INNolutioN
agile innovative solutions

Economically Sensible Scrum
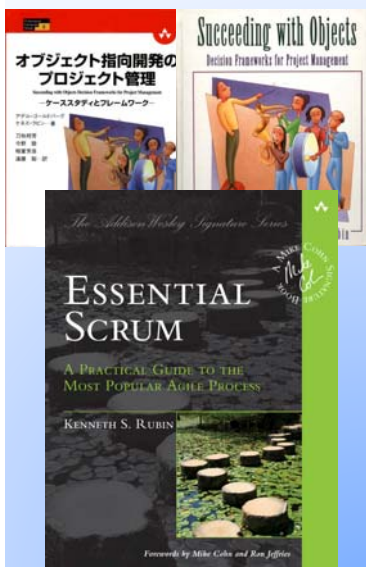# Scrum Australia Keynote
April 10, 2013
by Kenny Rubin

www.innolution.com

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� Background of Kenny Rubin

Author

オブジェクト指向開発の
プロジェクト管理
——ケーススタディとフレームワーク——

Succeeding with Objects
Decision Frameworks for Project Management

The Addison-Wesley Signature Series

ESSENTIAL
SCRUM

A PRACTICAL GUIDE TO THE
MOST POPULAR AGILE PROCESS

KENNETH S. RUBIN

Forewords by Mike Cohn and Ron Jeffries

Trainer/Coach

Trained more than 19,000 people in Agile/Scrum, SW dev and PM

Provide Agile/ Scrum coaching to developers and executives

CST
CERTIFIED
ScrumTrainer
ScrumAlliance

Experience

Former Managing Director

ScrumAlliance®
transforming the world of work

My first Scrum project was in 2000 for bioinformatics

GENOMICA

IBM **Executive**

SMALLTALK

ParcPlace

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☼ Scrum Framework

Art available at: http://www.innolution.com/resources

Scrum practices

- **Roles**
  - Product owner
  - ScrumMaster
  - Development team
- **Activities**
  - Sprint
  - Sprint planning
  - Daily scrum
  - Sprint execution
  - Sprint review
  - Sprint retrospective
  - Product backlog grooming
- **Artifacts**
  - Product backlog
  - Sprint backlog
  - Potentially shippable product increment
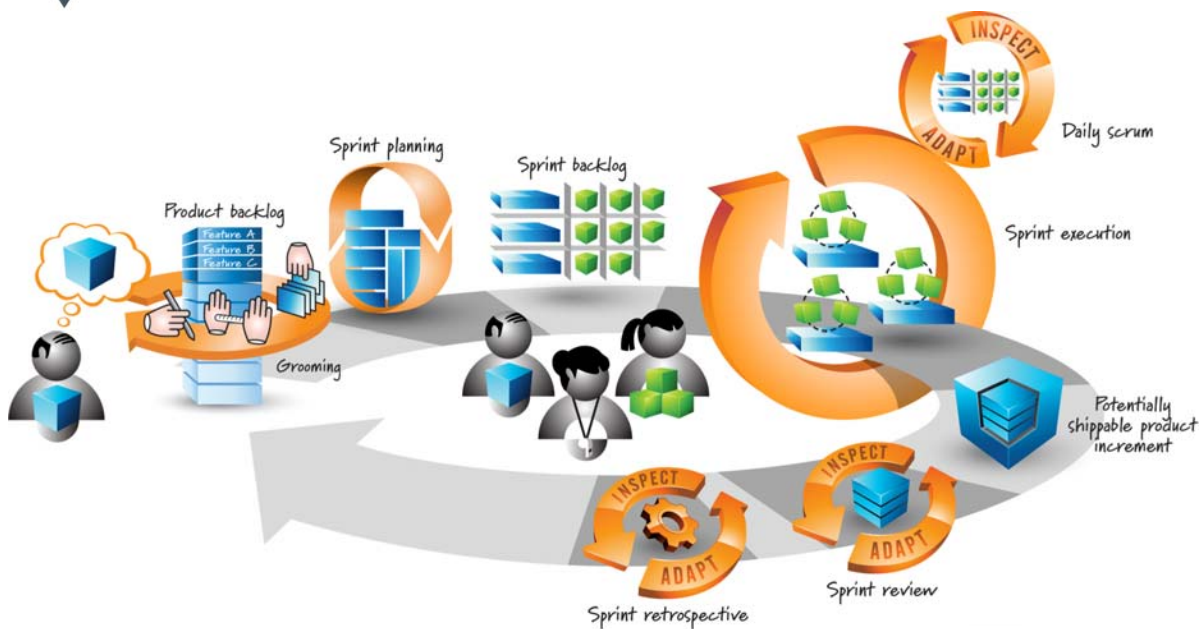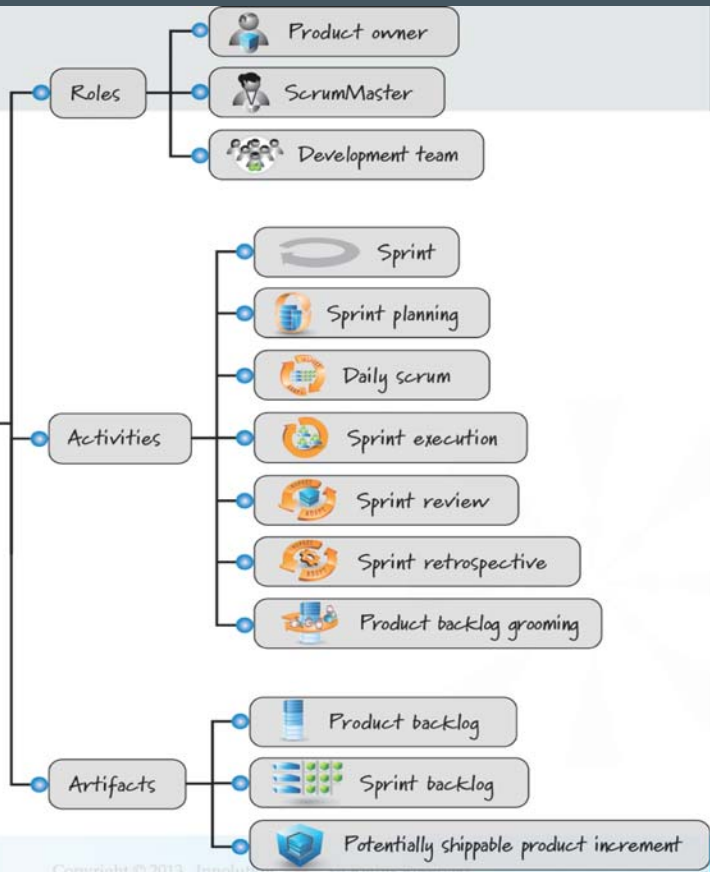
✳ Approaches

Upload File

As a wiki user I want to upload a file to the wiki so that I can share it with my colleagues.

Conditions of Satisfaction

Verify with .txt and .doc files
Verify with .jpg, .gif, and .png files
Verify with .mp4 files <= 1 GB
Verify no DRM-restricted files

½ 1 2 3 5 8 13 20 40 100 ∞ ? π
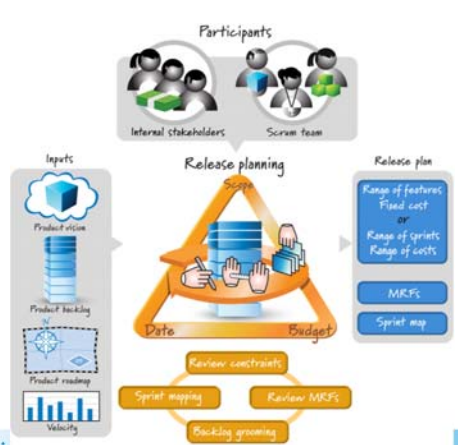
ScrumBut(t) – Violations of the Scrum Framework

We do Scrum, but...

Sprints are 8 weeks

No product owner

Daily scrums on M-W-F
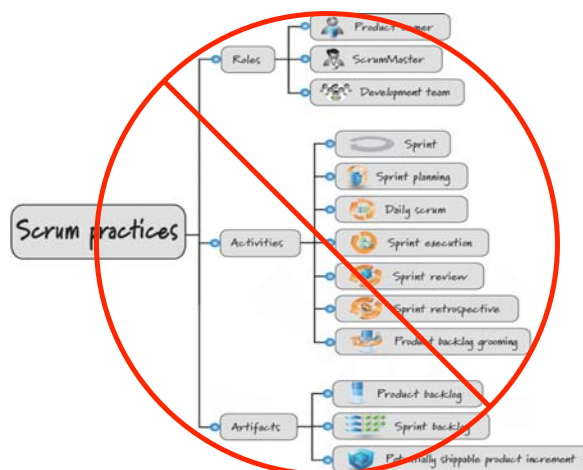
Sprint planning is 2 days

Etc...

What If We Had No Scrum "Violations?"

