An Introduction to Agile Project Management

Where We Are Now
Traditional PM versus Agile Methods

• Traditional PM Approach
  – Concentrates on thorough, upfront planning of the entire project.
  – Requires a high degree of predictability to be effective.

• Agile Project Management (Agile PM)
  – Relies on incremental, iterative development cycles to complete less-predictable projects.
  – Is ideal for exploratory projects in which requirements need to be discovered and new technology tested.
  – Focuses on active collaboration between the project team and customer representatives.

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Agile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design up front</td>
<td>Continuous design</td>
</tr>
<tr>
<td>Fixed scope</td>
<td>Flexible</td>
</tr>
<tr>
<td>Deliverables</td>
<td>Features/requirements</td>
</tr>
<tr>
<td>Freeze design as early as possible</td>
<td>Freeze design as late as possible</td>
</tr>
<tr>
<td>Low uncertainty</td>
<td>High uncertainty</td>
</tr>
<tr>
<td>Avoid change</td>
<td>Embrace change</td>
</tr>
<tr>
<td>Low customer interaction</td>
<td>High customer interaction</td>
</tr>
<tr>
<td>Conventional project teams</td>
<td>Self-organized project teams</td>
</tr>
</tbody>
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TABLE 17.1
Agile Project Management

• Agile PM
  – Is related to the rolling wave planning and scheduling project methodology.
    • Uses iterations (“time boxes”) to develop a workable product that satisfies the customer and other key stakeholders.
    • Stakeholders and customers review progress and re-evaluate priorities to ensure alignment with customer needs and company goals.
    • Adjustments are made and a different iterative cycle begins that subsumes the work of the previous iterations and adds new capabilities to the evolving product.
Agile Project Management (cont’d)

• Advantages of Agile PM:
  – Useful in developing critical breakthrough technology or defining essential features
  – Continuous integration, verification, and validation of the evolving product.
  – Frequent demonstration of progress to increase the likelihood that the end product will satisfy customer needs.
  – Early detection of defects and problems.
Agile PM Principles

- Focus on customer value
- Iterative and incremental delivery
- Experimentation and adaptation
- Self-organization
- Continuous improvement

Popular Agile PM Methods

- Scrum
- Crystal Clear
- Extreme Programming
- RUP (Rational Unified Process)
- Agile Modeling
- Dynamic Systems Development Method (DSDM)
- Rapid Product Development (PRD)
- Lean Development
Agile PM in Action: Scrum

- Scrum Methodology
  - Is a holistic approach for use by a cross-functional team collaborating to develop a new product.
  - Defines product features as deliverables and prioritizes them by their perceived highest value to the customer.
  - Re-evaluates priorities after each iteration (sprint) to produce fully functional features.
  - Has four phases: analysis, design, build, test

Scrum Development Process

![Scrum Development Process Diagram]

FIGURE 17.3
Key Roles and Responsibilities in the Scrum Process

• **Product Owner**
  – Acts on behalf of customers to represent their interests.

• **Development Team**
  – Is a team of five-nine people with cross-functional skill sets is responsible for delivering the product.

• **Scrum Master (aka Project Manager)**
  – Facilitates scrum process and resolves impediments at the team and organization level by acting as a buffer between the team and outside interference.

Scrum Meetings

![Scrum Meetings Diagram](image)
Partial Product Backlog

FIGURE 17.5

Partial Sprint Backlog

FIGURE 17.6
Applying Agile to Large Projects

• Scaling
  – Is using several teams to work on different features of a large scale project at the same time.

• Staging
  – Requires significant up-front planning to manage the interdependences of different features to be developed.
  – Involves developing protocols and defining roles to coordinate efforts and assure compatibility and harmony.

Hub Project Management Structure

![Diagram of Hub Project Management Structure](image-url)
Limitations and Concerns of Agile PM

- It does not satisfy top management's need for budget, scope, and schedule control.
- Its principles of self-organization and close collaboration can be incompatible with corporate cultures.
- Its methods appear to work best on small projects that require only five-nine dedicated team members to complete the work.
- It requires active customer involvement and cooperation.

Key Terms

- Feature
- Iterative incremental development (IID)
- Scrum meeting
- Scrum Master
- Sprint backlog
- Product Backlog
- Product Owner
- Scaling
- Agile PM
- Self Organizing Team