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The Premier Software and Product Delivery Event



Measured Improvement in Software Economics

Walker Royce
VP, Chief Software Economist
IBM Software, Rational



Software Delivery is an Economic Discipline



Level 5: Completely irreducible uncertainty

Level 4: Partially reducible uncertainty

Level 3: Fully reducible uncertainty

Level 2: Risk without uncertainty

Level 1: Complete certainty

Engineering →
Engineering →
Engineering →
Engineering →

Software →
Software →
Software →
Software →



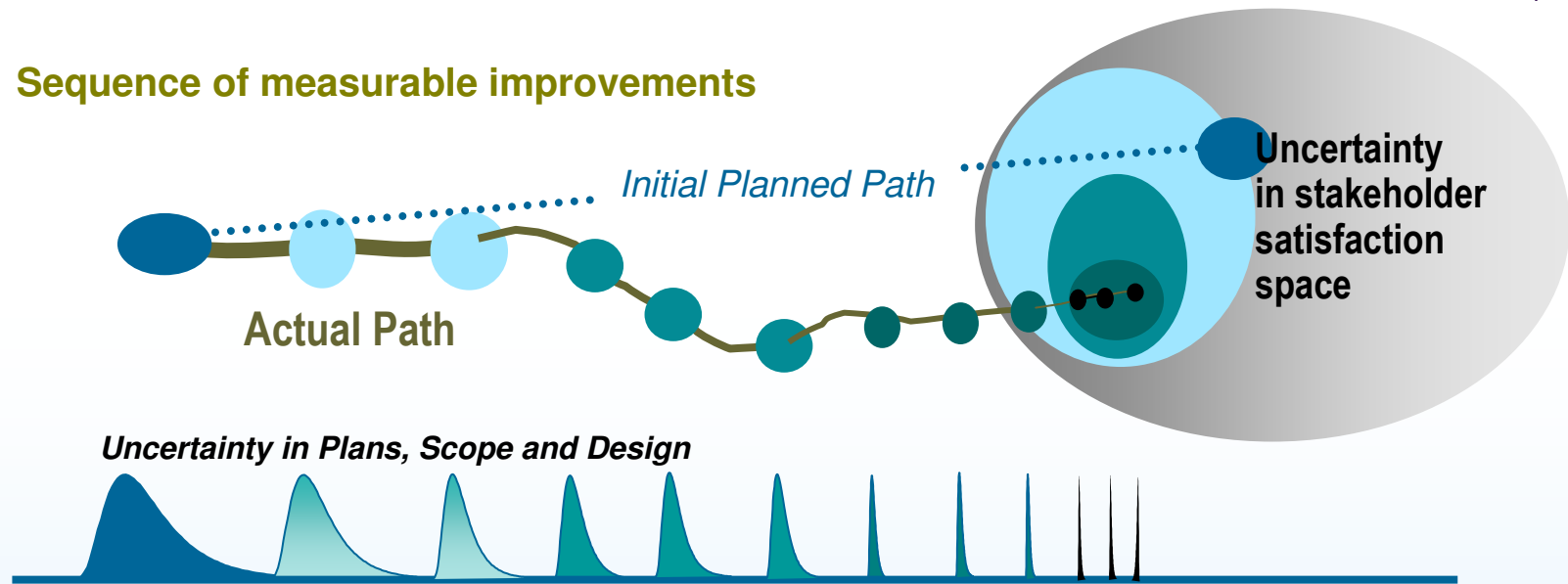
Religion
Philosophy
History
Economics
Biology
Chemistry
Physics
Mathematics

Lo, Andrew, and Mark Mueller. MIT Sloan School of Management,
Moody's/NYU 6th Annual Credit Risk Conference, New York, March 2010.

Economic Governance: Measurement and Steering



Sequence of measurable improvements



Managing uncertainty requires
MEASUREMENT



Measurement builds
TRUST



Trust improves
EFFICIENCY

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Pivotal Culture Shifts



Plans/management
Plan for integration to precede unit testing

Avoid false precision in plans and requirements

Progress measures
Quantify progress trends from the integrated code and test base

Don't attack the easy things first

Quality measures
Quantify cost-of-change trends to demonstrate true agility

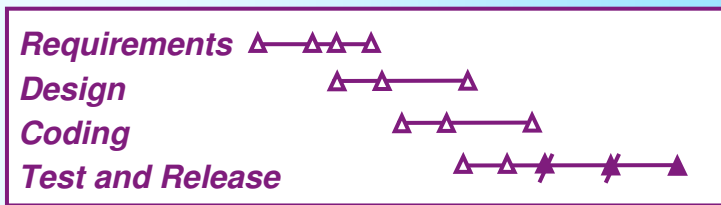
Don't rely on subjective and speculative measures



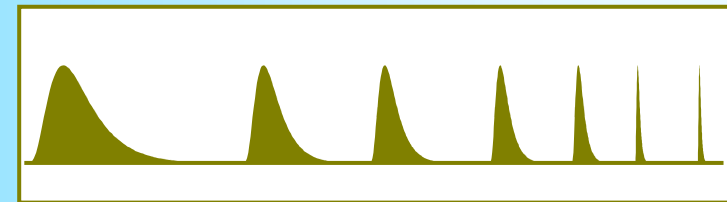
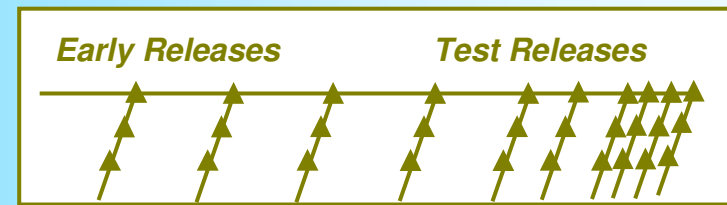