VIOLATION

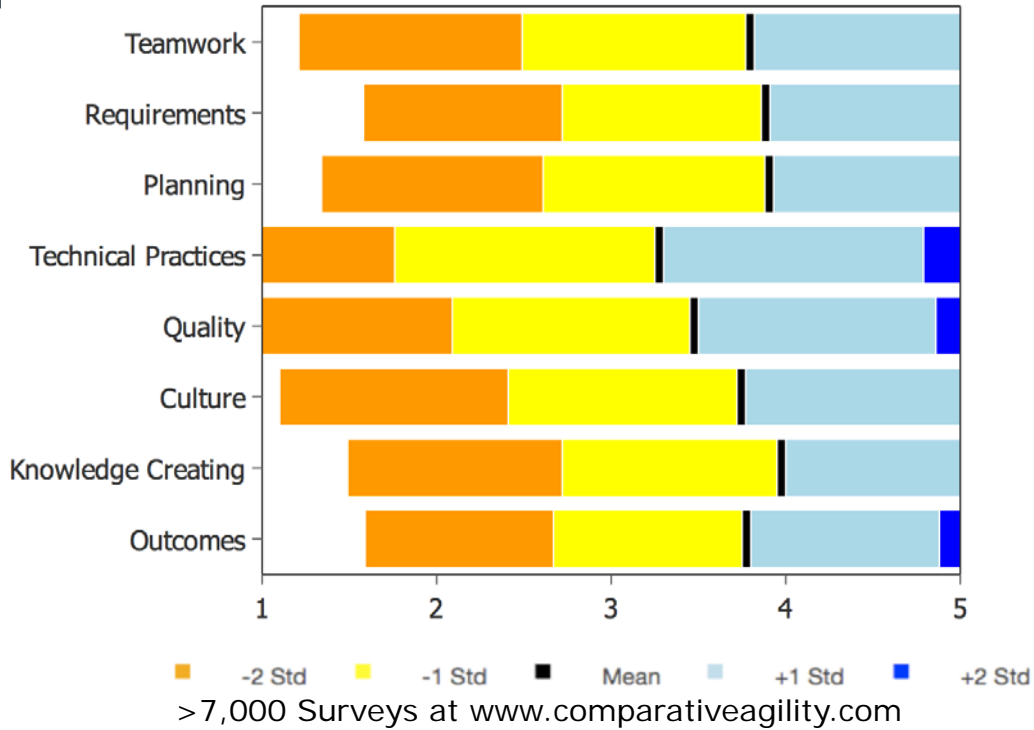YOUR USE OF SCRUM VIOLATES A CORE PRACTICE AND IS HEREBY DEEMED TO BE A SCRUMBUT

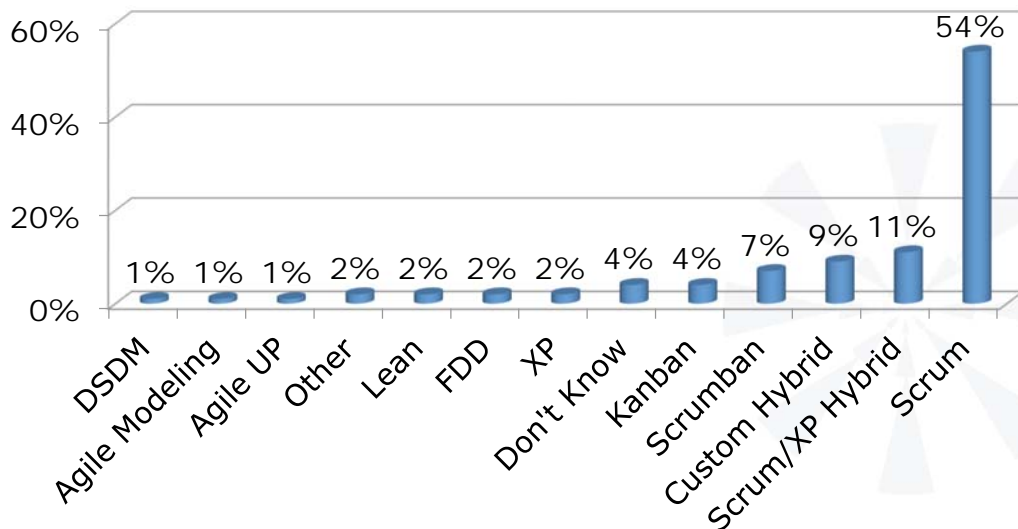YOUR TEAM PHOTO HAS BEEN RECORDED

Do no violations = success with Scrum?

Current Industry Results – From Comparative Agility®

>7,000 Surveys at www.comparativeagility.com

VersionOne 7th Annual Survey

Of 4,048 respondents, most are using Scrum or Scrum variants (72%)

✳ Inhibitors to Success Using Scrum

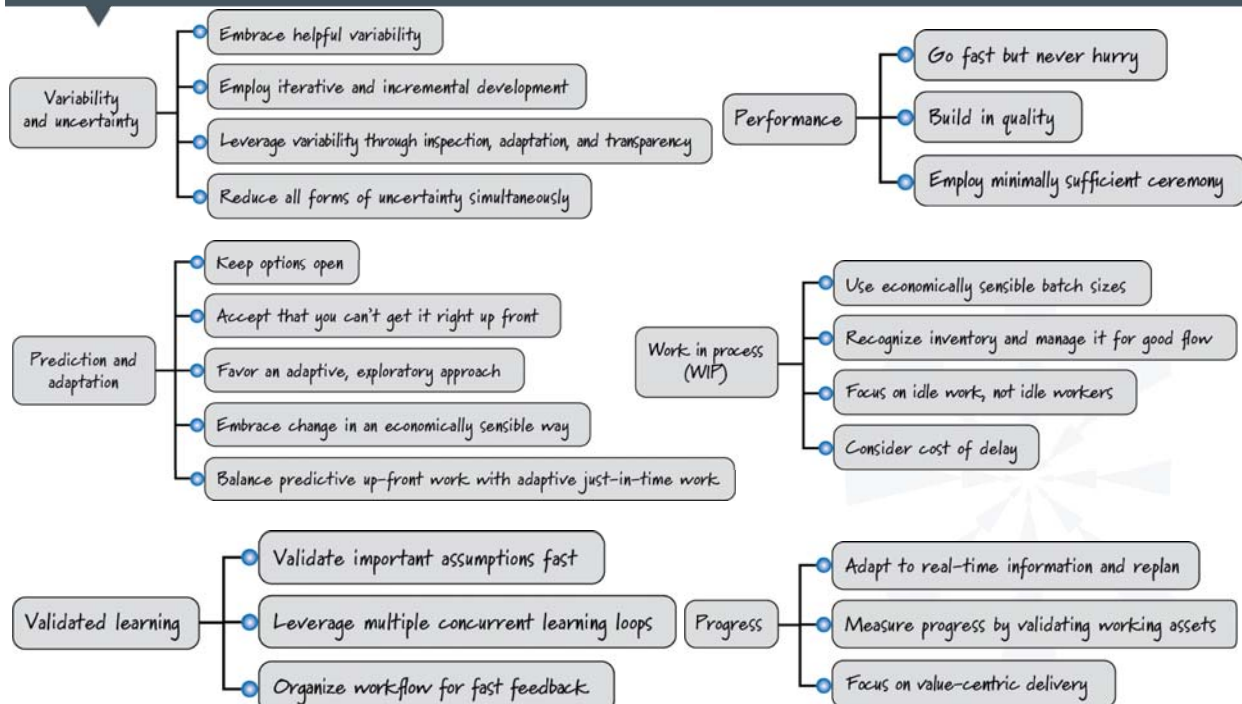Ignorance or misapplication of core agile principles during development

Failure to apply agile principles throughout the value chain

Failure to structure teams in an economically sensible way

Overall, they don't apply core agile principles in an economically sensible way

✳ Principles

Variability and uncertainty
- Embrace helpful variability
- Employ iterative and incremental development
- Leverage variability through inspection, adaptation, and transparency
- Reduce all forms of uncertainty simultaneously

Performance
- Go fast but never hurry
- Build in quality
- Employ minimally sufficient ceremony

Prediction and adaptation
- Keep options open
- Accept that you can't get it right up front
- Favor an adaptive, exploratory approach
- Embrace change in an economically sensible way
- Balance predictive up-front work with adaptive just-in-time work

Work in process (WIP)
- Use economically sensible batch sizes
- Recognize inventory and manage it for good flow
- Focus on idle work, not idle workers
- Consider cost of delay

Validated learning
- Validate important assumptions fast
- Leverage multiple concurrent learning loops
- Organize workflow for fast feedback

Progress
- Adapt to real-time information and replan
- Measure progress by validating working assets
- Focus on value-centric delivery

So What is Economically Sensible Scrum?

Economic Framework

| Variability & uncertainty	Prediction & adaptation	Validated learning	Work in process (WIP)	Progress	Performance

# Economics — The Universal Language of Product Development
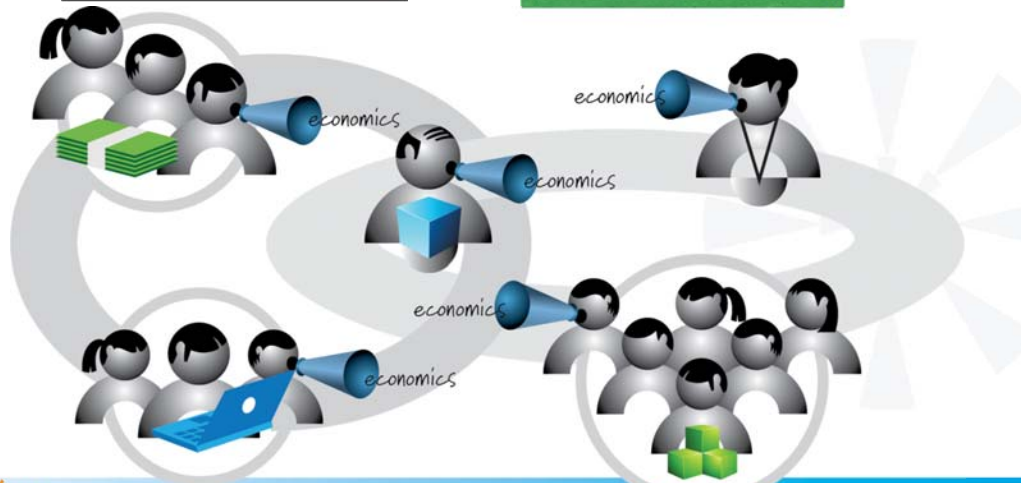
We Need a Economic Framework

Compare effects of different product / process / organizational attributes by converting them all into the same unit of measure
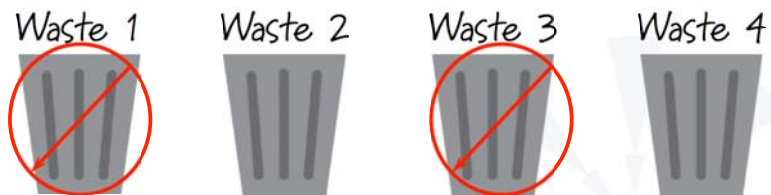
| Waste |
| Lead time |
| Variability |
| Batch size |
| Customer sat |
| ... |

