Improving Project Governance Using Agile and Metrics

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- 20+ years of PM experience
- 20+ published books, audiobooks, DVDs, and CD-ROMs – most on agile and PM-related topics
- IBM Certified Executive PM
- IPMA Certified Senior PM (IPMA B)
- Was IBM’s Agile Centre of Competency Lead for many years
- IPMA-Accredited PM Competency Assessor for Canada and USA

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A Standard Corporate Governance Model

Gate 1: Great Idea
- Concept
- Tasks
  - Describe Idea and Possible Benefits

Gate 2: Opportunity Analysis
- Marketing Analysis
- Tasks
  - Decide will customer accept this?
  - Conduct interviews, focus groups, etc.

Gate 3: Preliminary Business Case
- Feasibility Study
- Tasks
  - Solution design
  - Estimate costs & timeline
  - Analyze Risk
  - Determine Feasibility / Return on Investment

Gate 4: Committed Business Case
- Pilot or Proof of Concept
- Full Execution Or Deployment
- Tasks
  - Validate & commit to design & approach
  - Validate & commit to revised estimates & timeline
  - Reduce risk
  - Baseline Plan

Tasks
- Build solution
- Deploy solution
- Realize business case

Risk
- Investment in time & money
Aligning Agile Methods to the Standard Governance Model

Gate 2 → Preliminary Business Case → Gate 3

Feasibility Study

- In Waterfall / Linear models, *DETAILED* design and estimates.
- Relatively high cost and long time to plan up front.

- In Agile models, only *HIGH LEVEL* design and estimates.
- Relatively small cost and short time to plan up front.
- Often called “Iteration Zero”

Tasks
- Solution design
- Estimate costs & timeline
- Analyze Risk
- Determine Feasibility / Return on Investment
Aligning Agile Methods to the Standard Governance Model

- **Waterfall / Linear models** *may* conduct a pilot or go directly to full execution depending upon risk.

- Agile models *usually* perform a short pilot to reduce risk.

- After **2-3 iterations**, actual performance (“velocity”) can be used to forecast completion with reasonable accuracy, similar to Earned Value.

- Detailed design is completed in waves, during each iteration.

<table>
<thead>
<tr>
<th>Gate 3</th>
<th>Gate 4</th>
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<tbody>
<tr>
<td><strong>Committed Business Case</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Pilot or Proof of Concept</strong></td>
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</table>

**Tasks**
- Validate & commit to design & approach
- Validate & commit to revised estimates & timeline
- Reduce risk
- Baseline Plan
Aligning Agile Methods to the Standard Governance Model

Gate 1: Great Idea
- Concept

Gate 2: Opportunity Analysis
- Marketing Analysis
- Feasibility Study
- Pilot or Proof of Concept

Gate 3: Preliminary Business Case
- Business Case

Gate 4: Committed Business Case
- Realize Business Case
- Full Execution or Deployment

Agile
- Iteration 0
- Iterations 1 to 3
- Iterations 4 to n

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What is Agile Planning?

- “Plan” vs. “Planning”
- Happens throughout the project
- Effort vs. Value
- Designed to be easily updated as scope and productivity change
Agile approach to projects

- Plan on a multi-disciplinary team.
- Break project into short iterations.
- Deliver something each iteration.
- Focus on business priorities.
- Inspect and adapt.
“Strategic Procrastination”
Agile teams have three levels of planning

**Business + Team**

- **Release Plan**
  - High Level Schedule / Estimates
  - Updated Each Iteration

**Team Only**

- **Iteration Plans**
  - Detailed Schedule / Estimates
  - Created Each Iteration

- **Day Plans**
  - Informal Working Rules
  - Created by Team Members
Turning a Project Backlog into a Release Plan

1. Prioritize
2. Adjust for Dependencies
3. Estimate
4. Choose an Iteration Length
5. Forecast Initial Velocity
6. Assign Scope to Iterations
7. Adjust for Constraints
Step 3: Estimate in Points

Can be based on:
- “Story points” via Planning Poker™
- “Ideal” days
- Function points

The agile community typically uses story points.
Step 4: Choose an Iteration Length

- Common iteration lengths: 2-4 weeks
- There is no “magic number”
- Factors to consider:
  - Nature of the work & the need for feedback
  - Size of features
  - Team experience level
  - Available automation tools

For our example, let’s choose two-weeks.
Step 5: Forecast Initial Velocity

- A measure (or prediction) of the team’s performance/productivity.
- To forecast velocity for new projects, you can use:
  - historical values
  - actuals from a short pilot/proof of concept
  - estimates based on a quick analysis of team capacity and feature complexity

For our example, let’s say it is ten (10).
Step 6: Assign Scope to Iterations

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<tr>
<th>Feature ID</th>
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<th>Dependencies</th>
<th>Complexity (in Points)</th>
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Step 7: Adjust for Constraints

Usually done using the “Wall Planning” Method

### Book Writing Project

#### Release Plan (Final)

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<th>2-week iterations</th>
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<td>9 points</td>
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- Christmas
- Project End
- Early Endorsements Sent Out

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Keep the Release Plan Current

Update at end of each iteration:
1. Include new scope items
2. Reprioritize
3. Re-allocate scope using observed actual velocity
Iteration Plans Verify Release Plan Velocity Assumptions

- PMI: “Rolling-Wave Planning”
- Traditional planning, but only one iteration at a time:
  - Develop a WBS
  - Identify task dependencies
  - Identify task owners
  - Owners estimate work effort in hours (or days)
- Outputs: Project schedule, iteration backlog, and initial iteration burndown (tracking) chart
We double-check our top-down estimates with a bottom-up $I_0$ estimate
In Agile Projects, the Work in Iteration Zero Becomes Critical to Success

- Gather High-Level Requirements
- Prepare High-Level Design
- Identify High-Level Features
- Prioritize High-Level Features
- Initial Product Backlog

- Determine Iteration Length
- Determine Initial Team Size
- Forecast Initial Velocity
- Divide Backlog Into Iterations
- Initial Release Plan

- Gather Detailed I1 Requirements
- Prepare Detailed I1 Design
- Identify Tasks and Task Owners
- Estimate Tasks in Hours
- I1 Task Backlog & Plan

Double-Check High-Level Estimates with Detailed I1 Estimates
Agile Reporting Techniques: Iteration Level (Sprint Backlog)

Within an iteration, we track #hours or #days remaining to complete each task and sum them up into a total estimate to complete.

<table>
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<th>Task ID</th>
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<th>Effort Remaining</th>
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Agile Reporting Techniques: Iteration Level (Sprint Burndown)

- We plot this total on a chart periodically (every day is ideal) and use the slope of the line to forecast a completion date.
Agile Reporting Techniques: Project Level

**Project Burndown Chart**
- Story Points Outstanding
- Iteration

**Budget Burndown Chart**
- Budget Remaining
- Iteration

**Parking Lot Report**
- **Account Management**
  - 10 Items
  - 150 Points
  - 44.12% of Product
- **Customer Management**
  - 15 Items
  - 85 Points
  - 25% of Product
- **Contact Management**
  - 7 Items
  - 70 Points
  - 20.59% of Product
- **Configuration Management**
  - 5 Items
  - 35 Points
  - 10.29% of Product
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