Introduction to
Agile Project Management

Delivering Customer Value with Speed, Economy & Quality

Sanjiv Augustine, LitheSpeed

PMI Northern Italy Chapter, Milan

September 28, 2007
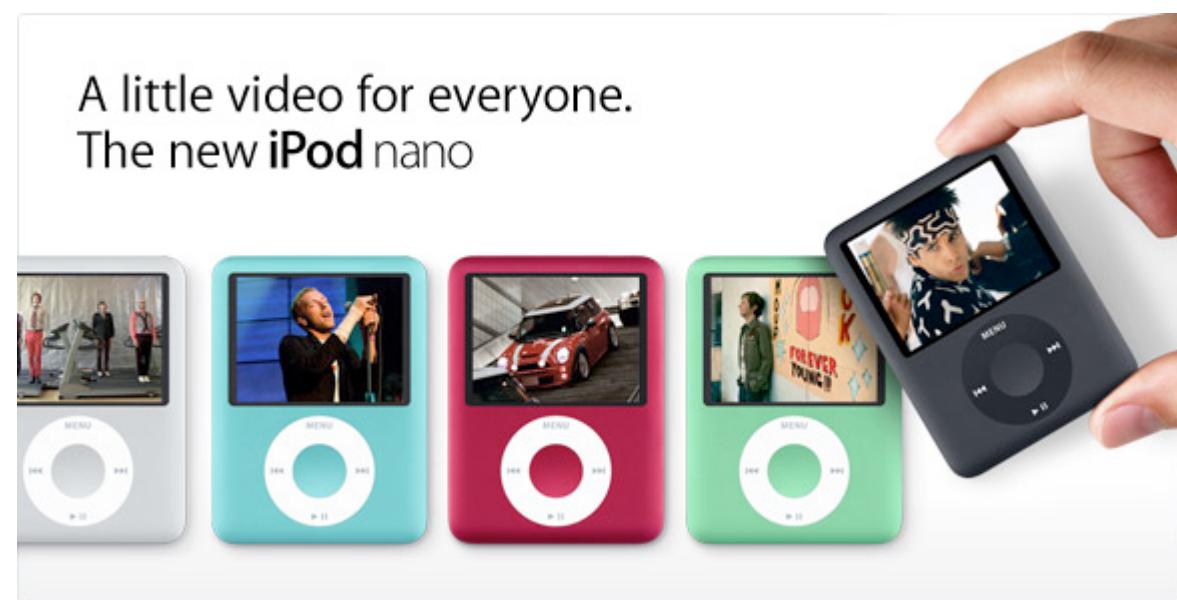
- **Why APM?**   05 Minutes
- **What is APM?**   25 Minutes
  - o   History of Agile and Lean
  - o   The Agile Landscape
  - o   Key Agile Principles
  - o   Key Agile Practices
  - o   Complexity Theory Distilled
  - o   Adaptive Project Model
  - o   The Agile Manager's Role
  - o   Transitioning to APM
- **Managing Agile Projects – APM Practices**   50 Minutes
  - o   Organic Teams
  - o   Guiding Vision
  - o   Simple Rules
  - o   Open Information
  - o   Light Touch
  - o   Adaptive Leadership
- **Discussion**   10 Minutes
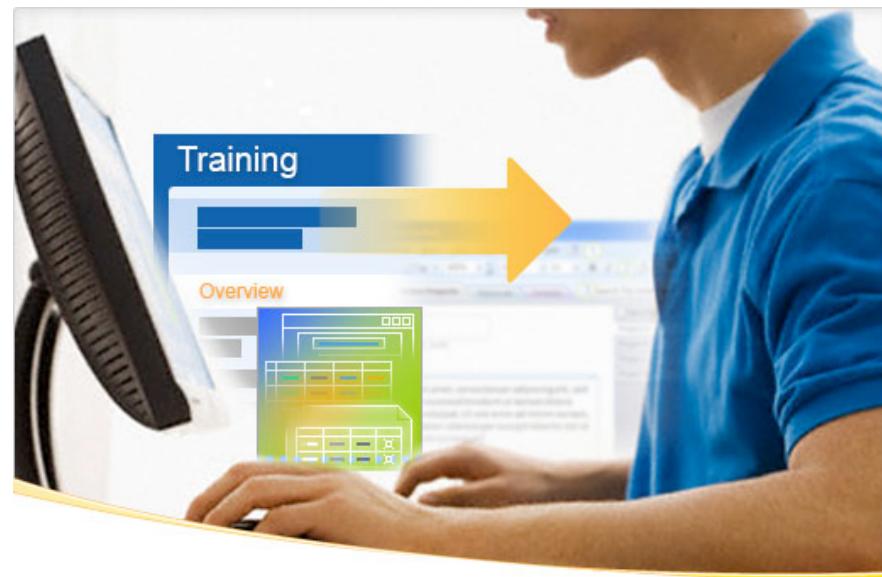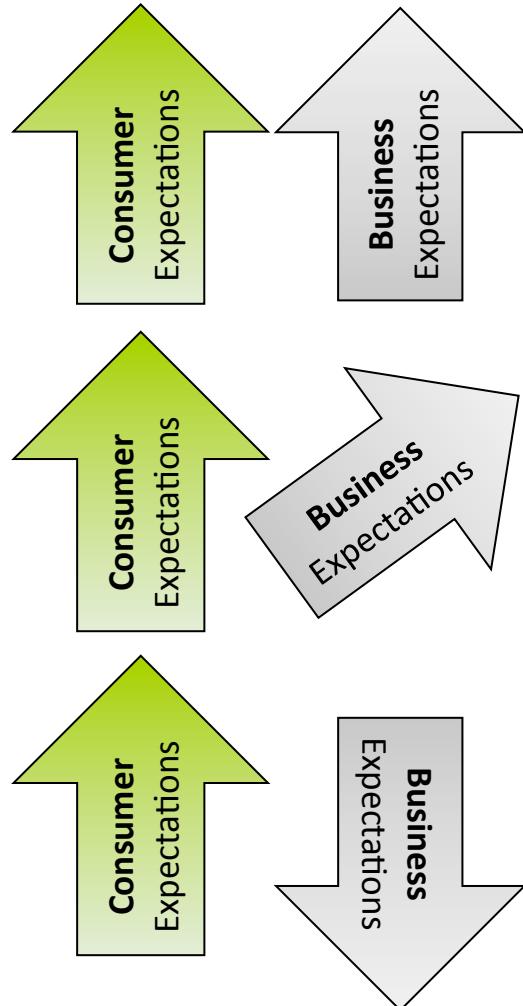
Why APM?