→ Lifecycle profits
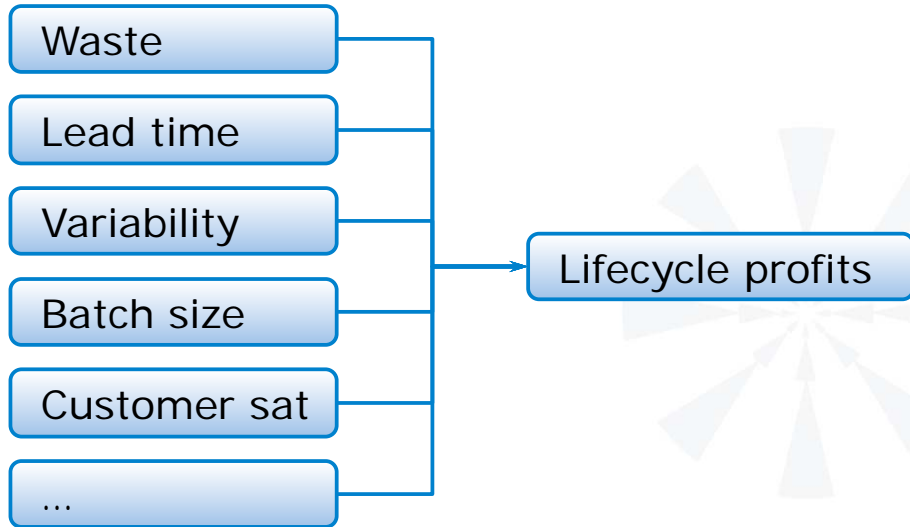
Based on Reinertsen "The Principles of Product Development Flow: Second Generation Lean Product Development"

Example: Waste
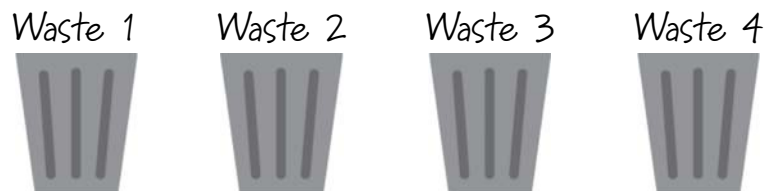
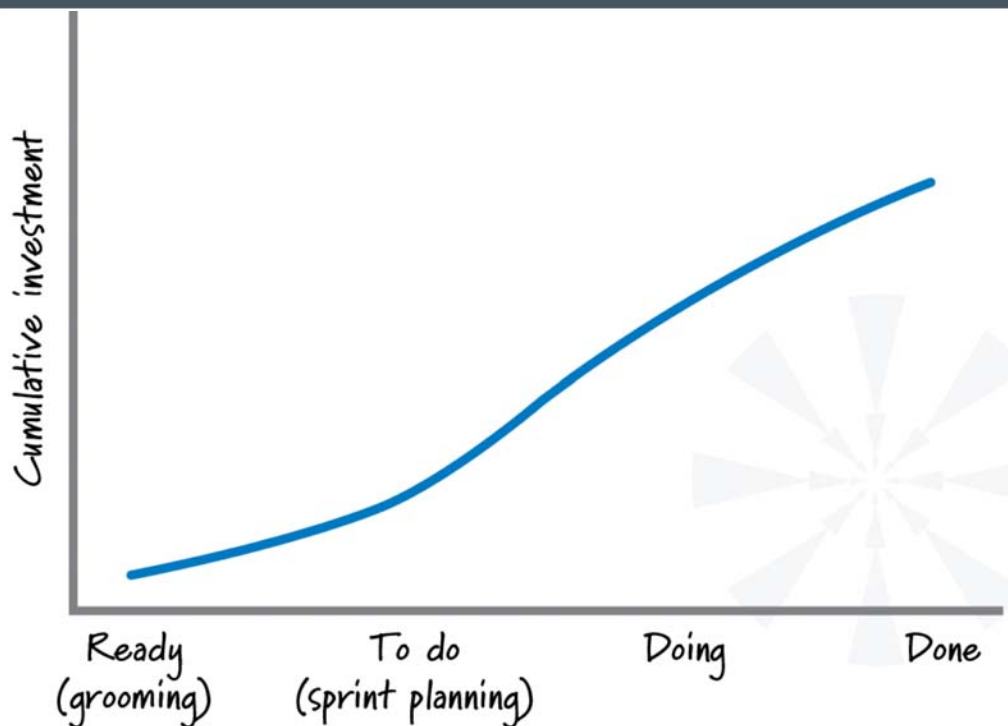|	Waste 1	Waste 2	Waste 3	Waste 4
Multiple forms of waste				
Can't eliminate them all				
Determine which cause most economic damage	$	$$$$	$$	$$$

☀ Example: Cost of Delay

If you have to wait 3 weeks for the UX team to design your UIs, and that delay could be eliminated by having a UX designer on your team, what would be the cost of the UX-team delay (in lifecycle profits)?
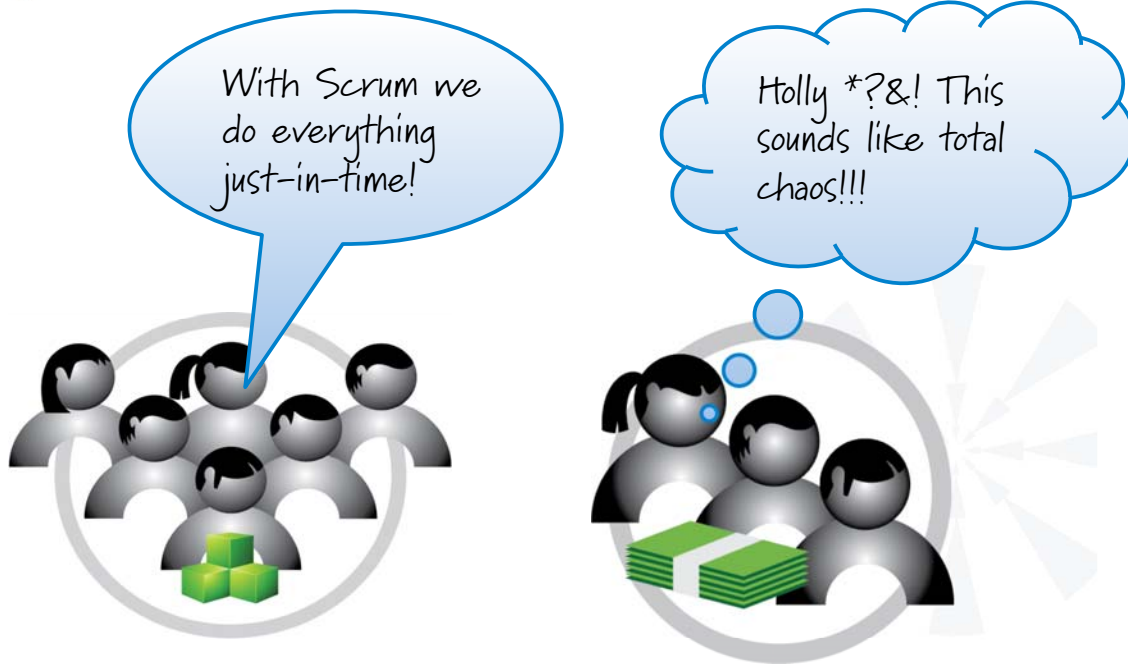
☀

Ignorance or Misapplication of Core Agile Principles During Development
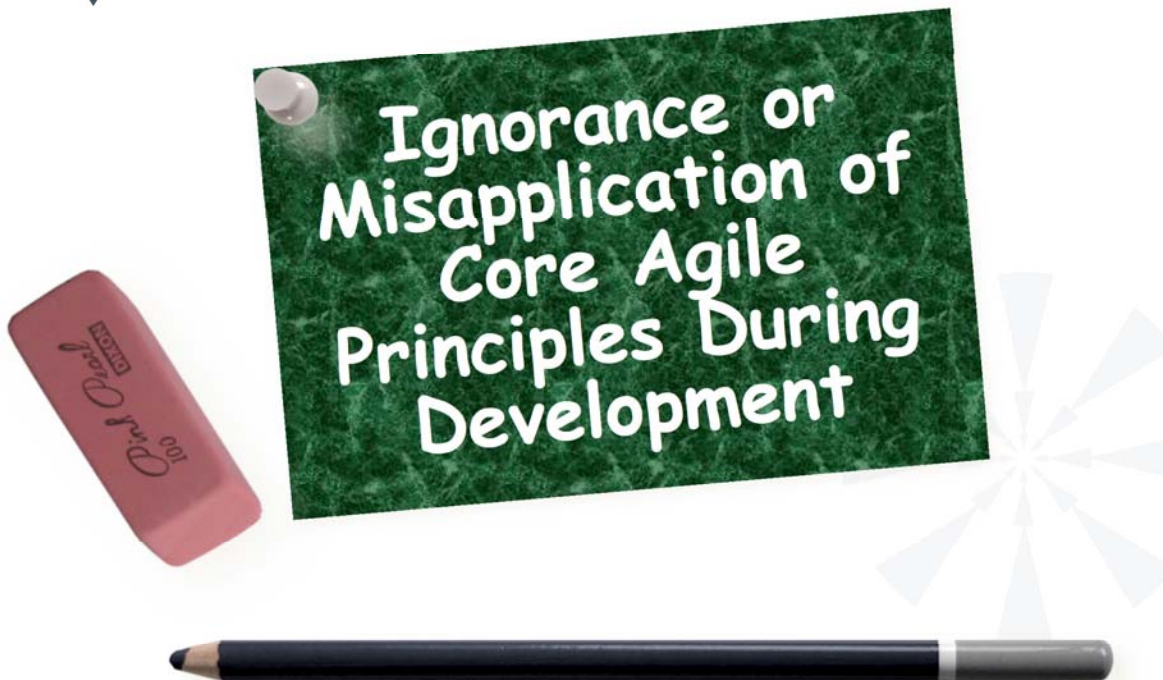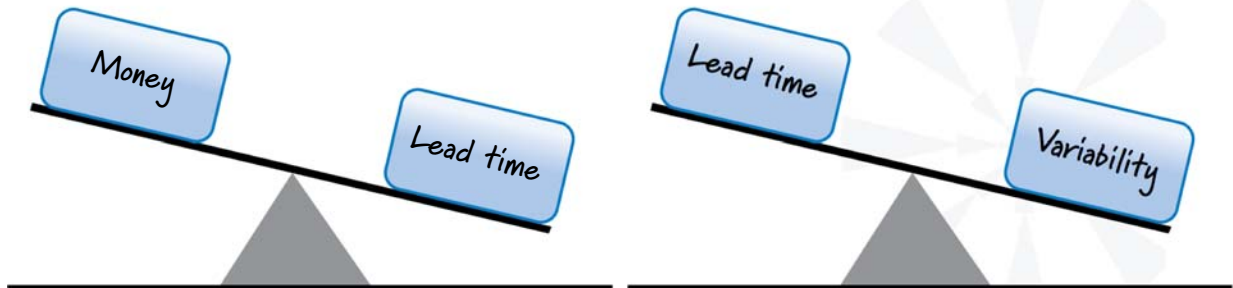
Misunderstanding of When Change Occurs
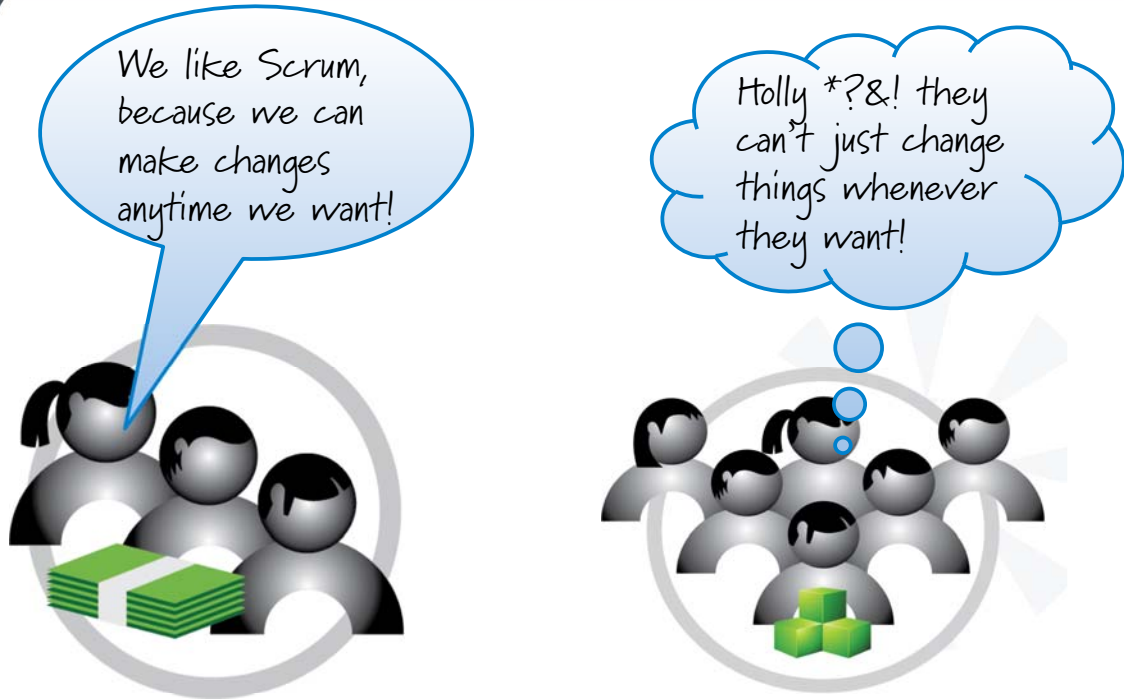
Economically Sensible Change

