Measure. Diagnose. Improve.

State of Agile

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Scrum.org

Improving the Profession of Software Development

Backlog

- The agile decade

- Where we are now

- An evidence-based approach to knowing the state of agile can be applied.

The Agile Decade

Driving the boom

2001	2014

2001

- Y2K panic
- Windows XP
- iPod
- Google search with click-through ads
- AOL merger with Time Warner
- CDMA
- Web 2.0
- .COM bubble has burst

2014

- NSA, Wiki*, Facebook
- Stuxnet, cyber warfare
- 39% / 77% internet usage
- Mobile devices
  books, music, movies, social
- Business competes on the internet
- Most products have embedded software (bar codes)
- Driverless cars and tractors

Software Is Critical to Business and Society

The growing demands of our population and society require:

- Software to weave it together
- Greater efficiencies
- Profoundly more complex infrastructure

Agile Is the Driver

- Greater productivity per employee
- Faster time to market of products and services
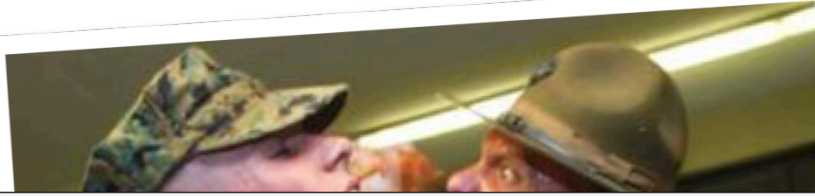- Increased ability to innovate

State of Agile

The Editorial

How Some People Know Scrum and Agile

How Others Know Scrum and Agile

How Some in the Industry Know Scrum
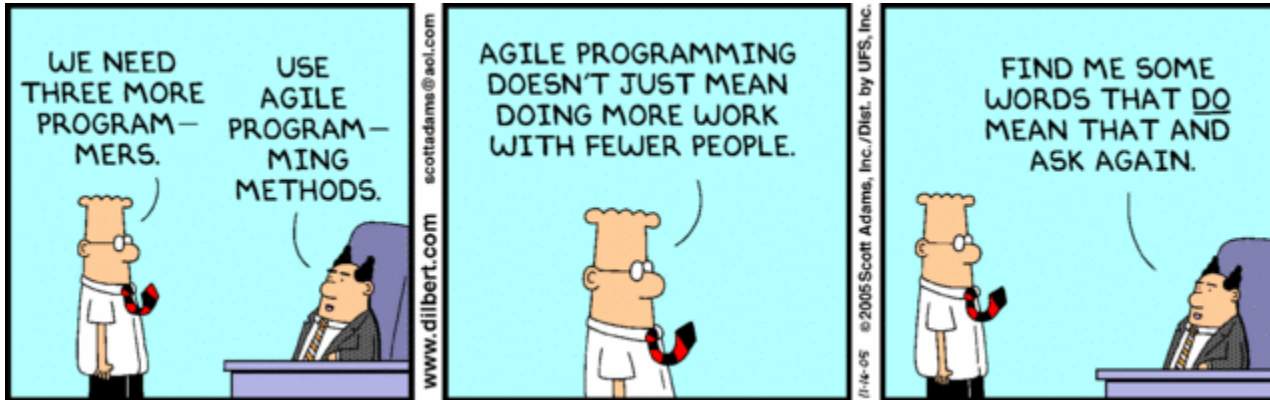
Agile as the Driver to Business Success

- Not quantified or proven
- Some are seeing Agile as faddish
- A money rush is on
- Values and principles are being discarded

Because the correlation between agile values and principles and business value is not established, it has disappeared into a flurry of buzzwords and fads.

