

Risk Management

A Practical Approach for Project Success

October 20, 2005
PMIPR

Yaritza Carrero, PMP

Agenda Risk Management

1. Concept
2. Risk Planning, Risk Identification, Risk Assessment & Filtering
3. Risk Avoidance, Transfer, Mitigation and Contingency
4. Monitoring and Control Process
5. Summary

Qualitative &
Quantitative
Analysis

Risk Response
Planning

Concepts

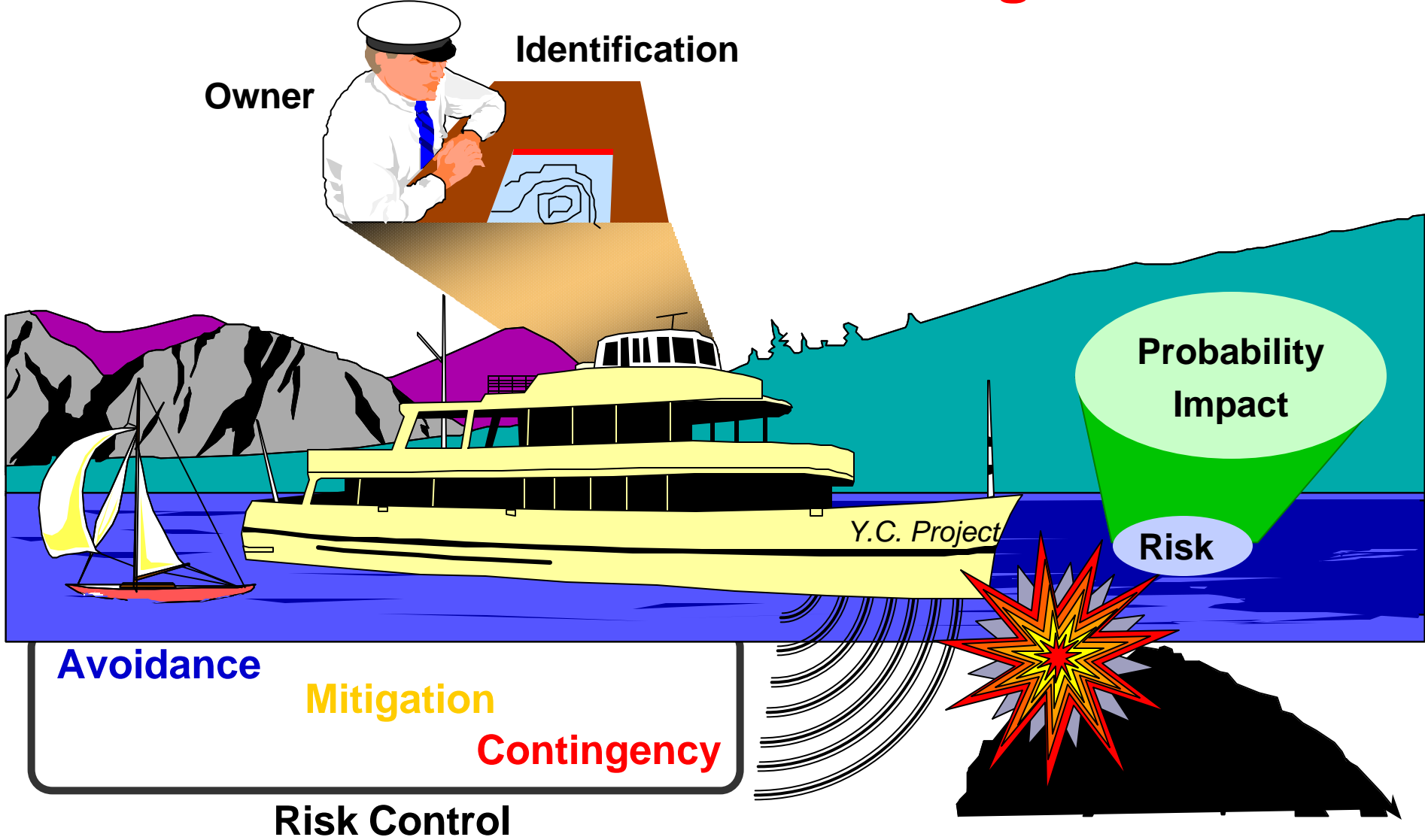
Definition of Risk

- Risks are threats to a project
 - They have **not occurred yet**
 - They **may** or **may not** occur
 - They will have a **negative impact** on the project
- Risks themselves **cannot be controlled** – only their probabilities and consequences can be

