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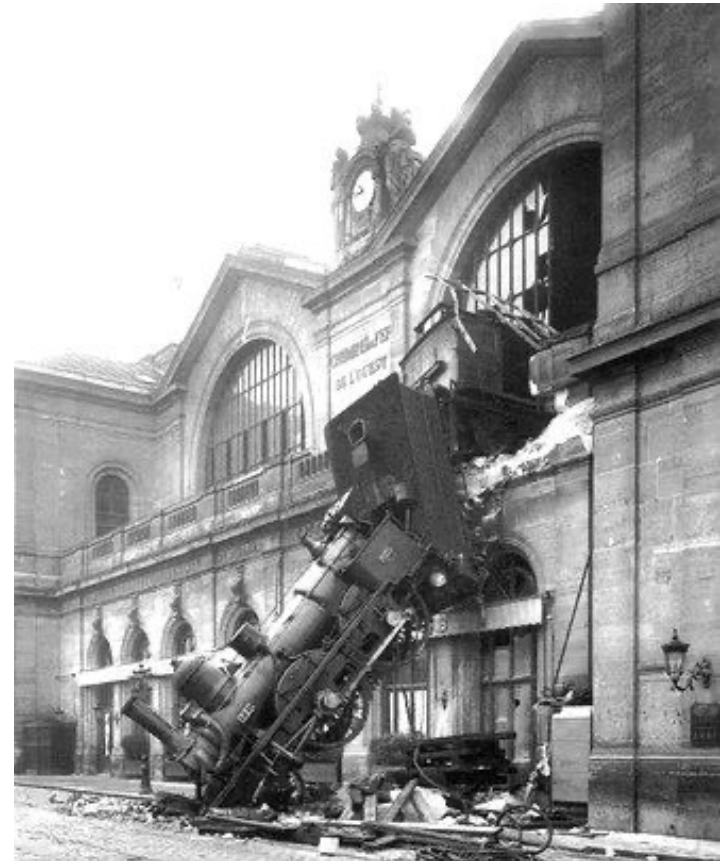


# Risk Management Strategies to Minimize Radiation Damage of Cultural Heritage

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## DEFINITIONS

**Danger** is the general word for liability to all kinds of injury or evil consequences, either near at hand and certain, or remote and doubtful: *to be in danger of being killed.*

**Hazard** suggests a danger that one can foresee but cannot avoid: *A mountain climber is exposed to many hazards.*

**Peril** usually denotes great and imminent danger: *The passengers on the disabled ship were in great peril.*

**Risk:** exposure to the chance of injury or loss; a hazard or dangerous chance: *It's not worth the risk.*

*N. Luhmann, "Risk: a Sociological Theory" (New York, Aldine de Grayter), 1993.*

## Semantic distinctions

- ✓ Both “risk” and “danger” are commonly used to represent situations having potential negative consequences as the result of agency;
- ✓ “risk” and “danger,” especially their verbal uses (to risk, to endanger), differ in agent-victim structure, i.e., “risk” is used to express that a person affected by an action is also the agent of the action, while “endanger” is used to express that the one affected is not the agent;
- ✓ “risk,” but not “danger,” tends to be used to represent rational and goal-directed action.

*M. Bonholm, “The Semantic Distinction Between “Risk” and “Danger”: A Linguistic Analysis”, Risk Analysis 32 (2012), 281.*

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  - ✓ “risk,” but not “danger,” tends to be used to represent rational and goal-directed action.
- **All these considerations have important implications for risk communication**

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Even the peanuts they give you on board are more dangerous than the flight itself (4,600 Americans a year die from choking, and obesity contributes to at least 110,000 preventable deaths a year in the US).

## Self-confidence and risk recognition

- ✓ Subjects who are led to believe they are very competent see more opportunities in a risky choice and take more risks;
- ✓ those who are led to believe they are not very competent see more threats and take fewer risks;
- ✓ human decision making is subject to the general bias that outcome expectations are not independent of outcome evaluations.

