Assigning Resources

A schedule is not complete until all the resources necessary to complete the project have been committed or assigned.
Factors to Consider

- Availability of other resources
- Depletion of available float time
- Impact on critical path
- Impact on budget
Non-Labor Resources

- Lab time
- Facilities
- Prototype parts/systems
- Equipment
- Materials
Cost Budgeting

Cost Budgeting involves allocating overall cost estimates to individual work items in order to establish a cost baseline for measuring project performance. Using cost estimates, the WBS, the project schedule, and cost estimating tools, the project team develops a time-phased budget. This budget will be used to measure and monitor cost performance on the project.”

Source: PMI
Budgeting Relationship

- **Definitive Estimate**: -5% to +10%
- **Budget Estimate**: -10% to +25%
- **Order of Magnitude Estimate**: -25% to +75%
Types of Budget Estimates

- **Order of Magnitude (Preliminary)**
  - Supports decisions on project viability
  - Includes historical cost data
  - Actual cost within -25% to +75%

- **Budget Estimate**
  - Supports project planning decisions
  - Includes parametric modeling cost data
  - Actual cost within -10% to +25%

- **Definitive**
  - Supports project implementation
  - Includes cost data for each WBS activity
  - Actual cost within -5% to +10%
Obtaining Cost Data

- Experience from past projects
- Functional subject matter experts
- Lessons learned
- Vendor quotes or bids
- Catalogs
- Cost estimating guides
- Buyers
Major Cost Categories

- Capital Costs
  - Equipment
  - Facility Modifications

- Expenses
  - Labor costs
  - Material costs
  - Vendor/consultant costs
Facilities Modification

- Line reconfiguration
- Alterations to existing building/structure
- New process flow
- Relocation of utility hook-ups
Other Cost Components

- Overhead
- Management or contingency reserve
Project Overhead

- Equipment rental
- Travel
- Consultants
- Contract labor
- Facility support
Contingency Reserve

- Weather delays
- Changes in design
- Unforeseen price increases
- Estimating errors
- Other project risks
Roadmap to Project Management Success

1. Form Project Team
2. Statement of Work
3. Work Breakdown Structure
4. Responsibility Matrix
5. Network
6. Gantt
7. Resource Plan
8. Budget

- Leadership
- Communication
- Reports
- Close-Out
- Lessons Learned
- Implement

- Conduct Close-Out Meeting
- Share Lessons Learned
- Evaluate Success
- Update Plan
- Resolve Issues
- Manage Change
- Track Progress
-表面設定
- Budget
- TIME
- $
What Is Risk?

Risk can be defined as:

“Any threat to project success.”
Project Scope

- Cost
- Quality
- Schedule
- Within Available Resources
- Project Risk
Risk Management

“Risk Management is the art and science of identifying, analyzing and responding to risk factors throughout the life of the project and in the best interests of its objectives.”

Source: PMI
Risk Plan Development

- Risk Identification
- Risk Quantification
- Response Development
- Risk Monitoring
Risk Identification Methods

- Brainstorming
- Subject matter experts
- Historical data
- Lessons learned
Common Sources of Risk

- Quality requirements
- Schedule constraints
- Cost limitations
- New technology
- Project complexity
- Third-party performance
- Contract terms (legal)
Prioritizing & Planning

- **PRIORITY 1 RISKS**
  - High Probability (High Impact)
  - Proactive and Reactive Measures

- **PRIORITY 2 RISKS**
  - Low Probability (High Impact)
  - Reactive Measures

- **PRIORITY 3 RISKS**
  - Low Probability (Low Impact)
  - Monitor Only

*Break Timer*

*Negative Impact on Scope/Quality/Cost/Schedule (Risk Event Value)*
### Risk Worksheet

<table>
<thead>
<tr>
<th>Project Manager:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title:</td>
<td></td>
</tr>
</tbody>
</table>

**Risk Description:**

<table>
<thead>
<tr>
<th>Risk Priority:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>(Circle the Priority)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability %:</td>
<td></td>
<td></td>
<td></td>
<td>Risk Event Value (REV):</td>
</tr>
</tbody>
</table>

**Expected Monetary Value (EMV):**

**Impacts:**

- [ ] Quality
- [ ] Schedule
- [ ] Cost
- [ ] Scope

**Preventative Plan (Proactive Plan):** (For Priority 1 Risks)

**Contingency Plan (Reactive Plan):** (For Priority 1 and 2 Risks)

**Date of Last Review:**  __________  **Date of Last Review:**  __________
Team Activity — Risk Management

- **Time:** 15 Minutes
- **Instruction:**
  1) Identify at least one priority 1 or 2 risk for your team project.
  2) Complete a risk worksheet for the risk identified.
  3) Use the blank template following this page.
Section 3.0

End of Planning Phase