Agility Investments
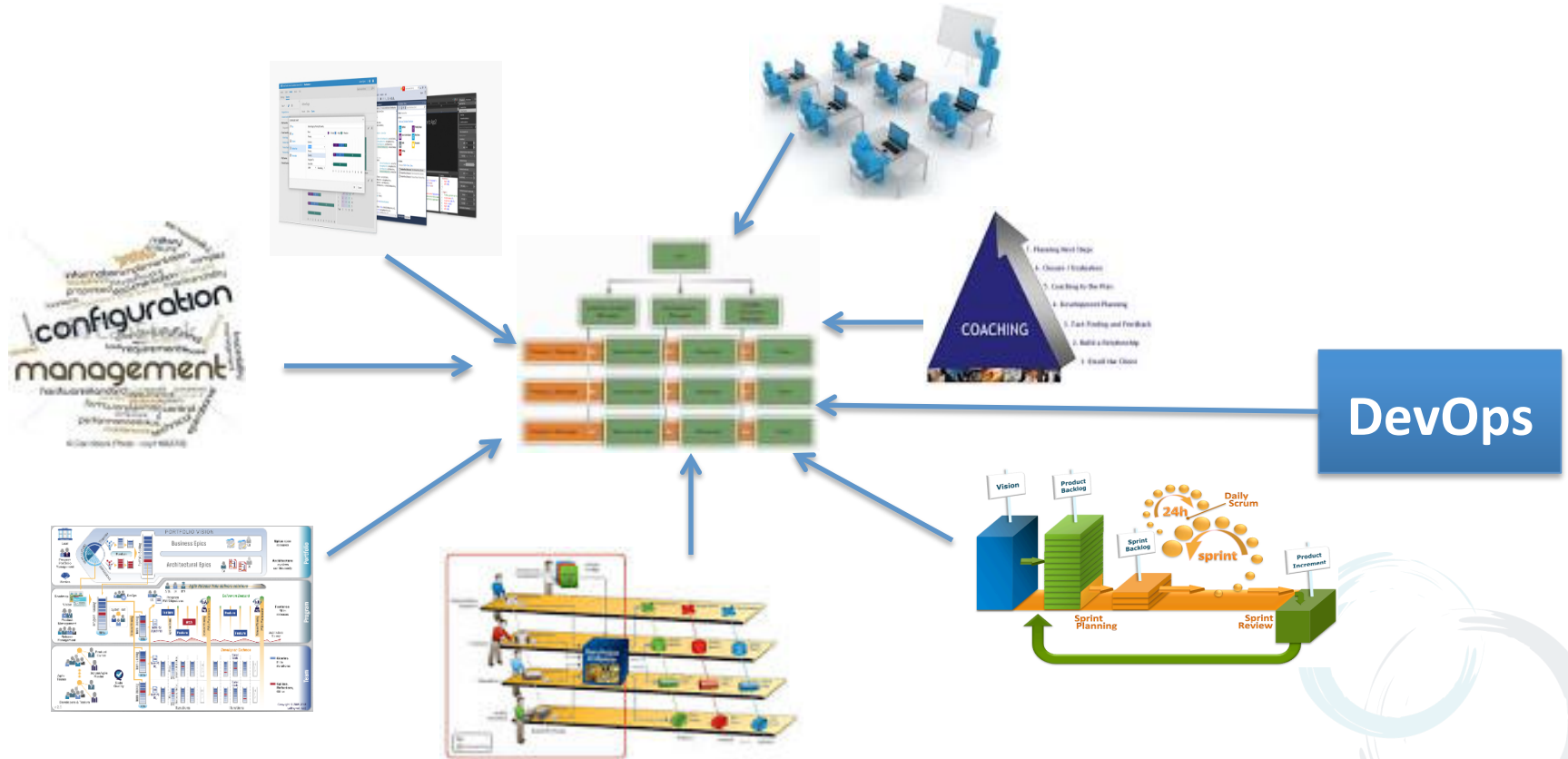
State of Agile

State of Agile

Customers: *How are we doing?*

 Me: *My opinion isn't worth a bucket of warm spit without direct evidence to back it up.*

Let's Prefer Evidence over Opinion

ev·i·dence

/ˈevədəns/ 🔊

noun

1. the available body of facts or information indicating whether a belief or proposition is true or valid.
   "the study finds little evidence of overt discrimination"
   synonyms: proof, confirmation, verification, substantiation, corroboration, affirmation, attestation More

verb

1. be or show evidence of.
   "that it has been populated from prehistoric times is evidenced by the remains of Neolithic buildings"
   synonyms: indicate, show, reveal, display, exhibit, manifest; More

˅

Evidence Broadly Construed

- Anything presented in support of an assertion

- Strongest evidence provides direct proof the assertion is true

- Weakest evidence is circumstantial
  - Is merely consistent with the assertion
  - Doesn't rule out contradictory assertions

What Type of Evidence?

☐ Circumstantial

☐ Direct

What Type of Evidence?

☐ Circumstantial

☐ Direct

What Type of Evidence?

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☐ Direct

What Type of Evidence?

☐ Circumstantial

☐ Direct

Trace Evidence

Agile's fingerprints

What can provide evidence of agility?

Numbers we know for our own organization

Numbers others in the industry have accumulated

Our organization : Our knowledge

How much money was invested in agility per person?

- ❑ <$1,000
- ❑ <$10,000
- ❑ <$100,000
- ❑ >$100,000
- ❑ Don't know

What has been the return on this investment?

- ❑ <0
- ❑ >0
- ❑ Don't know

Has your organization's value gone?

- ❑ Up
- ❑ Down
- ❑ Stayed the same
- ❑ Don't know

What Type of Evidence?

☐ Circumstantial

☐ Direct

| Product Ownership Health	
negotiation	5.0
other stakeholders	5.0
User Stories are small, estimated, functional and vertical	4.0
Total Product Health Score	**14.0**
Sprint Health	
Team plans the sprint collaboratively, effectively and efficiently	4.0
Team always has clear and measurable sprint goals, in support of release goals, and commits to meeting them	4.0
Teams apply acceptance criteria and Definition of Done to story acceptance	4.0
Team has a predictable, normalized velocity which is used for estimating and planning	4.0
Total Sprint Health Score	**16.0**
Team Health	
Team members are self-organized, respect each other, help each other complete sprint goals, manage interdependencies and stay in-sync with each other	3.0
Scrummaster attends Scrum of Scrums and interacts with release management as appropriate	5.0
Stories are iterated through the sprint with multiple define-build-test cycles (e.g. the sprint is not a waterfalled)	3.0
The whole team works on one feature at the time.	3.0
Total Team Health Score	**14.0**
Technical Health	
Teams actively reduce technical debt in each sprint	4.0
Team has clear guidance and understanding of intentional architecture guidance, but is free and flexible enough to allow emergent design to support optimal implementation	4.0
Automated acceptance tests and unit tests are part of story DoD	3.0
Total Technical Health Score	**11.0**
Total Project Team Score	**55.0**