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- **We need unbiased tools in order to evaluate risk**

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# HAZARD RISK ASSESSMENT MATRIX

Frequency of Occurrence	Hazard Categories			
	1 Catastrophic	2 Critical	3 Serious	4 Minor
(A) Frequent	1A	2A	3A	4A
(B) Probable	1B	2B	3B	4B
(C) Occasional	1C	2C	3C	4C
(D) Remote	1D	2D	3D	4D
(E) Improbable	1E	2E	3E	4E



Unacceptable



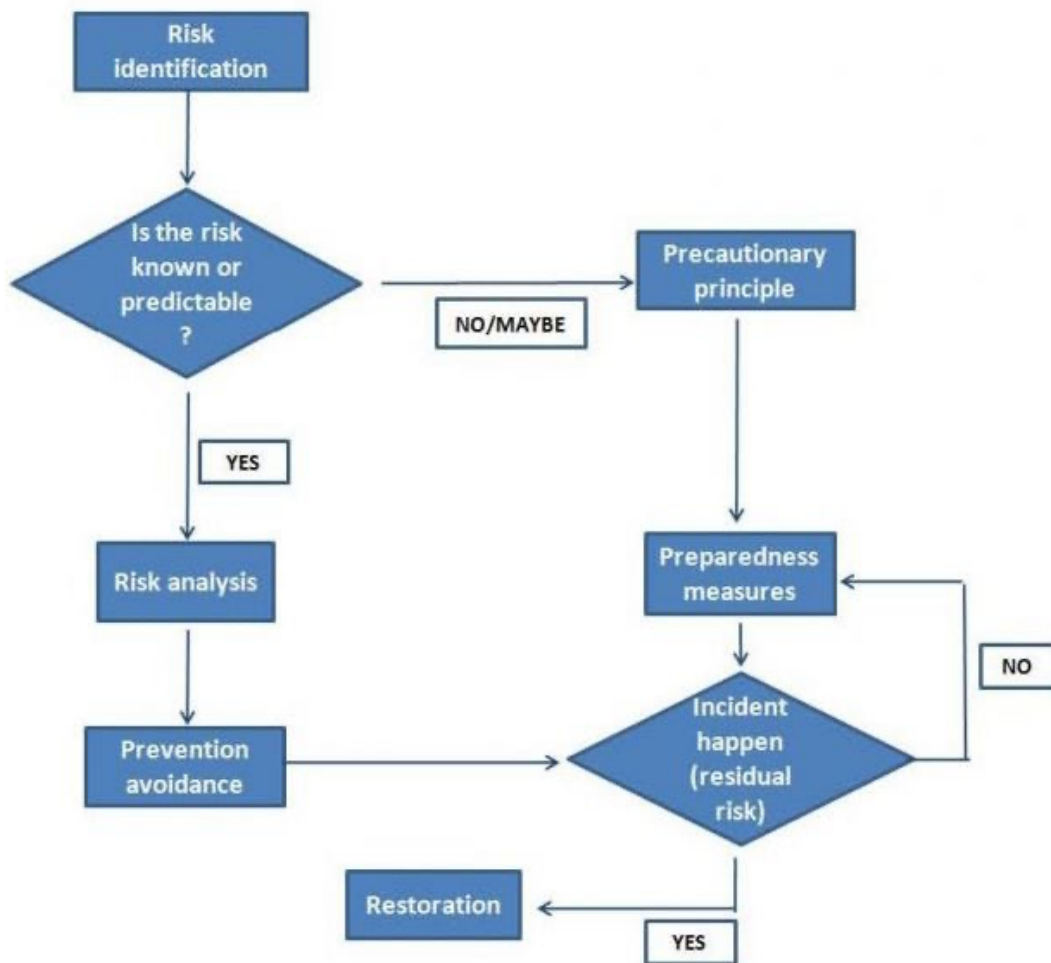
High



Medium



Low







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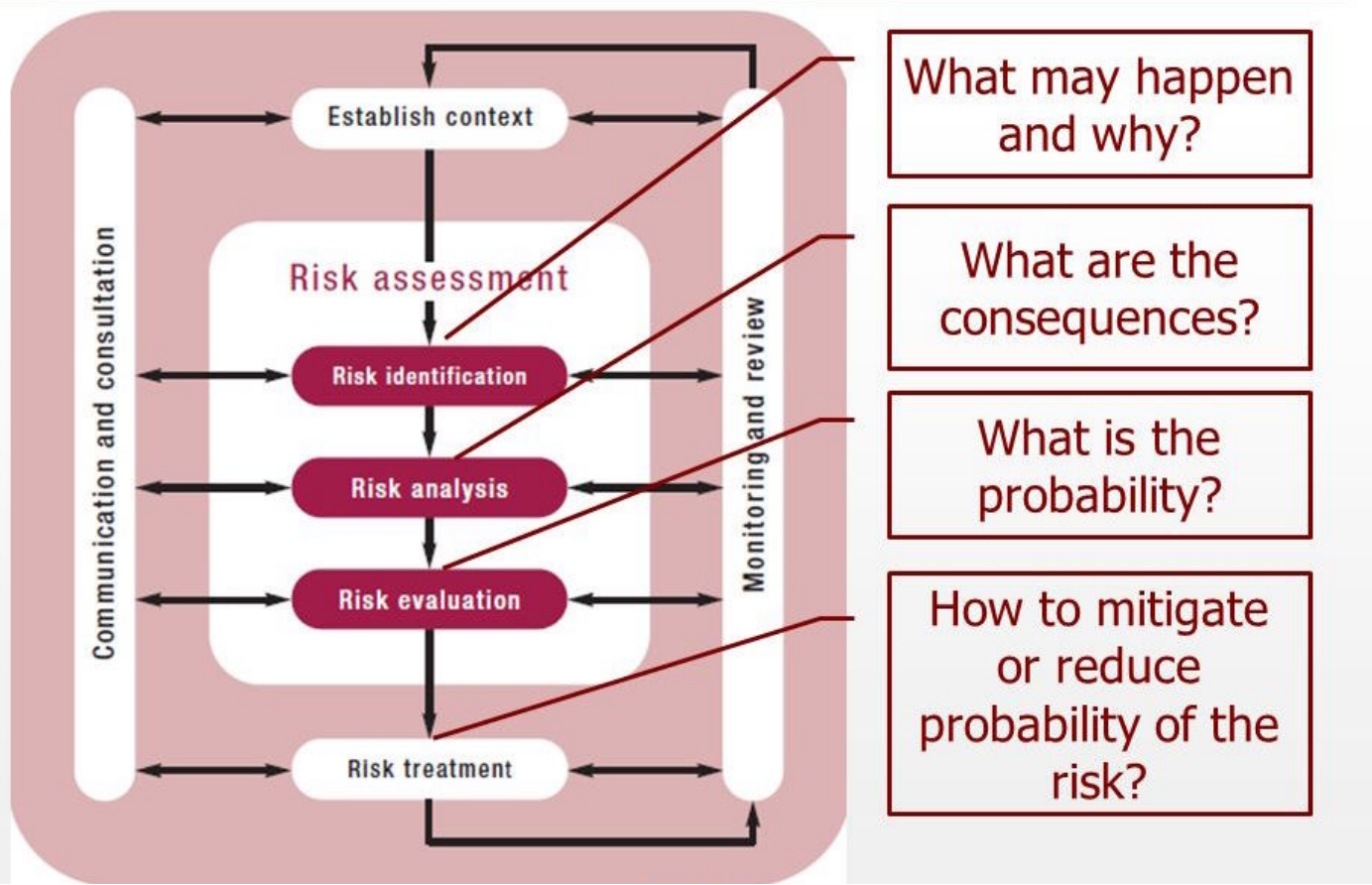


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# ISO 31000 Risk Management Process





