Project Management
Session 6.2

Project Initiation Phase
Integration Management
Project Phases & Knowledge Areas

1. Integration
2. Scope Management
3. Time Management
4. Cost Management
5. Quality Management
6. Human Resources
7. Communication
8. Risk Management
9. Procurement

Diagram:
- Initiating
- Planning
- Executing
- Controlling
- Closing
Initiation

Initiation is the process of formally authorizing a new project or that an existing project should continue into the next phase. This formal initiation links the project to the ongoing work of the performing organization.

- Response to a problem or opportunity
  - Customer Needs Statement
  - Request for Proposal (RFP)
- Formal recognition of project
- A ‘product description’ should be developed or may already exist
Initiation

Projects are typically authorized as a result of one or more of the following stimuli:

- A market demand
- A business need
- A customer request
- A technical advance
- A legal requirement
- A social need

Should initiate each phase of project Selection/approval criteria depends on where we are in the life cycle
Initiation

**Inputs**
1. Product description
2. Strategic plan
3. Project selection criteria
4. Historical information

**Tools & Techniques**
1. Project selection methods
2. Expert judgment

**Outputs**
1. Project charter
2. Project manager identified/assigned
3. Constraints
4. Assumptions
Initiation – Tools & Techniques

Using a Project Selection Matrix

In a project selection matrix, first decide on the project selection criteria and weight the criteria according to the organization’s strategic goals and other objectives. Possible criteria may be:

- Financial return
- Effect on employee/alignment with corporate culture
- Technical advancement or innovation
- Market value/share
- Public perception
- Alignment with/advancement of corporate strategy

For each criterion in your matrix, complete each project’s objective or subjective measurement.
### Initiation – Tools and Techniques

**Table 1.1 Project Selection Criteria**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Possible Benefit Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market value/share</td>
<td>- Increase value/share according to set formula, research, or surveys</td>
</tr>
<tr>
<td>Public perception</td>
<td>- Measure perceived increase/decrease in perception based on focus groups, surveys, or interviews. Estimate the awareness/perception that will be created</td>
</tr>
<tr>
<td>- Calculate the number of people affected/made aware</td>
<td></td>
</tr>
<tr>
<td>Alignment with organization expertise</td>
<td>- Does the project team have the expertise to do the project? Can the organization acquire the expertise and does it want to?</td>
</tr>
<tr>
<td>- Will the project efforts help develop some expertise or skills it wants developed?</td>
<td></td>
</tr>
<tr>
<td>Needed infrastructure improvement</td>
<td>- Improved productivity – show cost savings if possible</td>
</tr>
<tr>
<td>- Describe old system/processes that might collapse or slow down and include impact</td>
<td></td>
</tr>
<tr>
<td>- Compare with other infrastructure projects</td>
<td></td>
</tr>
</tbody>
</table>
**Initiation – Tools and Techniques**

**Project Justification Criteria**

When justifying a project, follow these steps:

1. Select 5 to 7 main criteria (if you select more, this exercise will become difficult to manage). Assign a weighting factor to each criterion, according to what is most important to the organization.

2. For each criterion, select the benefit measurement you will use.

3. Create the list of proposed projects.

4. Put the projects in a matrix and rate the project according to the method selected. Then multiply the weighting factor to each rating received.

5. Rank the projects.

6. Select the project you want to proceed.

7. Make sure you document justification for each project selected based on this process. You can use the justification in your project charter, scope statement, business case, or any other document supporting the project.
### Initiation – Tools & Techniques

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Project 1</th>
<th>Project 2</th>
<th>Project 3</th>
<th>Project 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports key business objectives</td>
<td>25%</td>
<td>90</td>
<td>90</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Has strong internal sponsor</td>
<td>15%</td>
<td>70</td>
<td>90</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Has strong customer support</td>
<td>15%</td>
<td>50</td>
<td>90</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Realistic level of technology</td>
<td>10%</td>
<td>25</td>
<td>90</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>Can be implemented in one year or less</td>
<td>5%</td>
<td>20</td>
<td>20</td>
<td>50</td>
<td>90</td>
</tr>
<tr>
<td>Provides positive NPV</td>
<td>20%</td>
<td>50</td>
<td>70</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Has low risk in meeting scope, time and cost goals</td>
<td>10%</td>
<td>20</td>
<td>50</td>
<td>50</td>
<td>90</td>
</tr>
<tr>
<td>Weighted Project Scores</td>
<td>100%</td>
<td>56</td>
<td>78.5</td>
<td>50</td>
<td>41.5</td>
</tr>
</tbody>
</table>
Initiation – Tools & Techniques