Industry Evidence

☐ Circumstantial

☐ Direct

Given our understanding of evidence, how would you classify the following assertions?
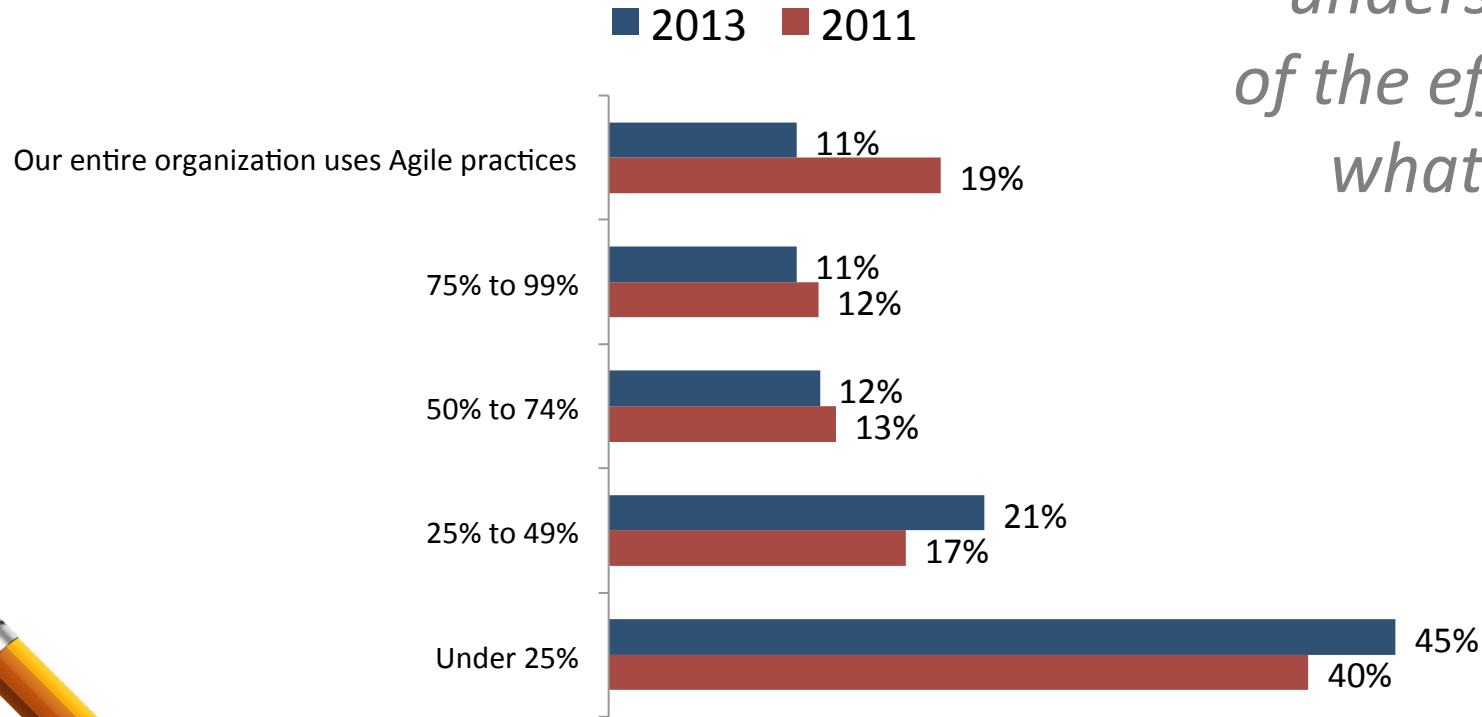
Agility – Software Dispersion Graph
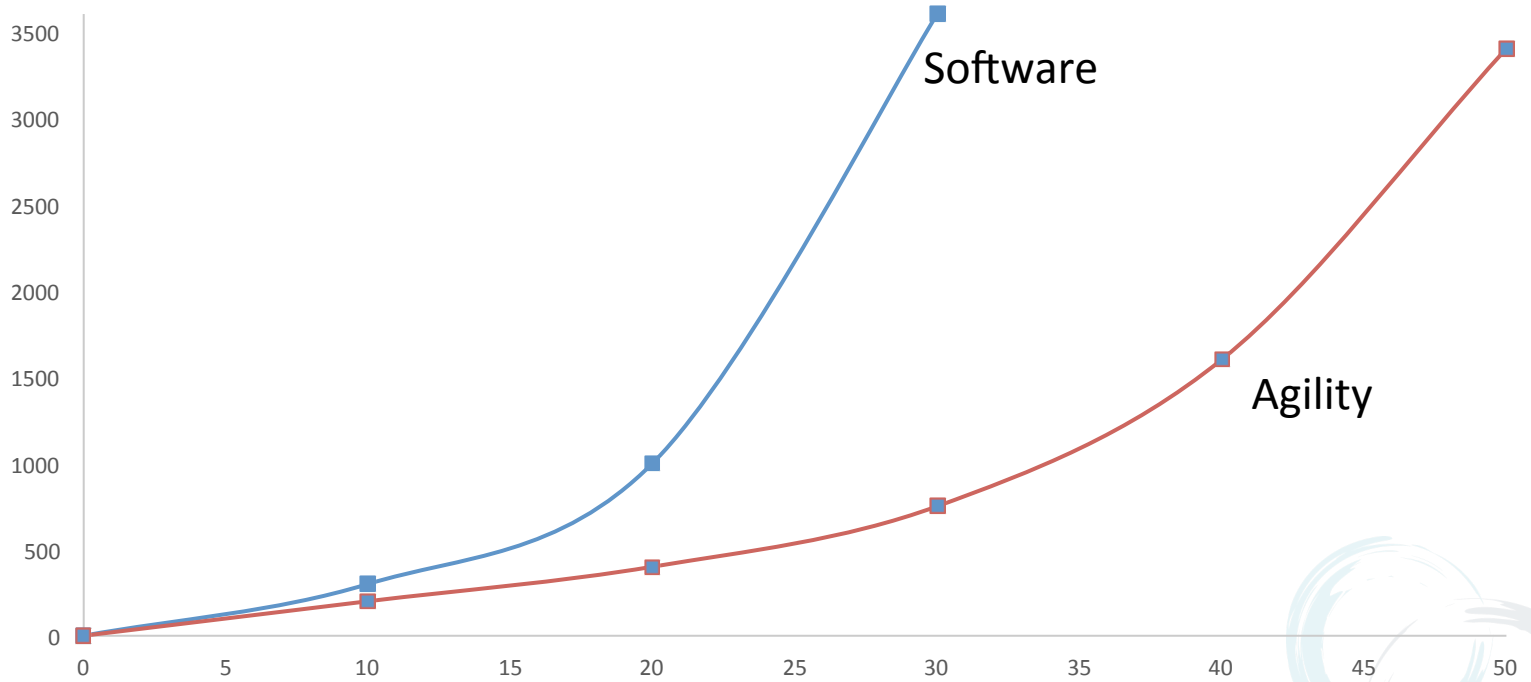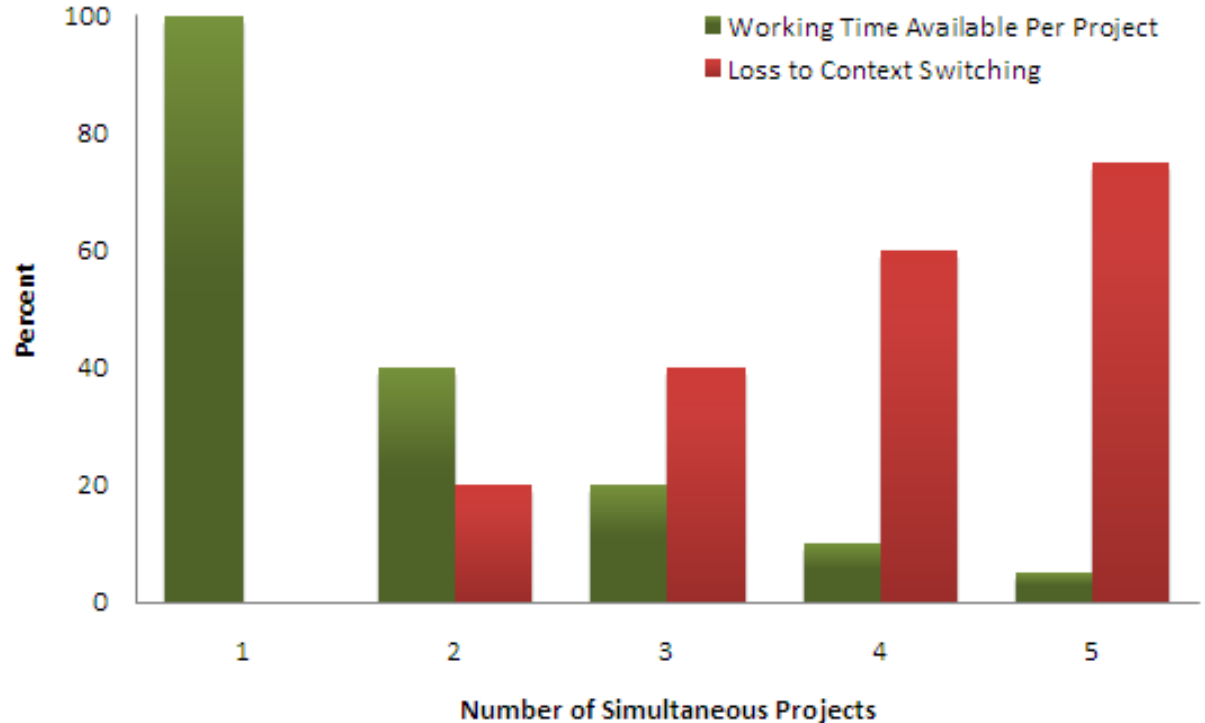
Scaling Agile Can Happen