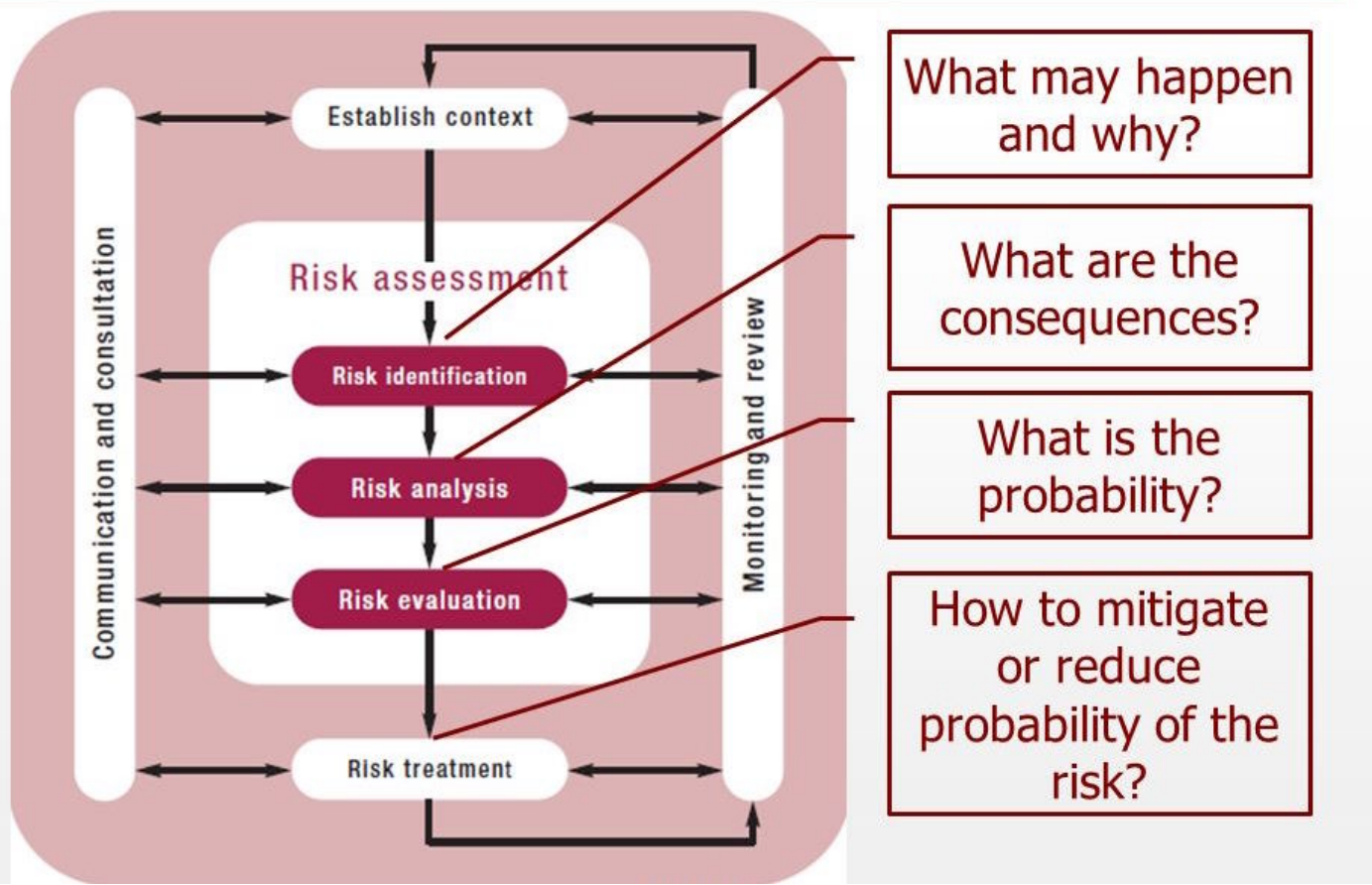
## RISK IDENTIFICATION

- ✓ Uncover risks
- ✓ Recognize risks
- ✓ Describe risks

There are several techniques you can use for this step, both creative and systematic. Mind mapping is a powerful and effective one.



# ISO 31000 Risk Management Process



## RISK ANALYSIS

- ✓ Determine level of risk
- ✓ Likelihood of it occurring
- ✓ Consequence if it were to occur
- ✓ Control in place to mitigate risk