**Project Risk = Potential Cause
of Failure**



Basic Elements of Risk Management



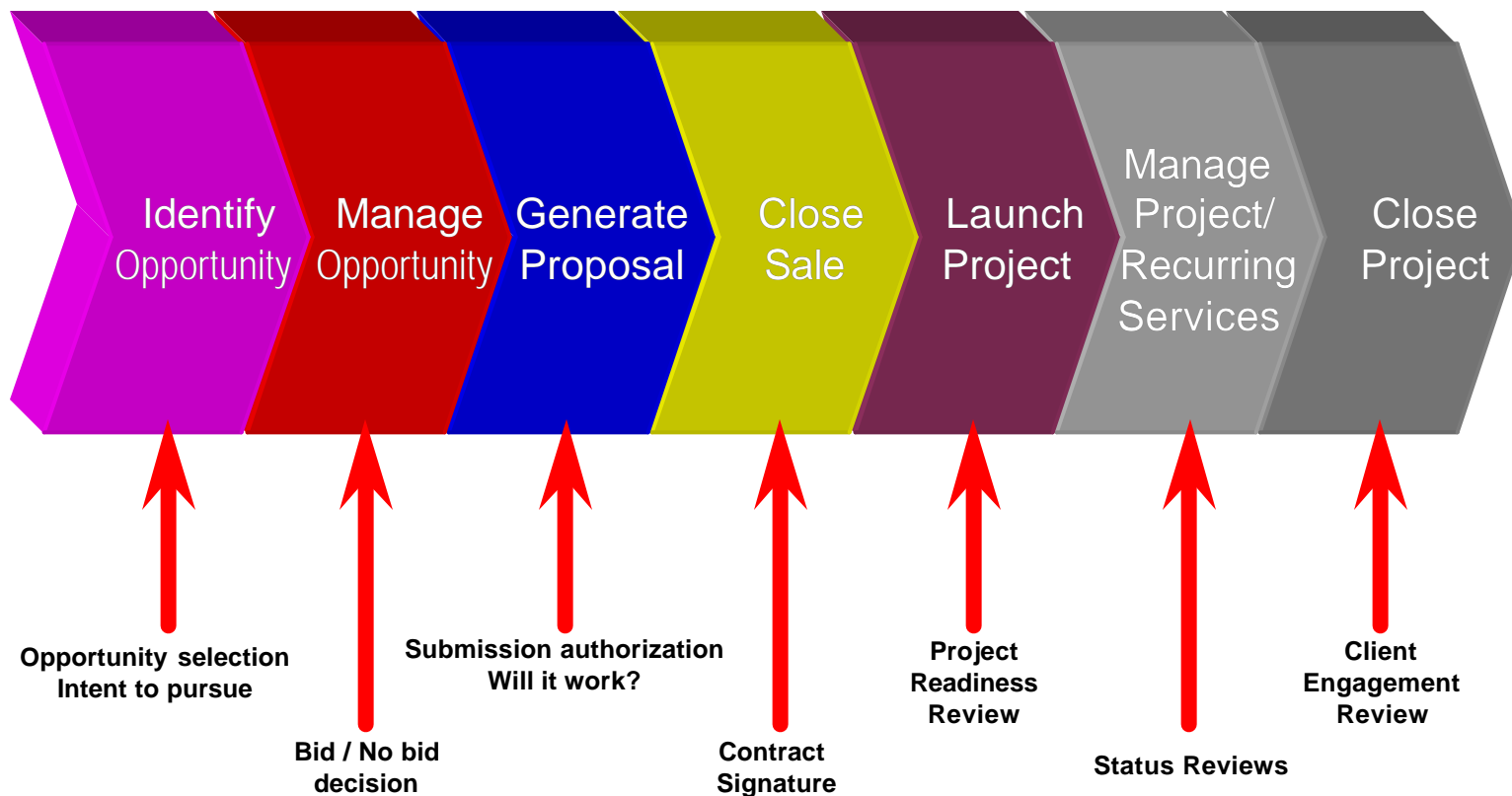
What Is Risk Management?

- A management technique that
 - Identifies **threats** to the success of a project
 - **Define & Implements actions** to minimize these threats
- A **subset of project management functions** that complements **financial, schedule, quality, and requirements** activities
- An **essential element** of competent project management