More general understanding of the effort and what it really means

■ 2013 ■ 2011

Category	2013	2011
Our entire organization uses Agile practices	11%	19%
75% to 99%	11%	12%
50% to 74%	12%	13%
25% to 49%	21%	17%
Under 25%	45%	40%

Base: 2013: 149 IT professionals from organizations that are implementing or have implemented Agile. 2011: 205 IT professionals from organizations that are implementing or have implemented Agile.
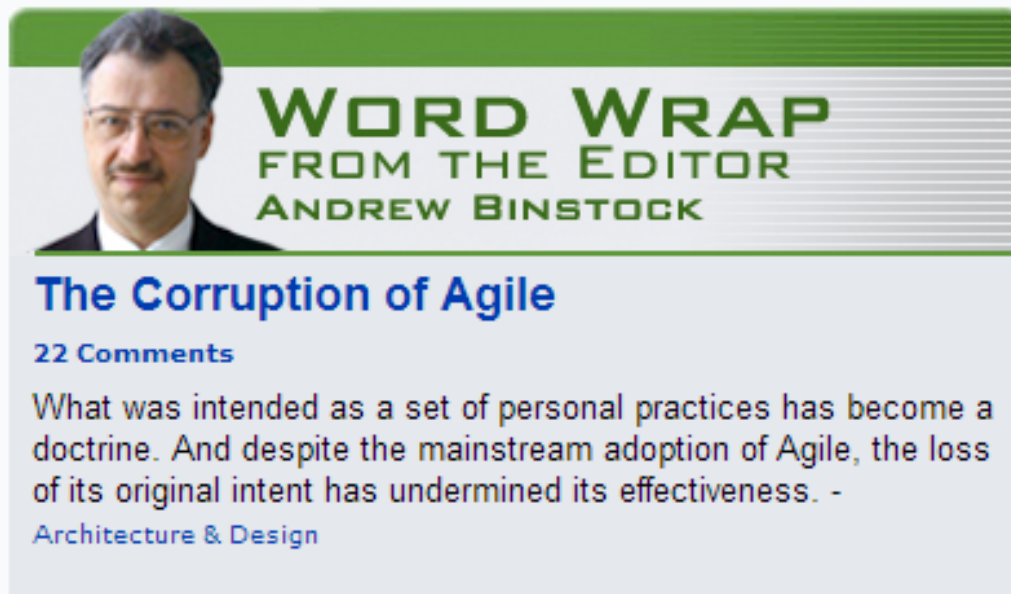
Task switching destroys efficiency and quality, and can actually make you less intelligent

Legend:
- Working Time Available Per Project (green)
- Loss to Context Switching (red)

Y-axis: Percent (0, 20, 40, 60, 80, 100)

X-axis: Number of Simultaneous Projects (1, 2, 3, 4, 5)

Source: Gerald Weinberg, Quality Software Management: Systems Thinking

One opinion

"[Agile] has been greatly abetted by the legions of Agile consultants. By stressing the practices, they have corrupted what Agile was about."

WORD WRAP
FROM THE EDITOR
ANDREW BINSTOCK

The Corruption of Agile

22 Comments

What was intended as a set of personal practices has become a doctrine. And despite the mainstream adoption of Agile, the loss of its original intent has undermined its effectiveness. -

Architecture & Design

http://www.drdobbs.com/architecture-and-design/the-corruption-of-agile/240166698

Analyst Organization Survey

- Better business/IT alignment
- More predictability
- More opportunity for mid-course corrections
- Results more aligned with requirements
- Increased motivation/morale
- Improved quality
- Improved productivity
- New innovations and applications

