

# Agile Fundamentals for Project Managers

Saturday Workshop PMI Lakeshore Chapter

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# Aleem Khan – Agile Coach and Trainer

## About me...

18+ years experience in managing complex projects & programs in financial, banking, manufacturing and telecom verticals.

Led multiple agile transformations Methodology development and PMO expertise

Coach high performance agile teams Author of agile case studies

Agile/PMI-ACP® course designer Passionate about agile coaching, training and believe in life long learning.....

M.S in Project Management



Diploma in Computer Science



PMP, PMI-ACP



CSM



SAFe Agilist



Work as an agile coach, trainer, facilitator, program manager, project manager, and consultant in various organizations.....



# Explain, Explore - Ice Breaker



15 Minutes

- Need is a piece of paper and pen per person
- Take a minute and write down a **word or phrase** that is true for you
- Find some stranger, and introduce yourself, exchange names and then explain to each other, why your description is true for you
- Now **swap** your cards for someone else's at least 4 times
- Take a look of card you have, find different partner, introduce yourself and explore how this could be true for you

# **Begin with End in Mind**

**Understand the Fundamentals of agile**

**Differentiate between various agile methods**

**Learn many agile practices and**

**Most importantly.....Have fun!**

# Workshop Logistics

Aha moments

Parking lot items

Rules of engagements

Any other business (AOB)



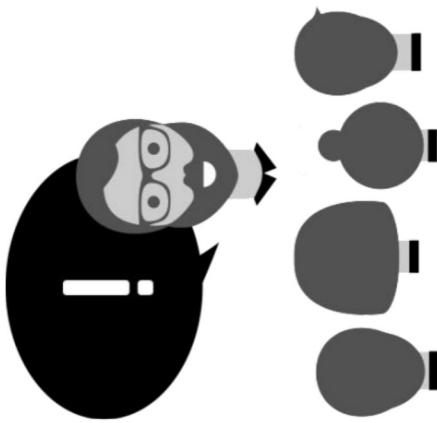
# Rules of Engagement / Team Contract

4 Minutes

1. Be open to new approaches and listen to new ideas
2. Give everyone the opportunity for equal participation specially encourage introverts to be part of a team
3. Avoid blame or name, instead discuss the process and explore how it can be improved
4. Always find new ways to improve by exploring, inspecting and adapting
5. Seek first to understand, and then to be understood
6. Listen openly to other point of view
7. Keep discussion on track
8. Parking lot will be used to capture "off topic" questions, ideas and concerns

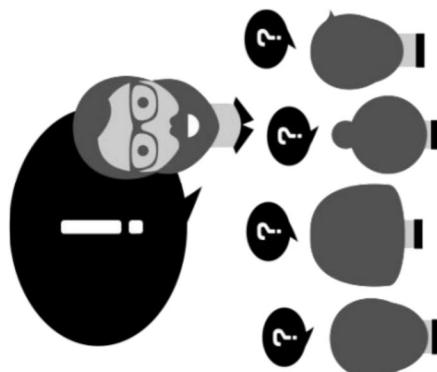
## LEARNING 1.0

FOCUS ON BEING TAUGHT



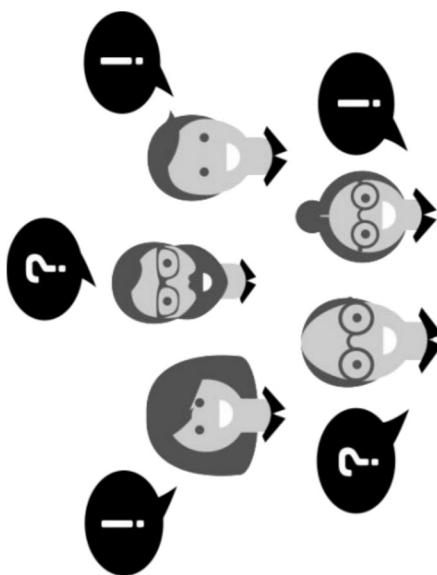
## LEARNING 2.0

FOCUS ON ASKING



## LEARNING 3.0

FOCUS ON SHARING



Source: <http://www.learning30.co/learning-3-0/>

# Process Miniature

Run the entire process in a very short time period (a few minutes to a few weeks)

| #  | Activity  |
|----|---|
| 11 | Team Collaboration   |
| 12 | Various Agile methods    |
| 13 | Scrum    |
| 14 | Daily Stand-up Simulation    |
| 15 | Extreme Programming    |
| 16 | Kanban   |
| 17 | Lean   |
| 18 | Agile Myths and Facts    |
| 19 | Waterfall & agile differences   |
| 20 | Parking lot / Q&A    |

| #  | Activity  |
|----|---|
| 1  | Explain, Explore - Ice Breaker       |
| 2  | Learning Patterns                    |
| 3  | Process Miniature                    |
| 4  | What & Why of Agile                  |
| 5  | Agile History                        |
| 6  | Agile Values                         |
| 7  | Pocket Size Principles               |
| 8  | Methodology Selection              |
| 9  | Traditional phases vs. Increments  |
| 10 | Agile teams                        |

-  Group Activity
-  Lecture

# What is Agile?

*Methodology?*

**Framework?**

**Another Fad**

*Methodology?*

**Framework?**

**Another Fad**

No  
Design...  
.

Iterative

**No Planning!**

**Documentation !**

*Process?*

*Approach?*

*...Silver  
Bullet*

## Definition

Agile is a an approach of building products or services by **EMPOWERING** and **TRUSTING** people, acknowledging **CHANGE AS NORM**, and promoting **CONSTANT FEEDBACK**.

## Definition

Agile is a PHILOSOPHY that uses organizational models based on **people**, **collaboration** and **shared values**.

Agile uses rolling **wave planning**; **iterative** and **incremental delivery**; rapid and flexible response to change; and open communication between teams, stakeholders, and customers.

