Project Management Methodology

Steve Pellegrini PMP
Project Management Institute (PMI) publishes, *The Guide to the Project Management Body of Knowledge* (PMBOK® Guide). This has become a global standard for project managers around the world.
Knowledge Areas

• Project Integration Management
• Project Scope Management
• Project Time Management
• Project Cost Management
• Project Quality Management
• Project Human Resource Management
• Project Communications Management
• Project Risk Management
• Project Procurement Management
Project

A *temporary endeavor* undertaken to create a unique product or service. Temporary means that every project has a definite beginning and a definite end. Unique means that the product or service is different in some distinguishing way from all other products or services.
Project Management

The application of knowledge, skills, tools, and techniques to project activities to meet project requirements. Project management is accomplished through the use of the processes; initiating, planning, executing, controlling, and closing.
**Project Management**

**PERT**

\[
\frac{(P+4M+O)}{6}
\]

**Standard Deviation**

\[
\frac{(O-P)}{6}
\]

**Task Variance**

\[
\frac{(O-P)^2}{6}
\]

Project Std. Dev. = square root of the sum of the task variances

**Present Value**

\[
PV = \frac{EV}{(1+r)^n}
\]

\[\text{r = interest rate, } n = \text{number of time periods}\]

**Earned Value Analysis**

- Planned Value = Budgeted Cost of Work Scheduled
  - \(PV = BCWS\)
- Earned Value = Budgeted Cost of Work Performed
  - \(EV = BCWP\)
- Actual Cost = Actual Cost of Work Performed
  - \(AC = ACWP\)

**Budget At Completion (BAC)** represents the project budget.

<table>
<thead>
<tr>
<th>Earned Value</th>
<th>EV</th>
<th>% Comp.</th>
</tr>
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<tbody>
<tr>
<td>Cost Variance</td>
<td>CV</td>
<td>EV</td>
</tr>
<tr>
<td>Schedule Variance</td>
<td>SV</td>
<td>EV</td>
</tr>
<tr>
<td>Cost Performance Index</td>
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<tr>
<td>Schedule Performance Index</td>
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<tr>
<td>Estimate At Completion</td>
<td>EAC</td>
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<td>Estimate To Complete</td>
<td>ETC</td>
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<tr>
<td>Variance At Completion</td>
<td>VAC</td>
<td>BAC</td>
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</tbody>
</table>

**PROCESS GROUPS**

Initiating

Planning

Executing

Controlling

Closing

**Each PM Process (39) has accepted:**

1) **inputs** (outputs from other processes)
2) **tools & techniques** (process methods)
3) **outputs** (deliverables)

**Framework Themes**

- Historical records, referred to as historical information in the PMBOK, are essential inputs for many knowledge area planning processes.
  - J = Risk Identification
  - A = Cost Estimating
  - L = Procurement Planning

**Flower City**

brampton.ca
Project Management

Initiation → Planning and Design

 Executing ↔ Monitoring and Controlling

 Closing
Continuous Improvements

Deming Cycle (PDSA)(PDCA)
Dr. W. Edwards Deming
Initiating Process Group

Scope
Develop Charter

Scope
Develop Preliminary Scope Statement
Project Charter

- Project Goal & Objectives
- Sponsor
- Stakeholders
- Timeline
- Resources required
- Deliverables
- Assumptions & Risks
- Budget
Project Charter

• Identifying the stakeholders
• Defining the real problem or need
• Setting the objectives (SMART – specific, measurable, action oriented, realistic and time-limited)
• Preparing for trade-offs (Quality = Time + Cost)
• Defining the activities/tasks
Planning Process Group Activities

Management Plans
(How the project will be managed during its executing, monitoring and controlling process groups)
Executing
Controlling
Successful Projects

- Project sponsor at executive level
- Project charter
- Strong project management
- Right mix of resources (colours)
- Good/timely decision making
- Good communication
- Team atmosphere (forming, storming, norming & performing)
- Documentation
Projects Failure

What the user wanted
What the budget allowed for
What the timescale allowed for
What the technician designed
What the user finally got

Why do projects fail?
Projects Failure

- New user acceptance
- Insufficient contingency planning
- Lack of thorough testing
- Knowledge transfer
- Ineffective communication
- Assumptions
- People problems
- Decision making/authority
Projects Failure

- Poor project specification
- Timescales that are too long
- Inappropriate staff
- Insufficient involvement by senior management
- Failure to manage user expectations
- Failure to manage the change required
Projects Failure

NASA’s Mars Climate Orbiter Project

- two teams involved in the space probe development were using different systems of measurement – one was using metres, centimetres and kilogrammes, the other was using feet, inches and pounds.
Successful Project Managers

Are skilled at **planning, monitoring, and controlling** all aspects of a project and motivating all those involved to achieve the project objectives on **time** and on **budget**, within **quality** and performance specifications.
Successful Project Managers

SCOPE

QUALITY

COST

SCHEDULE
Successful Project Managers

- Leadership
- Organization
- Communication
- Finance
- Technical savvy
- Politicking
- Team Building
- Praising/Coaching
Questions?