Roadmap to Project Management Success

Responsibility Matrix

Form Project Team

Conduct Close-Out Meeting

Share Lessons Learned

Evaluate Success

Perform Tasks

Track Progress

Manage Change

Budget

Statement of Work

Work Breakdown

Responsibility Matrix

Network

Gantt

Resource Plan

Update Plan

Resolve Issues

Manage Change

Plan

Meeting

Reports

Lessons Learned

Implement

Leadership

Communication

Close-Out

EBOOK

MEETINGS

TIME

LEADERSHIP

COMMUNICATION

CLOSE-OUT

IMPLEMENT

SHARE

LEARNED

LESSONS

E-OUT
Responsibility Assignment Matrix (RAM) — Purpose

- Ensure that all tasks are assigned to people
- Show levels of involvement of people to work
Linkage Between WBS and OBS
## Responsibility Assignment Matrix

### RASIC Method

<table>
<thead>
<tr>
<th>MARKETING STUDY</th>
<th>PROJECT MANAGER</th>
<th>CUSTOMER</th>
<th>TEAM MEMBER</th>
<th>SENIOR MANAGEMENT</th>
<th>SUPPORT STAFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDENTITY POTENTIAL MARKET</td>
<td>C</td>
<td></td>
<td>S</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>IDENTITY SURVEY POPULATION</td>
<td>C</td>
<td>R</td>
<td>S</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>DEVELOP SURVEY</td>
<td>R</td>
<td>I</td>
<td>S</td>
<td>I</td>
<td></td>
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<tr>
<td>TEST SURVEY ON SAMPLE</td>
<td>R</td>
<td>I</td>
<td>S</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>FINALIZE SURVEY</td>
<td>R</td>
<td>A</td>
<td>S</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>CONDUCT SURVEY</td>
<td>R</td>
<td>I</td>
<td>S</td>
<td>I</td>
<td>S</td>
</tr>
<tr>
<td>COLLECT SURVEY</td>
<td>R</td>
<td>I</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANALYZE DATA</td>
<td>R</td>
<td></td>
<td>R/S</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>REPORT RESULTS AND SUGGESTION</td>
<td>R</td>
<td>A</td>
<td>S</td>
<td>A</td>
<td>S</td>
</tr>
</tbody>
</table>

### LEGEND

- **R** - RESPONSIBLE
- **A** - APPROVE
- **S** - SUPPORT (DOES THE WORK)
- **I** - INFORM
- **C** - CONSULT
RASIC Coding System

- **R** = Responsible
  - Ensures that the assigned work is completed
- **A** = Approve
  - Approves that the work meets all requirements
- **S** = Support
  - Does the work
- **I** = Inform
  - Is kept informed of work status
- **C** = Consult
  - Is consulted on the work
Guidelines

- Team member names should be shown across the horizontal axis in the final matrix.
- There should be only one R and one S for each activity if possible.
- Every activity should have an R and an S. R/S for an activity is acceptable.
- The project manager will have the majority of Rs.
- The customer and senior management have the majority of As and Is.
Roadmap to Project Management Success

- Form Project Team
- Conduct Close-Out Meeting
- Share Lessons Learned
- Evaluate Success
- Network
- Gantt
- Resource Plan
- Budget
- LEADERSHIP
- COMMUNICATION
- IMPLEMENT
- CLOSE-OUT
- LESSONS LEARNED
- REPORTS
- TIME
- $
Project Schedule — Purpose

- Determine if requested completion date is possible.
- Identify start and completion dates of all work.
- Determine the controlling sequence of activities.
- Provide data for resource allocation.
- Track progress by providing a baseline.
Scheduling

Step 1: Estimate Activity Durations
Estimating Techniques

- Deterministic
  - Best Guess
  - Delphi (Consensus)

- Probabilistic
  - Program Evaluation Review Techniques (PERT)
Scheduling

**Step 2:** Determine Activity Sequence By Creating a Network Diagram
WBS/Network Diagram
Linkage
Network Diagram Methods

Arrow Diagram Method

Precedence Diagram Method
Create a Network Diagram

- **A** is the first activity
- **B, C and D** are dependent on **A**
- **E and F** are dependent on **B**
- **G** is dependent on **C**
- **H** is dependent on **C** and **D**
- **I** is dependent on **F** and **G**
- **J** is dependent on **E, I, and H**
- **J** is the last activity
Precedence Diagram Method

Logic Connection

Activity
Scheduling

**Step 3:** Calculate the Schedule Using Critical Path Method (CPM) Procedures
What’s is the Critical Path?

- Riskiest path in a project
- Path with the most important activities
- Path with least slack
- Path with least resistance
- Path with longest duration
- Path to **Emerald** City
What’s is the Critical Path?