As consumers today we want and expect innovative products: *faster*, *cheaper* and with *better quality* than those we've seen in the past.

Consumer Expectations

A little video for everyone.
The new **iPod** nano

As knowledge workers, our business tools have improved our *capability to be productive*, raising work expectations.

Business Expectations

However,

Instead of **this**...
Productivity driving Customer value

We usually get **this**...
Misalignment of Value definitions

Or all too often, **this.**
Orthogonal opposition to Customer Value

What is APM?

History & Influences

Early 1900s

- Walter Shewhart: Plan-Do-Study-Act, SPC

Mid 1900s

- Edward Deming: SPC, TQM

- Toyota: Toyota Production System (TPS)

- Peter Drucker: Knowledge Worker

Late 1900s

- Womack and Jones: Lean Thinking

- Eli Goldratt: Theory of Constraints

- Tom Gilb: Evo

- The Toyota Way

Evolution

Early 1990s

- Crystal Methods

- Lean Software Development

- Dynamic Software Development Method (DSDM)

Mid 1990s

- Feature Driven Development (FDD)

- eXtreme Programming (XP)

- Adaptive Software Development

2001: Manifesto for Agile Software Development

- http://www.agilemanifesto.org

2005: Declaration of Interdependence

- http://www.pmdoi.org/

Agile Methodologies

- **eXtreme Programming**
  Kent Beck, Ward Cunningham, Ron Jeffries
- **Scrum**
  Ken Schwaber and Jeff Sutherland
- **Crystal Methods**
  Alistair Cockburn
- **Feature Driven Development**
  Jeff DeLuca
- **Dynamic Systems Development Method**
  DSDM Consortium

Agile Management Frameworks

- **Agile Project Management**
  Jim Highsmith, Sanjiv Augustine
- **Agile Management**
  David Anderson
- **eXtreme Project Management**
  Rob Thomsett, Doug DeCarlo

Corporate IT Leading Second Wave of Agile Adoption

Agile software development processes are in use at 14% of North American and European enterprises, and another 19% of enterprises are either interested in adopting Agile or already planning to do so.

Early adopters of Agile processes were primarily small high-tech product companies. But a second wave of adoption is now underway, with enterprise IT shops taking the lead.

These shops are turning to Agile processes to cut time-to-market, improve quality, and strengthen their relationships with business stakeholders.

Carey Schwaber, Forrester Research
Nov 30, 2005

Key Agile principles are:

- **Focus on Customer Value –** Align project, product and team visions to deliver better product quality – faster and cheaper.

- **Small Batches -** Create a flow of value to customers by "chunking" feature delivery into small increments.

- **Small, Integrated Teams -** Intense collaboration via face-to-face communication, collocation, etc; diversified roles on integrated, self-organizing, self-disciplined teams.

- **Small, Continuous Improvements –** Teams reflect, learn and adapt to change; work informs the plan.

Delivering Customer Value with Agile Project Management

The right product, at the right time, for the right price.

- **Higher Quality:** "Designed-to-fit" product with flexibility to change.

- **Increased Throughput:** Iterative and incremental project and product "chunks" with earlier value delivery.

