L13 APSC221 - Risk Management

Four Stage Process

1. Identification - determining which risks are likely to affect the project and documenting the characteristics of each
2. Analysis of Probability and Impact - evaluating risks and risk interactions to assess the range of possible project outcomes
3. Mitigation Strategies - defining enhancement steps for opportunities and responses to threats
4. Control and Documentation - responding to changes in risk over the course of the project and creating a knowledge base for future projects

Risk Management recognizes the capacity of any project to run into trouble

Project Risk is any possible event that can negatively impact the viability of a project

Risks and Sources of Risk

Events within the organization or outside its control that can negatively impact the success of a project

Risk = (Probability of Event)(Impact of Event)

Sources:

- software
- scope
- quality
- time
- cost
- procurement
- human resources
- project integration
- communications

Process of Risk Management

We need to ask ourselves:

- what is likely to happen
- what can be done to minimize impact
- what will signal the need to act
- what are the likely outcomes of these problems and our anticipated reactions

Project Life Cycle and Risk
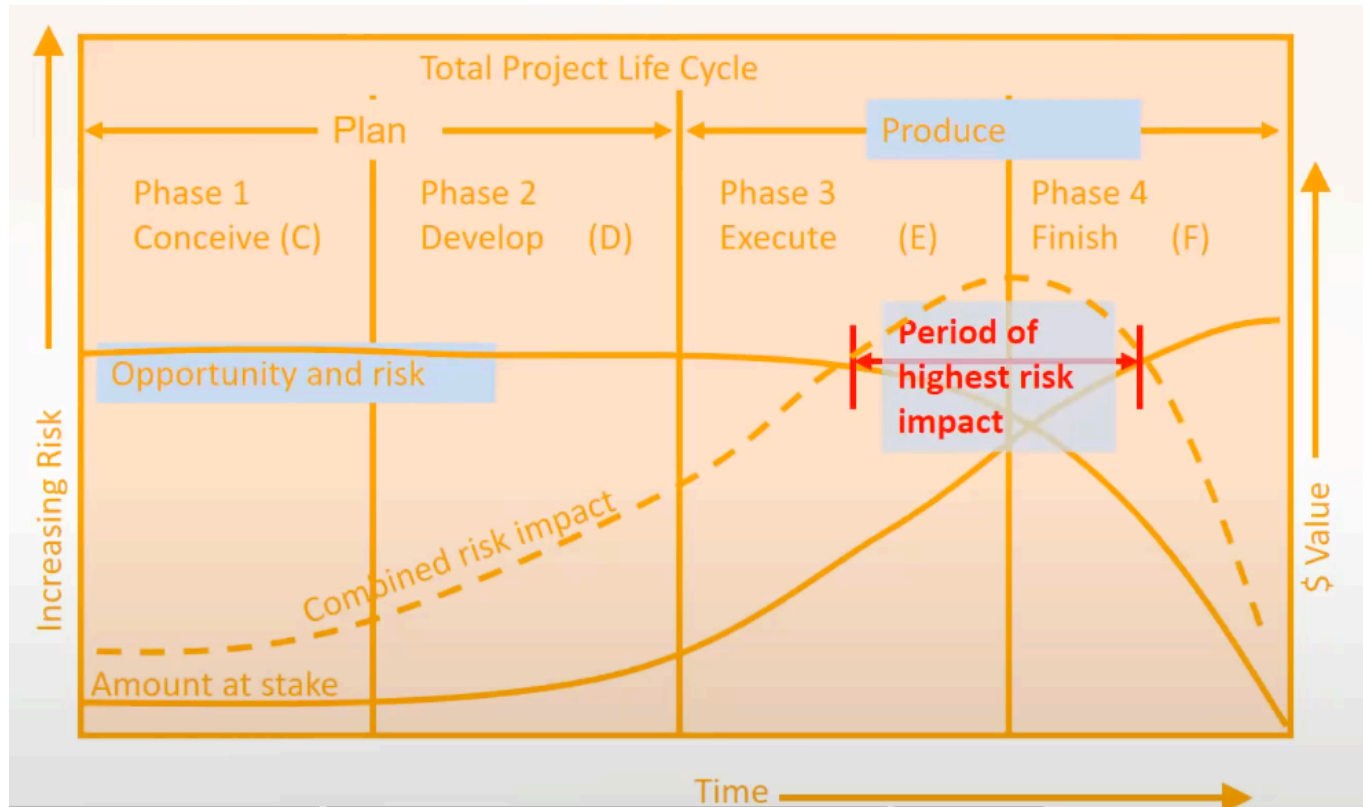
Risk Characteristics

- Risks are situational - no textbook answers exist
- Risks are interdependent - one risk can affect another
- Tolerance to risk depends on corporate values which themselves depend on personal values
- The greater the reward, the greater the acceptable risk
- Timing/quantity of risks can affect perceptions

Risk Quantification

Evaluate risks to assess the range of possible project outcomes

Seeks to determine which risks warrant response...

- opportunities to pursue

- opportunities to ignore
- threats to respond to
- threats to accept

Methods:

- expected value
- decision trees
- monte carlo simulation

Risk Mitigation Strategies

Accept the risk

- decision to "do nothing" is a reasoned calculation
- a risk with low probability and low impact

Minimize the risk

- methods to reduce probability and/or impact

Share the risk

- contractually

Transfer the risk

- where a risk cannot be reduced
- dependent on types of risk and relationships with partners/stakeholders

Risk Response Control and Documentation

Need to capture and track risks for any given project

Required to...

- access historical information about past projects
- document data about each potential risk
- assign responsibility
- re-assess risk and mitigation strategies periodically
- identify and document new risks as they may arise

- communicate risks to all stakeholders