Negative risk:

Potential problems that might occur in the project and might impede project success

Actions:

Avoid

Lessen

Change

Accept

Positive risk:

Result in good things happening, sometimes called opportunities

Risk management:

* Goal: minimise potential negative risks while maximising potential positive risks
* Is an investment: costs are associated
* Cost for risk management should not exceed potential benefits

**Terms:**

Risk appetite:

The degree of uncertainty an entity is willing to take on, in anticipation of a reward

Risk tolerance:

The maximum acceptable deviation an entity is willing to accept as the potential impact

Risk utility:

The amount of satisfaction/pleasure received from a potential payoff

Known risks:

Risks that the project team has identified and analysed and that can be managed proactively

Unknown risks:

Risks that have not been identified and analysed and cannot be managed

**Project risk management processes:**

* Planning risk management:

Decide how to approach and plan the risk management activities for the project

* Identifying risks:

Determine which risks are likely to affect a project and document the characteristics of each

* Performing qualitative risk analysis:

Prioritise risks based on their probability and impact of occurrence

* Performing quantitative risk analysis:

Numerically estimate the effects of risks on project objectives

* Planning risk responses:

Take steps to enhance opportunities and reduce threats to meeting project objectives

* Controlling risk:

Monitor identified and residual risks, identify new risks, carry out risk response plans and evaluate the effectiveness of risk strategies throughout the life of the project

**Risk identification tools and techniques:**

* Brainstorming
* Delphi technique
  + 1. Derive a consensus among a panel of experts
    2. A systematic, interactive procedure based on independent and anonymous input from project risk experts
    3. Facilitator uses repeated rounds of questioning and written responses
    4. Consensus may be reached in a few rounds of the process
    5. Avoid the biasing effects possible in oral methods (eg. brainstorming)
* Interview
* SWOT (strengths, weaknesses, opportunities & threats) analysis
* Root cause analysis
* Diagramming techniques:
  + 1. Cause & effect diagrams (Ishikawa/fishbone diagram)
    2. Systems/process flowchart: show how various elements of a system interrelate
    3. Influence diagram: causal influences & relationships among variables & outcomes

Risk quantification tools & techniques:

* Probability/impact matrix
* Top ten risk item tracking
* Expert judgement