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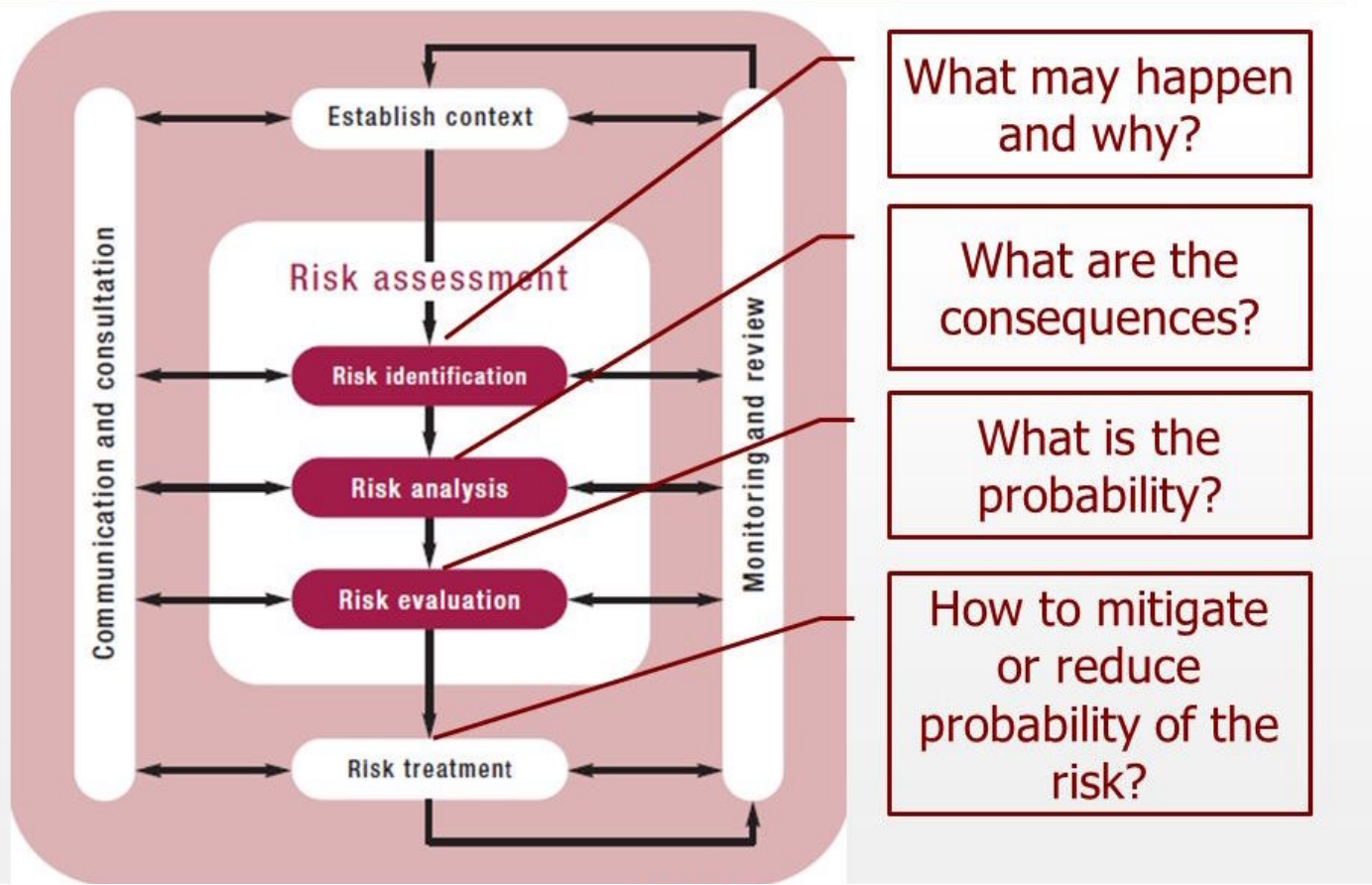