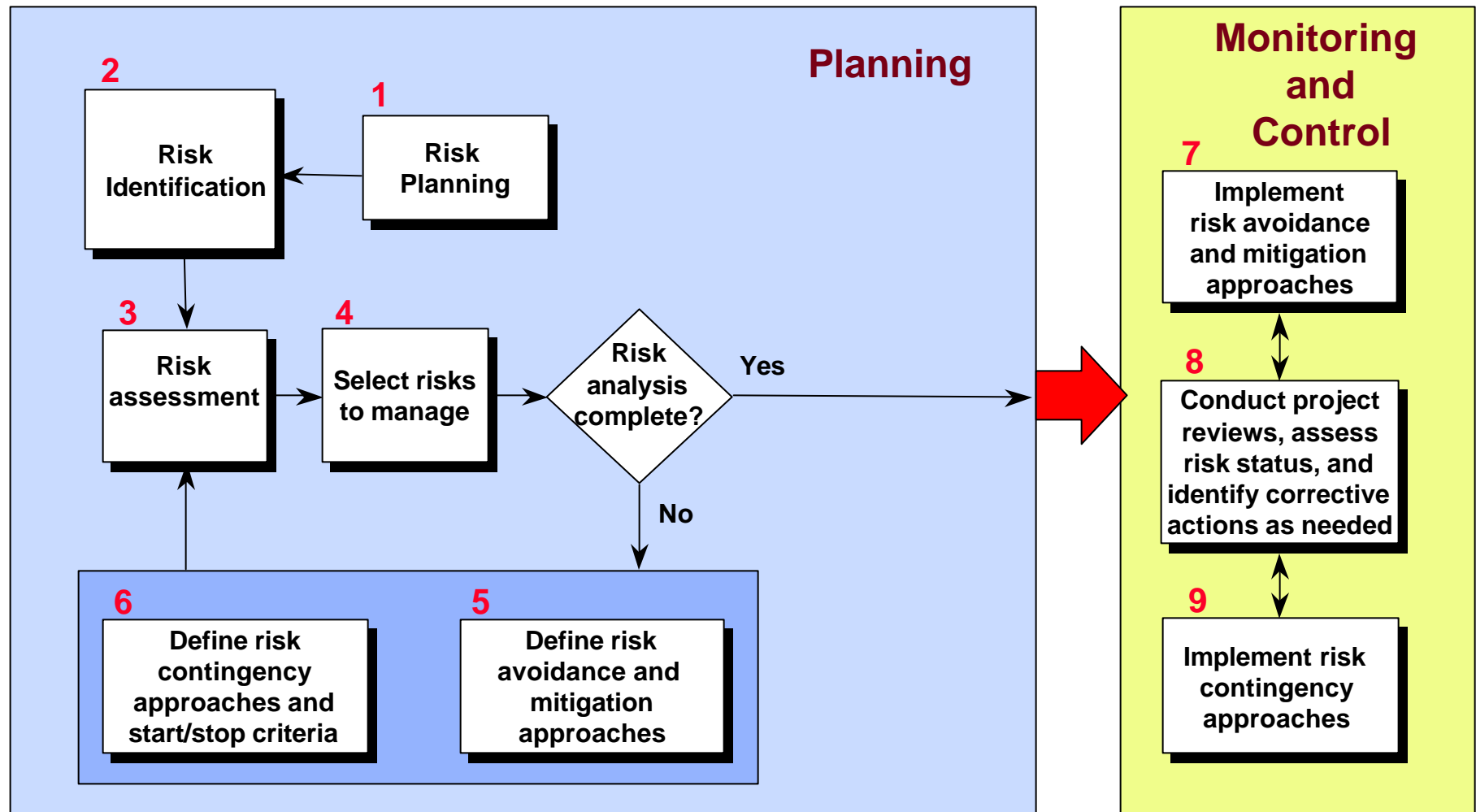


When Should Risk Management Be Performed?

ENGAGEMENT LIFECYCLE



Risk Management Process



Risk Planning
Risk Identification
Risk Assessment and Filtering

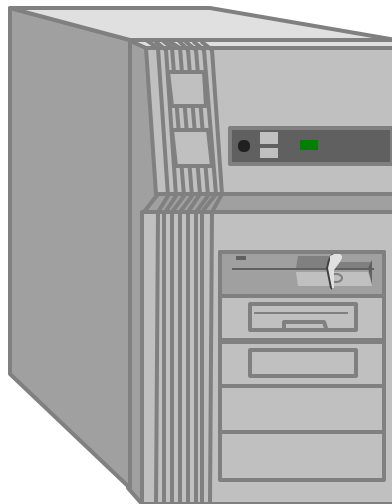
1 – Risk Planning

WHAT? HOW? WHERE? WHO? WHEN?

- Define Method of:
 - Collecting
 - Managing
 - Controlling
 - Reporting
 - Review risk status
- What Information is to be kept
 - Where
 - Who can access it
 - How will it will be implemented and reviewed

1 – Risk Planning

- Define Responsibilities of:
 - Risk Manager
 - Project Manager
 - Project Team
- Define Risk Management Database



Risk Database Elements

- Risk identification number
- Risk title
- Risk description
- Risk Owner
- Project milestones most critically affected by this risk
- Risk status (active, open, or closed)
- Risk probability
- Risk cost, revenue impact
- Risk schedule impact
- Bottom line risk status summary or prognosis
- Status of risk mitigation and avoidance activities
- Status of risk contingency activities
- Status date responsible person
- Functional area (HW, SW and so on)
- Summary of risk mitigation and avoidance approaches
- Summary of risk contingency approaches
- Risk contingency start and stop criteria
- Contingency funds



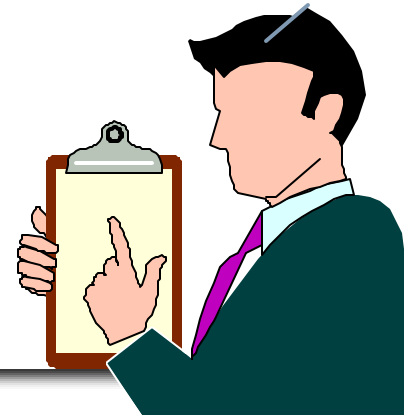
Examples of Potential Project Risk (Check list)