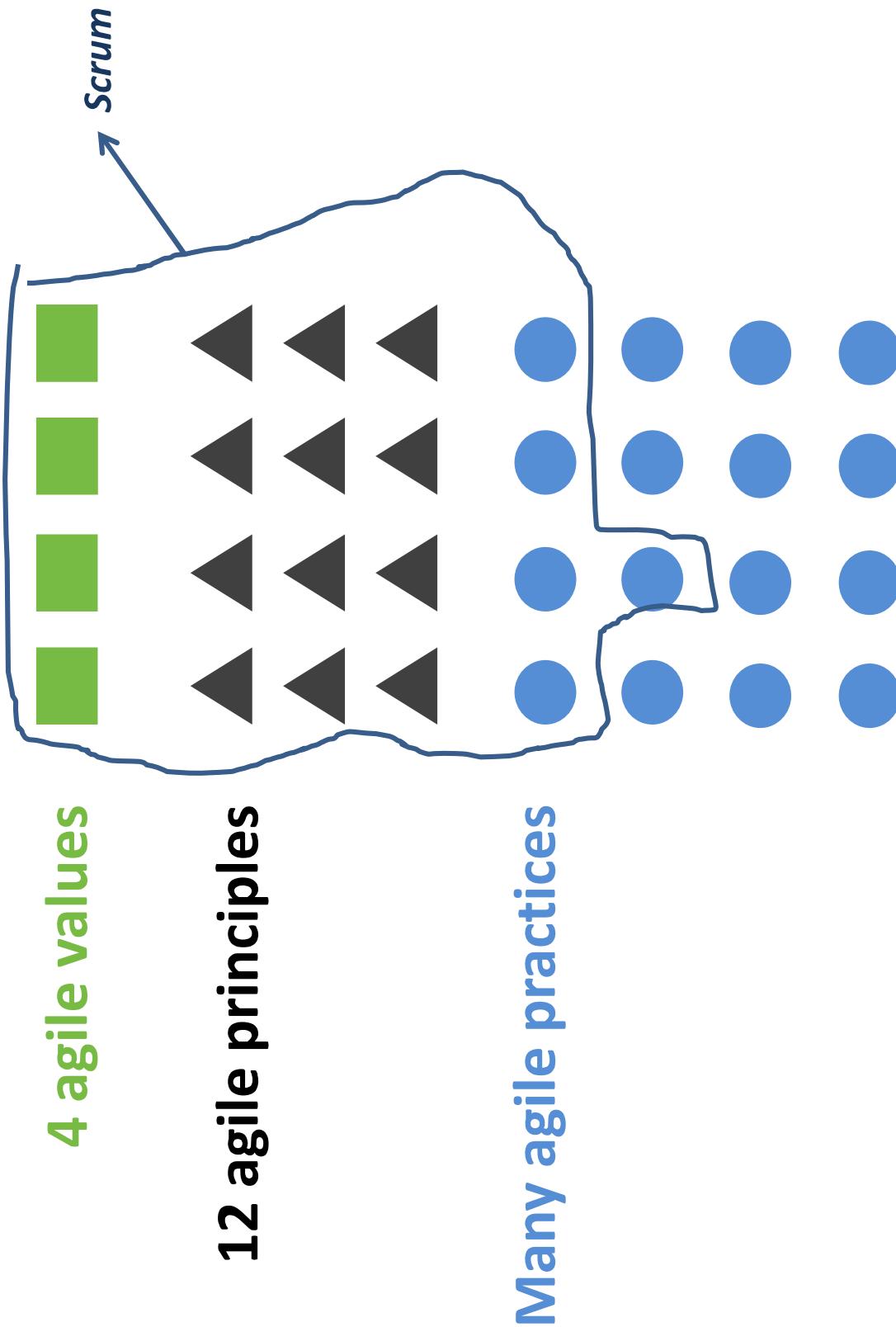
## Definition

Agile is a **MINDSET**.....

established through **4 VALUES**,

grounded by **12 PRINCIPLES** &

manifested through many **DIFFERENT PRACTICES**



# Being Agile.....

Doing Agile.....

## 4 AGILE VALUE

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

## 12 AGILE PRINCIPLES

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. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity—the art of maximizing the amount of work not done—is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

## MANY AGILE PRACTICES

- Time-boxing
- Retrospective
- Spike Solution
- Planning Poker
- Backlog Prioritization
- Progress Elaboration
- Minimal marketable Features
- Personas
- Story Mapping
- User Stories
- Product Backlog
- Visualize Workflow
- Wireframe
- Daily Stand-up
- Limit Work in Progress (WIP)
- Avoid Waste
- Short Iterations
- Sprint Goals
- Servant Leader
- Self-organization
- Team Agreements
- Release Goals
- Release Plan
- Project Chartering
- Quality Assurance
- Refactoring
- Relative Sizing
- Product Vision
- Pair Programming
- Face to Face Conversation
- Osmotic Communication
- Test Driven Development (TDD)
- Velocity
- Unit Testing
- Test First Development
- Technical Debt
- Task board
- Swarming
- Regression Test
- Minimum Viable Product
- Last Responsible Moment (LRM)
- .....

# Why Agile?

Accelerate time to market

Enhance software quality

Reduce cost

Managing change priorities

Project visibility

Enhance software maintainability

Better align IT/Business

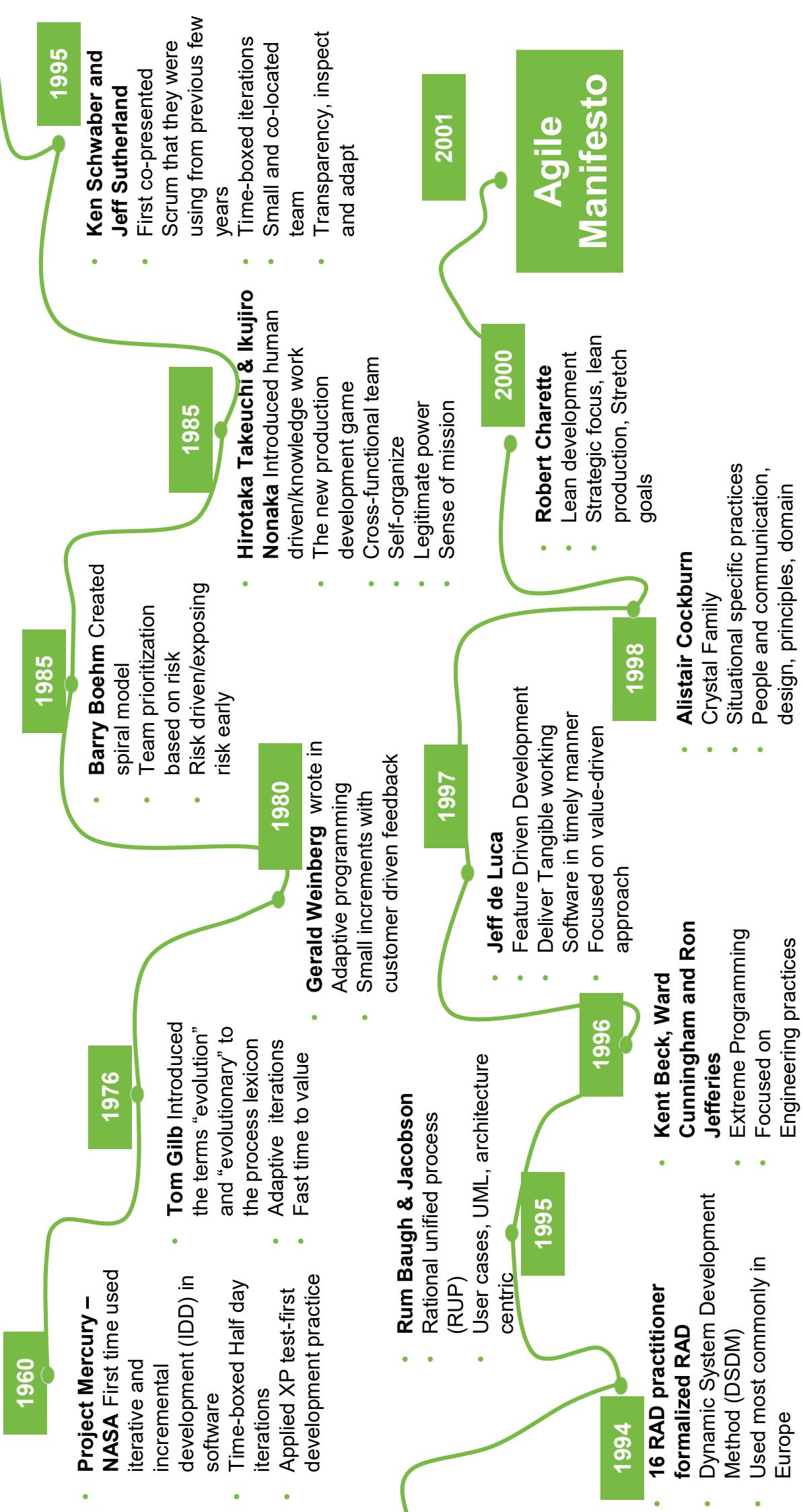
Reduce risk

Improve team morale

Increase productivity

Simplify development process

Improve/increase engineering discipline



# Meet the Agile influencers



Kent Back



James Grenning



Mike Beedle



Jim Highsmith



Robert C. Martin



Arie Bennekum



Andrew Hunt



Ken Schwaber



Ward Cunningham



Ron Jeffries



Jeff Sutherland



Martin Fowler



Brian Marick



Jon Kern

Dave Thomas

# Agile Values

Individuals & interactions **over**

Working software **over**

Customer collaboration **over**

Responding to change **over**

Processes & tools

Comprehensive documentation

Contract negotiation

Following a plan

That is, while there is value in the items on the **right**,  
we value the items on the **left** more.

