# Waterfall Vs. Agile PM

## Winning the Battle Between Two Worlds

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### Presenter Profile:

- Founder and Principal Consultant of StockTheMind

- Electrical Engineer

- Certified Project Management Professional and Instructor

- Certified in Lean Six Sigma

- Public Speaker

- Specializing in aligning business strategies to processes and PM tools

**Simone Brown Knight, PMP**

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## Discussion Topics

**1. When to use Agile Vs. Waterfall**

**2. Selecting the Right Agile Framework**

**3. Agile in a Waterfall Environment**

**4. Improving Tracking and Implementation**

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## Benefits of Agile

- Allows developers to continually align their product with business needs through iterative planning
- Provides increased value by incrementally delivering working, tested, deployable software

**Agile Vs. Waterfall development**

Agile Development Value Proposition

VISIBILITY    ADAPTABILITY

BUSINESS VALUE    RISK

AGILE DEVELOPMENT    TRADITIONAL DEVELOPMENT

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**Agile Development Map**

Agility is...

adaptability

transparency

simplicity

VALUES

STRATEGY    charter   funding

goals    RELEASE    estimation    unity

vision    release plan    ITERATION    retrospective

backlog    review    acceptance testing

iteration plan    standup    DAILY

CONTINUOUS

TDD    build

refactoring    integration

collaboration

burndown

velocity

VISIBILITY

burnup    tests

Working Software

*Source*: VersionOne Software

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## Process Improvement Tools

Business Strategy

Project/Product Portfolio

Strategy Enablers

Process/Cost Improvement Tools

Cost/Risk Controllers

| Agile | ITIL | PMI | Six σ |
|-------|------|-----|-------|
| Software Dev. | Service Mgnt. | Project Mgnt. | Quality Control |

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## Selecting The Right Agile Framework



## Agile…What's the Point?

- Agile focuses work to provide better software more often
    - **Higher Revenue** - Faster speed to market generates more $$$ quickly
    - **Better Customer Service** - Higher product quality reduces customer and business issues



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## What is Agile?

- Definition:
    - Lightweight framework for helping software development teams maintain focus on rapid delivery and business value
    - Focus is on early and continuous delivery of valuable software
    - Requirements and solutions evolve through collaboration between self-organizing cross-functional teams

- Applications:
    - Software development and engineering

- Origin:
    - Definition formed in 2001 after the development of the Agile Manifesto

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## Principles of Agile Software Development

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

4. Working software is the primary measure of progress.

5. The best architectures, requirements, and designs emerge from self-organizing teams.

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## When Do You Use Agile Vs. Waterfall

**Key Question**: Are iterative releases of functionality allowed?

- **Waterfall Characteristics**
  - Process heavy
  - Clear person in charge
  - Documentation Dependant
  - Sequential Process

- **Agile Characteristics**
  - Iterative frequent releases
  - Work is self directed
  - Frequent customer interaction

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## Agile Frameworks

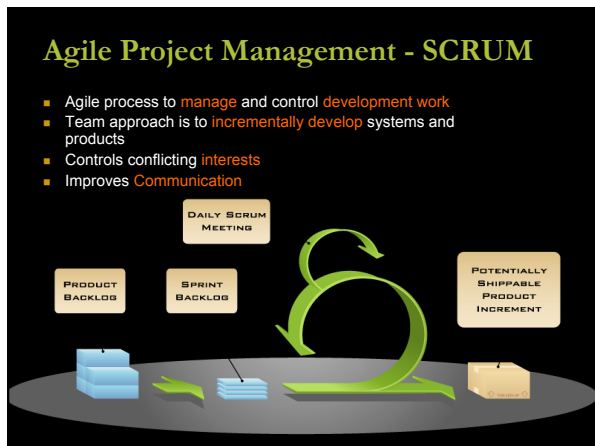1. **Extreme Programming ( XP)**
   - A widely used disciplined approach. Requires continuous testing, planning and feedback for rapid delivery

2. **Lean Software Development**
   - Focused on eliminating waste and delivering value

3. **Scrum**
   - Lightweight framework used to manage iterative projects

4. **Crystal**
   - A family of adaptive methodologies – Uses osmotic communication

5. **Dynamic Systems Development Method (DSDM)**
   - Requirements are planned and delivered based on business needs

6. **Feature Driven Development (FDD)**
   - Model-driven process of eight practices to design and build by feature

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## Agile Project Management - SCRUM

- Agile process to manage and control development work
- Team approach is to incrementally develop systems and products
- Controls conflicting interests
- Improves Communication

DAILY SCRUM MEETING

PRODUCT BACKLOG

SPRINT BACKLOG

POTENTIALLY SHIPPABLE PRODUCT INCREMENT

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## Selecting the Right Framework

Key Question: What is the purpose of the project?

