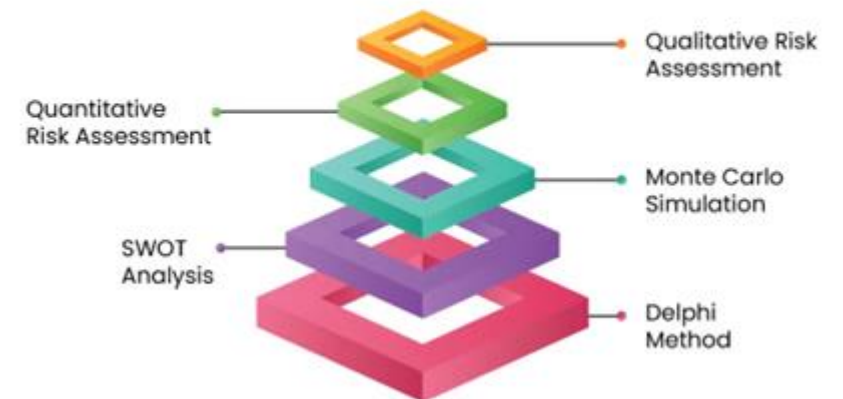# Chapter 7 : Risk Analysis and Management

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Methods of Risk Analysis in Project Management

Qualitative Risk Assessment

Quantitative Risk Assessment

Monte Carlo Simulation
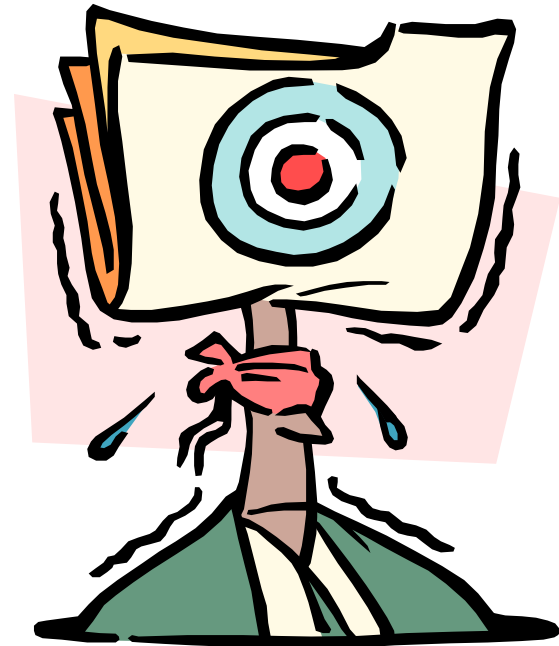
SWOT Analysis

Delphi Method

Software project

1. Vague requirement

2. User not sure of needs

3. Huge number of people

4. Large number of resources

5. Time span

6. Requirement changes

Core Risks

1. Ambitious time plan

2. Ambiguity in requirement

3. Requirement creep

4. Team turnout

5. Performance variance