- **Reduced Waste:** Lean, efficient processes with lower costs and higher productivity.
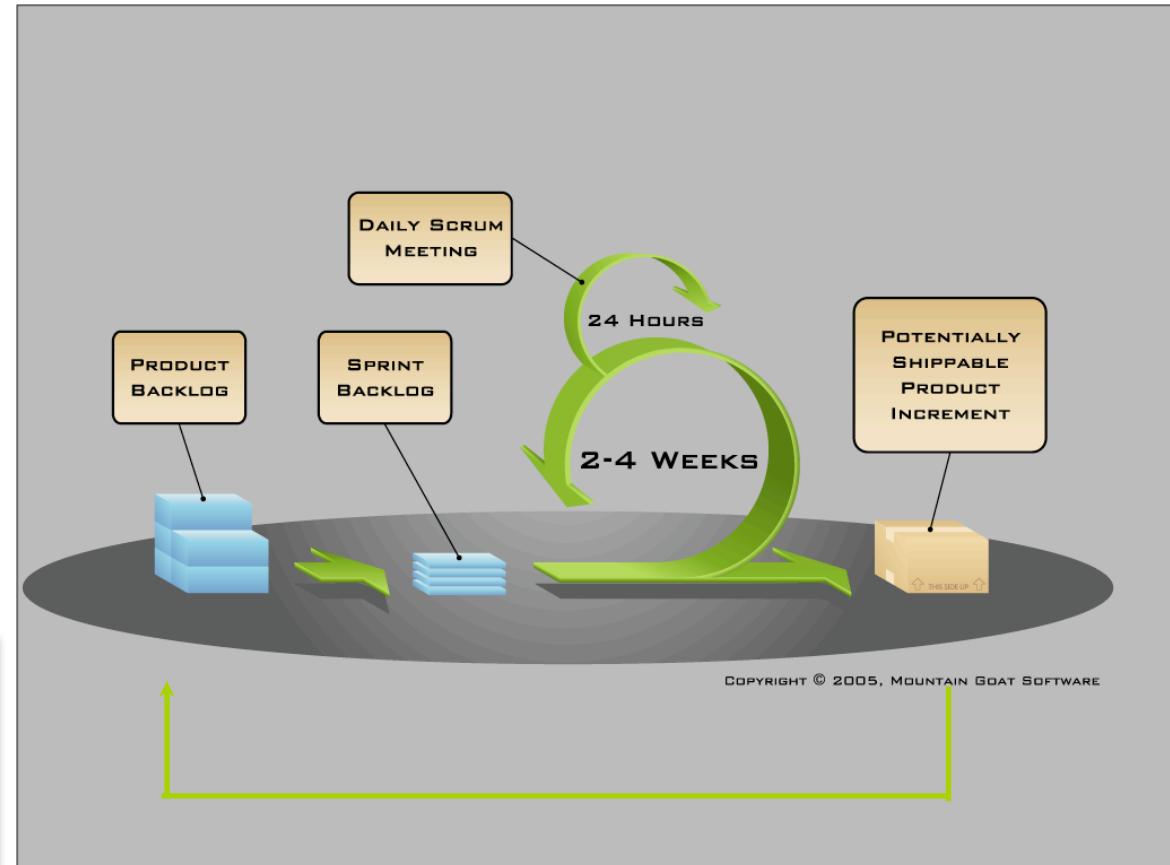
Key Agile Practices:

- Release Planning
- Sprint Planning
- Daily Scrum/Standup
- Fixed-length sprints
- Sprint Review
- Sprint Retrospective

Identify top-priority items and deliver them rapidly using:
- Small batches
- Small integrated teams
- Small, continuous improvements

DAILY SCRUM MEETING

24 HOURS

2-4 WEEKS

PRODUCT BACKLOG

SPRINT BACKLOG

POTENTIALLY SHIPPABLE PRODUCT INCREMENT

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- Living systems are **complex**, in that they consist of a great many **autonomous agents** interacting with each other in many ways

- The interaction of individual agents is governed by **simple, localized rules** and characterized by **constant feedback**

- Collective behavior is characterized by an overlaying order, **self-organization**, and a collective intelligence so unified that the group cannot be described as merely the sum of its parts

- Complex order, known as **emergent order**, arises from the system itself, rather than from an external dominating force

- These complex, self-organizing **Complex Adaptive Systems (CAS)** are **adaptive** in that they react differently under different circumstances, and **co-evolve** with their environment

A **chaordic** project harmoniously blends characteristics of both chaos and order – freedom and control, optimization and exploration, competition and cooperation.

Agile projects can be seen as chaordic:

- **Competition and Collaboration**
  - Agents: Individuals
  - Mental Models: Vision and alignment
  - Groups: Project teams
- **Emergence and Self-Organization**
  - Interactions/Feedback: Information exchange and relationships among individuals
  - Simple Rules: XP/Scrum/FDD Practices
- **Learning and Adaptation**
  - Learning: Observation, monitoring, measurement and reflection
  - Adaptation: Process changes, team adjustments
  - Environment: Project environment
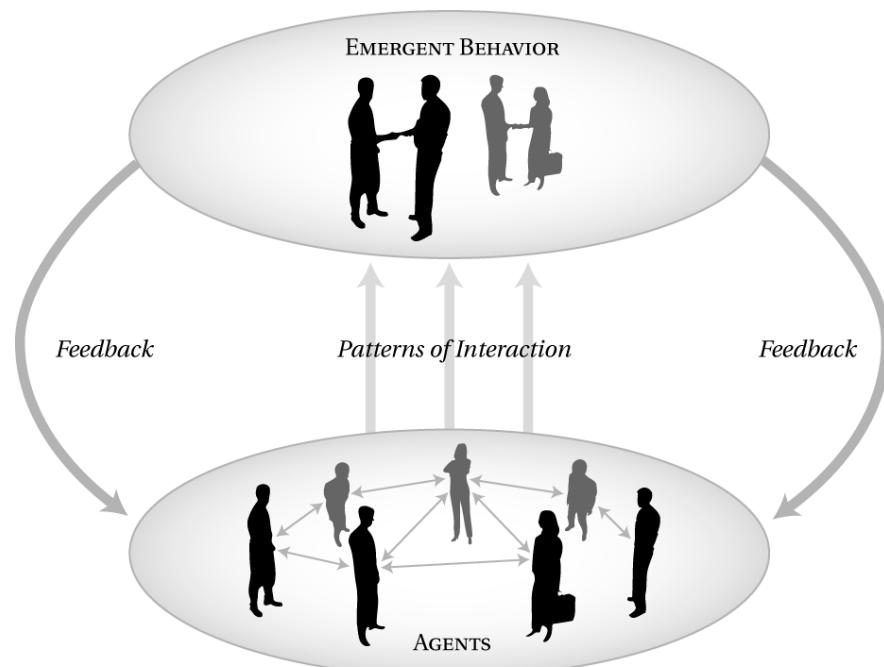
Agile Project Management (APM) is:

- **Leading project teams in creating and responding to change** through:
    - Small batches
    - Small, integrated teams
    - Small, continuous improvements

- **Light touch leadership:** the work of energizing, empowering and enabling project teams to rapidly and reliably deliver customer value:
    - By engaging customers, and
    - Continuously learning and adapting to their changing needs and environments

While many traditional project management skills translate to APM, some transitions are necessary:
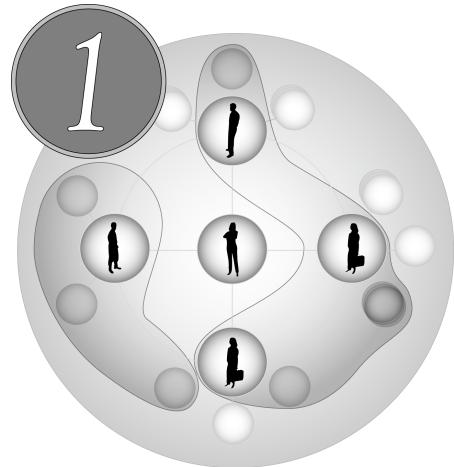
Agile Project Management	Traditional Project Management
Focus on **customer satisfaction** and interaction	Focus on **plans and artifacts**
Response to change via **adaptive action**	Change controlled via **corrective action**
Progressive elaboration, **rolling-wave planning**	Monumental **up-front planning**
Customer prioritized, **time-boxed delivery**	Manager negotiated, **scope-based delivery**
Commitment management via **feature breakdown structure**	Activity management via **work breakdown structure**
Collaboration on self-disciplined and **self-organizing teams**	Top-down **control**
Minimal set of context-sensitive, **generative** practices	**Prescriptive**, heavyweight methods
Essential, **value-focused metrics**	**Non-value added controls**

# **Managing Agile Projects** APM

Practices

Objectives:

- Structure and build self-organizing agile teams based on an organic CAS model

- Integrate them effectively into the larger enterprise

Key Implications:

- View agile teams as organic CAS

- Recognize the difference between formal and informal team structures and structure agile teams accordingly

- Mold groups of individuals into high-performance agile teams

- Integrate these teams into the larger agile enterprise

"Skillful managers understand the interdependence between design and emergence. They know that in today's turbulent business environment, their challenge is to find the right balance between the creativity of emergence and the stability of design."

Fritjof Capra*, The Hidden Connections*

Traditional Silos

Product Owner → PM → BA → Designer → Developer → Tester →
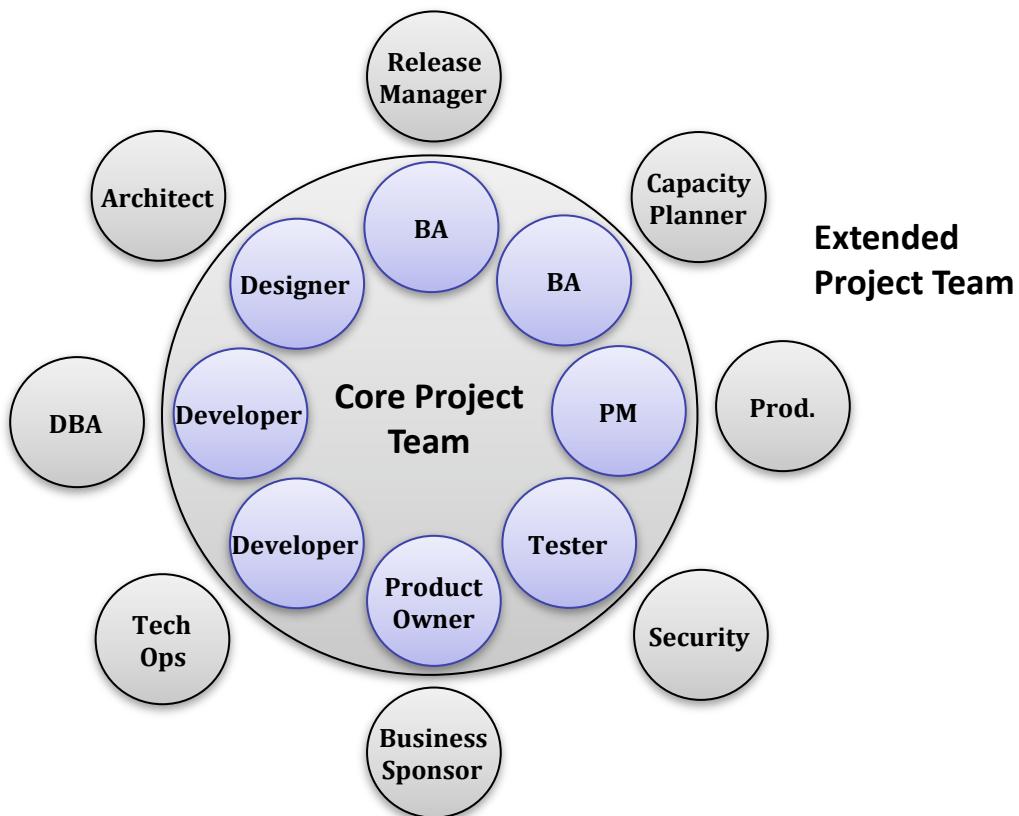
Integrated Agile Team

The Core Project Team ideally consists of **5-9 (7 plus or minus 2)** members.