"Scaling Agile Development", Diego Lo Giudice, Forrester, Sept 2013

Standish Group Report
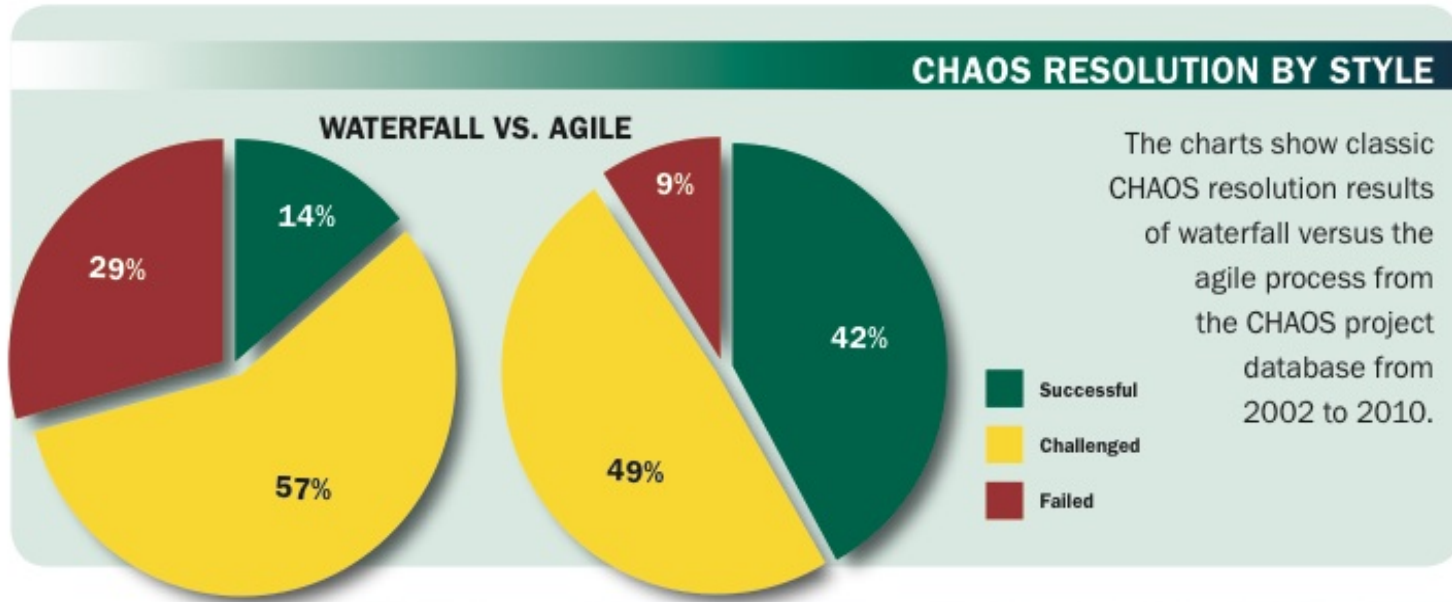
The CHAOS Manifesto, Copyright 2011

Velocity

For example, the Scrum teams initiated at Yahoo by Scrum Foundation founders Sutherland, Deemer, and Benefield delivered an average 35% improvement in velocity at Yahoo [1] whereas Teams properly coached on how to achieve performance delivered 300-400% increases. As Agile Coach at MySpace, Downey had teams that peaked at 1680% of initial velocity after 20 weeks and averaged 450% increase in velocity over 10 Sprints. The highest performing Team ever recorded was a Borland Team audited by Bell Labs. They were 50 times faster than waterfall Team industry average [2]. Clearly, large performance

"Scrum Metrics for Hyperproductive Teams" Downey and Sutherland

State of Agile

Nobody can tell you the state of agile

Everything we know is subjective and based on circumstantial evidence
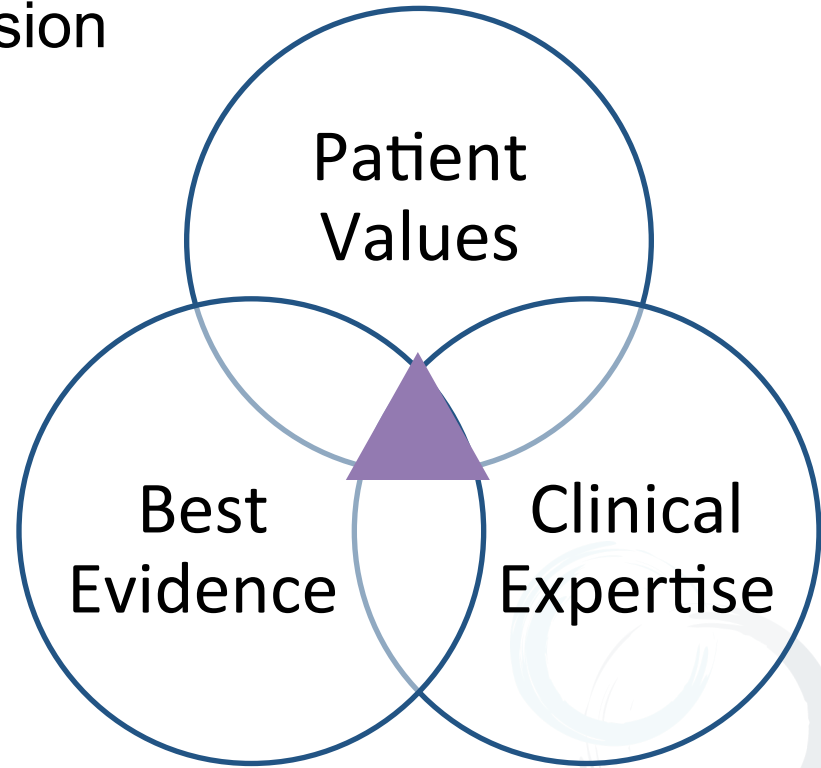
State of Agility from Evidence-Based Management

Evidence-Based Management (EBM)

- Twenty year effort to ground decision making in direct evidence

- Data-driven decision making using
  – Trusted bodies of knowledge
  – Experimentation results
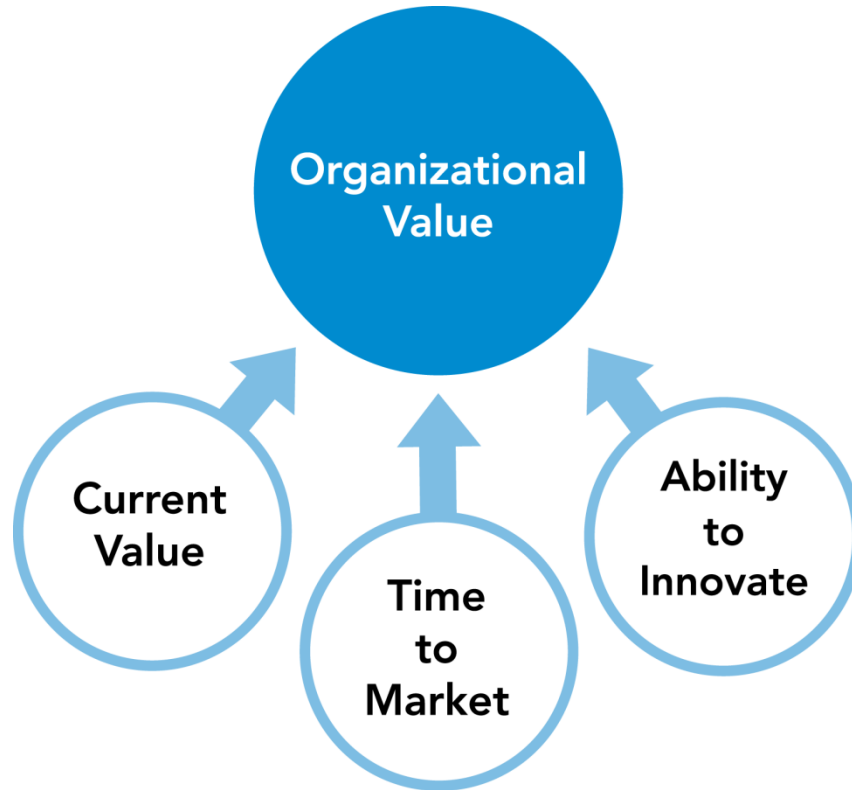 – Rigorous and constant assessment