Project manager

Software risk category

1. Project risk

2. Process risk

3. Product risk

Risk management process

1. Risk identification

2. Risk analysis

3. Risk planning

4. Risk monitoring

5. Risk resolving

Risk identification

1. Human resource

2. Organizational

3. Human resource

4. Tools

5. Estimation

Quantification of risk

Risk exposure

RE = Probability * consequence

Risk analysis

1. Questions

- What is causing the risk
- How much will it affect
- Are the risks dependent
- The probability that it will occur
- Is the exposure acceptable
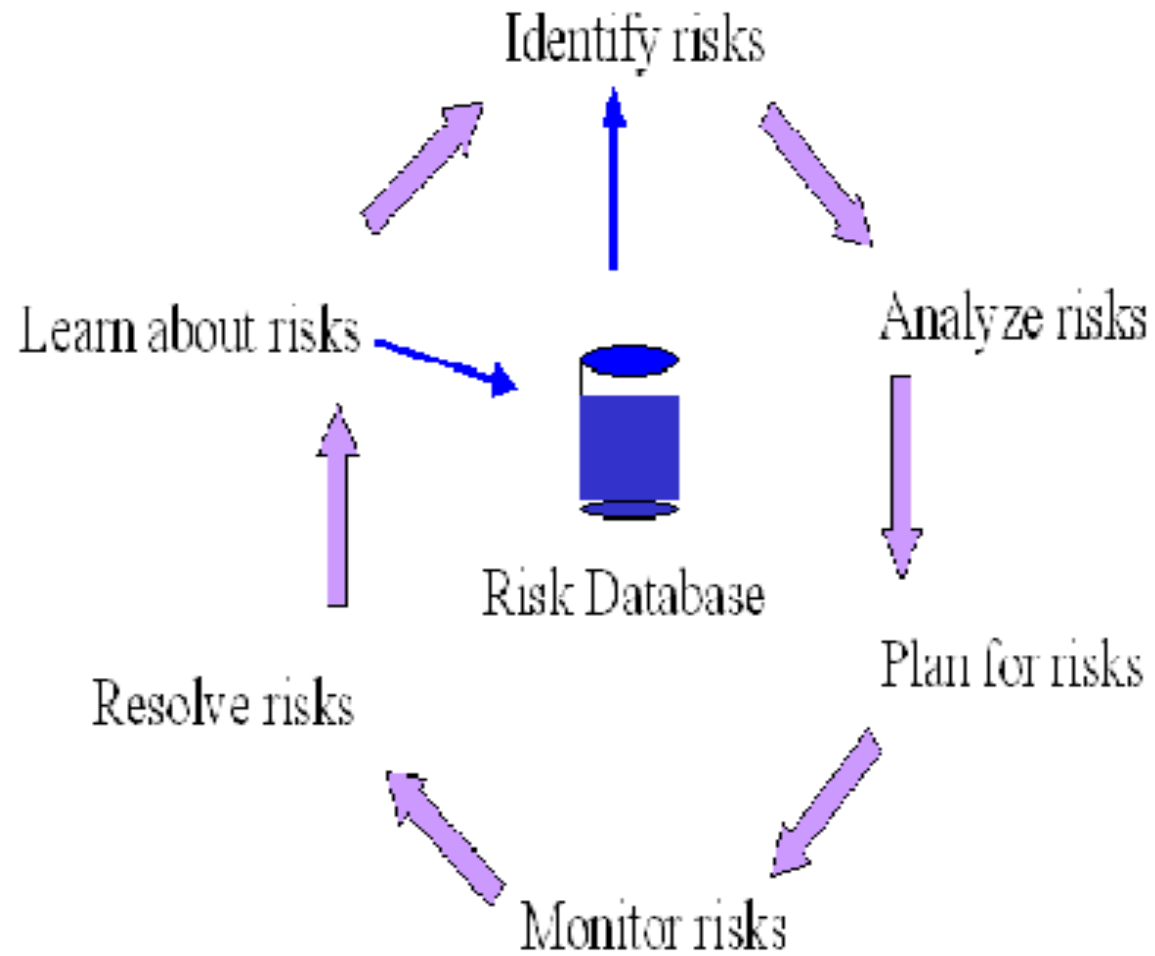
2. Severity