Core Project Team: BA, BA, Designer, Developer, PM, Developer, Tester, Product Owner

Extended Project Team: Release Manager, Capacity Planner, Architect, Prod., DBA, Security, Tech Ops, Business Sponsor

Define roles holistically so that team members can develop into *Generalizing Specialists (or Versatilists):*

"Generalizing Specialist"

Someone with one or more specialties who actively seeks to gain new skills in existing specialties, as well as in other areas.

> *A generalizing specialist is more than just a generalist. A generalist is a jack-of-all-trades but a master of none, whereas a generalizing specialist is a jack-of-all-trades and master of a few"*
>
> **Scott Ambler**

Objective:

- Create a shared vision or mental model for driving behavior on agile projects. The *Guiding Vision* is an aggregate of three component visions: *team vision*, *project vision* and *product vision*

Key Implications:

- Evolve team vision to drive team behavior

- Create project vision to drive project behavior

- Facilitate product vision to drive project evolution

A shared vision is not an idea... it is, rather, a force in people's hearts, a force of impressive power.

**Peter Senge, *The Fifth Discipline***
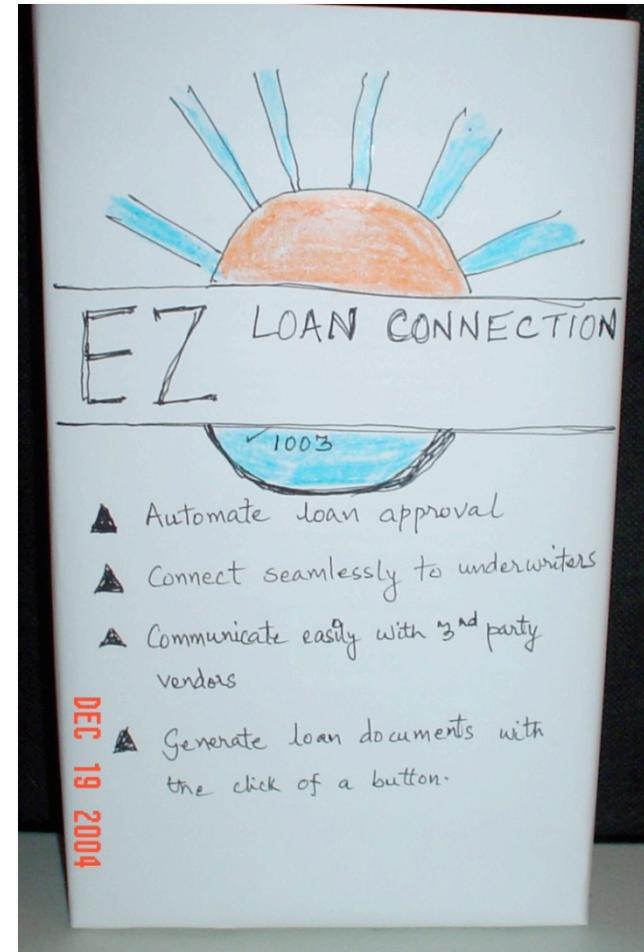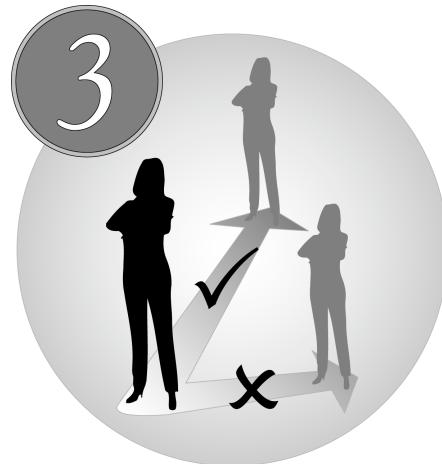
Front Cover:

- Product Name

- Graphic

- 3 – 4 Key Features (compelling reason to buy)

Back Cover:

- Detailed Features/Benefits

- Operating Requirements (constraints, standards, etc.)

Objective:

- Implement a set of simple, adaptable methodology rules that allow agile teams to deliver business value rapidly and reliably

Key Implications:

- Assess the environment to determine its characteristics
- Identify and implementing a simple set of methodology rules that is congruent with the environment
- Hone the discipline needed for continuous and consistent application of the simple rules

"Simple, clear purpose and principles give rise to complex, intelligent behavior. Complex rules and regulations give rise to simple, stupid behavior."

Dee Hock, *Birth of the Chaordic Age*

- Is the organization's environment stable or turbulent?
- What kind of strategic planning does it do?
- How is technology leveraged?
- What is the evident culture?
- Is the organization structure bureaucratic or is it organic?
- How does staff view management?