Balance Up Front Predictive with Adaptive Just in Time

- Type of product
- Degree of end uncertainty
- Degree of means uncertainty
- Constraints on development
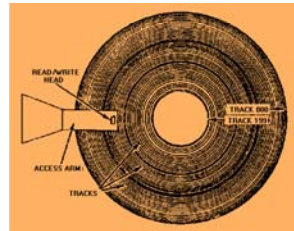- Compliance/regulatory requirements
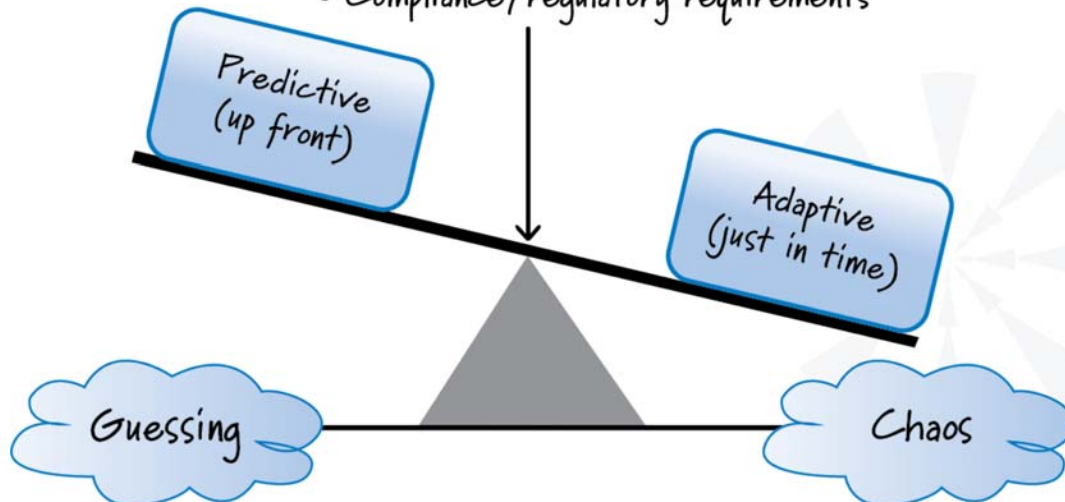
Recognize Inventory (WIP) Waste

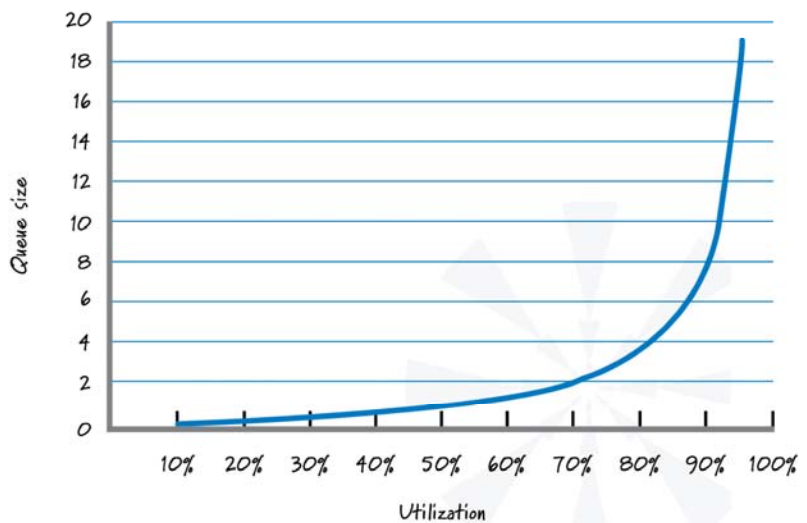Manufacturing inventory is both physically and financially visible

Product-development inventory are knowledge assets that aren't visible in the same way as physical parts
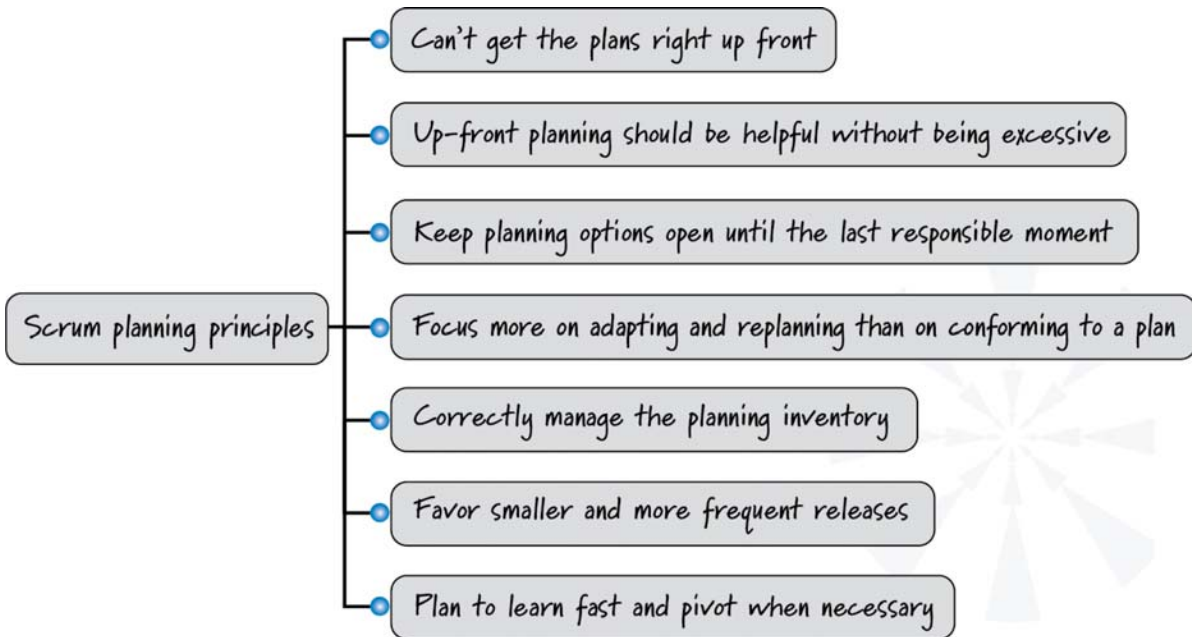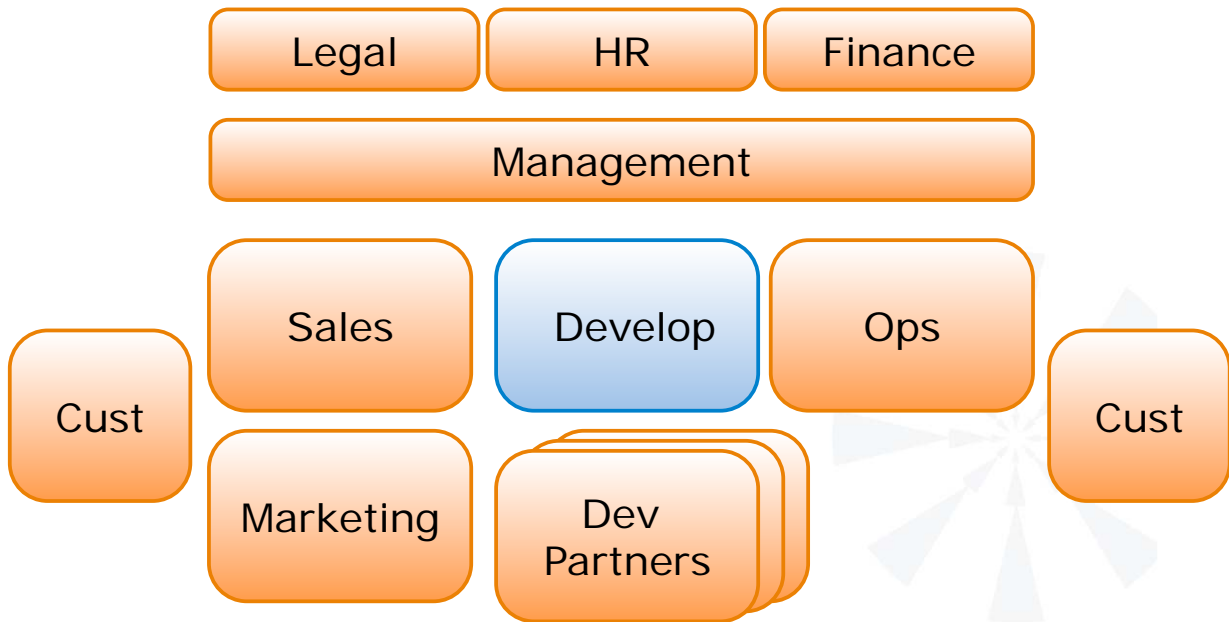
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Focus on Idle Work Not Idle Workers
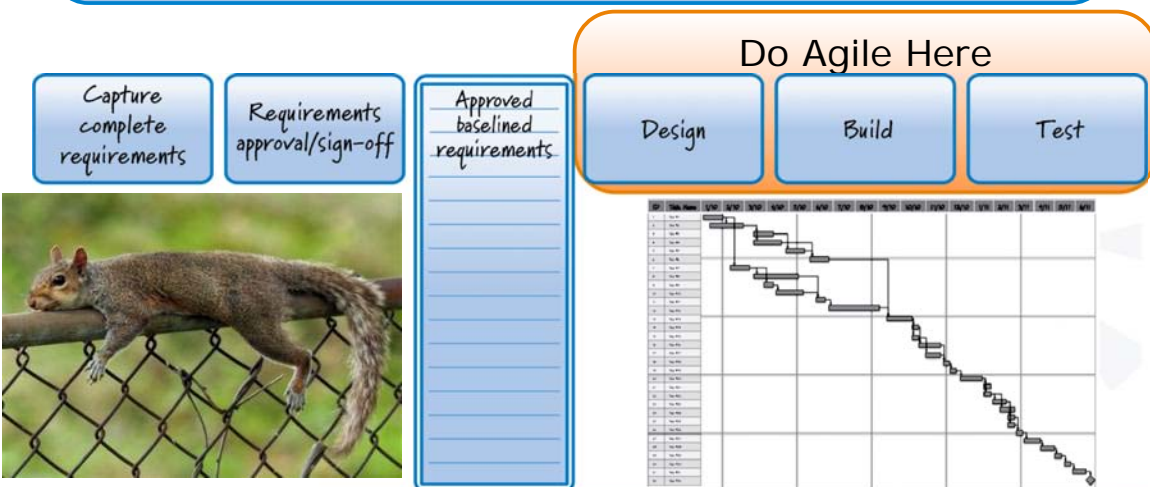
Watch the Baton Not the Runners

