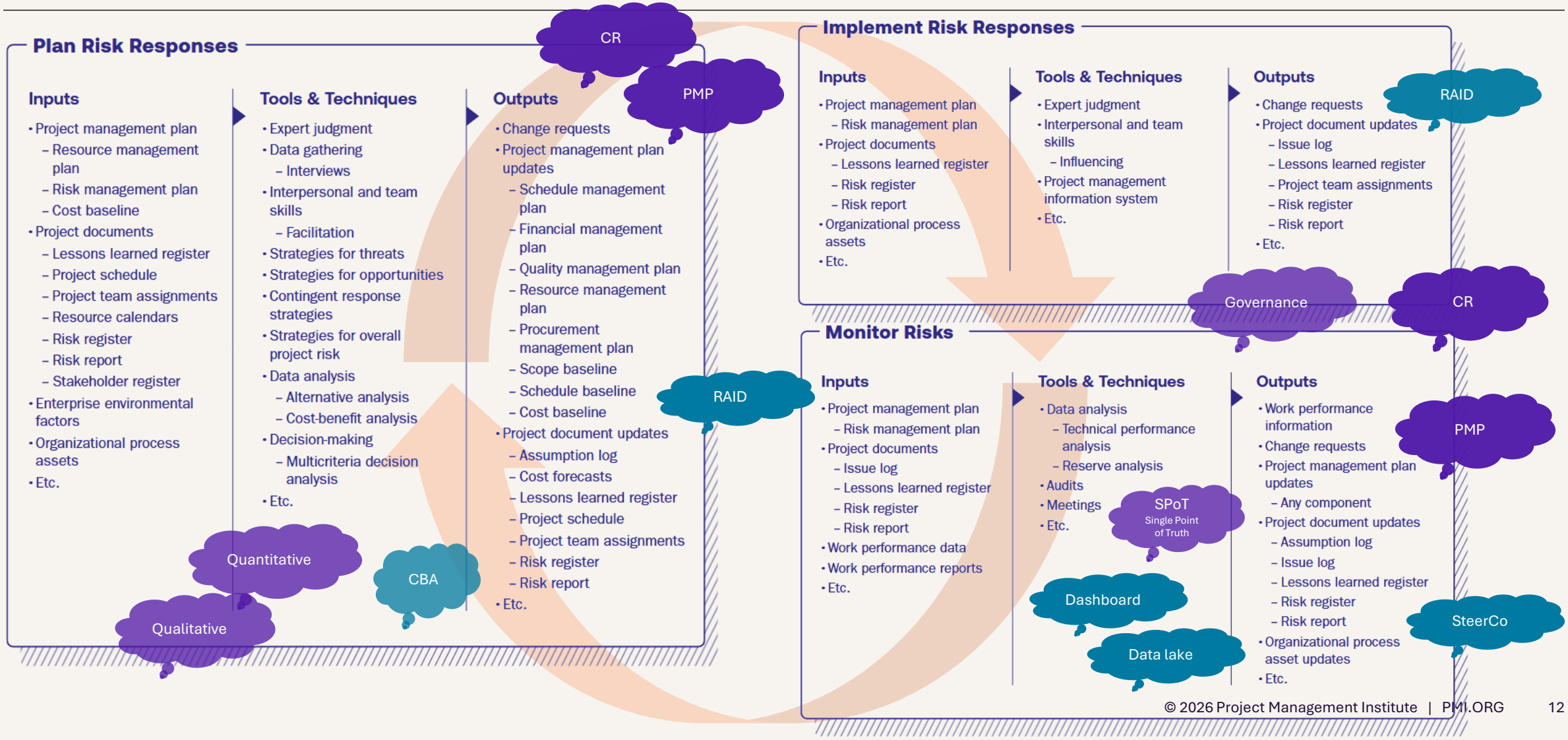
ID	Risk ID	RR ID	log type	Scenario	Change description	Date	Owner	Result
1	1		risk-add	No projetplan agreed when project starts	Initial Best practice input		PM	Actively avoid
2	2		risk-add	Only one SME for key topic	Initial Best practice input		PM	Monitor
3	1	1-2	risk-update	No projetplan agreed when project starts	Risk responses initiated, planning		PM	Risk Score adjusted, High -> Medium
4	2	3	risk_response successful	Only one SME for key topic	Implement Best Practice option		PM	Risk Score adjusted, High -> Low