Evidence-Based Management

- The application of direct, objective evidence
  - By managers
  - To make decisions

- Rooted in evidence-based medical practices

- Applied to software development:

  Determines the value to an organization of its software development
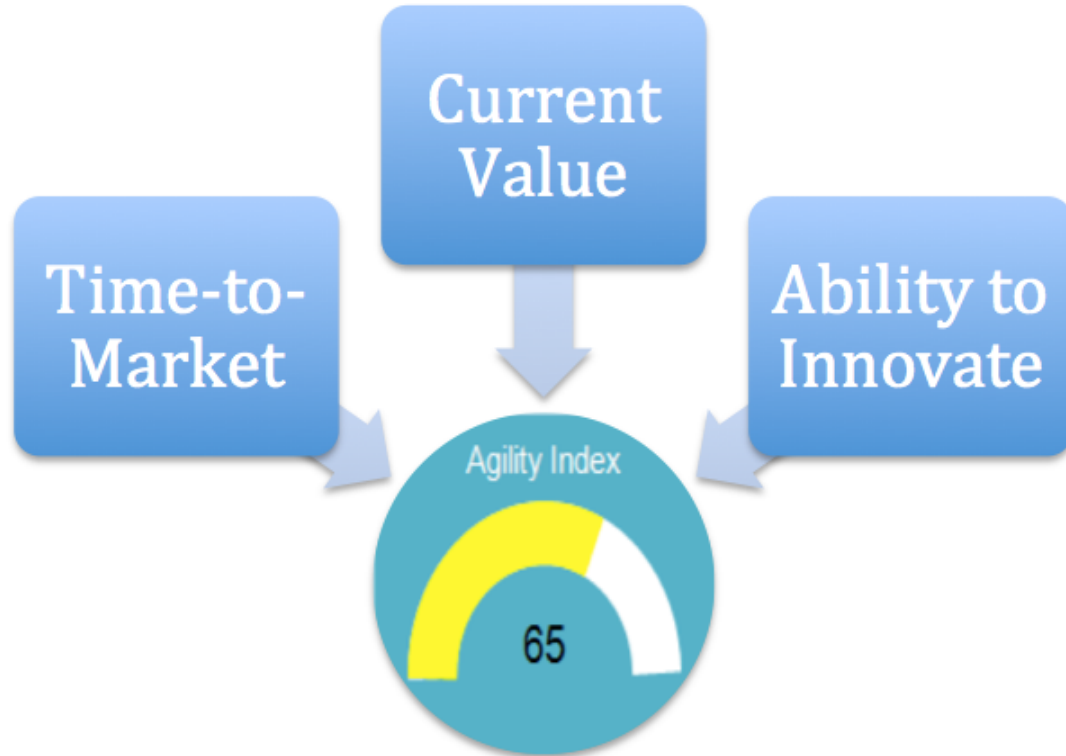
Direct Evidence of Value
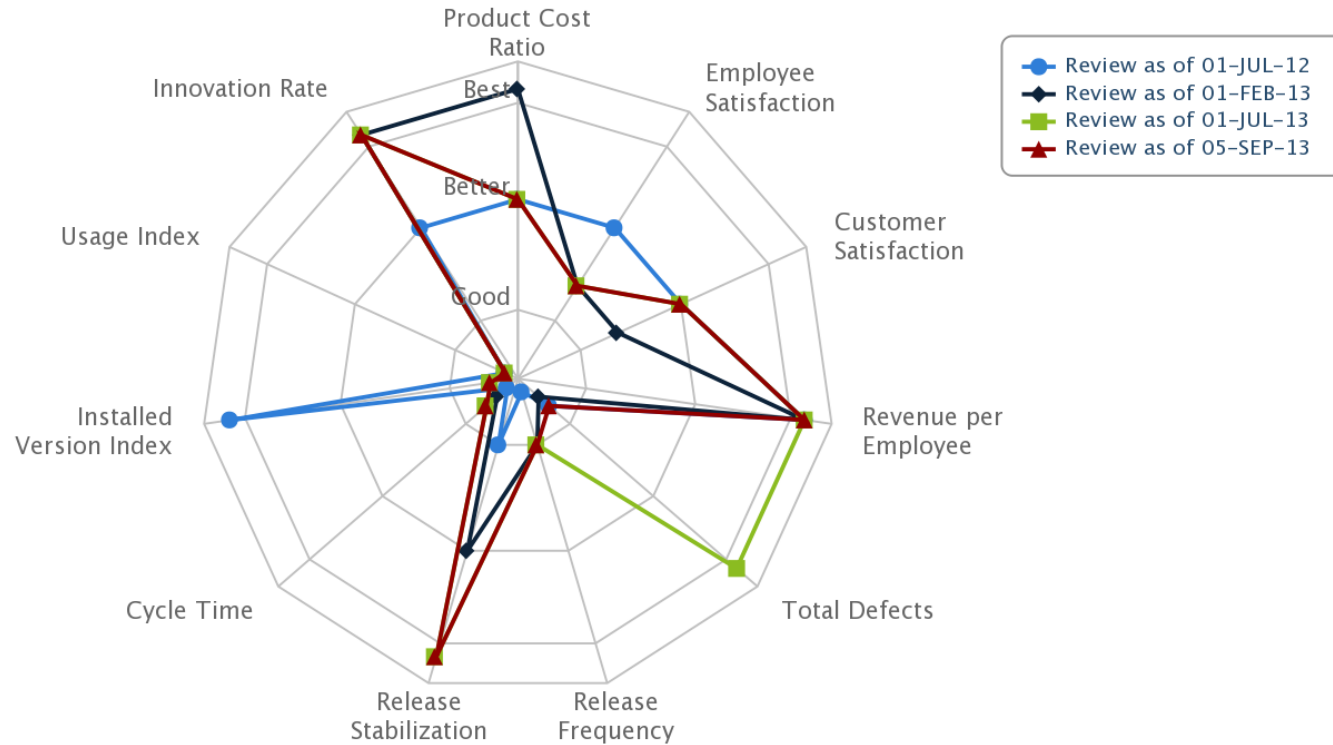
Evidence of Business Value
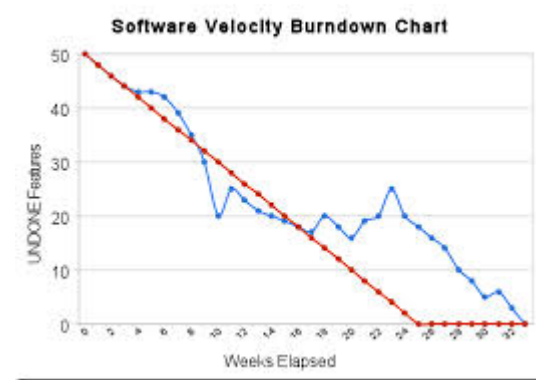
Agility Index