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Scrum planning principles

- Can't get the plans right up front
- Up-front planning should be helpful without being excessive
- Keep planning options open until the last responsible moment
- Focus more on adapting and replanning than on conforming to a plan
- Correctly manage the planning inventory
- Favor smaller and more frequent releases
- Plan to learn fast and pivot when necessary

Failure to Apply Scrum Principles Throughout the Value Chain

Example Value Chain

Legal	HR	Finance

Management

Cust

Sales | Develop | Ops
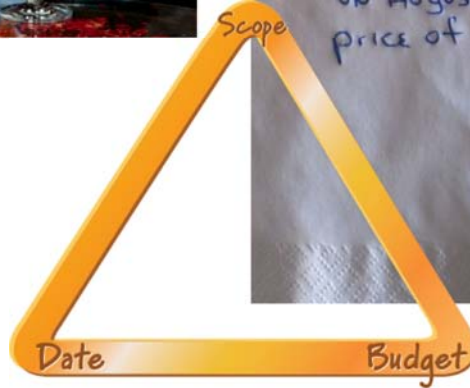
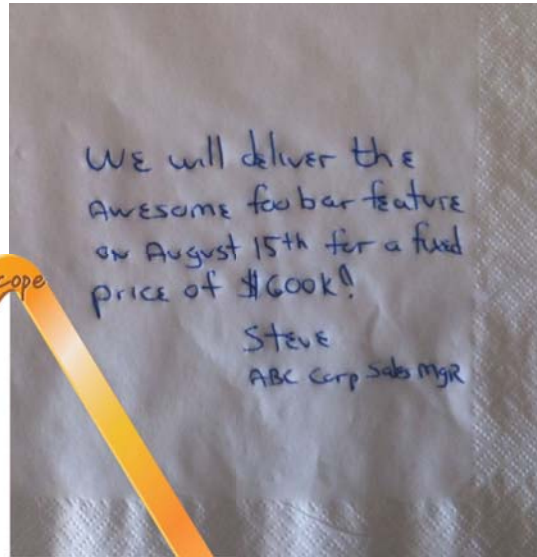Marketing | Dev Partners

Cust

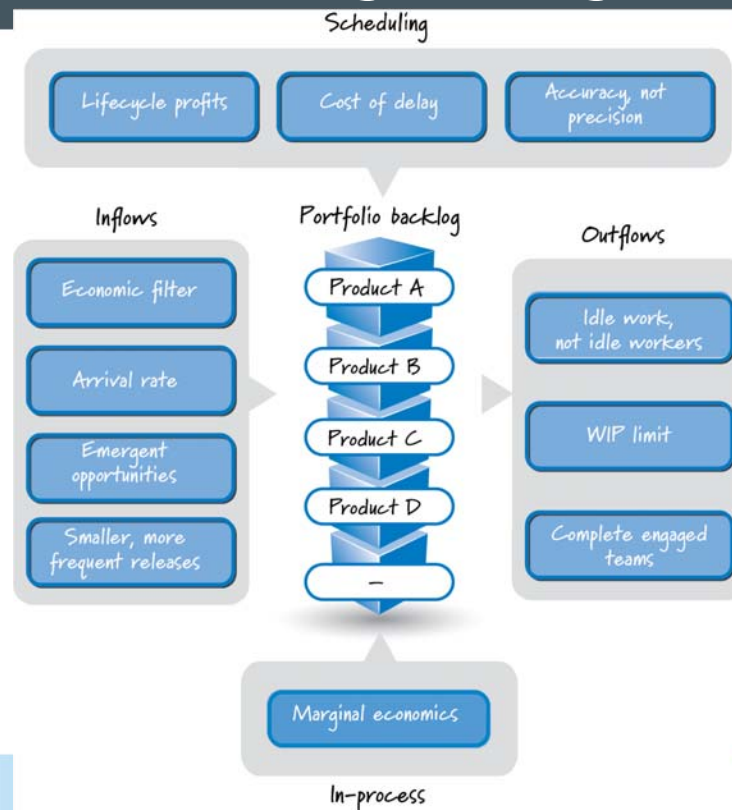---

Internal Management Misaligned

Develop in an Agile way, but still provide all of the same plan-driven artifacts (e.g., extensive up-front requirements, full budget, and precise schedule) like before to get the project approved
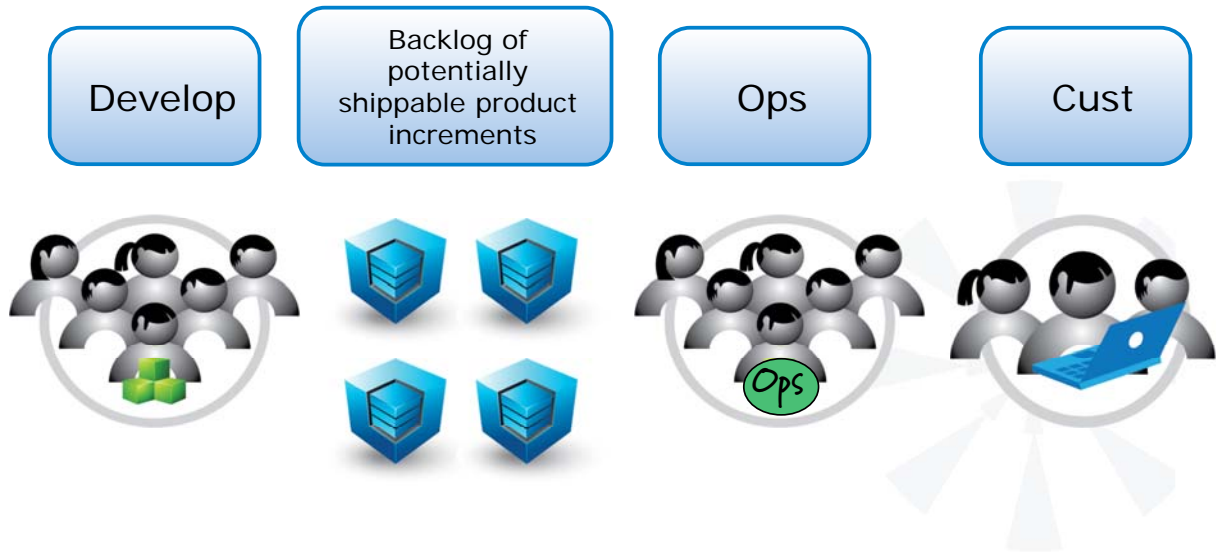
Capture complete requirements | Requirements approval/sign-off | Approved baselined requirements