Risk Register

ID	Scenario	Category	Sub-Category	Likelihood	Impact	Metric quantification comment or source	Implications / Impact Description	Severity
1	No projetplan agreed when project starts	**OPA**	Organizational effects	Medium	Medium	**likelihood**: 1/3. Antipattern; detection: never when not changed on portfolio level, **Impact** over entire project; **Urgency**: the sooner the better	headless chicken mode, a lot of meetings, parallel creation of plan	Medium
2	Only one SME for key topic	**Team**	Capabilities & availability	High	High	key topic and resource is involved in almost all work-packages	massive delays	High

Plan & Implement Responses | Monitor

Iterative Risk Management Workflow



Plan & Implement & Monitor Risk Responses

Mitigation responses & strategies

Risk Responses

RR ID	Risk ID	Scenario	Mitigation Strategy	Description	Due Date	Status
1	1	No projetplan agreed when project starts	Avoid	Integrate projectplan into planning phase. Agree on a planning phase.		In progress
2	1	No projetplan agreed when project starts	Mitigate	Let the entire team do the plan and pause all other activities. Implements secondary risk of delays and resource re-allocation needs.		Planned
3	2	Only one SME for key topic	Mitigate	Make SME a strategic resource, involve in management decisions.		Implemented

THREATS

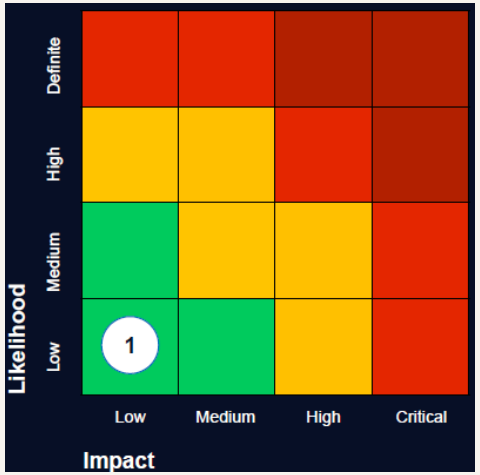
- Avoid
- Mitigate (Minimize)
- Transfer
- Escalate
- (Monitor; not a PMI standard)
- Accept

OPPORTUNITIES

- Enhance
- Exploit
- Escalate
- Share

OVERALL RISK

- Avoid
- Exploit
- Transfer / Share
- Mitigate / Enhance
- Accept



Report Matrix Example

Performance Domains interactions

Efficiency through a holistic view.

Risk Management

& all other performance domains

SCOPE

e.g., complexity, critical path, knowledge, business case, assumptions

SCHEDULE

e.g., development approach, critical path, key resources

BUDGET / FINANCE

contingency & management reserve

e.g., penalties, taxes, procurement

RISK PERFORMANCE DOMAIN

STAKEHOLDER

e.g., methodology, decisions, benefits, “inner politics”

GOVERNANCE

e.g., value proposition, metrics, boards / gremiums / reports

RESOURCE

e.g., clusters, SME, Single point of failure

Budget Reserves

Financial Risk Management

Management Reserve

- Allocated for **Unknown-Unknowns**
- No part of the Budget Baseline
- Needs a Change Request to obtain