Measured Improvement: Progress Econometrics

Conventional Engineering Governance



Modern Economic Governance



Planning Progress

Technical Progress

Economic Progress





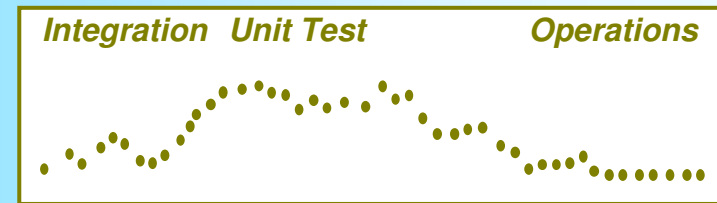
Measured Improvement: Quality Econometrics

Conventional Engineering Governance

Modern Economic Governance



Maturity
Defect Trend



Modularity
Change Volume Trend



Adaptability
Cost of Change Trend



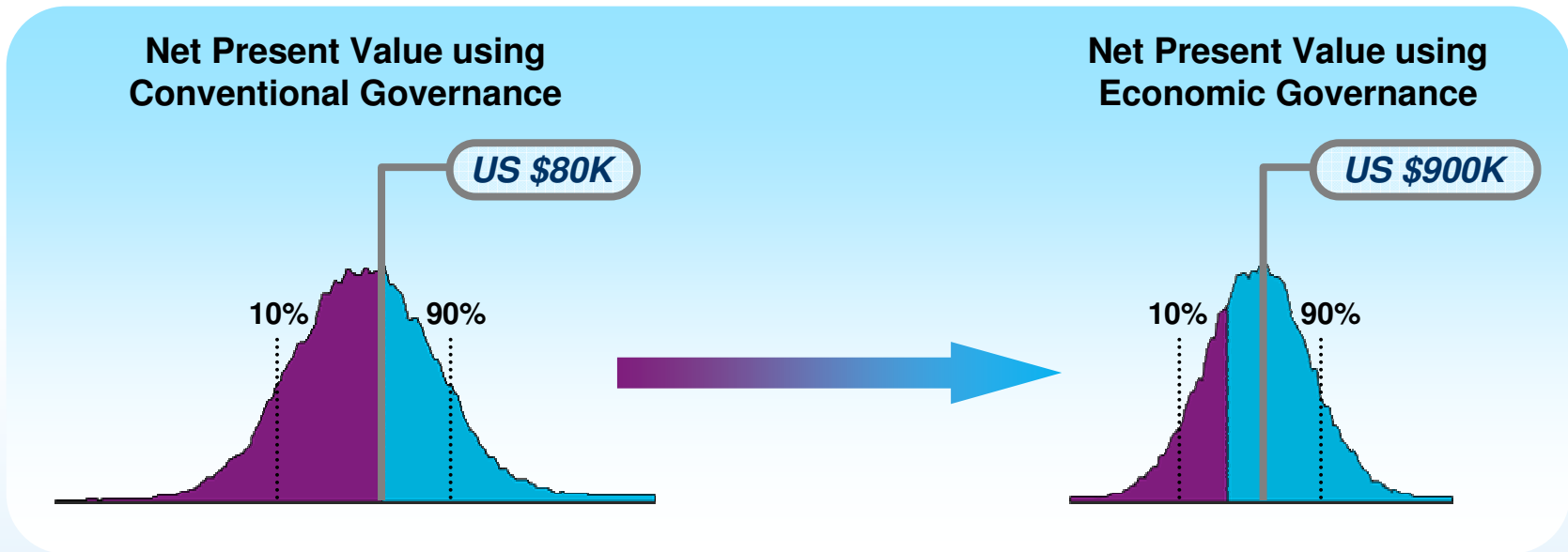
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kbenz1



Measured Improvement: Quality Econometrics



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Slide 7

kbenz1

this is a slide build from previous

kbenz, 5/20/2011



Improving Software Economics

VOLUME OF CODE

- Quality/Performance
- Integration first
- Manage scope
- Asset-based reuse

PROCESS

- Steering
- Good practices
- Maturity
- Domain knowledge

Resources = Complexity *Agility* * Collaboration * Automation

TEAMWORK

- Synchronization
- Skills
- Experience
- Motivation

TOOLING

- Process enactment
- Measurement
- Instrumentation
- Manage complexity

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Productivity Improvement Leverage

Economic Impacts

Reduce Complexity

Productivity:
2x – 10x
Timeframe is Years

Cost to Implement:
25%-50%
Much culture change

Increase Agility

Productivity:
25-100%
Timeframe is Quarters

Cost to Implement:
10%-35%
Some culture change

Improve Collaboration

Productivity:
15-35%
Timeframe is Months

Cost to Implement:
5%-10%
Predictable

Add Automation

Productivity:
5-25%
Timeframe is Weeks

Cost to Implement:
<5%
Very predictable

Organization

Project

Team

Individual

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The Moral of This Story



Better software economics is a result of:

1. Measured improvement for improved predictability

- The foundation of economic governance
- Measurement helps you manage uncertainty

2. Agility for improved operational efficiency

- Best measured by cost of change trends
- Best achieved by accelerating integration testing

***If you play better defense
you can play more offense!***

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 **Software. Everywhere.**




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