- Technical
 - Requirements
 - Technology & Innovation
 - Complexity & Interfaces
(Migration or conversion data)
 - Performance & Reliability
- Organizational
 - Project Dependencies
 - Resources
 - Funding
- Cultural
 - Holidays
 - Language
 - Working hours
- External
 - Subcontractors or suppliers
 - Regulatory
 - Market
 - Customer
 - Weather
- Project Management
 - Estimating (wrong assumptions, estimating errors, lack of experience)
 - Planning
 - Controlling
 - Communication
 - Acceptance Criteria & Acceptance Process

2 – Risks Identification

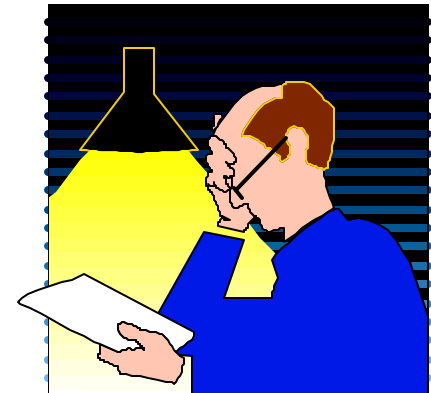
- Identify all potential project risks
 - Cost
 - Schedule
 - Technical performance of the solution
 - Client expectations

- Begin to build the Risk Register
 - Do not sequence
 - Do not assess
 - Do not prioritize



Where to Look for Risks?

- **Documents Reviews**
 - RFP / Proposal
 - Contract
 - WBS / OBS / resource plans
 - Project Schedule (critical path network)
 - Project Management Plan
 - Statements of Work (SOW)
 - Technical Specifications
 - Budgets
 - Prior Similar Project Files



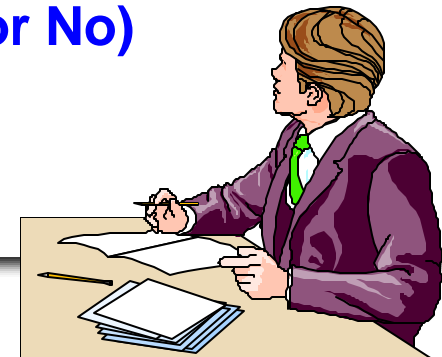
3 - Risk Assessment



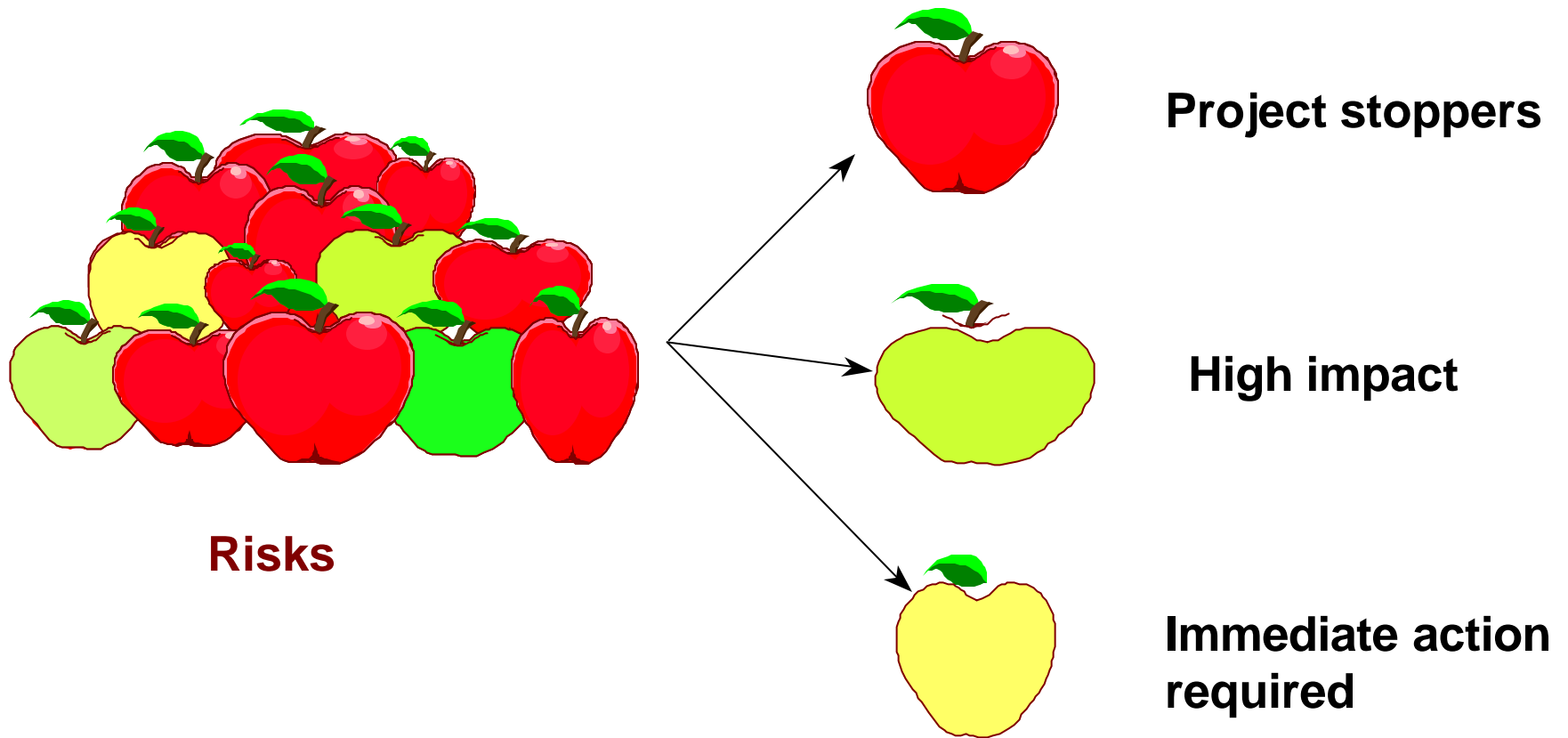
- Assess the **probability** of a risk occurring
Probability - the percentage of chance that a risk will materialize
- Estimate the **impact** on the project if the risk does occur
Impacts - **negative effects** on the project.