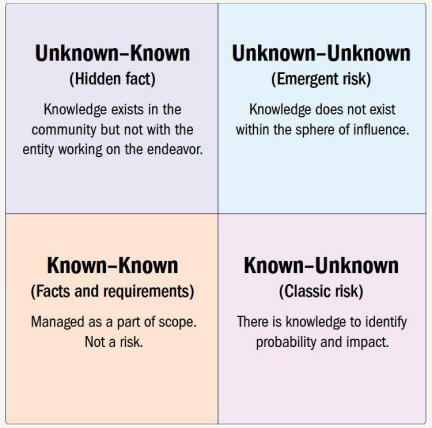
▪ Controlled by Portfolio Leadership

Approved project budget

Contingency Reserve

- Allocated for **Known-Unknowns**
- Quantified by initial risk assessment
- Part of the Budget Baseline

▪ Controlled by Project Management



Budget Reserves & Margin

– It's no extra margin – it will be **consumed** by the end of the project.

– In Consulting business, the Reserves are held internally as **margin buffer**.

– In regulated environments the transparency of reserves may be a requirement for audit purposes.

Reserves are **planned expenditures** to maintain the project's health.

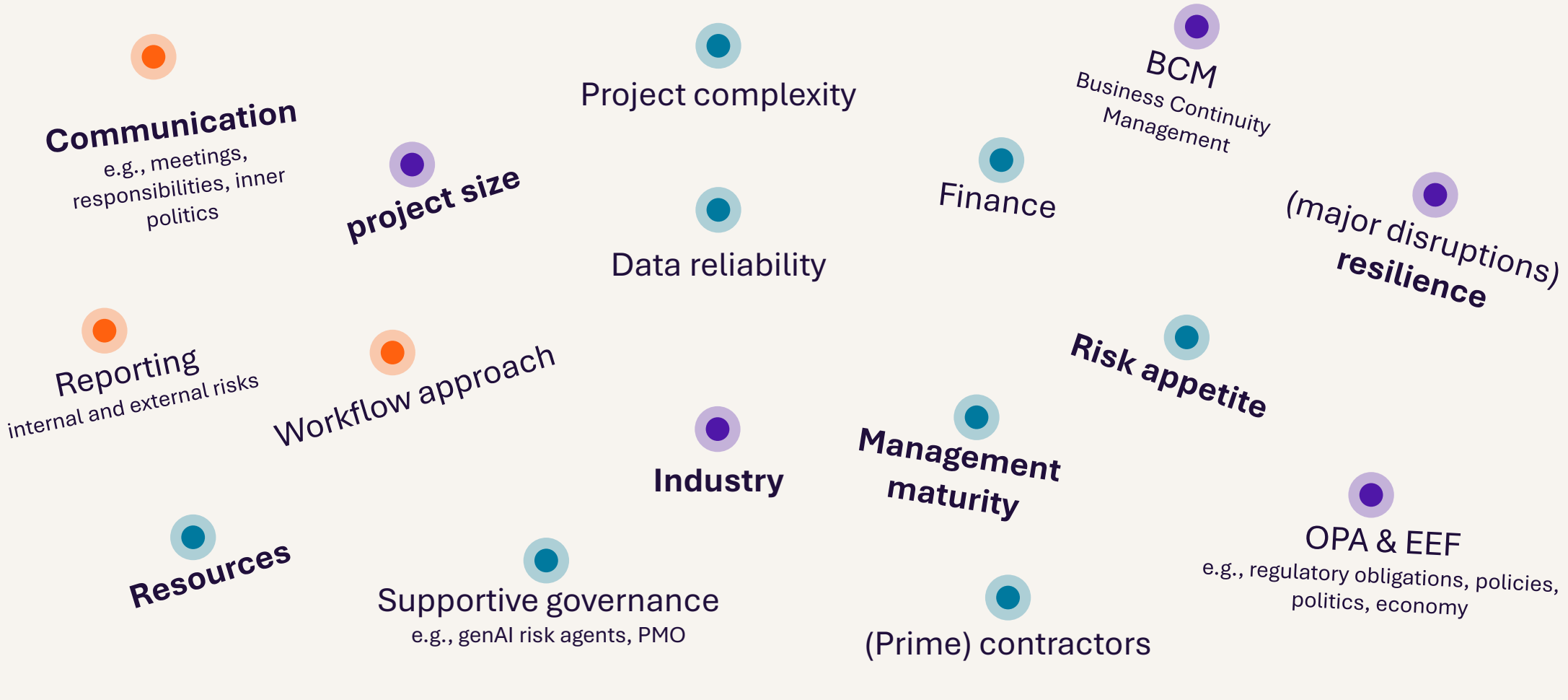
Leftover contingency reserves can serve as a useful **performance indicator**.