# Pocket Size Principles



15 Minutes

# 12 Principles of Agile Manifesto

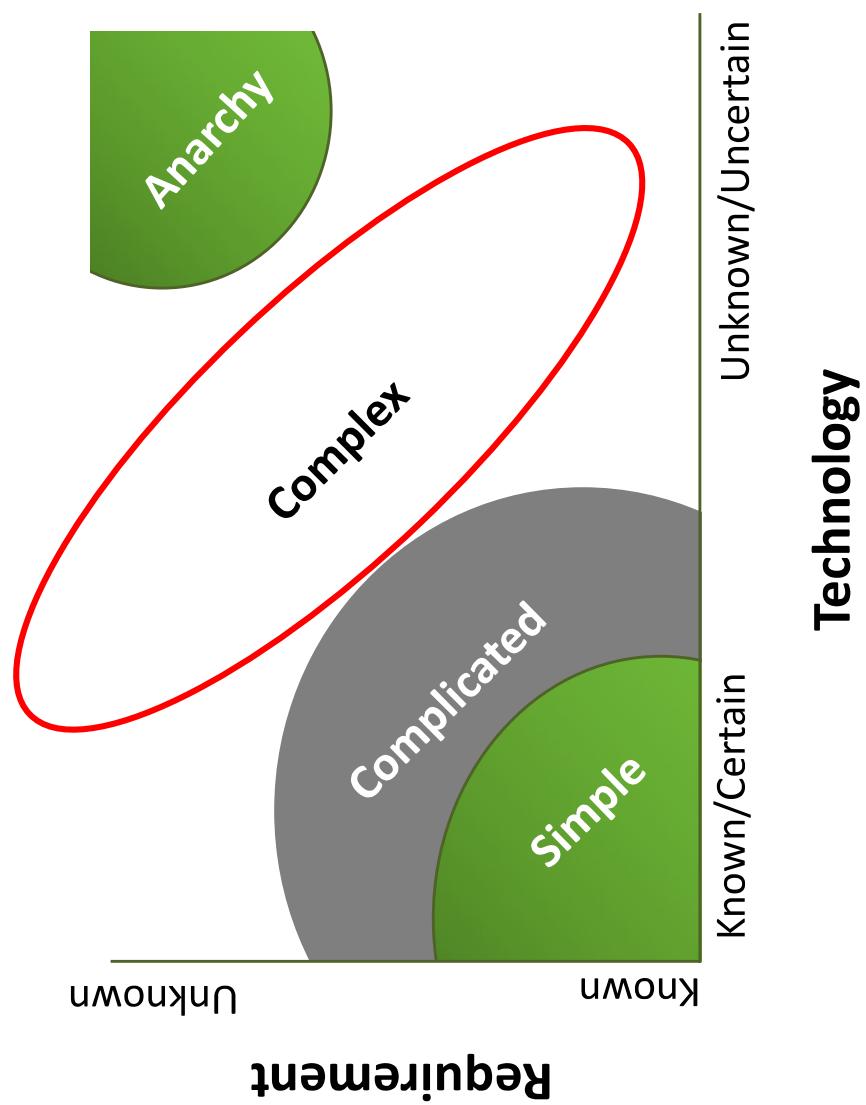
1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software
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# 12 Principles of Agile Manifesto (Continued...)

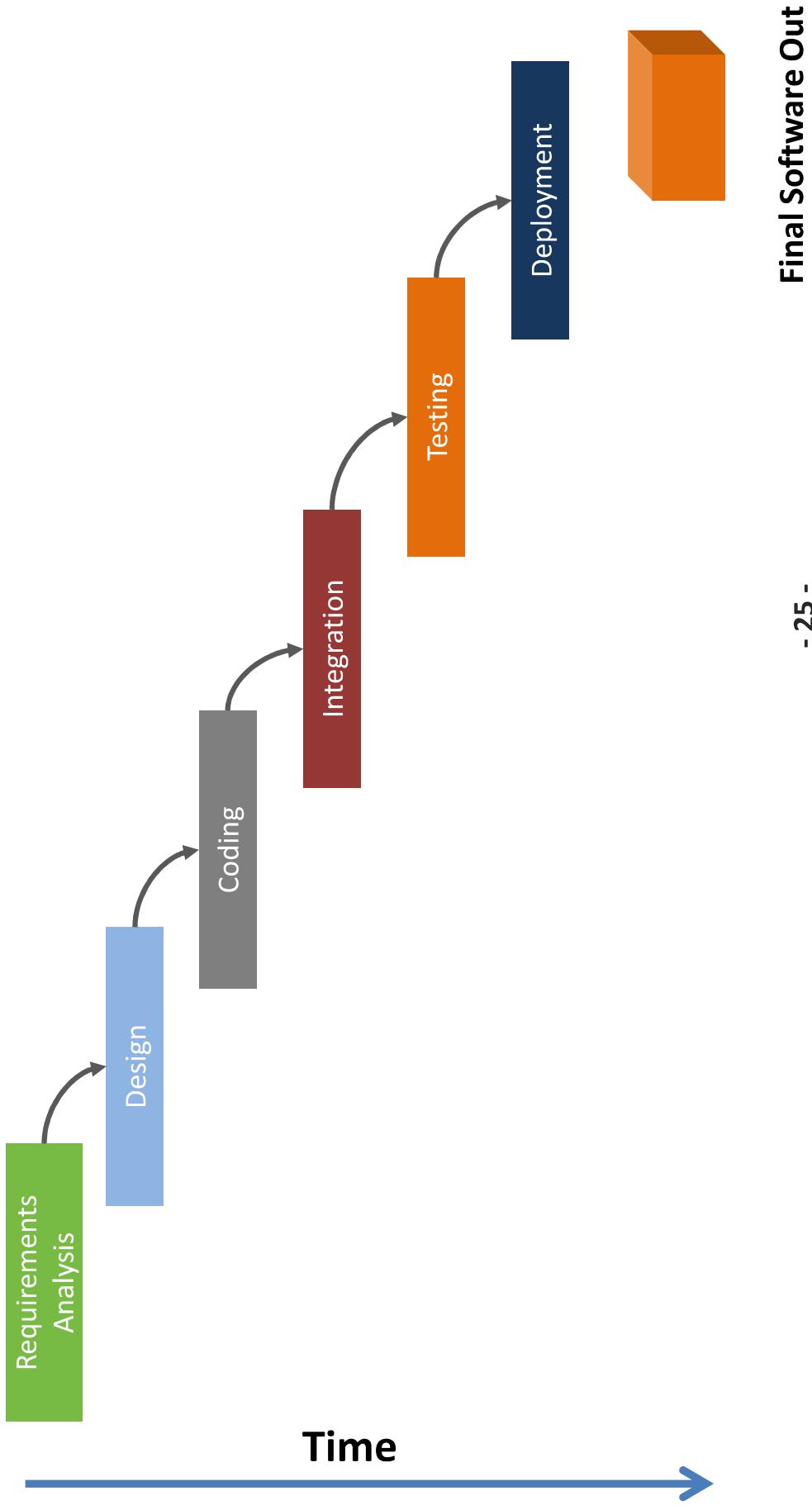
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11. The best architectures, requirements, and designs emerge from self-organizing teams
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly

Select a principle and think  
how we can apply in our  
traditional projects

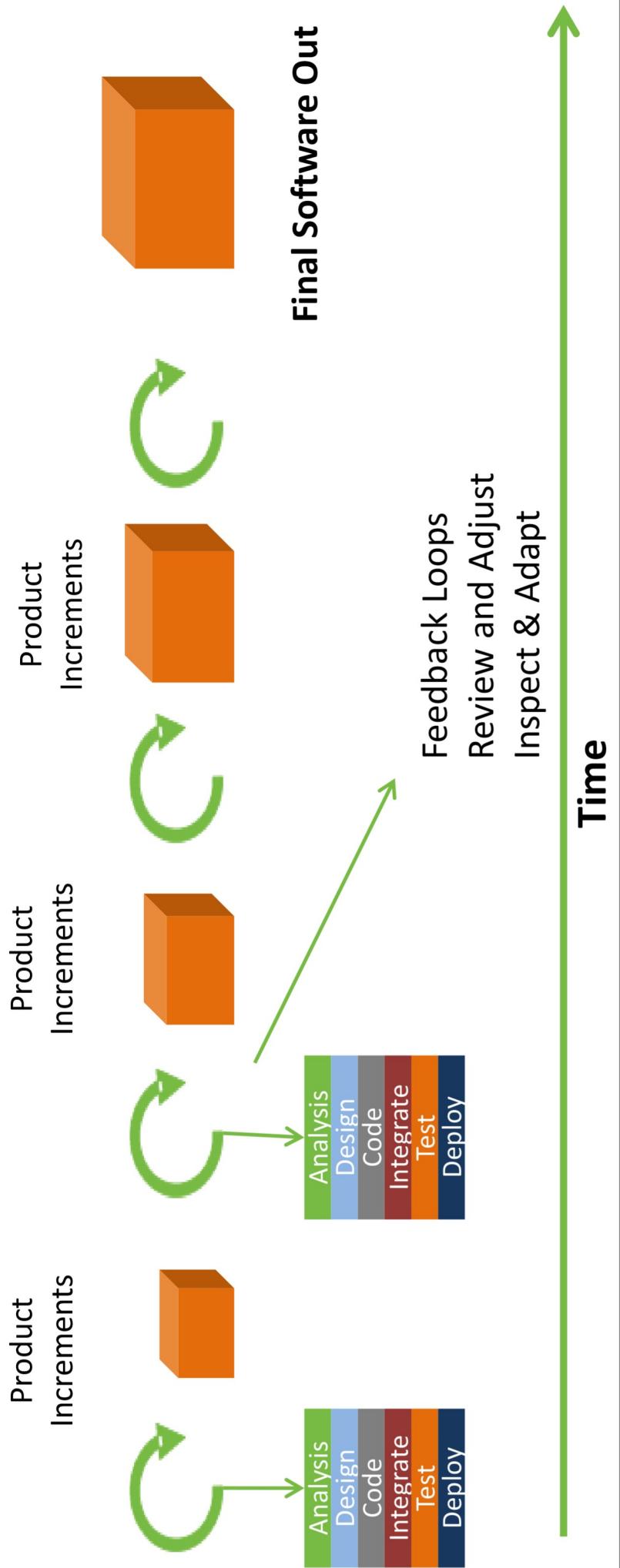
# Project Noise and Method Selection



# Traditional Project Phases

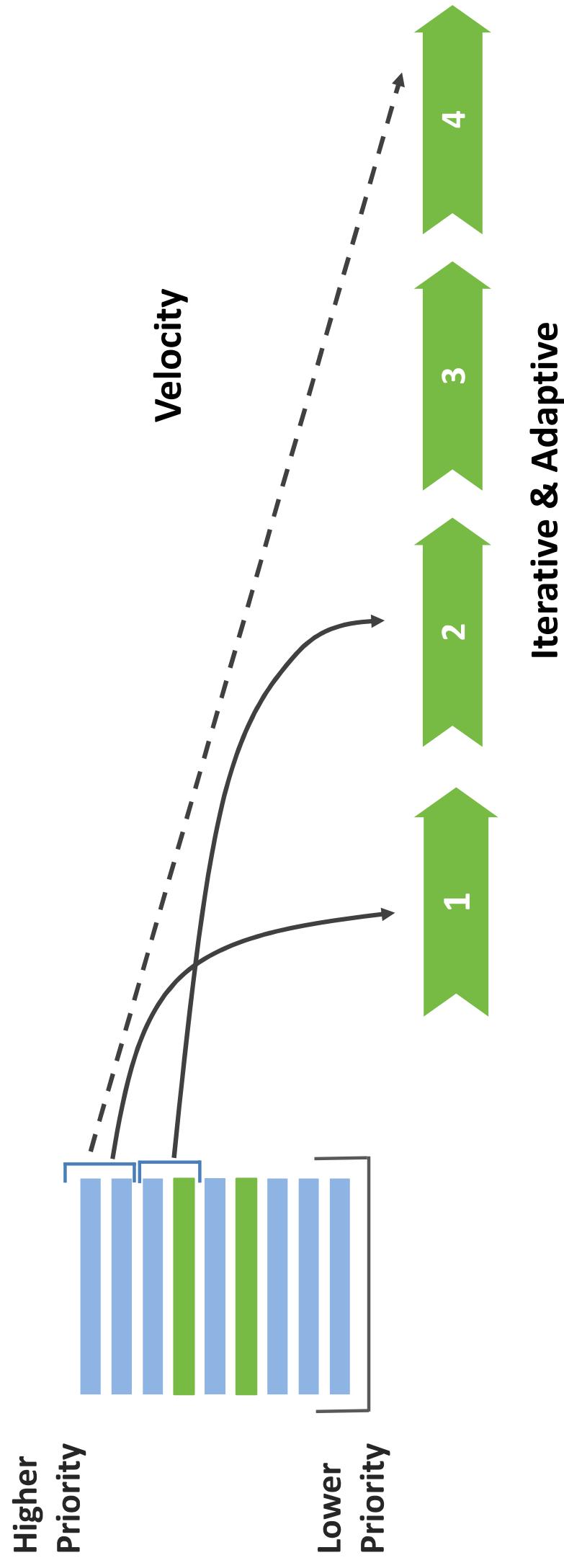


# Agile Incremental Delivery



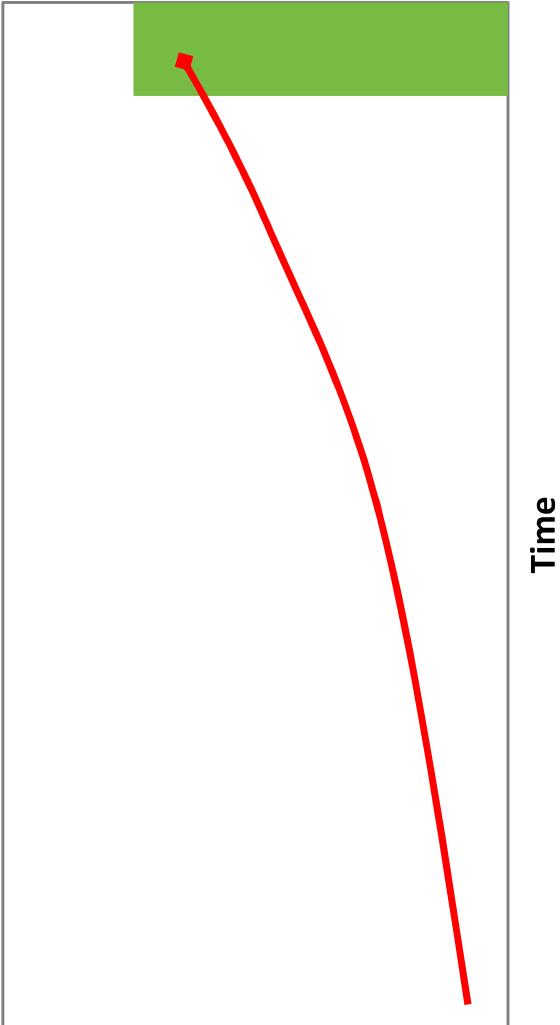
Agile adapts to frequent feedback by delivering working tested code