Evidence-based Trends in Value

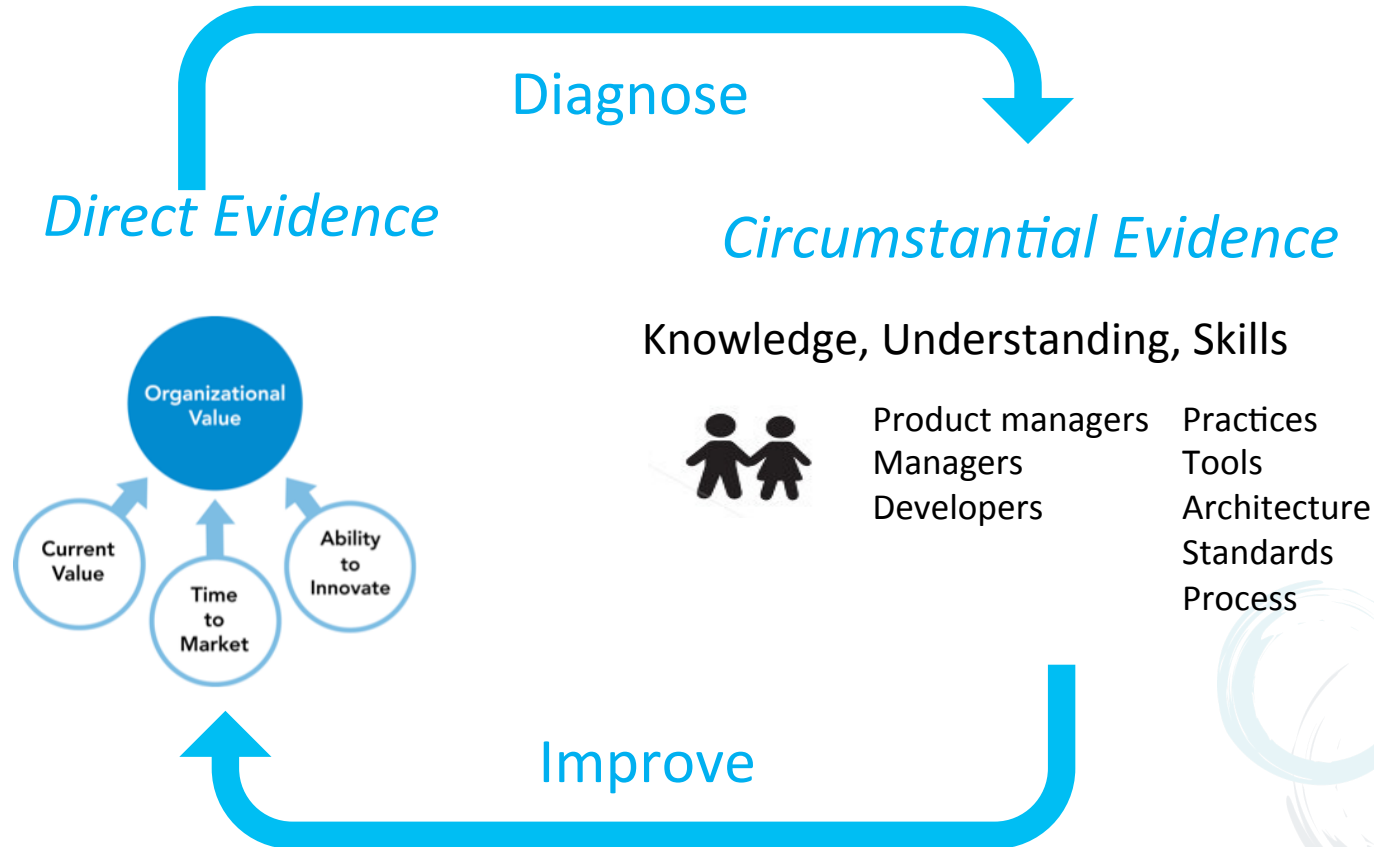# Correlating Direct and Circumstantial

Direct Evidence

Circumstantial Evidence

Produces
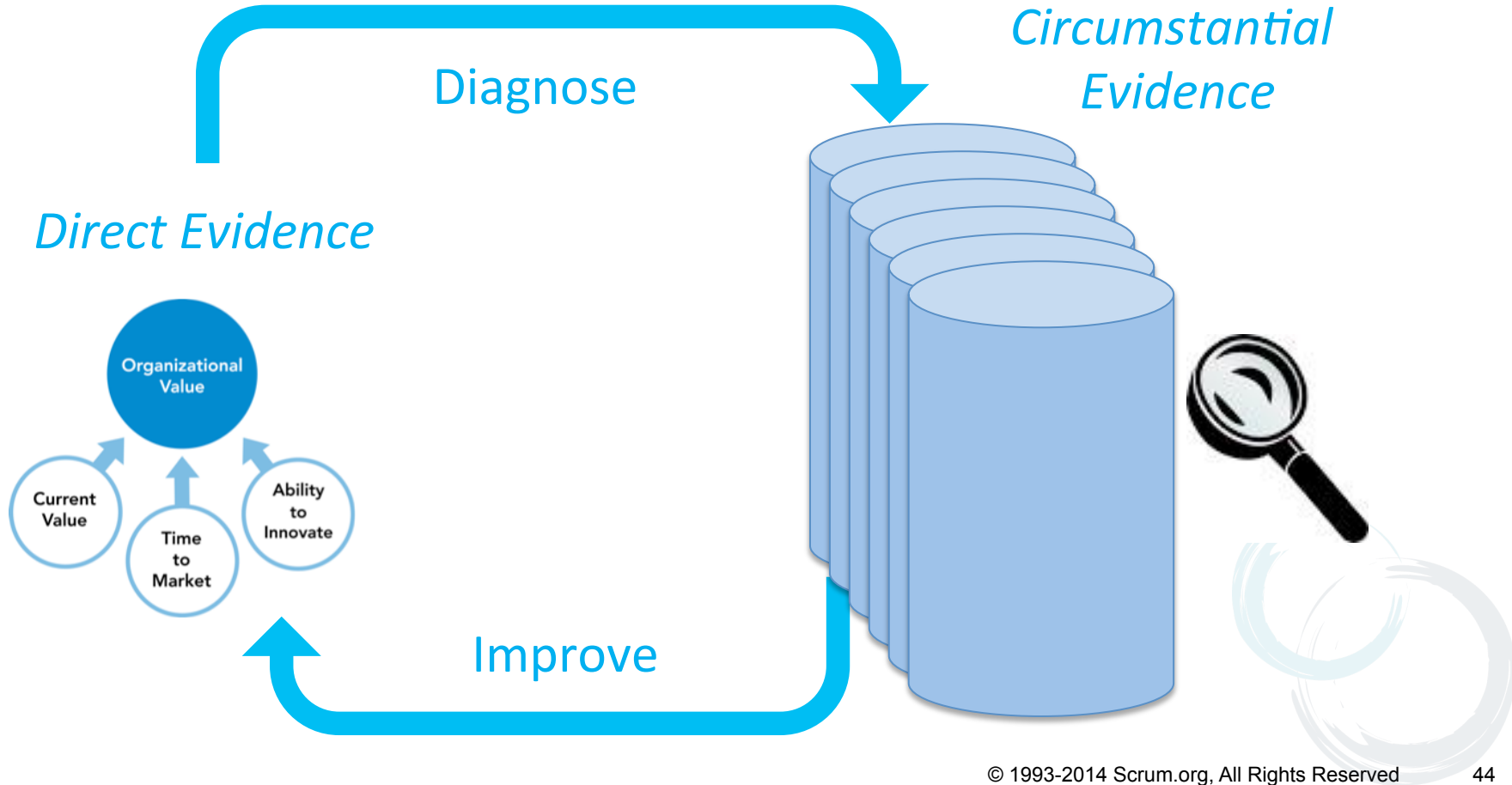
42

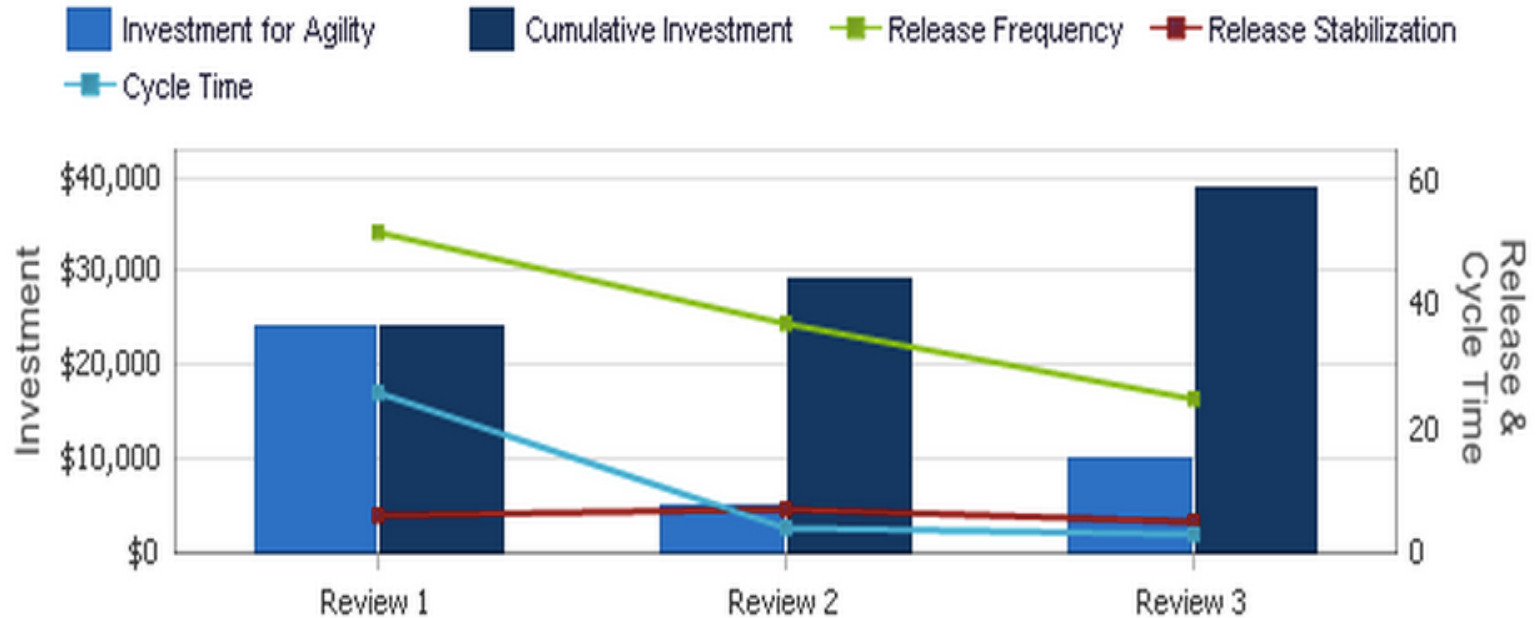# Evidentiary Clues in an Organization

Diagnose

Direct Evidence

Circumstantial Evidence

Knowledge, Understanding, Skills

Product managers   Practices
Managers   Tools
Developers   Architecture
  Standards
  Process

Organizational Value

Current Value

Time to Market

Ability to Innovate

Improve

Collect and Analyze Evidence

Diagnose

Circumstantial Evidence

Direct Evidence

Organizational Value

Current Value

Time to Market

Ability to Innovate

Improve

Evaluate Investments Against direct Outcomes

Goals

Evidence-based Management Organizations

- Make better investments

- Generate more business value

- Avoid wasting energy on fads

- Create an evidence-based profession

Summary

- The state of agile is currently unknown

- Software is too important for that to continue

Evidence-based management determines the value your organization gets from software

- Next year's presentation will be more informative

Thank You