Tailoring

There‘s no project like another

Tailored project integration

Situational Project Management



Risk Scores

Composite factors weighting

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					

Example Probability and Impact Matrix With Scoring Scheme; p.187

Risk Scoring includes weighting in different factors like **temporal criteria**, **categories**, business impact **relevance** etc.

The Risk Temporal Knowledge Graph classified a lot of temporal factors.

see Badhon et al. (2026)

Risk Score Weight	
L – Likelihood	2
I – Impact	2
DL – Detection Delay	1
RU – Response Urgency	1
weights_total	6

$$Basis\ Risk\ Score = \frac{(2 * L) + (2 * I) + DL + RU}{6}$$

$$Residual\ Risk\ Score = \frac{(2 * L\,res\,) + (2 * Ires) + DLres + RUres}{6}$$

Risk Register

ID	Scenario	Category	Sub-Category	Likelihood	Impact	Detection Delay	Response urgency	Metric quantification comment or source	Implications / Impact Description	Severity	status	Residual Risk
1	No projetplan agreed when project starts	OPA	Organizational effects	Medium	Medium	Critical	High	likelihood: almost every 2nd project does not plan apprporiately detection: never when not changed at base, Impact over entire project, urgency: the sooner the better	headless chicken mode, a lot of meetings, parallel creation of plan	High	active	Medium
2	Only one SME for key topic	Team	Capabilities & availability	High	High	Low	Critical	key topic and resource is involved in almost all work-packages	massive delays	High		Low

Risk Strategies

RR ID	Risk ID	Scenario	Mitigation Strategy	Description	Status	Effectiveness justification / evidence	Likelihood Reduction	Impact Reduction	Detection Delay reduction	Response Urgency reduction
1	1	No projetplan agreed when project starts	Avoid	Integrate projectplan into planning phase. Agree on a planning phase.	In progress	verified against projects who had a planning phase	Medium	Medium	Critical	Low
2	1	No projetplan agreed when project starts	Mitigate	Let the entire team do the plan, and pause all other activites. Implements secondary risk of delays and resource re-allocation needs.	Planned	done in other projects	Low	Low	Low	Low
3	2	Only one SME for key topic	Avoid	Make SME a strategic resource, involve in management decisions.	Implemented		High	Critical	Low	Low

Appendix

FAQ, Further Reading

FAQ

Stakeholder & Self Management

DO I REALLY NEED RISK MANAGEMENT?

You want to be prepared for success, ain't you?

Projects might be successful, though – with less certainty.

WHAT DOES IT COST?

Based on project complexity & size.

Initially 2-10 hours.

Integrated in execution 2-10 hours monthly.

WHY DO I HESITATE TO MANAGE RISKS?

Risks are negative by nature; you might be a human ;)

Embrace the success of being prepared.

RISK PERFORMANCE DOMAIN

WHERE TO START?

Inputs!

Assumptions, SOW, Deliverables, project plan, contracts...

BEST PRACTICES?

Define typical risks in your team, keep a common risk register.

Store Lessons Learned and treat them as gold.

YOURS?

Further Reading

Literature

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Thanks

Stay aware of potential resistance. Be good.

[Pierre Corell](#)

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