# Agile Planning

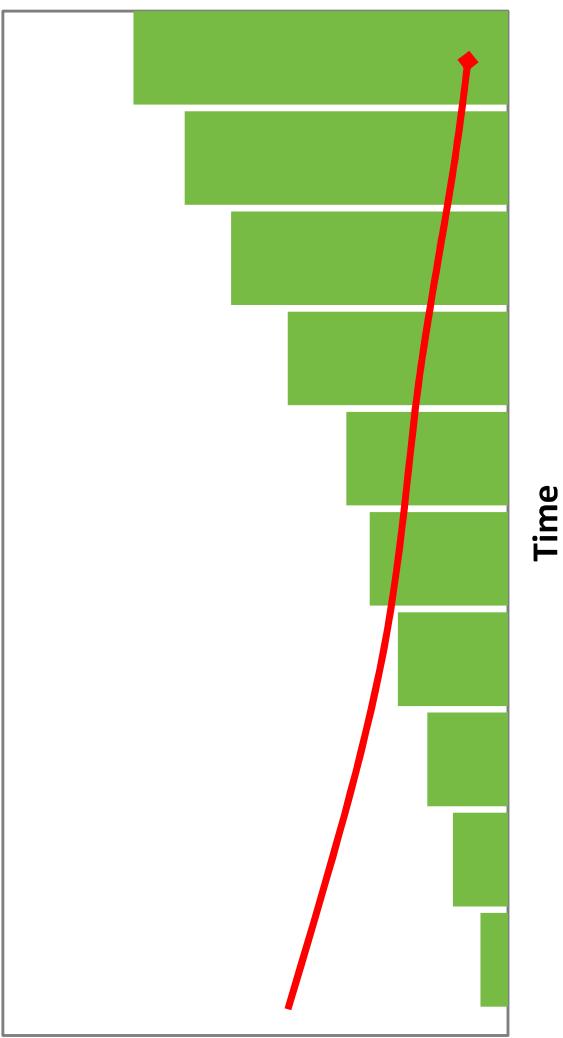


# Value Delivery

## Traditional



## Agile



Value Delivery  
Risk of Failure

# Sample Project Status Reporting

## TRADITIONAL

100% of the system

30% done

No testing yet

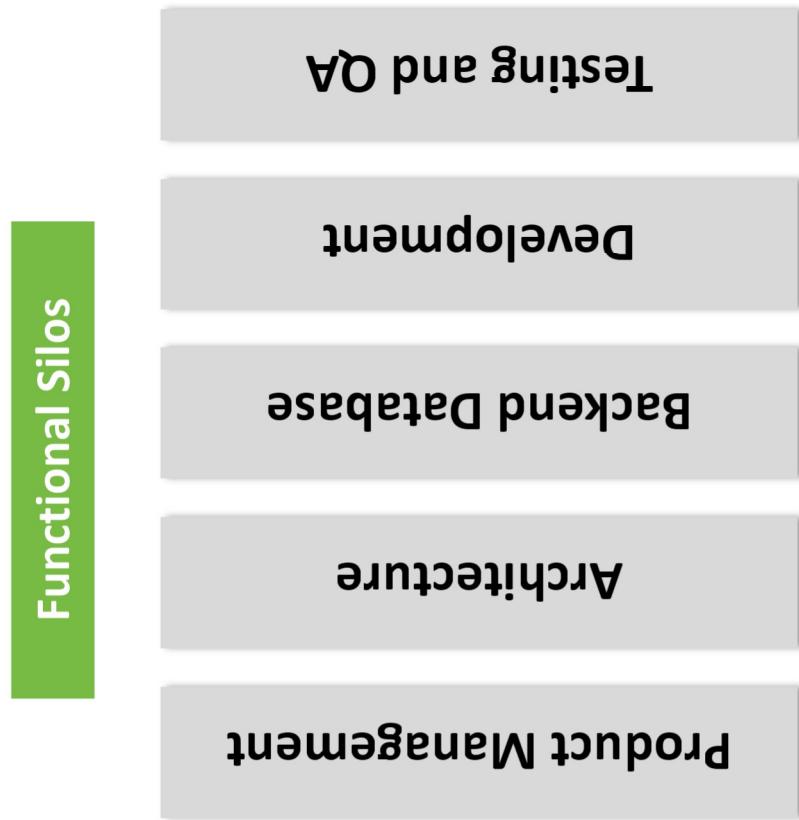
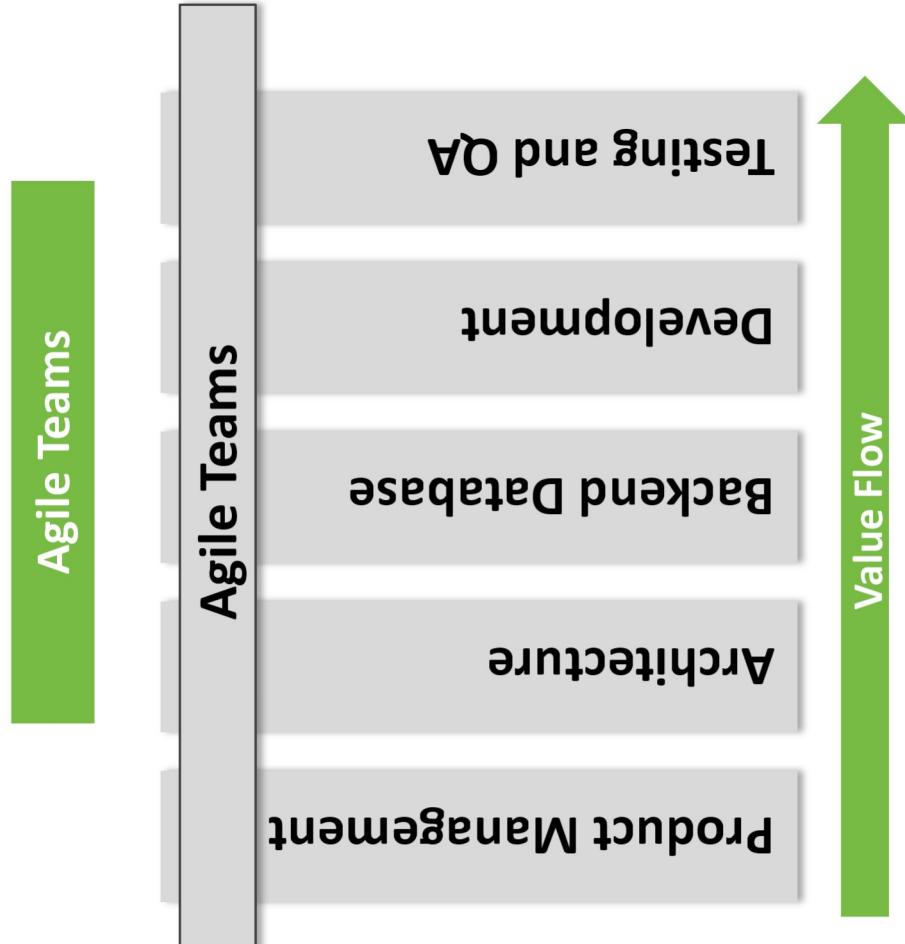
## AGILE

30% of the system

100% done

With known quality

# Operating Model of Agile Team



# Team Collaboration

# Team Collaboration



15 Minutes

- Why do we need team collaboration?
  - What essential skills require to collaborate?
  - Discuss and identify signs of collaboration. How can we improve collaboration in the team?