STABLE & CERTAIN	TURBULENT & UNPREDICTABLE
Environment	
DEFENSIVE GOAL-SETTING	PROACTIVE LEARNING ORGANIZATION
Strategy	
ROUTINE, LOW-DISCRETION ROLES	COMPLEX, HIGH-DISCRETION ROLES
Technology	
ECONOMIC WORK ORIENTATION	SELF-ACTUALIZING WORK ORIENTATION
Culture	
MECHANISTIC & BUREAUCRATIC	ORGANIC
Structure	
AUTHORITARIAN	DEMOCRATIC
Management	

How-To Rules: **Key features of the process**

- Feasibility, Project Discovery
- Release and Iteration Planning
- Product and Iteration Backlogs
- Tracking via Burndown charts
- Team collocated in team rooms
- Core team dedicated to project

Boundary Rules: **To define allowable action**

- Estimation done only by performers
- Prioritization done only by product owners

Priority Rules: **To rank work opportunities**

- Priorities always decided in Sprint Planning Meetings
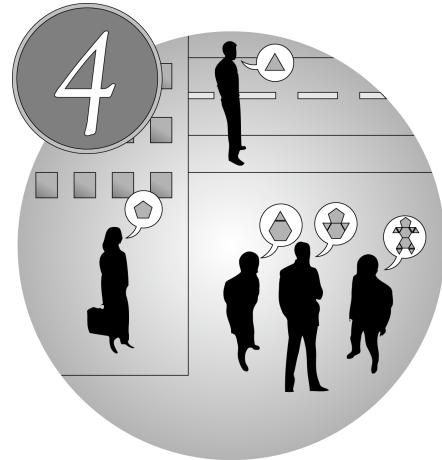
Timing Rules: **To define and synchronize delivery pace**

- 3-Week Sprints

Exit Rules: **To minimize sunk costs**

- Sprint Reset allowable in extreme circumstances

Objective:

- Create an open flow and exchange of information among project team members, and among other associated external groups
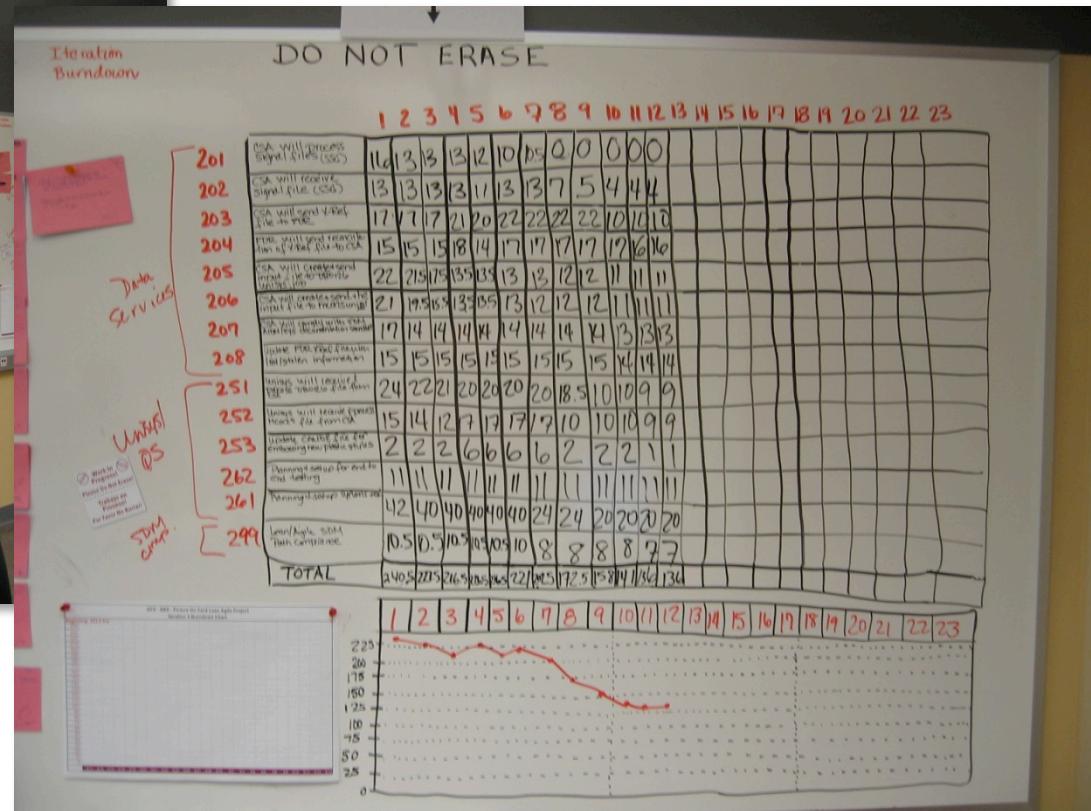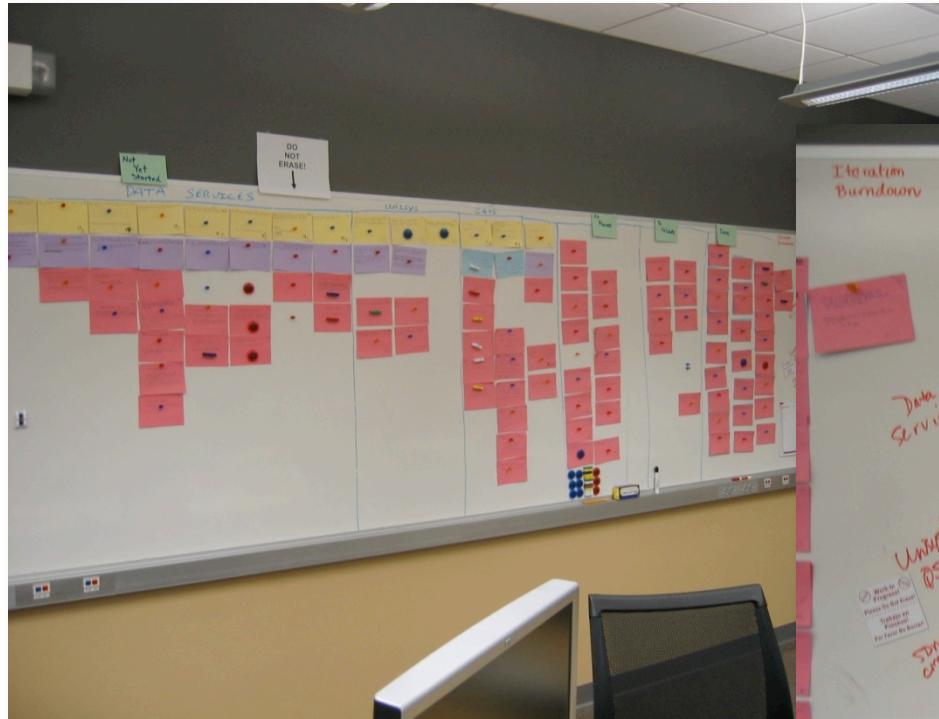
Key Implications:

- Reorganize team facilities and seating to institute agile information sharing practices

- Analyze the time taken to exchange information with external groups to identify and reduce the information cycle time

- Structure conversations on the project team so as to generate transforming exchanges of information among project team members

"All life uses information to organize itself into form."

Margaret Wheatley, *Leadership and the New Science*

Effective collaborative workspaces need:

- **Common area** for collaboration and community

- **"Caves"** for privacy
  - Phone calls
  - Emails
  - Web surfing
  - Other individual tasks

- **Open "drafts"** of information

5. Closer to the Edge of Chaos?. One group to whom this picture was shown claimed it resembled "an untidy bedroom". It is in fact a profiled example of successful 'new officing' in a Local Authority. Signs of casual connectivity abound

Source: The Complex Adaptive Workplace
*http://www.ifm.eng.cam.ac.uk/mcn/pdf_files/part5_4.pdf*

Each participant answers 3 questions:

1	**What did you do yesterday?**
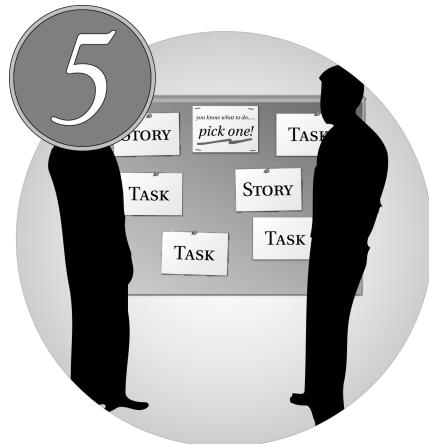
2	**What will you do today?**

3	**What's in your way?**

- These are **not** status sessions for the manager
- They are team member commitments in front of the team

Objective:

- Manage agile teams with a style that allows team autonomy and flexibility, and a customer value focus without sacrificing control

Key Implications:

- Establish decentralized control that defers decision making for frequently occurring, less critical events to the team

- Manage the flow of customer value from one creative stage to another

- Recognize team members as whole-persons and treat them accordingly

- Focus on strengths, rather than weaknesses to leverage people's uniqueness.

"Intelligent control appears as uncontrol or freedom. And for that reason it is genuinely intelligent control. Unintelligent control appears as external domination. And for that reason it is really unintelligent control. Intelligent control exerts influence without appearing to do so. Unintelligent control tries to influence by making a show of force."

Lao Tzu, *Book of Ethics*

Applying it to Others:
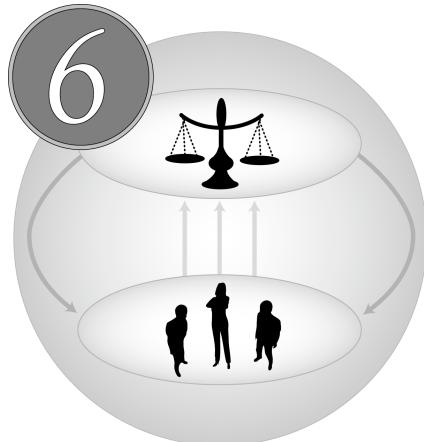
- Each person is unique and has unique strengths and weaknesses – whole persons

- Great managers recognize that trying to standardize human behavior is futile, and don't waste their time trying to change people dramatically

- Rather than focus on weaknesses, they build on the personal strengths of their team members and help them become more of "who they already are"

Applying it to Yourself:

- Find out what you don't like doing and stop doing it

- "The point is to feel authentic, self-assured or creative"

- More info: http://www.marcusbuckingham.com

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When Your Manager Discusses Your Performance With You, Do You Spend More Time Talking About How to Build Your Strengths or How to Improve Your Weaknesses?

Improve My Weaknesses — 40%
My Manager Doesn't Talk to Me About These Things — 35%
Build My Strengths — 25%

Nationally Representative Sample March 2005 © Marcus Buckingham

Objectives:

- Track and monitor the project for timely and relevant feedback
- Institute systemic procedures for learning and adaptation
- Help the Agile Manager maintain a leadership presence that animates the team

Key Implications:

- Track and monitor APM practices to ensure their proper application and desired outcomes
- Learn and adapt continuously according to the feedback obtained
- Embody leadership that inspires and energizes the team.