- New Applications
  - Extreme Programming
  - Feature Driven Dev.
  - DSDM

- Product Enhancements
  - Crystal Frameworks
  - Feature Driven Dev.
  - Lean Software Development

- Maintenance Releases
  - Lean Software Development

- Product Automation
  - Lean Software Development
  - DSDM

SCRUM can be used for most needs

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## Can Agile and Waterfall Work Together?

150
120
90
60
30

200
150
100
50
0

The Battle of Two Worlds

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## Agile and Waterfall don't speak the same language

**Waterfall to Agile Translation**
- Sponsor = Product Owner
- Project Schedule = Sprint Plan
- Deliverables = Features
- Project Team = Sprint Team
- % Complete is tracked by Burndown

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## Agile and Waterfall don't speak the same language

- Success is defined and tracked differently
  - o Delivery of pieces vs. the whole

- Communication is different
  - o Daily customer meeting vs. specified intervals

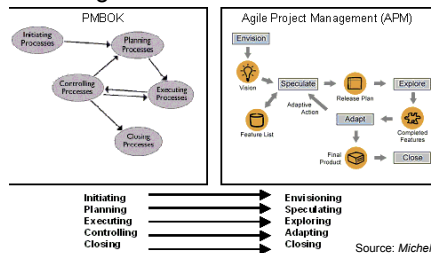- Planning is very different
  - o Many moving parts

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## Mixing Methodologies

- PMI and Agile can coexist



Source: *Michelle Sliger Stickyminds.com*

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## Agile and Strategic Planning

**Use Agile to implement a long term strategic PRODUCT plan**

| | |
|---|---|
| product vision | yearly by the product owner |
| product roadmap | bi-yearly by the product owner |
| release plan | quarterly by the product owner and teams |
| iteration plan | bi-weekly by the teams |
| daily plan | daily by the individuals |

Source: *www.agilejournal.com*

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## Translating the Sprint Planning Process

**The Agile (RBS) - Requirements Breakdown Structure**

Be the eBanking Provider of choice for small business customers — **Vision**

Increase retention on eBanking Website — **Goal / Outcome**

Add a Customer Center for self service for common needs — **Epic**

- As a customer access historical statements
- As a customer stop payment on check
- As a customer find a branch location — **Feature**  **Feature**

- As a customer find a branch that offers services in foreign languages ....
- As a customer find a branch that is close to a specific address
- As a customer find a branch that offers services for small business customers
- As a customer find a branch by any combination of...assuming that.... — **Story**

Source: *lithespeed.com*

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## Translating the Sprint Planning Process