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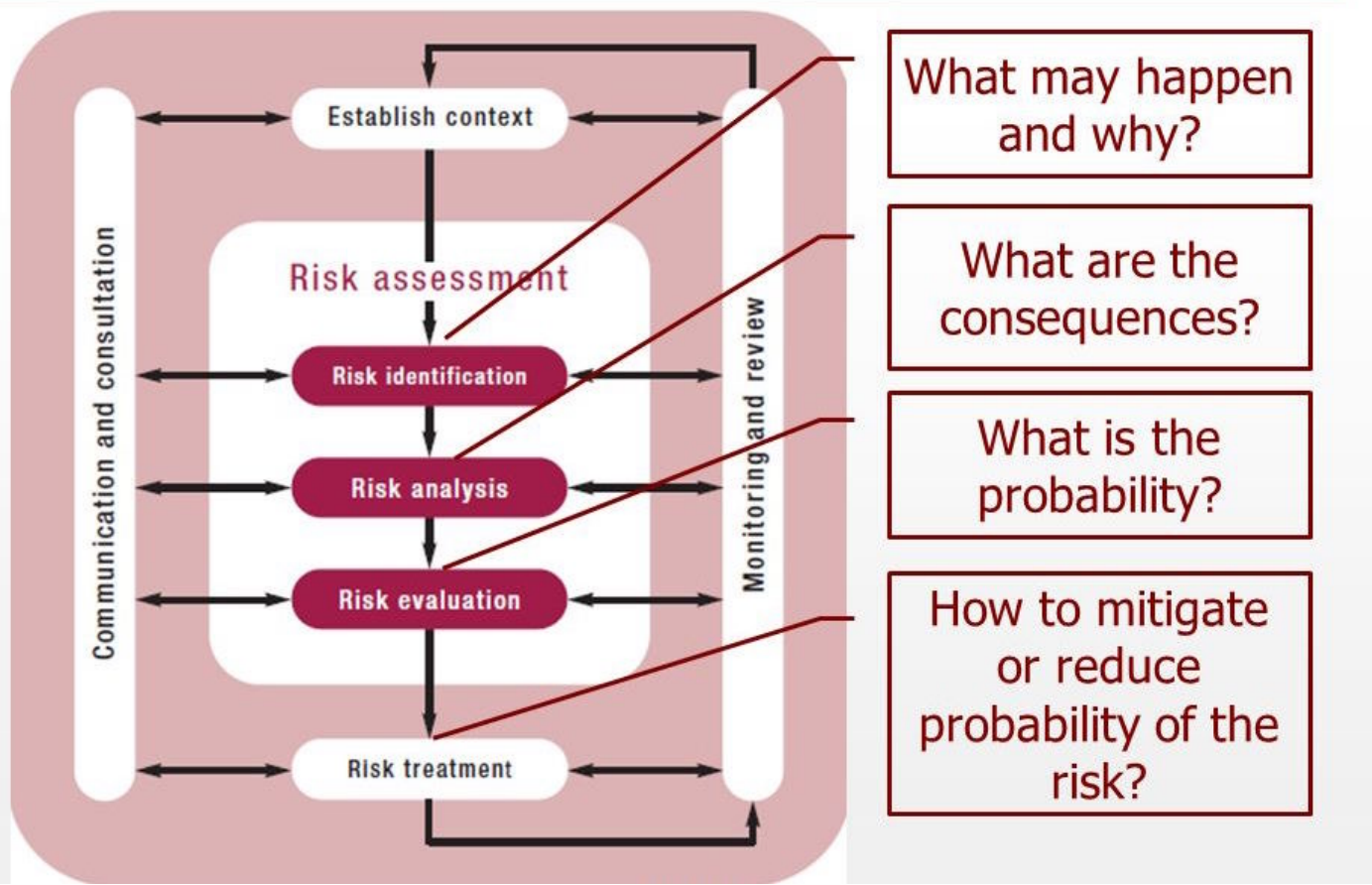