## Transparent

## Self Organized

## Self-Awareness

# Decision making

# Problem Solving

*Listening...seeking to understand*

**Empowered**

## Motivation

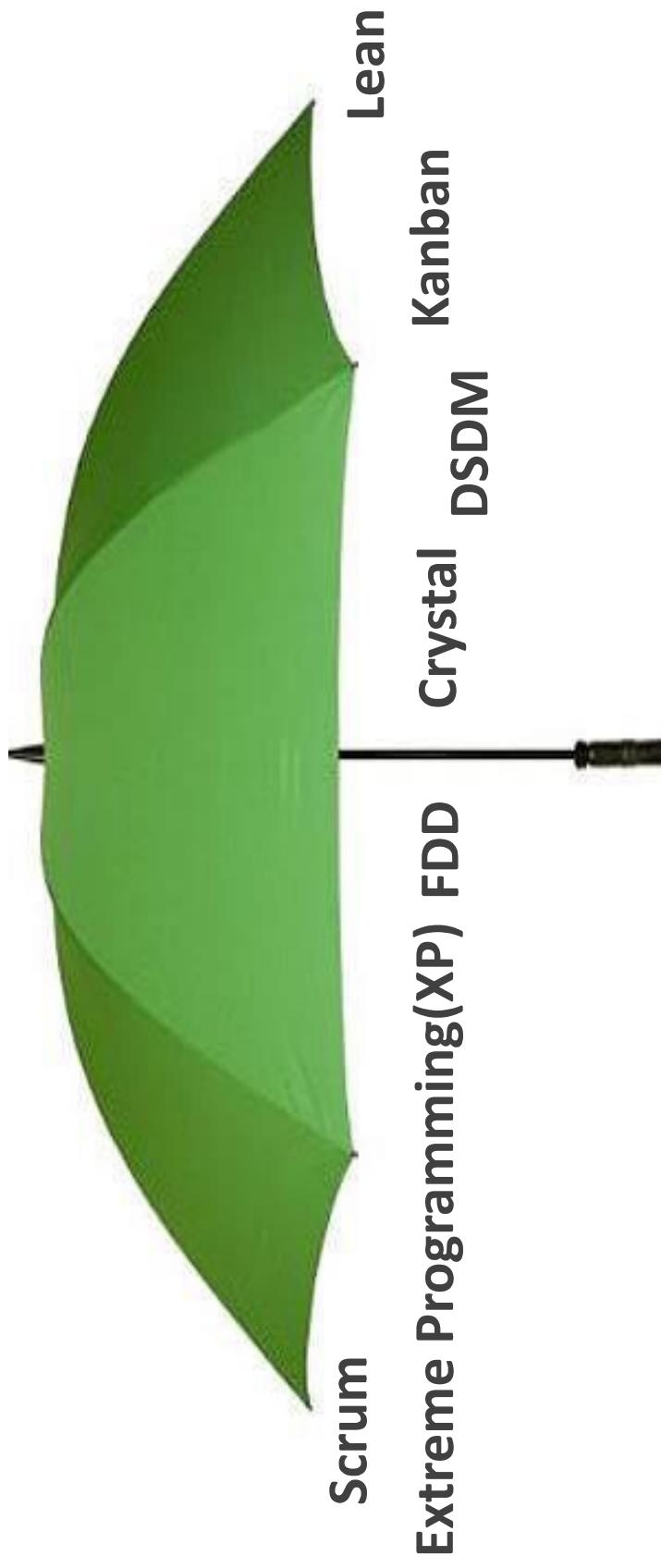
# Various Agile Methods

# Agile Methodology Used

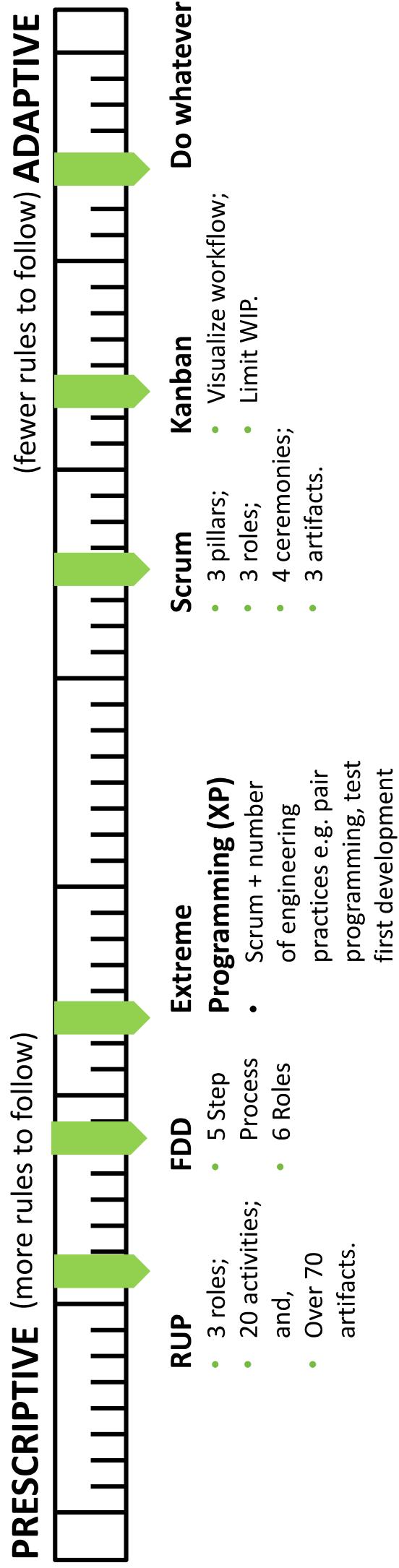


Source: VersionOne 9th Annual State of Agile Development Survey, 2015

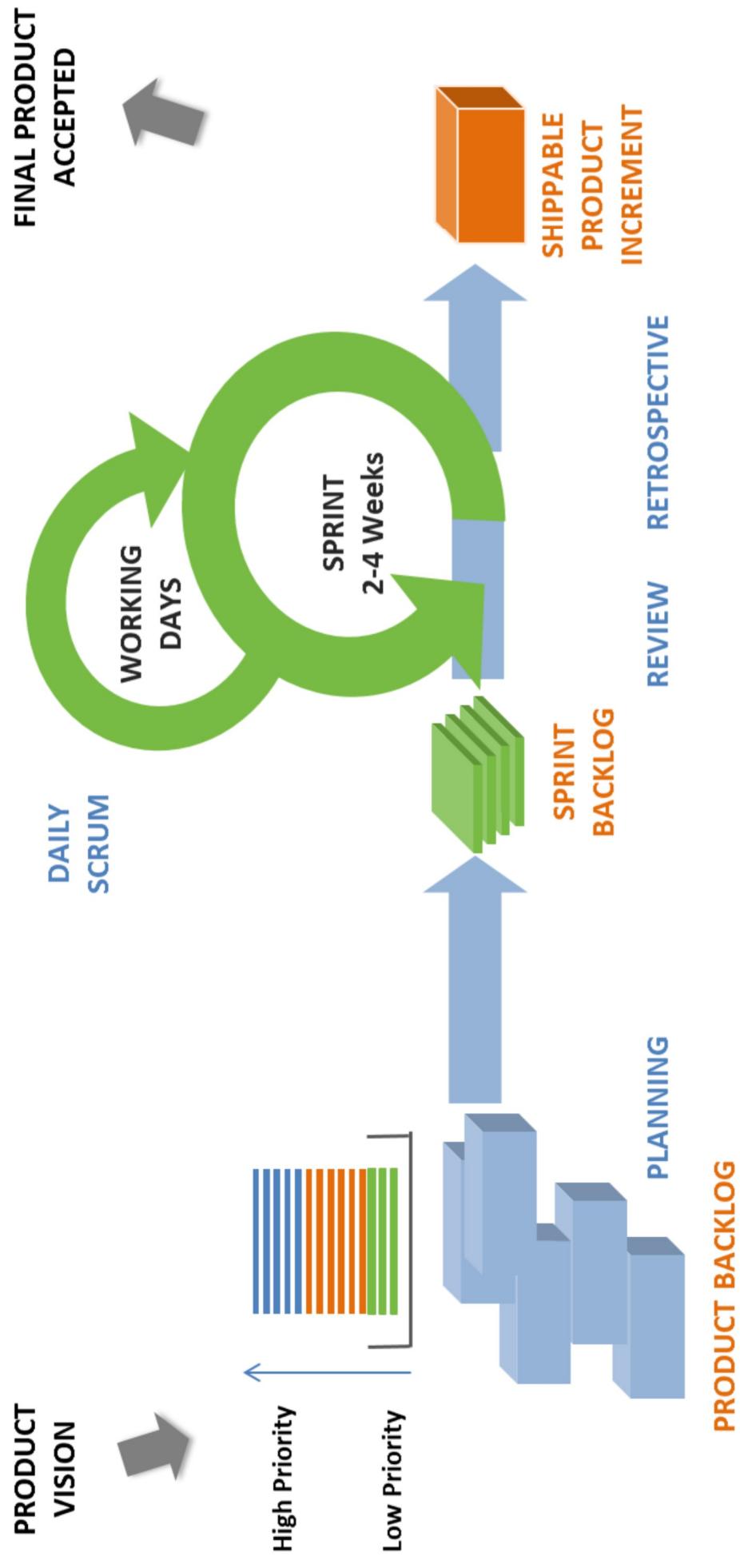
# Agile Umbrella



# Prescriptive vs. Adaptive Methods



# Scrum



# Scrum (Continued....)

## ROLES



Product Owner, Scrum Master and  
Development Team

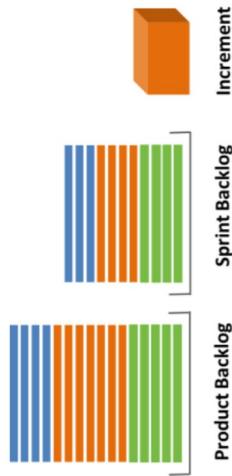
Sprint Planning, Daily Scrum,  
review, Backlog grooming /  
refinement, release planning and  
retrospective

## CEREMONIES



Product Backlog, Sprint Backlog and  
Increment

## ARTIFACTS



Product Backlog, Sprint Backlog and  
Increment

## Scrum (Continued....)



- The most common agile method
- Easy to understand and adapt
- Low barrier of entry
- Provide high level mechanics for complex work involving knowledge creation, and collaboration



- No engineering practice defined
- Easy to follow “Scrumbutz” path

# Daily Stand-up Simulation

# Daily Stand-up / Scrum

- What I did YESTERDAY?
- What I am planning to do it TODAY?
- IMPEDIMENTS – If Any?

# Daily Stand-up / Scrum

- The daily stand-up is for and about the team and its commitments. In this meeting, the team checks in on how their work is progressing in the sprint, adjusts plans and gets assistance with removing impediments.
- Every day, same time, same place, same people. This provides a regular rhythm and cadence on everyone's calendar. The meeting last no more than 15 minutes.

