Everything on Risk Management

A risk is a probability that some adverse circumstance occurs. It refers to the future and involves cause and effect

Risk management is concerned with identifying risks and drawing up plans to minimize their effect on a project

Categories of Risks

1) **Technology Risks**
2) **People Risks**
3) **Business/Organisational Risks -** Affects organization developing the software
4) **Requirement Risks -** Affect the quality of performance and schedule
5) **Estimation Risks** - Affects schedule or resources

Risk Management Process

When risks are identified, plans can be made to reduce or remove the threat. The plans are then assessed to ensure that the original risks are reduced sufficiently and no new risks are introduced.

Risk Identification

Two approaches:

Checklists :	List of risks that occur regularly in software development projects
Brainstorming :	Representatives of main stakeholders are brought together to identify potential problems, and possible solutions

Risk Assessment & Prioritization

There is a probability that the list of risks becomes endless, so a risk assessment identifies the most damaging and probable risks. This can be done using the formula:

$$\text{Risk exposure} = (\text{ potential damage })\times(\text{ probability of occurrence })$$

Potential damage is usually evaluated as a financial loss, but can also be measured in time instead

Visualising risks allows easier and more justified risk assessment. Probability graphs can help assess potential risks and are easy to understand by both managers and clients

Risks can also be assessed with regards to the quality of the deliverables. Probabilities may be low, moderate, significant, high

In this case the risk of exposure can be measured using a probability impact matrix, and the risk consequences can be classified as : Insignificant, tolerable, serious, catastrophic

Risk Planning

Once the potential risks have been assessed, we need to decide how to deal with them

Four ways of dealing with risks:

1) **Risk Acceptance**

   Means doing nothing about a risk. Some risks are neglected on purpose, in order to focus on more likely or damaging risks. This can be proven to be more cost effective

2) **Risk Avoidance**

   Avoidance strategies are applied. Some activities may be prone to accident, so it's better to completely avoid them. The probability that the risk will arise is reduced

3) **RIsk Reduction & Mitigation**

   a) Risk reduction involves taking precautions that reduce the probability of a risk, it involves some cost

   b) Risk mitigation is about taking action to ensure the impact of risk is minimised, regardless of its probability to occur

4) **Risk Transfer**

   Risk transferred to another person or organization, which would come at a price, usually a fixed fee

Risk Monitoring

Risks require a contingency plan, which come at a cost.

Risk monitoring is about regularly assessing identified risks to decide whether they're becoming less or more probable. Also assesses whether the effects of the risk have changed

A way to monitor risks is to document everything performed during the risk analysis process. This can be achieved by using RMMM plan

Each key risk should be discussed at the management progress meeting