Project selection methods involve measuring value or attractiveness to the project owner. Project selection methods include considering the decision criterion (multiple criteria, if used, should be combined into a single value function) and a means to calculate value under uncertainty. These are known as the decision model and calculation method. Project selection also applies to choosing the alternative ways of doing the project. Optimization tools can be used to search for the optimal combination of decision variables. Project selection methods fall into one of two broad categories:

- Benefit measurement methods – comparative approaches, scoring models, benefit contribution, or economic models.
- Constrained optimization methods – mathematical models using linear, nonlinear, dynamic, integer, and multi-objective programming algorithms.

These methods are often referred to as decision models. Decision models include generalized techniques (Decision Trees, Forced Choice, and others), as well as specialized ones (Analytic Hierarchy Process, Logical Framework Analysis, and others). Applying complex project selection criteria in a sophisticated model is often treated as a separate project phase.
**Initiation – Tools & Techniques**

**Project selection methods**

Before you begin the project selection process, you will have to make a few decisions regarding your approach.

First decide on the project selection criteria that you want to measure.

Next, decide on a consistent and standardized approach for measuring benefits for the criteria. For instance, for financial return you could use one or more of the following:

- Payback period
- NPV
- IRR
- Other forms of cost / benefit analysis

Finally, apply the same method for each project using objective measurements.
**Initiation – Tools & Techniques**

**Expert judgment** is often required to assess the process inputs. Such expertise may be provided by any group or individual with specialized knowledge or training, and is available from many sources, including:

- Other units within the performing organization.
- Consultants.
- Stakeholders, including customers.
- Professional and technical associations.
- Industry groups.

Subjective measurement, based on expert judgments or some kind of methodology created by the organization or team, work as well as using objective measurements.
Initiation – Outputs

A **project charter** is an official written acknowledgement and recognition that a project exists. It’s issued by senior management external to the project and gives the project manager authority to assign organizational resources to the work of the project. When writing a charter, you will capture and document information such as:

- A description of the product and an overview of the project
- Project goals and objectives
- Project deliverables
- The business case or business need for the project
- Resource and cost estimates
- Feasibility study (Optional)
Project Charter

Project Charter is output from Initiation

- Assigns the Project Manager
- Provides authority for PM to expend resources
- Should reference business needs, and product description, if available
- Issued by a “manager external to the project”, usually the project sponsor
Initiation – Outputs

Table 4-2: Sample Project Charter

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walter Schmidt, CEO</td>
<td>Project Sponsor</td>
<td>Monitor project</td>
</tr>
<tr>
<td>Mike Zwack</td>
<td>CIO</td>
<td>Monitor project, provide staff</td>
</tr>
<tr>
<td>Kim Nguyen</td>
<td>Project Manager</td>
<td>Plan and execute project</td>
</tr>
<tr>
<td>Jeff Johnson</td>
<td>Director of Information Technology Operations</td>
<td>Mentor Kim</td>
</tr>
<tr>
<td>Nancy Reynolds</td>
<td>VP, Human Resources</td>
<td>Provide staff, issue memo to all employees about project</td>
</tr>
<tr>
<td>Steve McCann</td>
<td>Director of Purchasing</td>
<td>Assist in purchasing hardware and software</td>
</tr>
</tbody>
</table>

Sign-off: (Signatures of all the above stakeholders)

Comments: (Handwritten comments from above stakeholders, if applicable)

This project must be done within ten months at the absolute latest. Mike Zwack, CIO

We are assuming that adequate staff will be available and committed to supporting this project. Some work must be done after hours to avoid work disruptions, and overtime will be provided. Jeff Johnson and Kim Nguyen, Information Technology Department
Project Integration Management includes the processes required to ensure that the various elements of the project are properly coordinated. It involves making tradeoffs among competing objectives and alternatives to meet or exceed stakeholder needs and expectations.

Project integration management comes into play when a cost estimate is needed for a contingency plan, or when risks associated with various staffing alternatives must be identified. However, for a project to be completed successfully, integration must also occur in a number of other areas as well. For example:

- The work of the project must be integrated with the ongoing operations of the performing organization.
- Product scope and a project scope must be integrated (the difference between product and project scope was discussed previously).
4.1 Develop Project Charter
4.2 Develop preliminary Project Scope Statement
4.3 Develop Project Management Plan
4.4 Direct and Manage Project Execution
4.5 Monitor and Control Project Work
4.6 Integrated Change Control
4.7 Close Project
Figure 3-1. Project Integration Management Overview

PMBOK Guide, 2000, 42.
A project plan is a formal approved document used to guide both project execution and project control.