# Daily Scrum or Daily Stand-up

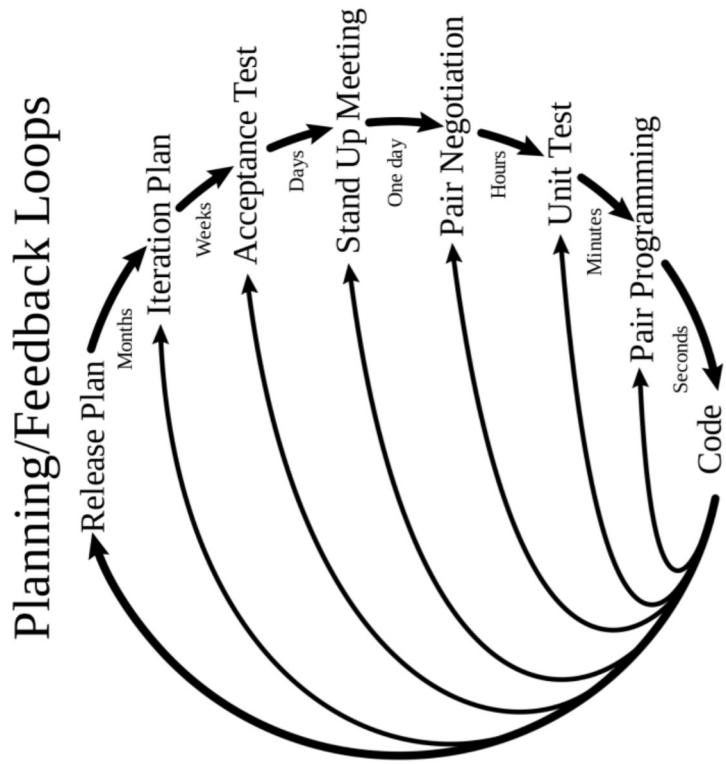
Each team member addresses three questions:

*accomplished*

1. What has been *done* since the last meeting?
2. What will be *done* before the next meeting?
3. What obstacles/impediments are in the way?

# Extreme Programming (XP)

- Developed by Kent Beck when working for Chrysler in 1996.
- Software development-centric Agile method which is intended to improve software quality and responsiveness to changing customer requirements.
- It places a strong emphasis on technical practices in addition to the more common teamwork and structural practices.
- Teams apply appropriate practices in their own context.

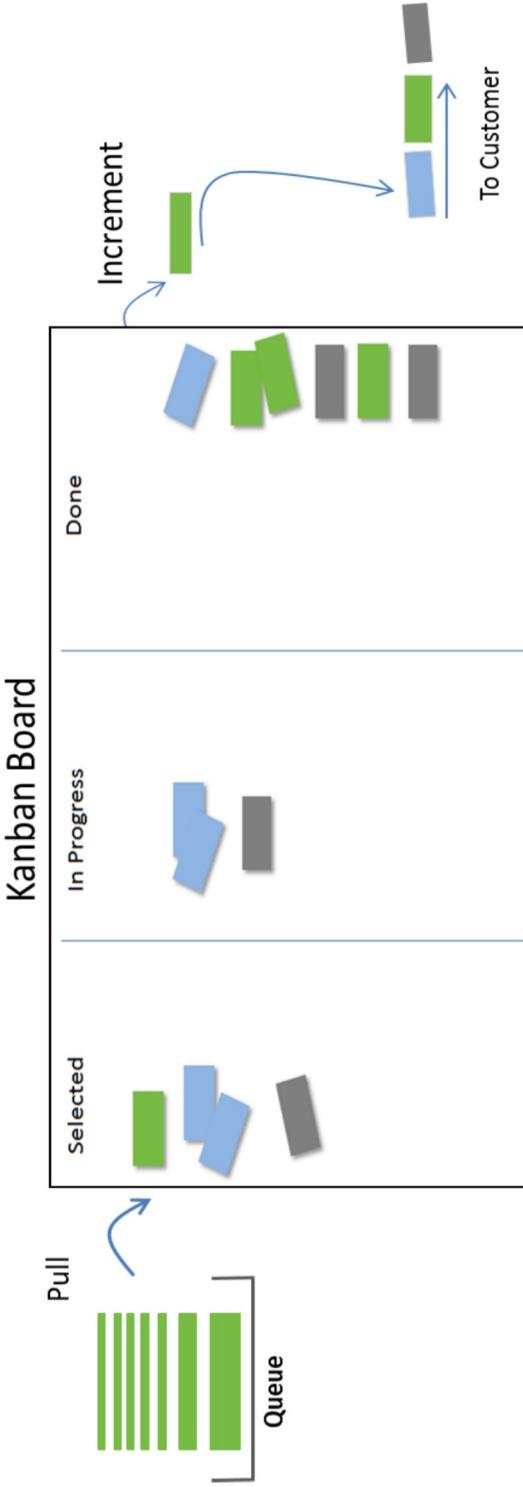


## Extreme Programming (Continued...)



- Sound engineering practices
- First popular agile method
- Quality focused
- Software development focus makes it hard to implement in other business areas

# Kanban



- Kanban is pull and flow based system
- Team process rather than individual
- Kanban focuses on how the workflow process can be improved rather than blaming an individual
- True value lies in its requirement that the team creates a workflow with explicit defined rules and limits

## Kanban (Continued...)

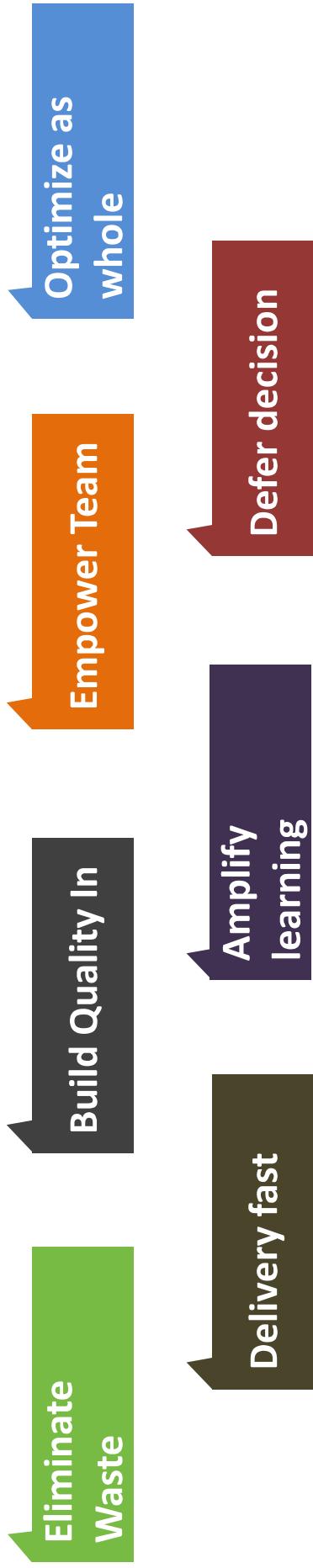


- Lean method, focus on elimination of waste
- Starts where you are, no major process changes
- Easy to implement
- Less prescriptive
- No time-boxing
- Seems never ending flow of work



# Lean Development Principles

- Lean development is a translation of well-known and accepted lean manufacturing practices to the software development domain.
- Mary and Tom Poppendieck identify seven fundamental Lean principles



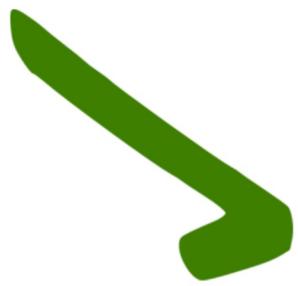
## Lean (Continued...)