**The Agile (RBS) - Requirements Breakdown Structure**

Vision
- Goal / Outcome
  - Epic
    - Feature
      - Story
    - Feature
      - Story
    - Feature
      - Story
- Goal / Outcome
  - Epic
    - Feature
    - Feature
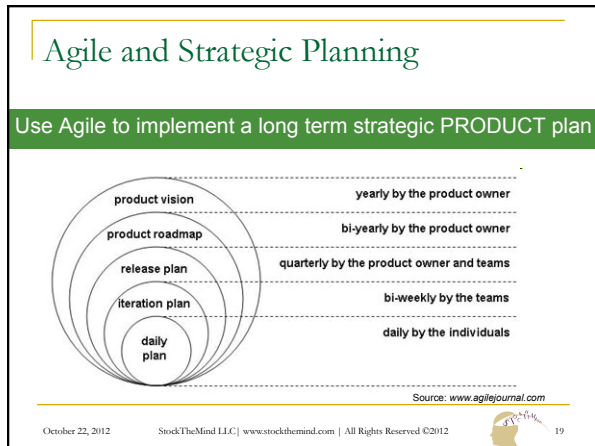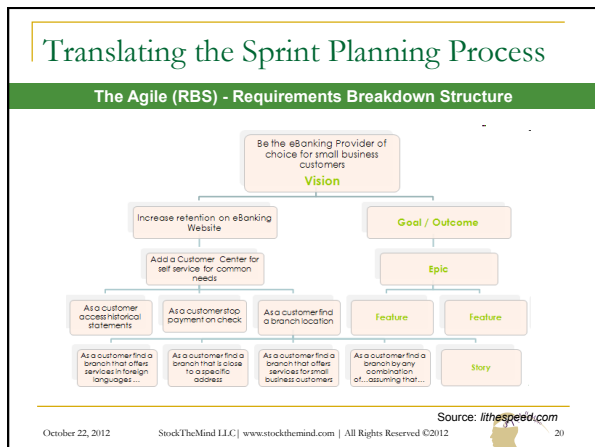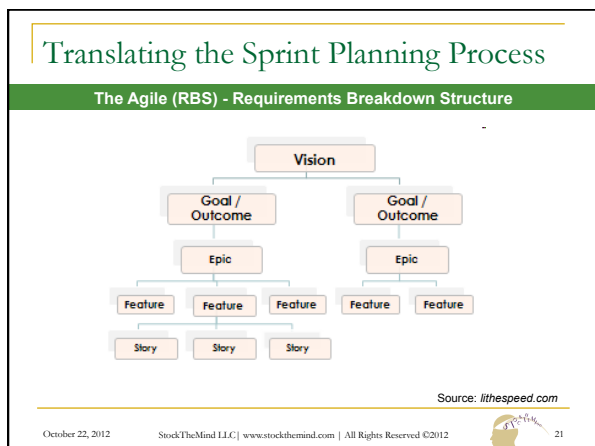
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## Combining Waterfall and Agile

- Mix Agile and PMI Methodologies

**To Customer**

**Release**

**Team Agile**

| Iteration 1 | Iteration 2 | Iteration 3 | Iteration 4 |

*Milestones and Sync Points*

**Team Waterfall**

Analysis...Design...Code...Test

Source: *Michelle Sliger*
*Stickyminds.com*

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## Project Implementation & Tracking

Improving Collaboration Between PM Teams

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## Defining Project Success Metrics

Key Questions:

- How will your report progress?

- How will we measure success?

- What is our baseline?

Typical Project Goals:

- Revenue Building
  - Speed to Market
  - New Products
  - Product enhancement

- Productivity Improvement
  - Of what group(s)

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## Ms Project/TFS Integration



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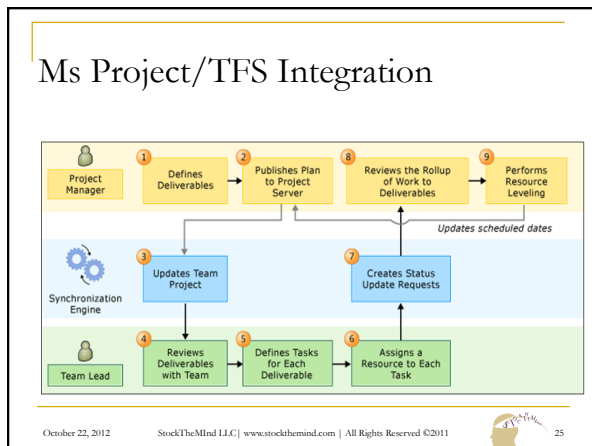
## Agile Estimating and Planning Tools
## Team Foundation Server (TFS)

### Built-in Planning Templates

1. Manage the Backlog
2. Plan Sprints
3. Manage Capacity
4. Prioritize User Stories
5. Retrospectives



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## Importing to Ms Project

❑ Use the Ms Project ribbon to import project info from Agile plan TFS



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## Viewing Agile Project Information in Ms Project

❑ Different Views allows the PM to see different project info.

| Work Item ID | Title | Resource Names | Iteration Path | Reason | State | Work Item Type | Backlog Priority | Remaining Work | lish and Refi... |
|---|---|---|---|---|---|---|---|---|---|
| 1 28 | ⊟ Receive auto | sp_admin[0% | -\Release 1\Sprint 1 | New backlog item | New | Product Backlog Item | 1000 | 38 hrs | Yes |
| 2 29 | Task A1 | sp_admin | -\Release 1\Sprint 1 | Work started | In Progress | Task | 1 | 30 hrs | Yes |
| 3 30 | Task A2 | sp_admin | -\Release 1\Sprint 1 | New task | To Do | Task | 0 | 8 hrs | Yes |
| 4 31 | ⊟ Make video | sp_admin[0% | -\Release 1\Sprint 1 | New backlog item | New | Product Backlog Item | 1000 | 2 hrs | Yes |
| 5 32 | Task B1 | sp_admin | -\Release 1\Sprint 1 | New task | To Do | Task | 0 | 2 hrs | Yes |

