negative risks:

1. Risk avoidance
2. Risk acceptance
3. Risk transference
4. Risk mitigation

positive risks:

1. Risk exploitation
2. Risk sharing
3. Risk enhancement
4. Risk acceptance

Ensuring cutting not finishing closing down; delivering Before normal end delivering after normal end/completion

a. Train customers
b. Transfer documents
c. Release resource
d. Release staff
e. Lessons learned
1. People: the most important element of a successful project.

2. Product: the software be built.

3. Process: the set of framework activities and software engineering tasks to get the job done.

4. Project: all work required to make the product a reality.

Simulation: uses representation or model of a system to analyze the expected behavior.

Quantitative Risk Analysis

Budgeting: the budget serves as a standard for comparison. It is a baseline from which to measure the difference between the actual and planned use of resources.

Budgeting procedures must associate resource use with the achievement of organization goals or planning/control process.
Random error (Estimation) i.e. where overestimates and underestimates are likely to be equal.

Event: the result of completing one or more activities. An identifiable end state occurring at a particular time. Events use no resources.

Path: the series of connected activities (or intermediate events) between any two events in a network events.

Control Tools:

1. Budget plan or expected growth curve of time or cost for a certain task is plotted.
2. Trend projection
3. Variance analysis
4. Actual values are plotted as a dashed line as the work is actually finished.
A major vehicle for evaluation is the project audit, a more or less formal inquiry into any aspect of the project.

A project audit is highly flexible and may focus on whatever matters senior management desires.

Scheduling: A schedule is the conversion of a project plan into an operating timetable. It serves as the basis for monitoring and controlling project activity.

1. Unrealistic deadline is established
2. Changing customer requirements
3. An honest underestimate of effort
4. Predictable and/or unpredictable risks
5. Technical difficulties
6. Miscommunication among project staff
7. Failure in project management
8. Better customer relations
9. Shorter overall delivery times
10. Lower costs and higher profit margins
11. Higher quality and reability
12. Higher worker morale
5. Unexpected technical problems arise when needed
6. Insufficient resources are available
7. Insurmountable technical difficulties are present
8. Quality or reliability problems occur during the project
9. The client requires changes in specifications
10. Interfunctional complications arise
11. Technological breakthroughs affect the project

b. a good control system
   1. should be flexible
   2. should be cost effective
   3. must be truly useful
   4. must satisfy the real needs of the project
   5. must operate in a timely manner
   6. sensors and monitors should be sufficiently

C. 1. Project audit initiation
   2. Project baseline definition
   3. Establishing an audit database
   4. Preliminary analysis of the project
   5. Audit report preparation
   6. Project audit termination
A geographic information system (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geography referenced.

**Benefits:**

1. **Cost Savings and Increased Efficiency**
2. **Better Decision Making**
3. **Improved Communication**
4. **Better Recordkeeping**
5. **Managing Geographically**