4 - Select Risks to Manage (Filtering)

- **Define a manageable set of critical risks**
 - Retain a list of all risks
- **Calculate Risk Exposure (RE)**
 $RE = \text{Probability percentage} * \text{Cost impact}$
- **Assess level of impact on the project (filtering)**
 - **Would it bring the project to stop? (Yes or No)**
 - **Would it have a serious impact on project (Yes or No)**
 - **Would it require immediate action? (Yes or No)**



Assessing the Level of Impact Filtering



Exercise

Risk Filtering Criteria

Check risks that clearly should be included in the Risk Management effort

Risk Issue	Probability	Schedule Impact	Cost Impact	Risk Exposure	Project Stopper	Immediate Action Required	
1)				\$750k	Yes	No	1) _Y_
2)				\$60k	No	No	2) _N_
3)				\$1M	No	No	3) _Y_
4)				\$500k	Yes	Yes	4) _Y_
5)				\$10k	No	Yes	5) _Y_
6)				\$25k	No	No	6) _N_

Results from 4 - Select Risks to Manage (Filtering)

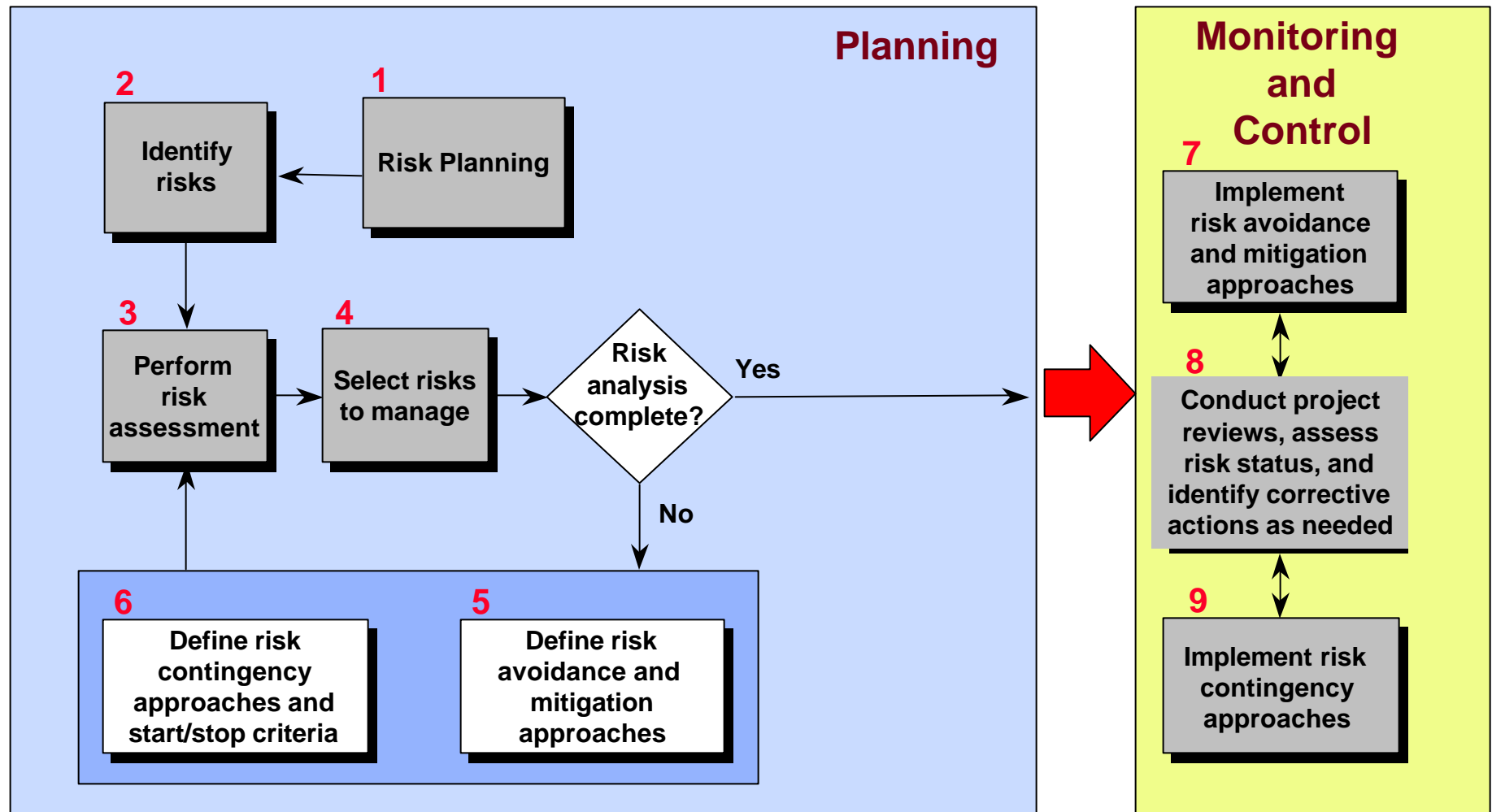
- Define a manageable set of the most critical risks
- Define preventive action
- Plan contingent action to be implemented at an identified trigger or at a specific point in time
- Abandon or negotiate the project