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## Bridge the Communication Gap

- TFS communicates with SharePoint through the Team Portal
  - ✓ View progress reports
  - ✓ Post shared documents
  - ✓ Have discussions
  - ✓ Track productivity

Microsoft® SharePoint® 2010

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## Use Integrated Progress Management

❑ Track progress on Agile projects in TFS
❑ Track the overall project progress in MS Project
❑ Communicate and publish reports in SharePoint 2010

Story Points

Sprint 1  Sprint 2  Sprint 3  Sprint 4  Sprint 5  Sprint 6  Sprint 7  Sprint 8
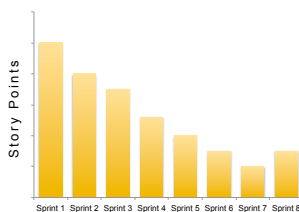
Built-in TFS Reporting Templates
1. Burndown
2. Velocity
3. Quality

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## Integrated Agile/Waterfall Status Report

**Agile Components:**

- Release/Sprint Burndown Chart with:
  - Story points
  - Velocity

- Performance to key metrics
  - Defect inflow
  - % test passed

- Feature Backlog

**Waterfall Components:**

- Master Project Schedule with:
  - Release/phase start/end dates
  - Sprint start/end dates
  - Milestones
  - Constraints
  - Resources
  - Actual vs. planned
    - Budget, Dates, Work hours
- Overall project risks/issues

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## Let's Focus Before Moving Forward



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## Is Agile Right for You?

- The environment needed to become Agile:
  - High level of customer collaboration and interaction
  - Frequent delivery of working software
  - Development must accept frequent changes to features
  - Development team collaborates on what to deliver for each Sprint/Iteration

- Watch out for the pitfalls:
  - Requires minimal cultural and political issues
  - Initial decrease in productivity during transition
  - Management may be reluctant to surrender control
  - HR involvement is needed

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## How Can You Build Competencies?

- Get training and assistance to build team competencies and results:
  - Certified ScrumMaster
    - For Managers, Developers, Testers

  - Scrum Product Owner Training
    - For Product Managers and Functional Analysts

  - Agile Estimating and Planning
    - How to estimate and monitor progress

  - Developing Agile requirements with User Stories
    - Managing requirements and writing stories and UATs

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## Key Takeaways on Agile

1. A lightweight framework focused on early continuous delivery of working software

2. Has six iterative methodologies to continually deliver working product every 2-4 weeks

3. Choose the right framework for your needs.

4. Requires a high level of customer interaction and self-guided teams

5. Connect Agile to a performance or product delivery business strategy to get buy-in

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## Q & A

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## Presenter Profile - Simone Brown Knight, PMP

- **Principal Consultant of StockTheMind LLC**
  - Over thirteen years experience in management consulting, engineering and project management with Fortune 100 firms
  - A PMP and Electrical Engineer also certified in Lean Six Sigma process improvement methodologies
  - Expertise in strategic planning, process improvement and project management
  - Public speaker and talk radio personality for business performance and leadership topics

- StockTheMind LLC – Reducing costs in IT and project management since 2003
  - Creates value by aligning business strategies with project management and technology tools
  - Reduces costs and streamlines processes to improve decision making through portfolio management
  - Delivers fast, fun, hands-on project management and leadership training

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## StockTheMind Overview

Complete Project Management solutions from creating a framework to designing customized training programs and portfolio management strategies, including…

- **PM Training**
  - PMI Methodologies
  - MS Project
  - Project Server
  - SharePoint
  - Technical training program design

- **PM Tools**
  - RefreshPM™ Software Tutorials
  - Customizable Project Mngt. Templates

- **PM Consulting**
  - Enterprise PM strategy development
  - PM Software Configuration
  - Portfolio Management Strategy Development
  - Agile Implementation

- **IT Project Management Staffing**

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