Do Agile Here

Design | Build | Test

Sales Misaligned

Portfolio Planning Misaligned

Develop	Backlog of potentially shippable product increments	Ops	Cust

Partners Misaligned

Contract

Scope *Fixed*

Fixed Date

Budget *Fixed*

Protection of the Fiefdoms

George's Group

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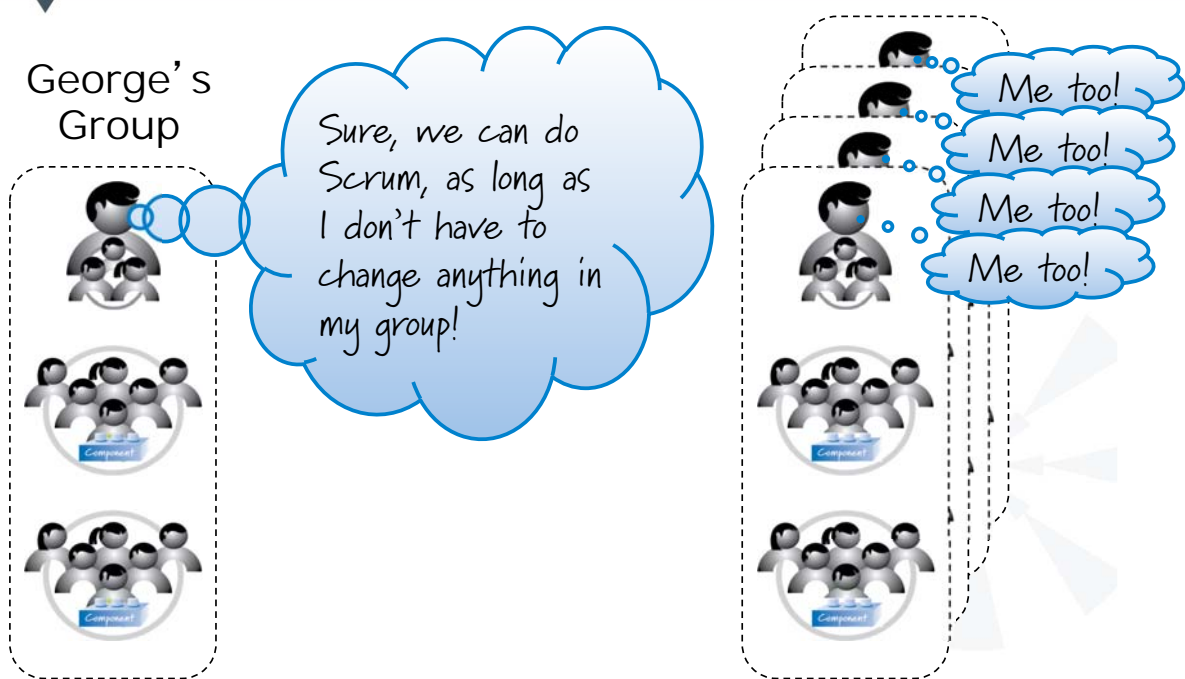
Failure to See the Whole

Optimizing locally frequently sub-optimizes the system

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Failure to Structure Teams in an Economically Sensible Way

Economically Sensible Teaming

Reduce multitasking

Embrace T-shaped Skills

Create and maintain long-lived teams
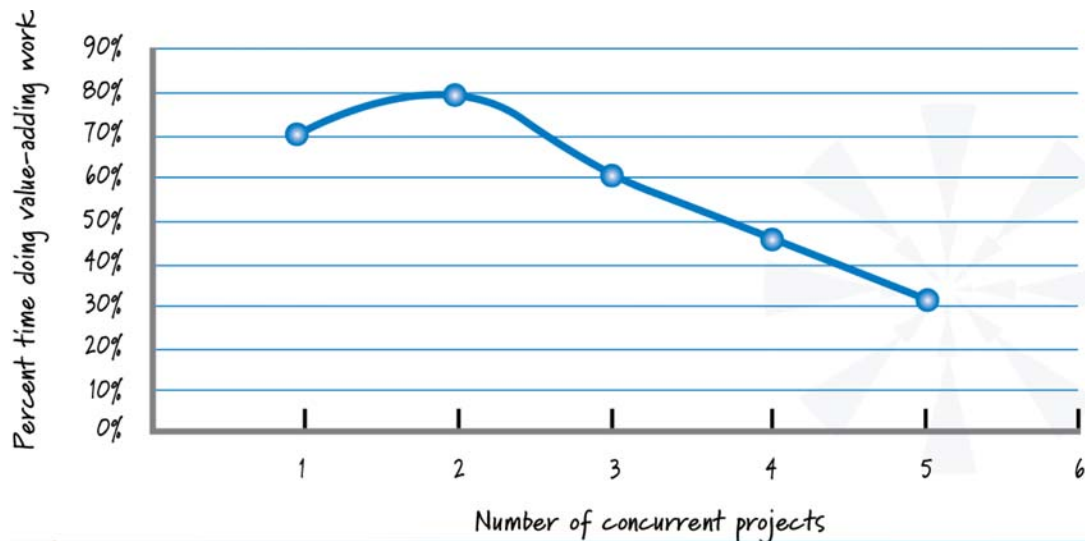
Scaling teams based on economics, not dogma

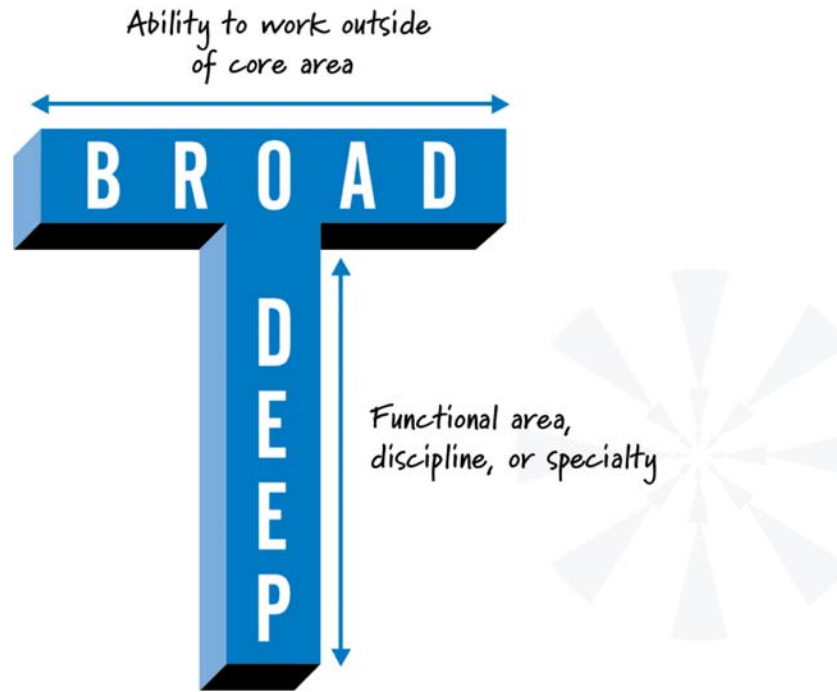# ☀ Reduce the Amount of Multi-tasking

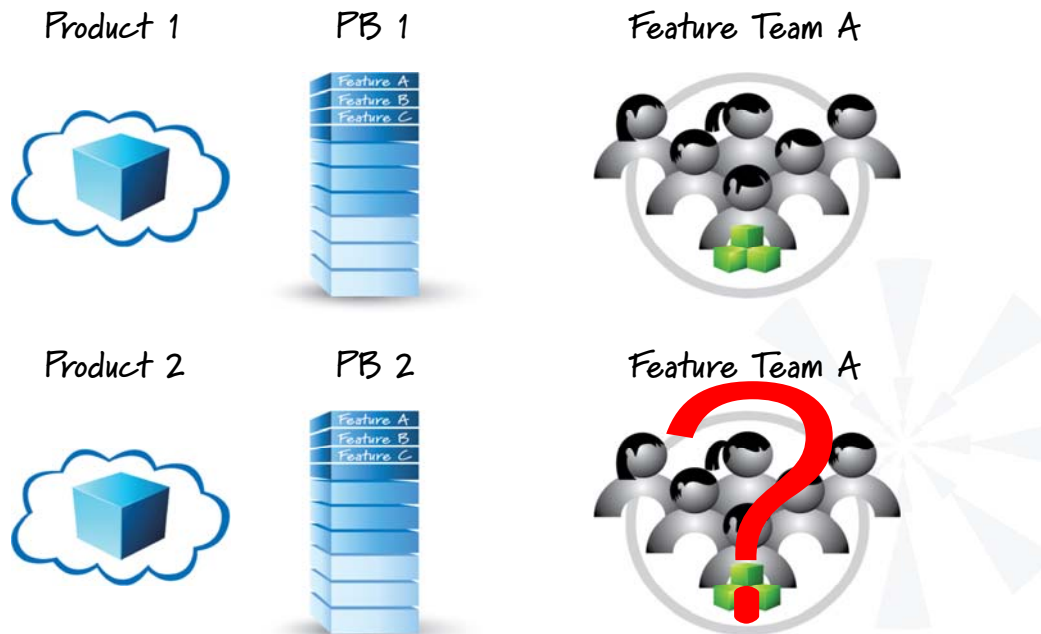Not about keeping people busy

☀ Multitasking

Clark and Wheelwright (1992) studied multi-tasking and determined that when working on more than **two projects**, a person's time spent on value-adding work drops rapidly