The primary uses of the project plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule baselines.

A project plan may be summary or detailed.
Project Plan Development

**Inputs**
1. Other planning outputs
2. Historical information
3. Organizational policies
4. Constraints
5. Assumptions

**Tools & Techniques**
1. Project planning methodology
2. Stakeholder skills and knowledge
3. Project management information system (PMIS)
4. Earned value management (EVM)

**Outputs**
1. Project plan
2. Supporting detail
Project Plan – Common Items

- Project charter
- A description of the project management approach or strategy.
- Scope statement, which includes the project activities and the project deliverables.
- WBS to the level at which control will be exercised, as a baseline scope document.
- Cost estimates, scheduled start and finish dates (schedule), and responsibility assignments for each deliverable within the WBS to the level at which control will be exercised.
- Performance measurement baseline for technical scope, schedule, and cost – i.e., the schedule baseline (project schedule) and the cost baseline (time-phased project budget).
- Major milestones and target dates for each.
- Key or required staff and their expected cost and / or effort.
- Risk management plan, including: key risks, including constraints & assumptions, and planned responses and contingencies (where appropriate) for each.
- Subsidiary management plans.
- Open issues and pending decisions.
# IEEE Standard Software Project Management Plan

## Table 3-1: Sample Outline for a Software Project Management Plan (SPMP)

<table>
<thead>
<tr>
<th>Section Topics</th>
<th>Introduction</th>
<th>Project Organization</th>
<th>Managerial Process</th>
<th>Technical Process</th>
<th>Work Packages, Schedule, and Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project overview; project deliverables; evolution of the SPMP; reference materials; and definitions and acronyms</td>
<td>Process model; organizational structure; organizational boundaries and interfaces; and project responsibilities</td>
<td>Management objectives and priorities; assumptions, dependencies, and constraints; risk management; monitoring and controlling mechanisms; and staffing plan</td>
<td>Methods, tools, and techniques; software documentation; and project support functions</td>
<td>Work packages; dependencies; resource requirements; budget and resource allocation; and schedule</td>
</tr>
</tbody>
</table>

IEEE Std 1058.1-1987
Project Plan Execution

Inputs
- 1. Project plan
- 2. Supporting detail
- 3. Organizational policies
- 4. Preventive action
- 5. Corrective action

Tools & Techniques
- 1. General management skills
- 2. Product skills and knowledge
- 3. Work authorization system
- 4. Status review meetings
- 5. Project management information system
- 6. Organizational procedures

Outputs
- 1. Work results
- 2. Change requests
Project Plan Execution

4.2 Project Plan Execution

1. Inputs:
   1. Project plan
   2. Supporting detail
   3. Organizational policies
   4. Preventive action
   5. Corrective action

2. Tools and Techniques:
   1. General management skills
   2. Product skills and knowledge
   3. Work authorization system
   4. Status review meetings
   5. Project management information system
   6. Organizational procedures

3. Outputs:
   1. Work results
   2. Change requests
Integrated Change Control

Influencing the factors that create changes to ensure that changes are beneficial to keep the project on the success track: trade-offs among key project dimensions such as scope, time, cost, and quality.

Determining that a change has occurred: The project manager must know the status of key project areas at all times, to determine that a change has occurred. He must communicate significant changes to top management and key stakeholders.

Managing actual changes as they occur: Managing change is a key job of project managers and their staff. It is important that project managers exercise discipline in managing the project to help minimize the number of changes that occur.
Integrated Change Control

Integrated change control requires:

Maintaining the integrity of the performance measurement baselines.

Ensuring that changes to the product scope are reflected in definition of the project scope.

Coordinating changes across knowledge areas.
**Integrated Change Control**

- **Inputs**
  1. Project plan
  2. Performance reports
  3. Change requests

- **Tools & Techniques**
  1. Change control system
  2. Configuration management
  3. Performance measurement
  4. Additional planning
  5. Project management information system

- **Outputs**
  1. Project plan updates
  2. Corrective action
  3. Lessons learned
### Table 3-3: Suggestions for Managing Integrated Change Control

- View project management as a process of constant communication and negotiation
- Plan for change
- Establish a formal change control system, including a Change Control Board (CCB)
- Use good configuration management
- Define procedures for making timely decisions on smaller changes
- Use written and oral performance reports to help identify and manage change
- Use project management and other software to help manage and communicate changes