- Path with least slack
- Path with longest duration
Determine the Critical Path

- A = 2 weeks
- B = 1 week
- C = 3 weeks
- D = 1 week
- E = 4 weeks
- F = 3 weeks
- G = 2 weeks
- H = 1 week
- I = 2 weeks
- J = 1 week

Break Timer
Project X — Critical Path Solution
Scheduling

Step 4: Show the Schedule by Drawing Gantt and/or Milestone Charts
Enhanced Gantt Chart

Jan | Feb | Mar | April | May | June

Task A
Task B
Task C
Task D
Task E
Task F

- Critical
- Non-Critical
- Slack/Float
Gantt Charts

- Simple to construct
- Easy to interpret
- Good for management reporting
# Project X — Gantt Chart Solution

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>3</td>
</tr>
<tr>
<td>G</td>
<td>2</td>
</tr>
<tr>
<td>H</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>2</td>
</tr>
<tr>
<td>J</td>
<td>1</td>
</tr>
</tbody>
</table>

- Critical
- Non-Critical
- Slack/Float
Develop a Project Schedule

- Prepare a project schedule for your project.
Roadmap to Project Management Success

- Form Project Team
- Conduct Close-Out Meeting
- Share Lessons Learned
- Evaluate Success
- Resource Plan
- LEADERSHIP
- COMMUNICATION
- LESSONS LEARNED
- IMPLEMENT
- CLOSE-OUT
- Update Plan
- Resolve Issues
- Manage Change
- Perform Tasks
- Track Progress
- Budget
- TIME
- Project Notebooks
- Project Notebook
- Gantt
- Resource Plan
- Budget
- Chart
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%

Planning Time plus Experience vs. Level of Detail
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
What Is Risk?

Risk can be defined as:

“Any threat to project success.”
Project Scope

Within Available Resources

Cost

Quality

Schedule

Project Risk
“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

1. Risk Identification
2. Risk Monitoring
3. Risk Quantification
4. Response Development
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

<table>
<thead>
<tr>
<th>Probability of Occurrence</th>
<th>PRIORITY 1 RISKS</th>
<th>PRIORITY 2 RISKS</th>
<th>PRIORITY 3 RISKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>(High Probability)</td>
<td>(High Probability)</td>
<td>(Low Probability)</td>
</tr>
<tr>
<td></td>
<td>(High Impact)</td>
<td>(High Impact)</td>
<td>(Low Impact)</td>
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<tr>
<td></td>
<td>Proactive and Reactive Measures</td>
<td>Reactive Measures</td>
<td>Monitor Only</td>
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<tr>
<td>50%</td>
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<td>0%</td>
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<tr>
<td>Low</td>
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<td></td>
</tr>
<tr>
<td>Medium</td>
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<tr>
<td>High</td>
<td></td>
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</tr>
</tbody>
</table>

Negative Impact on Scope/Quality/Cost/Schedule (Risk Event Value)
<table>
<thead>
<tr>
<th>Risk Worksheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Manager:</strong> ___________________ <strong>Date:</strong> ___________________</td>
</tr>
<tr>
<td><strong>Project Title:</strong> ___________________________________________________</td>
</tr>
<tr>
<td><strong>Risk Description:</strong> ________________________________________________</td>
</tr>
<tr>
<td><strong>Risk Priority:</strong> ___________________ 1 2 3 (Circle the Priority)</td>
</tr>
<tr>
<td><strong>Probability %:</strong> ____________________________________ <strong>Risk Event Value (REV):</strong></td>
</tr>
<tr>
<td><strong>Expected Monetary Value (EMV):</strong> __________________________________</td>
</tr>
<tr>
<td><strong>Impacts:</strong></td>
</tr>
<tr>
<td>[ ] Quality</td>
</tr>
<tr>
<td>[ ] Cost</td>
</tr>
<tr>
<td><strong>Preventative Plan (Proactive Plan):</strong> (For Priority 1 Risks)</td>
</tr>
<tr>
<td><strong>Contingency Plan (Reactive Plan):</strong> (For Priority 1 and 2 Risks)</td>
</tr>
<tr>
<td><strong>Date of Last Review:</strong> ___________________ <strong>Date of Last Review:</strong> ___________________</td>
</tr>
</tbody>
</table>
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