Ability to work outside
of core area

BROAD

DEEP

Functional area,
discipline, or specialty

Team Longevity

Product 1   PB 1   Feature Team A

Feature A
Feature B
Feature C

Product 2   PB 2   Feature Team A

Feature A
Feature B
Feature C

Economics Favor Long-lived Teams

Have established trust and team identity and integrity

More productive than newly formed groups

Team familiarity can positively impact efficiency and quality of team output

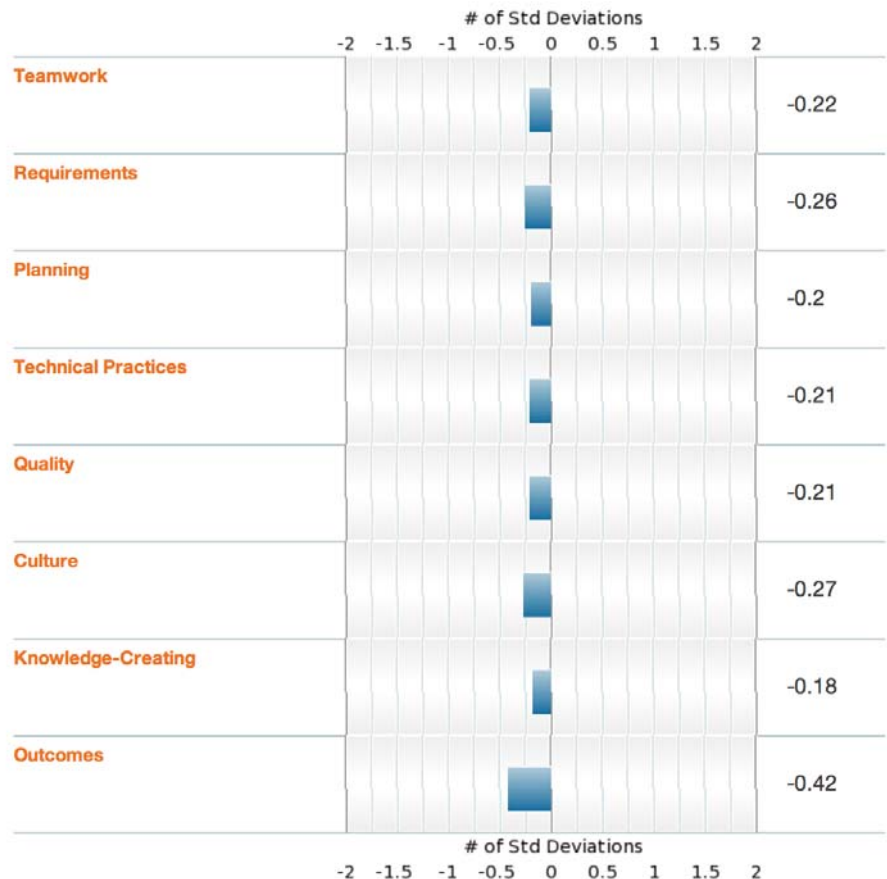Has a shared velocity and estimating history that can be used during planning

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Projects with at least 100 people (320 surveys)

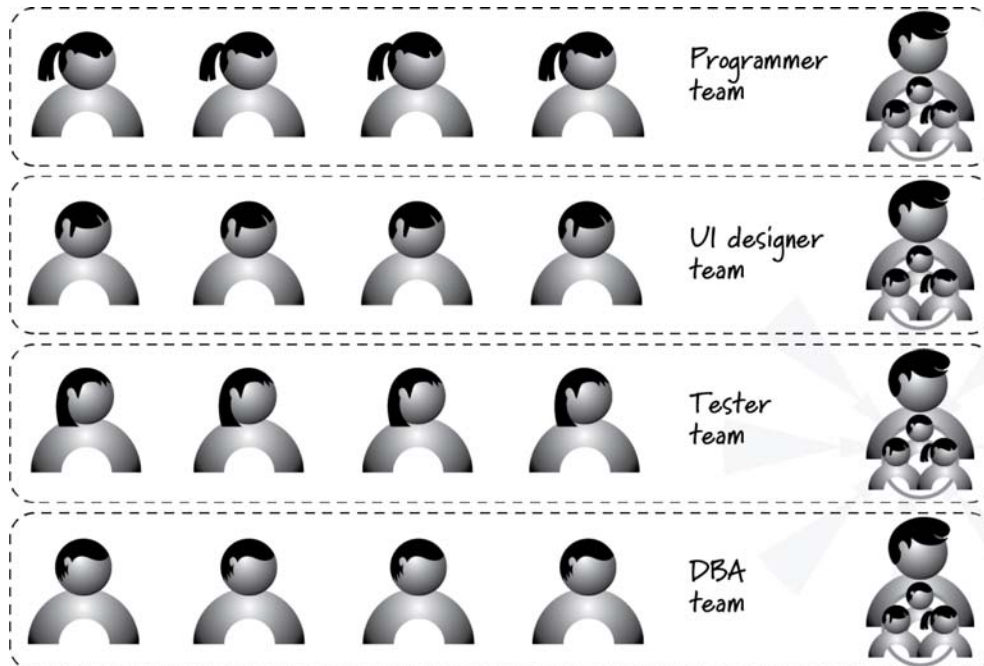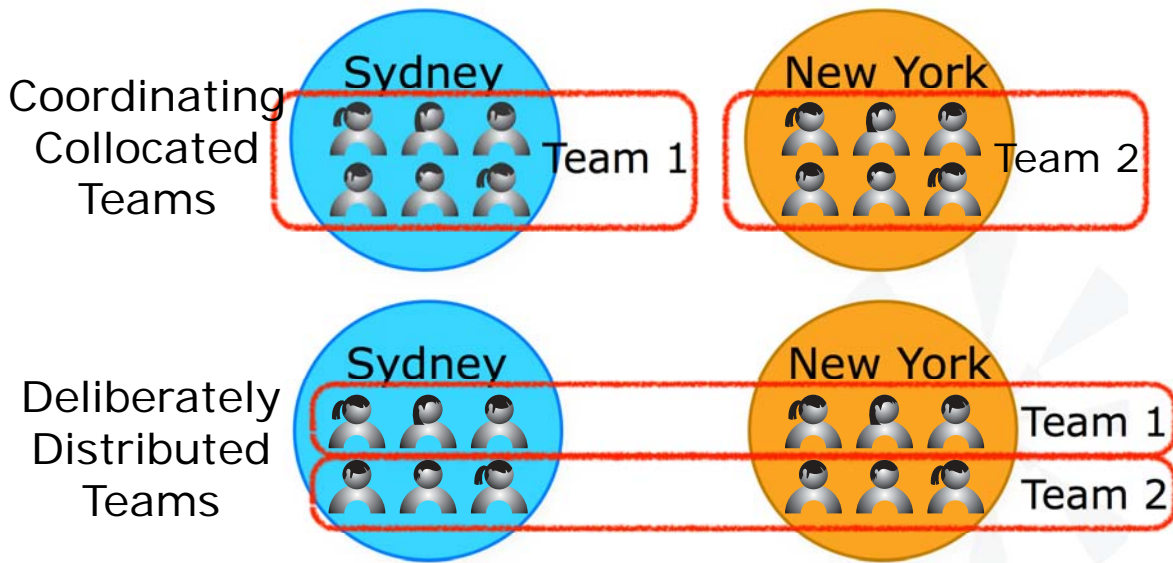|	# of Std Deviations	
	-2 -1.5 -1 -0.5 0 0.5 1 1.5 2	
Teamwork		-0.22
Requirements		-0.26
Planning		-0.2
Technical Practices		-0.21
Quality		-0.21
Culture		-0.27
Knowledge-Creating		-0.18
Outcomes		-0.42

# of Std Deviations
-2 -1.5 -1 -0.5 0 0.5 1 1.5 2

As the scope of work gets larger and one team is no longer sufficient, what is your scaling strategy?

✳ Discipline Teams

Programmer team

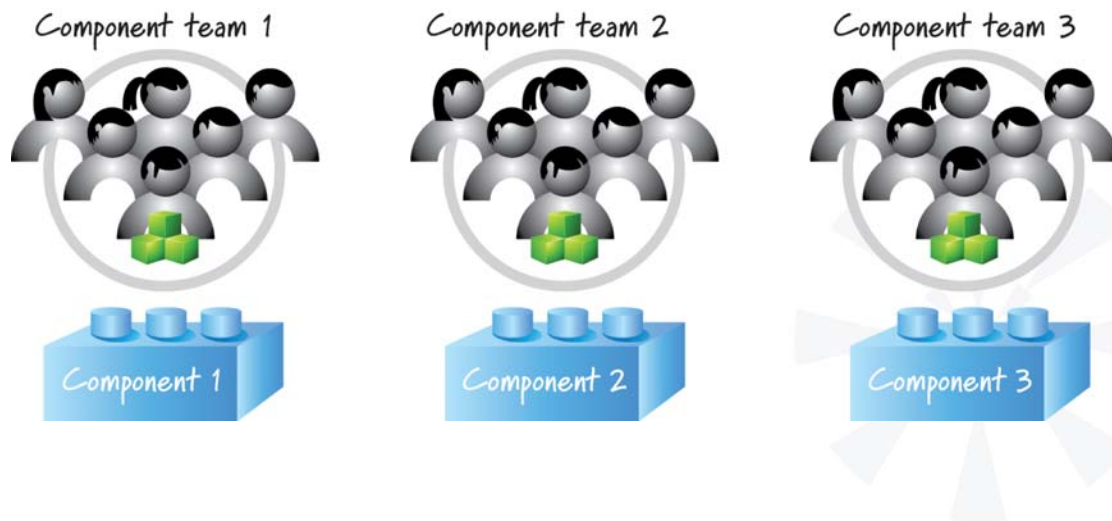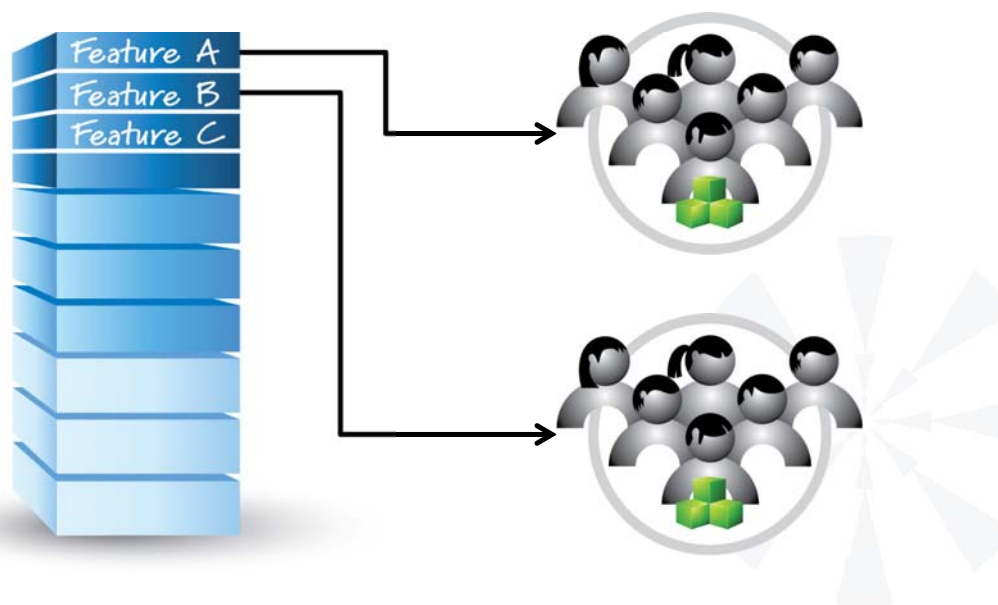UI designer team

Tester team

DBA team

Location Teams

Coordinating Collocated Teams

Sydney — Team 1

New York — Team 2

Deliberately Distributed Teams

Sydney / New York — Team 1

Sydney / New York — Team 2

Architectural Layer Teams

GUI

Middle Tier

DB

Component Teams

Component team 1

Component team 2

Component team 3

Component 1

Component 2

Component 3

Feature Teams

Feature A
Feature B
Feature C

Don't Scale Based on Dogma!