Risk Avoidance, Transfer, Mitigation and Contingency Planning

Agenda

1. Avoidance, Transfer, Mitigation and Contingency Definitions
2. Step 5 – Define risk avoidance and mitigation approaches
3. Step 6 – Define risk contingency approaches and start/stop criteria

Risk Management Process



Step 5 – Define Risk Avoidance, Transfer, Mitigation, and Contingency Definitions

- **Avoidance**
 - Remove the risk
- **Transfer**
 - Shifting the negative impact of the risk to another party (Ex: Insurance, performance bonds, warranties, etc.)
- **Mitigation**
 - Reduce the probability that the risk will materialize
 - Reduce the impact if the risk does materialize
- **Contingency**
 - Plan to implement corrective action if the risk does materialize
 - The funds needed to repair the risks that materialize
 - The extra time planned in the schedule to reduce schedule overruns



Step 6 - Define Risk Contingency approaches and Start/Stop criteria

- **Actions** to be implemented if the avoidance and mitigation plan fails and the **risk materialize**
- Each risk might have **more than one** contingency approach
- **Link the risk** to a project milestone or deliverable
- **Define** for each agreed contingency approach
 - What **event** would **trigger** this contingency action?
 - What **event** would indicate that the contingency **action could stop**?

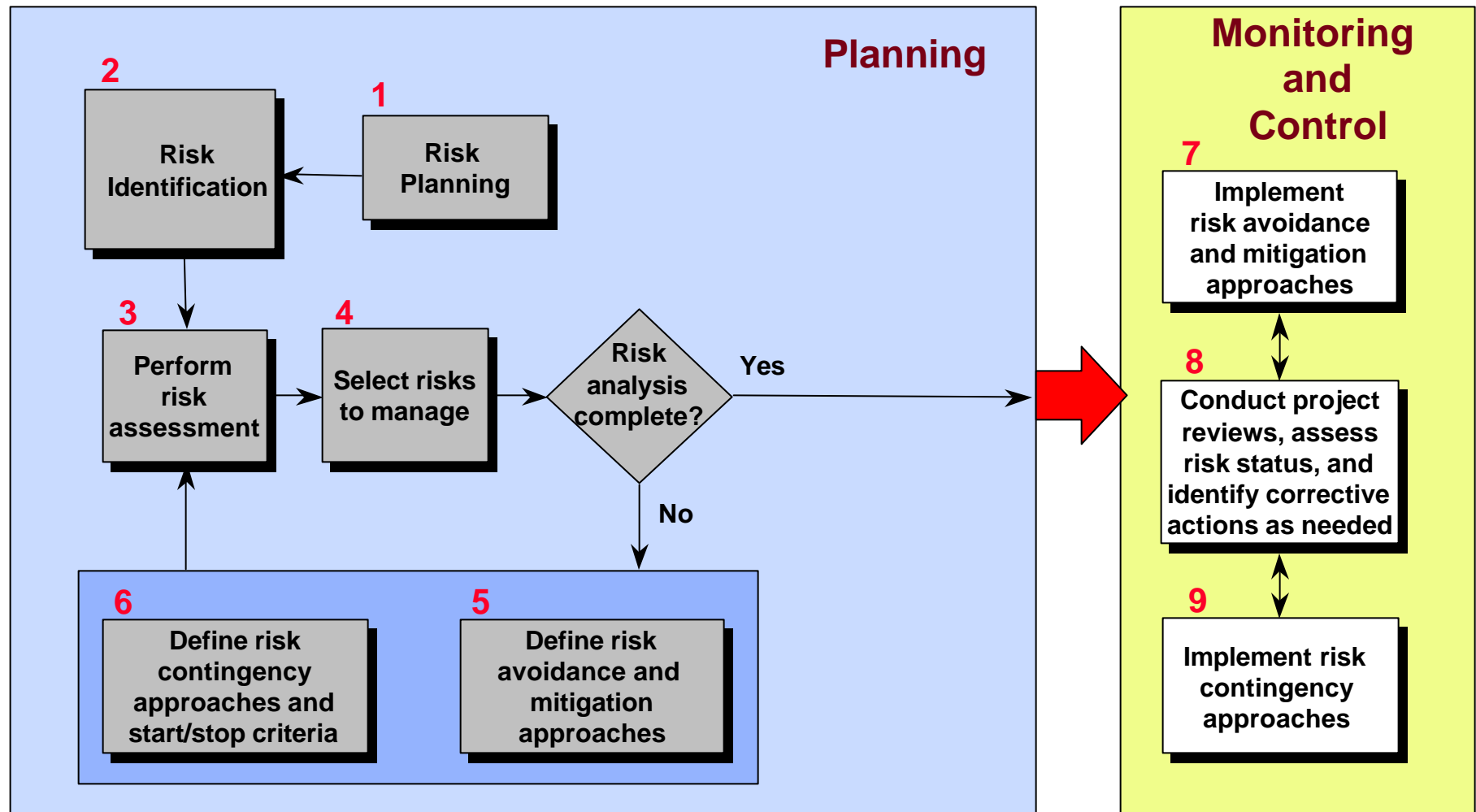


Risk Contingency Approaches - Example 1

- **Risk**
 - You are concerned that a subcontractor might fail to make the delivery of an important hardware item for your project
- **Contingency plans**
 - Alternative provider - identify, negotiate terms and conditions, contract.
- **Start criteria**