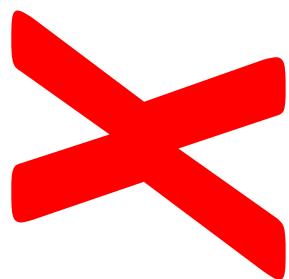
- Good list of principles
- Focus on elimination of waste
- Value stream mapping
- Difficult to correlate concepts and some practices between Manufacturing and IT

# Agile Myths and Facts

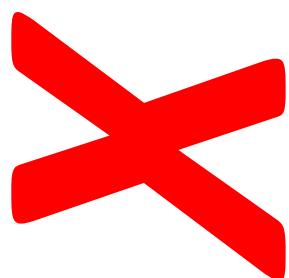
**Agile recommend incremental & iterative delivery**



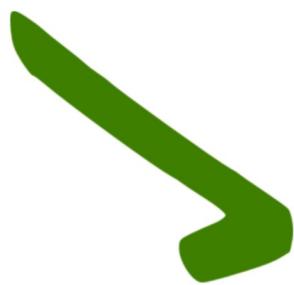
**Agile has defined change management process**



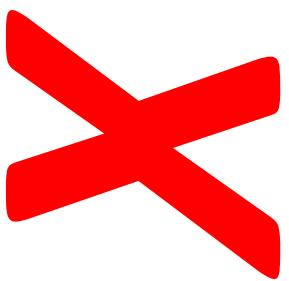
**Agile recommend big upfront design (BUFDD)**



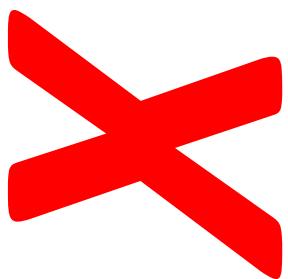
**Agile teams make their own decisions**



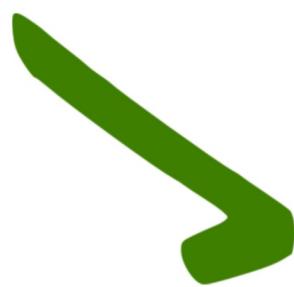
**Agile does not recommend any documentation in  
the project**



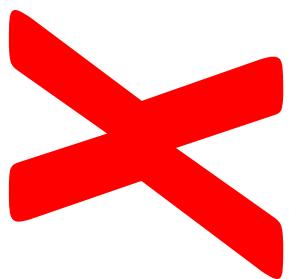
**Agile recommends directive teams**



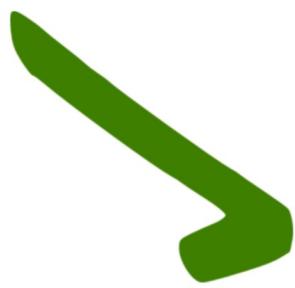
**Agile measure progress by working software**



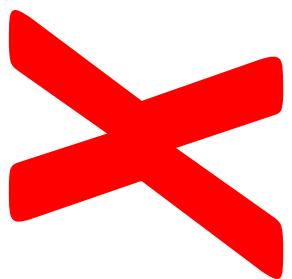
**Agile recommends accepting change during iteration**



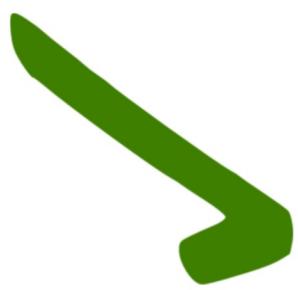
**Agile recommends face to face interaction**



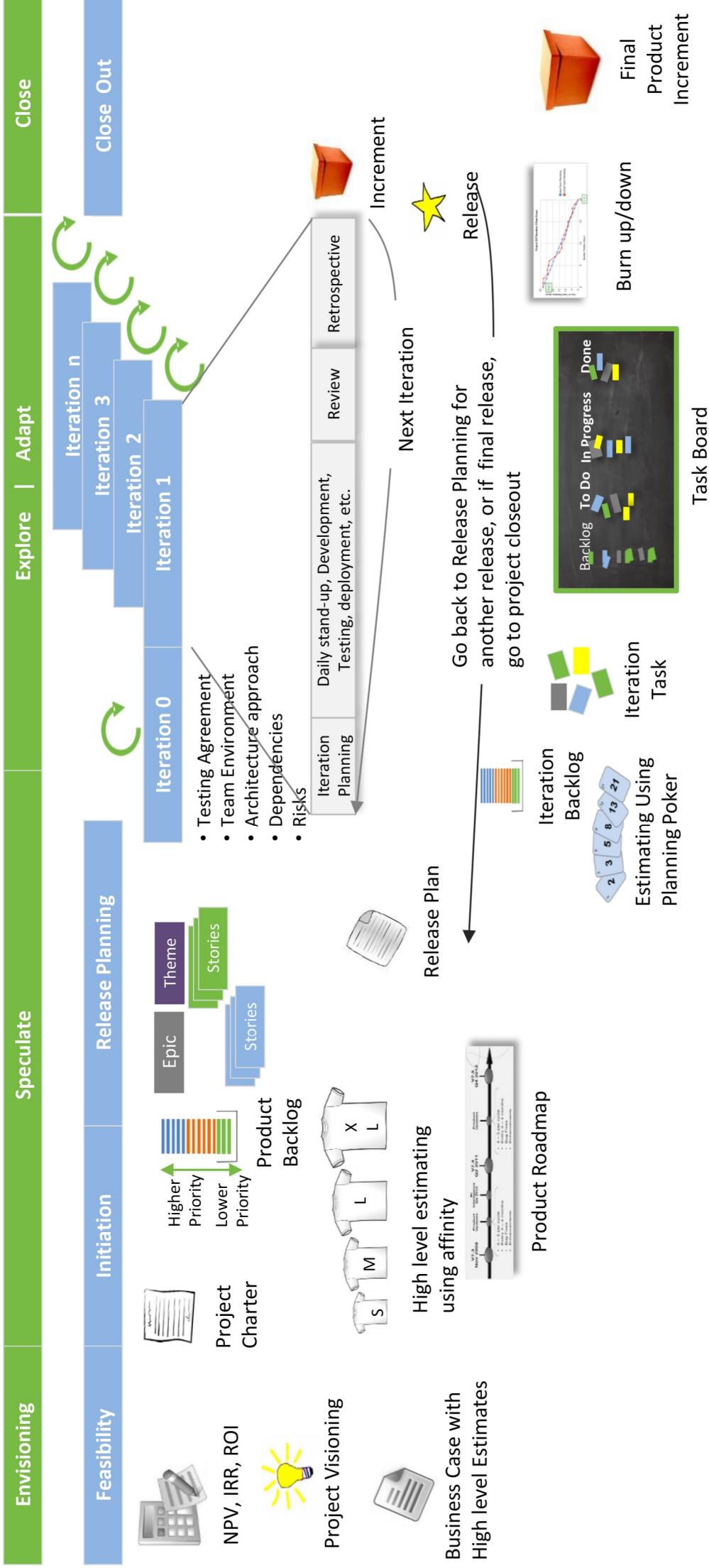
**Agile follow ad-hoc process and is anti-planning**



**Agile base on empirical process - frequent inspect and adapt cycles**



# High Level Process Map



# What's Different?

| Traditional                              | Agile  |
|--|--|
| Defined process: Control and Coordinated | Empirical process: Inspect and Adapt           |
| Work is organize around the team         | Team organize around work                      |
| Work is assigned or push to the team     | Work is store in queue and team pull the tasks |
| Plan all in advance                      | Plan as you go                                 |
| Work breakdown structure                 | Feature breakdown structure                    |
| Functional specs                         | User stories                                   |
| Gantt chart                              | Release plan                                   |
| Status report                            | Information radiators/deliver as you go        |
| Learn at the end                         | Learn every iteration                          |
| Follow the plan                          | Adapt everything                               |
| Manage task                              | Manage team                                    |
| Conventional project team                | Self-organized project teams                   |
| Avoid change                             | Embrace change                                 |
| Prescriptive                             | Adaptive                                       |

# Compare Agile & Waterfall

# Waterfall vs. Agile



15 Minutes

- Waterfall is more efficient than Agile because...

1. ....

2. ....

3. ....

- Agile is more efficient than waterfall because...

1. ....

2. ....

3. ....

Any Aha Moments to Share?

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Following references are used in the preparation of this workshop:

1. Abstracted from Shuh, Peter (2005). *Integrating Agile Development in the Real World*
2. How sustainable is your agile transformation to sustainable organizational agility, Ahmed Sidky
3. Strategic Management and Organizational Dynamics by Ralph Stacey in Agile Software Development with Scrum  
by Ken Schwaber and Mike Beedle
4. 7th Annual state of Agile versionone® Agile made easier development survey
5. Process Miniature; <http://c2.com/cgi/wiki?ProcessMiniature>
6. The Agile impact report, Rallydev
7. Iterative and incremental development by Craig Larman, victor Basili
8. What's the big fuss about Agile? by Ahmed Sidky
9. Manifesto for Agile Software Development & Principles behind the Agile Manifesto  
<http://www.agilemanifesto.org/>
10. "Explain, Explore", Luke Lackrone, coaching a new team

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