## RISK EVALUATION

- ✓ Determine whether controlled risk is acceptable using risk matrix
- ✓ Determine whether controlled risk needs further treatment
- ✓ Prioritize risk treatment



# ISO 31000 Risk Management Process



## RISK TREATMENT

- ✓ Identify treatment for risk that do not meet acceptable tolerance level on risk matrix
- ✓ Prioritize risk for monitoring and review
- ✓ Escalate Priority 1 and 2 risks as required



## RISK TREATMENT

This is also referred to as Risk Response Planning. During this step you assess your highest ranked risks and set out a plan to treat or modify these risks to achieve acceptable risk levels.

How can you minimize the probability of the negative risks as well as enhancing the opportunities?

You create risk mitigation strategies, preventive plans and contingency plans in this step.

# RISK MANAGEMENT

**Risk** is about **uncertainty**.

If you put a framework around that uncertainty, then you effectively de-risk your project. And that means you can move much more confidently to achieve your project goals.

By identifying and managing a comprehensive list of project risks, unpleasant surprises and barriers can be reduced and golden opportunities discovered.

## RISK MANAGEMENT

The risk management process also helps to resolve problems when they occur, because those problems have been envisaged, and plans to treat them have already been developed and agreed. You avoid impulsive reactions and going into “fire-fighting” mode to rectify problems that could have been anticipated. This makes for happier, less stressed project teams and stakeholders. The end result is that you minimize the impacts of project threats and capture the opportunities that occur.



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**THANKS FOR  
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