 - Subcontractor fails to meet planned review milestones
 - Subcontractor fails milestone deliverables acceptance test
- **Stop criteria**
 - Subcontractor provides credible proof of catch-up/correction plan that will not impact project completion
 - Subcontractor revised plans have a lower impact on project completion than plans from new supplier

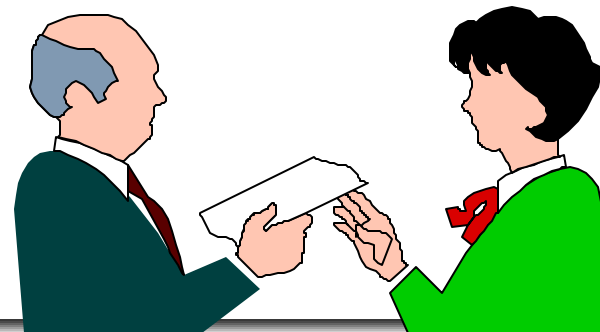
Risk Management Control

Risk Management Process



Step 7 - Implement Risk Avoidance and Mitigation Approaches

- **Implement actions** in accordance with the Project Management Plan and Risk Management Plan
 - Actions can be taken at any time
 - Costs are planned expenses
- **Provide feedback** on results of actions
- **Update status** in risk plans
- Identify and add **new risks**



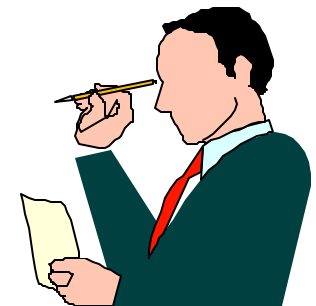
Step 8 - Conduct Project Reviews

- Review the **status** of all risks at all reviews
 - Each level of detail/organization
 - In parallel with finance, schedule, quality, and technical performance
- Discuss **risk status** at **client progress** reviews
- Have **subcontractors report risk** status in the same way as each functional organization
- Occasionally, conduct a full formal review by reviewers not involved in the project



Step 8 - Assess Risk Status and Identify Corrective Actions (as needed)

- Re-assess status of previously identified risks
- Assess the status of newly identified risks
- Revise avoidance, mitigation and contingency approaches as needed
- Re-evaluate probabilities and impacts
- If there have been changes, re-apply (filtering)
 - Calculate risk exposure
 - Decide which risks to try to minimize
- Update the Risk Management Plan