"It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change."

Charles Darwin, *The Origin of Species*
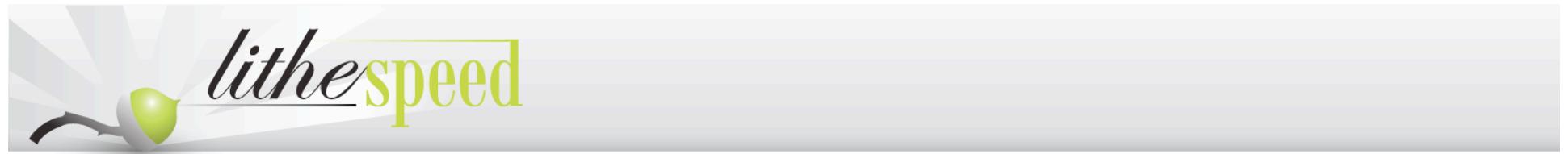
How to use the "Plus-Delta" Team Feedback tool:

• Take a few minutes daily to get your team to provide feedback on the project

• Record it in a tabular format on whiteboard or flipchart

• Place the things that are working in the Plus column, and those that need improvement in the Delta column

• Leave it up as an Information Radiator that is a constant reminder

+	Δ
Automated unit testing	6am Daily Standup
Customers highly satisfied	Testing team availability
Retrospectives have improved process	Build cycle time
Estimates are stabilizing	Product Owner availability

Discussion

Online Discussion Groups

- Agile Project Management, http://finance.groups.yahoo.com/group/agileprojectmanagement/
- Scrum Development, http://groups.yahoo.com/group/scrumdevelopment/

User Groups

- Italian Agile Movement, http://www.agilemovement.it/index.php?newlang=ita
- Agile Alliance User Group List, http://www.agilealliance.org/show/1641

Articles

- *1-Page Introduction to Agile Methods,*
  http://www.lithespeed.com/resources/1-Page-Intro-to-Agile.pdf
- *The New Methodology*, http://www.martinfowler.com/articles/newMethodology.html
- *Getting Started with Agile Delivery*,
  http://www.gantthead.com/article.cfm?ID=230943&authenticated=1
- *So, How's that Agile Initiative Doing*?,
  http://www.gantthead.com/article.cfm?ID=230943&authenticated=1
- *Agile Project Management: Emergent Order through Visionary Leadership*,
  http://www.ccpace.com/Resources/documents/AgileProjectManagement.pdf
- *The Lean-Agile PMO: Using Lean-Thinking to Accelerate Agile Delivery*,
  http://www.cutter.com/project/fulltext/summaries/2006/10/index.html

Blogs

- http://lithespeed.blogspot.com
- http://www.leadinganswers.com
- http://www.agileadvice.com

Web Sites

- http://www.lithespeed.com/resources.htm
- http://www.agilealliance.org
- http://www.apln.org
- http://www.scrumalliance.org

Books

- *Agile and Iterative Development: A Manager's Guide*, Craig Larman
- *Managing Agile Projects*, Sanjiv Augustine
- *Agile Project Management*, Jim Highsmith
- *Agile Software Development*, Alistair Cockburn
- *Fearless Change*, Linda Rising and Mary Lynn Manns

Books *(continued)*

- *Lean Software Development* – An Agile Toolkit, Mary and Tom Poppendieck
- *Lean Thinking* and *Lean Solutions*, Womack and Jones
- *Agile Software Development with Scrum*, Ken Schwaber and Mike Beedle
- *Agile Estimating and Planning*, Mike Cohn
- *User Stories Applied,* Mike Cohn
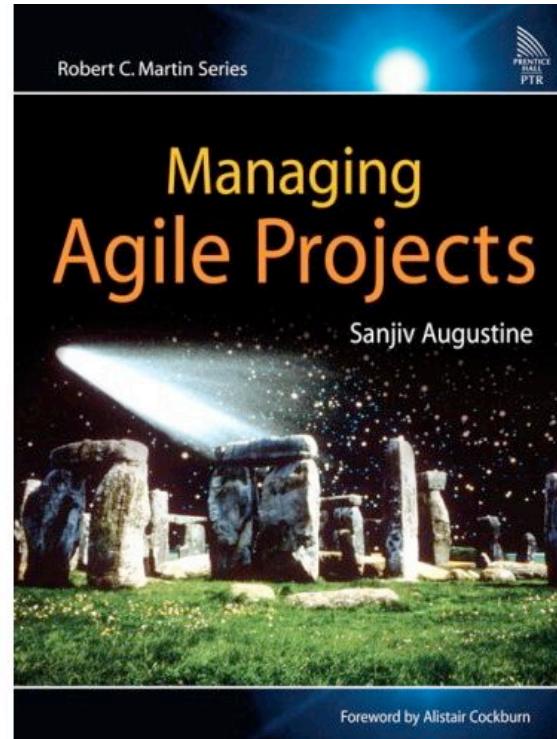
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PRENTICE HALL PTR

Managing Agile Projects

Sanjiv Augustine

Foreword by Alistair Cockburn

"I only wish I had read this book when I started my career in software product management, or even better yet, when I was given my first project to manage. In addition to providing an excellent handbook for managing with agile software development methodologies, *Managing Agile Projects* offers a guide to more effective project management in many business settings."
John P. Barnes, former Vice President of Product Management at Emergis, Inc.