3. probability

Risk planning

- Avoidance

- Protection

- Reduction

- Research

- Reserves

- Transfer

Risk management

- Risk resolving

- Risk documentation

Identify risks

Analyze risks

Plan for risks

Monitor risks

Resolve risks

Learn about risks

Risk Database

Levels of risk

1. Disaster management

2. Repair on failure

3. Risk mitigation

4. Prevention

5. Eliminate root cause

Finance and risk

Risk management poses extra expenses

Do we need this expense
- Medical insurance
- Spend on avoiding or solving

How much to spend

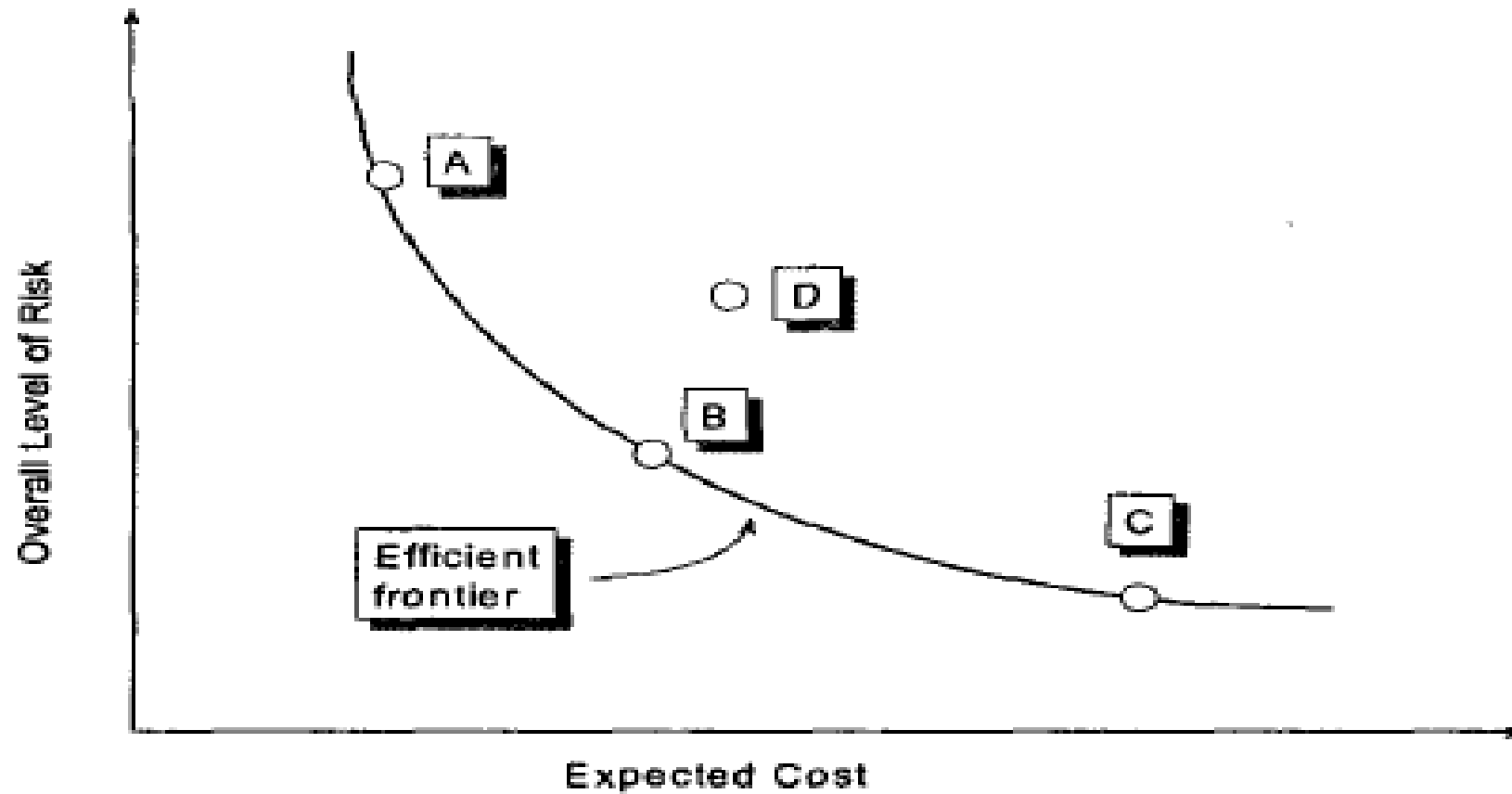Risk exposure is considered

Is the risk exposure acceptable

Price versus budget

Which option to chose
- Cost
- Risk

Risk efficient frontier

Conclusion

1. Managing risk is important

2. Correct quantification gives correct picture

3. Risk management with over all project view

4. Balance between cost and risk

Any Questions