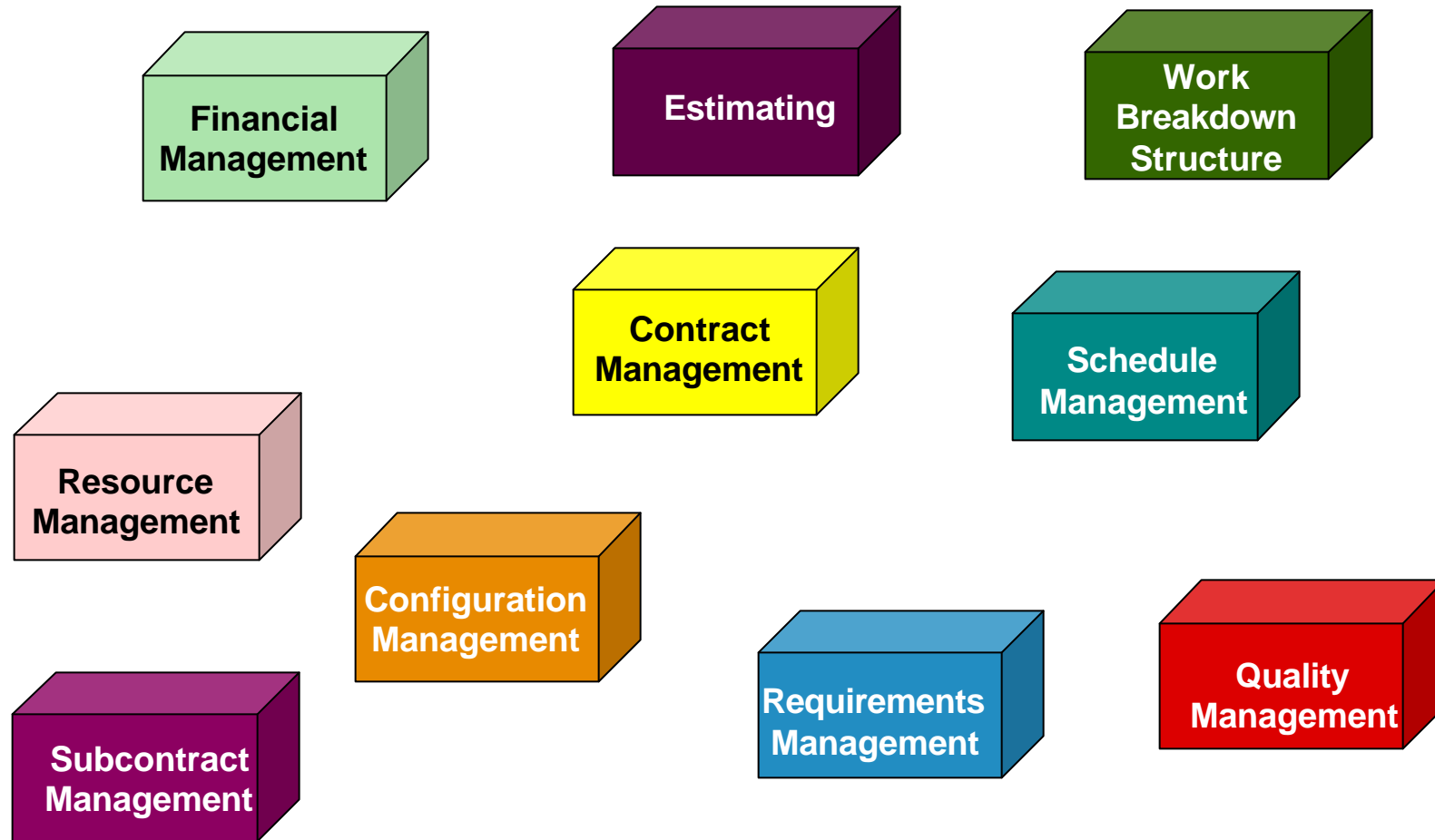
Step 9 - Implement Risk Contingency Approaches

- **Implement plans** in accordance with the Project Management Plan and Risk Management Plan
 - When a risk occurs
 - When the contingency start condition is triggered
- **Provide feedback** on results of actions
- **Update risk plans** appropriately
- Identify **new risks**



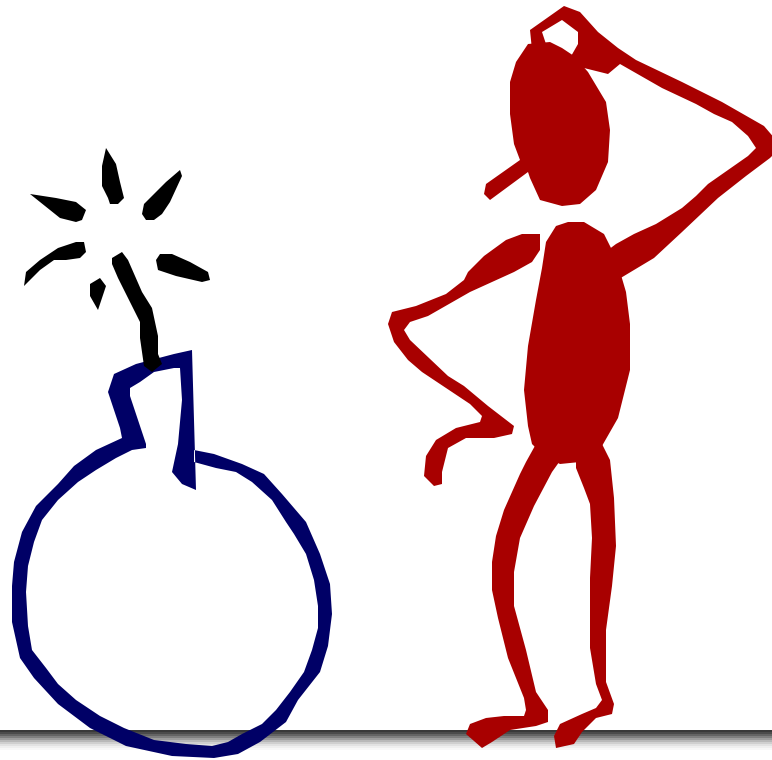
Risk Management Summary

Risk Management Applies to Other Processes



Final Word

If you don't ask for risk information,
you are asking for trouble!



Risk Management

A Practical Approach for Project Success

Thanks!!

Yaritza.Carrero@Unisys.com