Everyone knows **feature teams** are better!
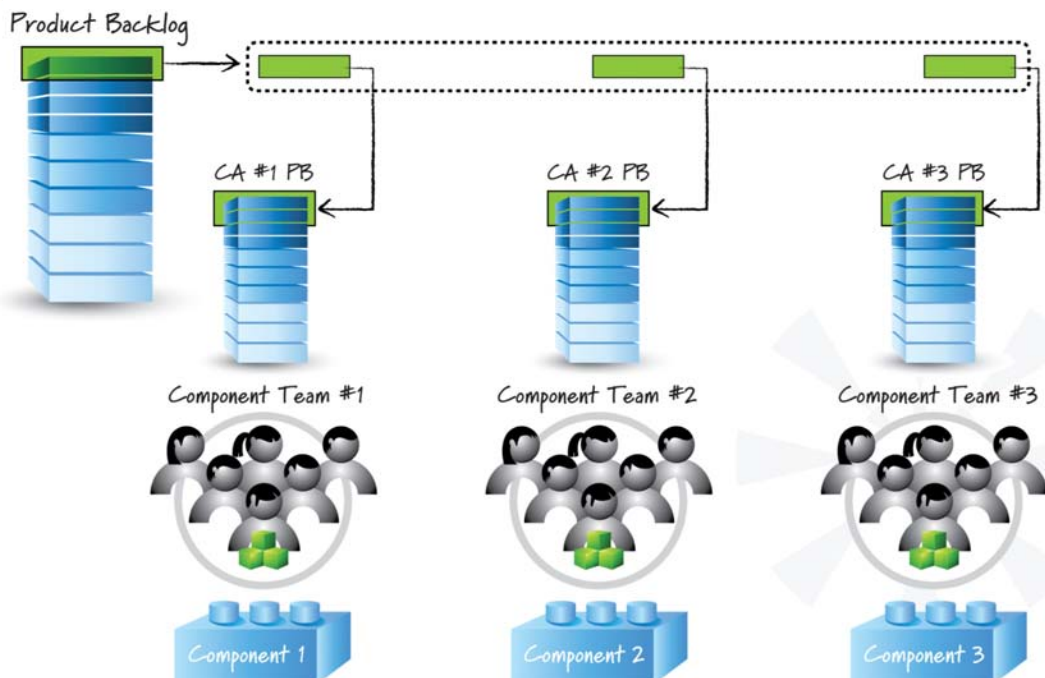
Nuts! **Component teams** promote conceptual integrity & reuse!
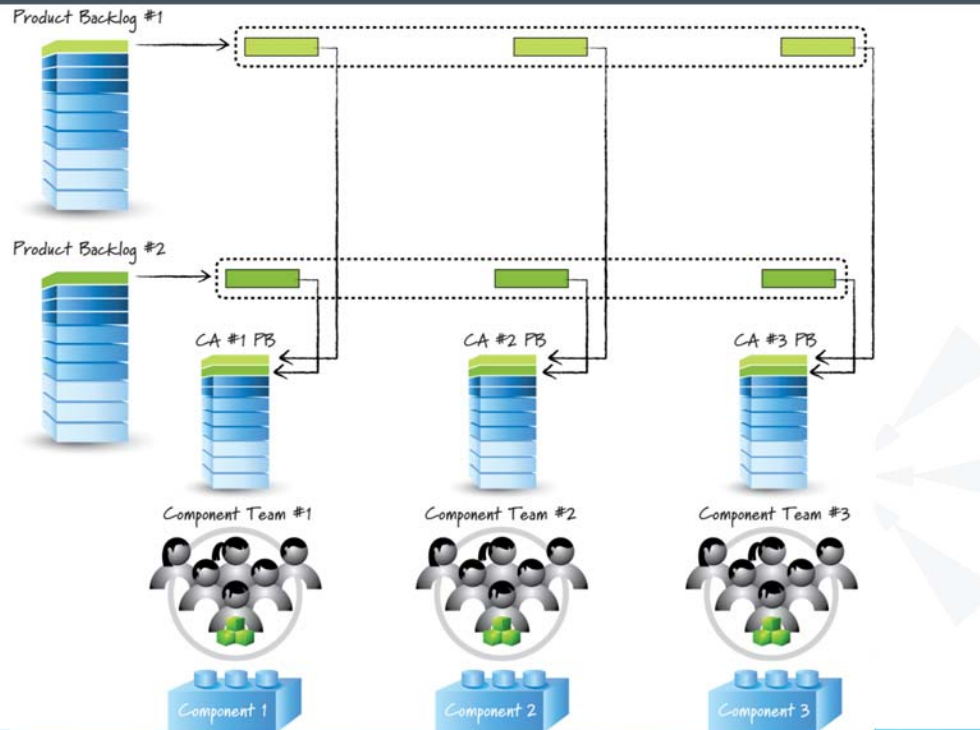
Feature A
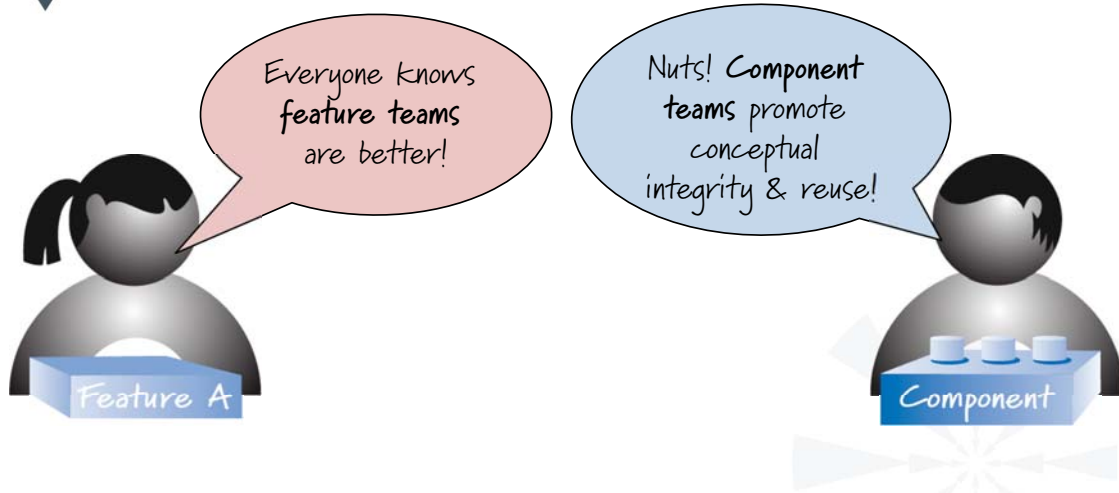
Component

Do you honestly think there is a single answer to scaling that universally applies to all situations (sizes and types of organizations)?

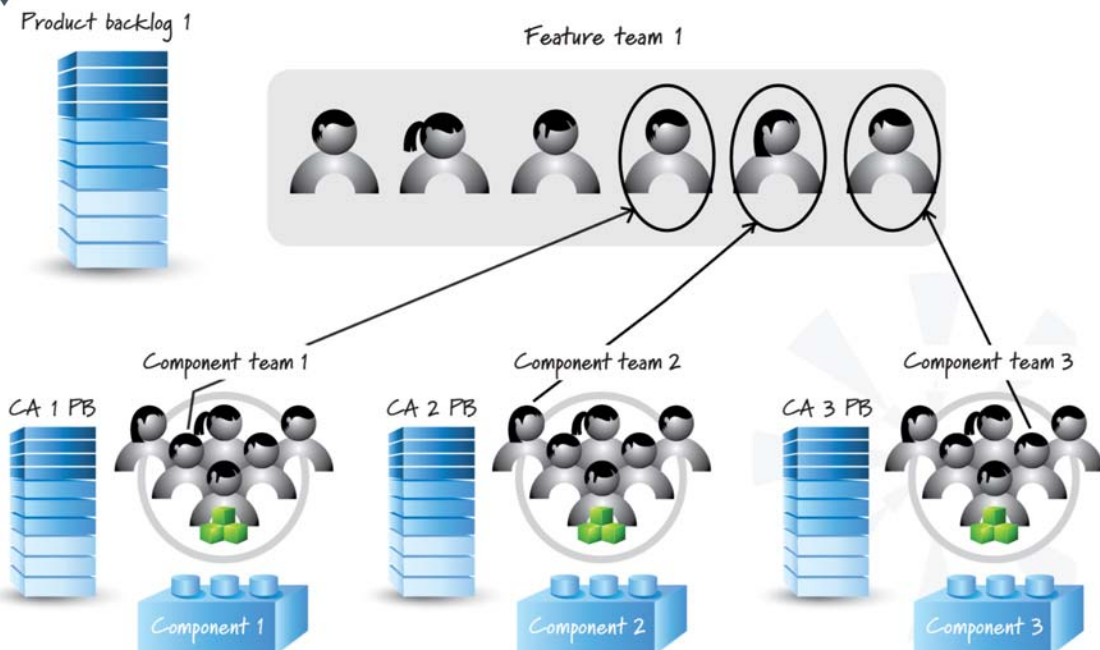# Component Teams (Single Source)

Product Backlog

CA #1 PB

CA #2 PB

CA #3 PB

Component Team #1

Component Team #2

Component Team #3

Component 1

Component 2

Component 3

Component Teams (Multiple Sources)

Combined Feature & Component Teams

☀ Summary

Performing all Scrum practices and using generally accepted Scrum approaches is necessary, but not sufficient

If you want to see the real benefits of applying Scrum you need to apply Scrum within an economic framework that allows you to make sensible tradeoffs

☀ Contact Info for Kenny Rubin

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Essential Scrum: A Practical Guide to the Most Popular Agile Process	www.essentialscrum.com
Comparative Agility Website	www.comparativeagility.com