

Inspiring, enabling and driving the Evolution of Quality at Adobe leveraging the TSP

Jim Sartain

Jsartain@adobe.com

Senior Director, Quality

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Agenda

- Background
- Future Vision
- How we inspire, enable and drive progress
- Team Software Process at Adobe
- Summary



- More than \$3 billion in revenue in FY2008, 7100+ employees
- More than half of Adobe's revenue is generated outside the United States
- Industry leading technologies with global wide-spread adoption
 - Adobe® Reader® is distributed in 26 languages on 10 major platforms worldwide
 - Adobe® Flash® Player has 98% reach on connected PC's and 8 million installs per day
 - More than 90% of creative professionals have Adobe Photoshop® software on their desktops
- Major software development located centers in San Jose, San Francisco, Seattle, India, China, Germany and Romania

The Evolution of Quality at Adobe: 2012

Customers



70% of our customers are product promoters and detractors are rare

Employees



Love the fact they get twice as much and more important work done with less effort and drama

Shareholders



Shareholders see an increase in stock price tied to quality improvement savings

Aspects of this vision are already happening in some Adobe teams

The measurable piece of quality costs is the tip of the iceberg

Engineering Rework
Higher Support Costs
Refunds, Returns, Scrap, Patch downloads

For many software companies :

40% to 50% of Engineering Effort
50% of Customer Support Budget

Less time for innovation
Fewer promoters
Reduced product/service value
Delayed time to market
Increased employee attrition
Reduced employee engagement
Litigation costs

Indirect costs are typically
two to three times direct
quality costs

Source: Principles of Quality Costs, Campanella

Improving quality is a huge opportunity to free up resources for value-added work and make Adobe an even better place to work

How we assess improvement progress

Goals:

Improved
Customer
Experience



Improved
Engineering
Productivity



Increased
Agility



Progress on these goals is reviewed regularly by Senior Leadership

How we assess improvement progress

Goals:

Questions:

Improved
Customer
Experience

- Are we delivering Customer Delight?
- Are key customer issues being eliminated?

Improved
Engineering
Productivity

- Are major sources of rework identified and reduced?
- Are teams using engineering best practices to find and remove defects early

Increased
Agility

- How many days between code complete and release dates?
- Is effective Automated Testing in place?

Progress on these goals is reviewed regularly by Senior Leadership

How we assess improvement progress

Goals:

Questions:

Metrics:

Improved Customer Experience

- Are we delivering Customer Delight?
- Are key customer issues being eliminated?

- Net Promoter Score
- # support cases / customer

Improved Engineering Productivity

- Are major sources of rework identified and reduced?
- Are teams using engineering best practices to find and remove defects early

- % of dev effort spent on system testing and defect driven rework
- % defects found before System Testing

Increased Agility

- How many days between code complete and release dates?
- Is effective Automated Testing in place?

- # days effort per test cycle
- Automated code coverage

Progress on these goals is reviewed regularly by Senior Leadership

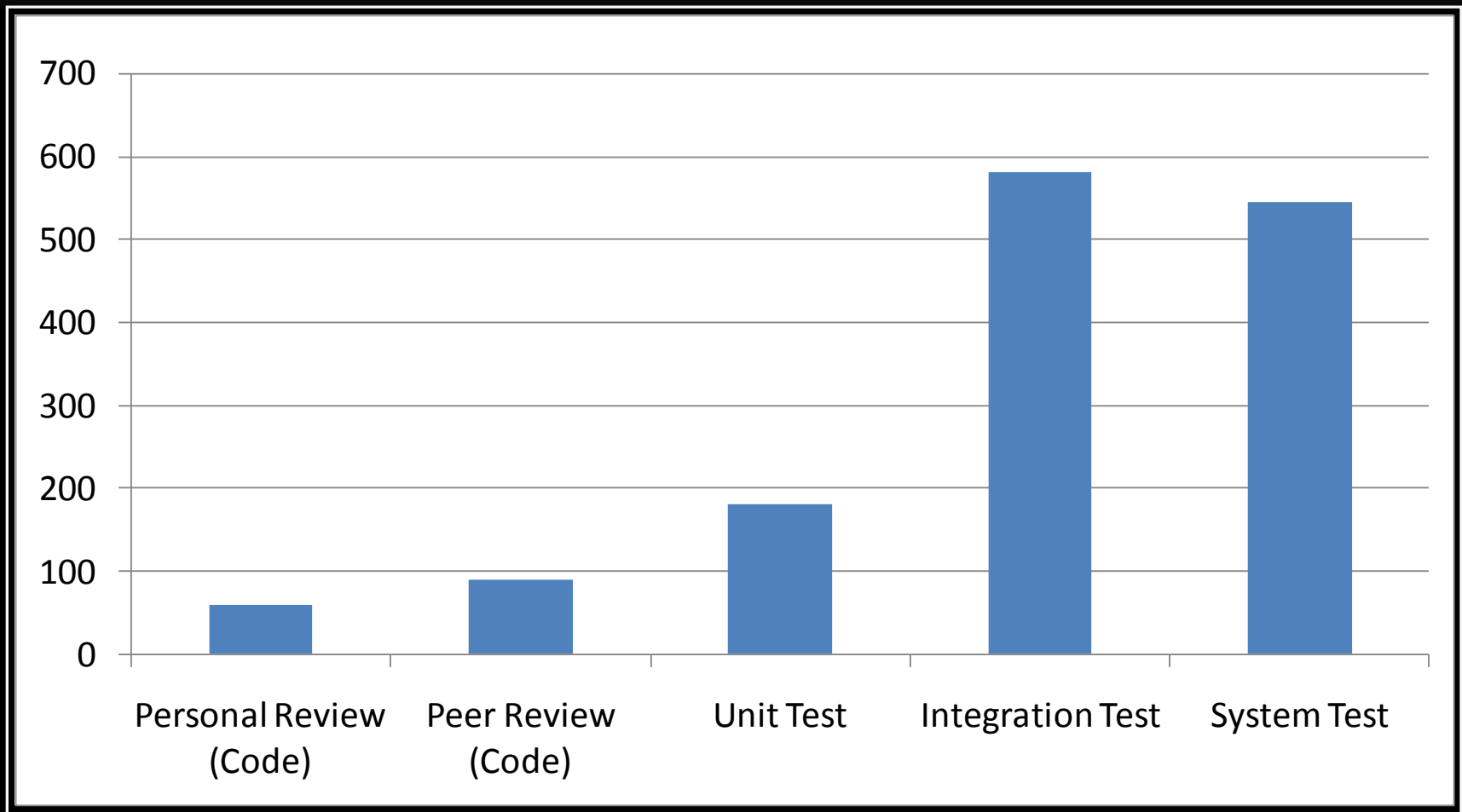
What's Important and How are We Doing?

Goal	Question	Industry (Typical)	World Class	Adobe (TSP teams)
Improved Customer Experience	How satisfied are your customers? (Net Promoter Score)	20%	70%	50%
Improved Productivity	% of dev effort spent testing/bug fixing?	50%	10%	10%
	% of defects found before system test?	10%	>90%	>90%
Increased Agility	Effort required to do a full test cycle?	Varies	Hours	Days
	Automated test code coverage level?	Varies	90%	90%

Sources: Caper Jones , *Applied Software Measurement*, 1996.; *Software Assessments, Benchmarks, and Best Practices*, 2000.

Sharing what's possible and rewarding/recognizing improvement drives progress

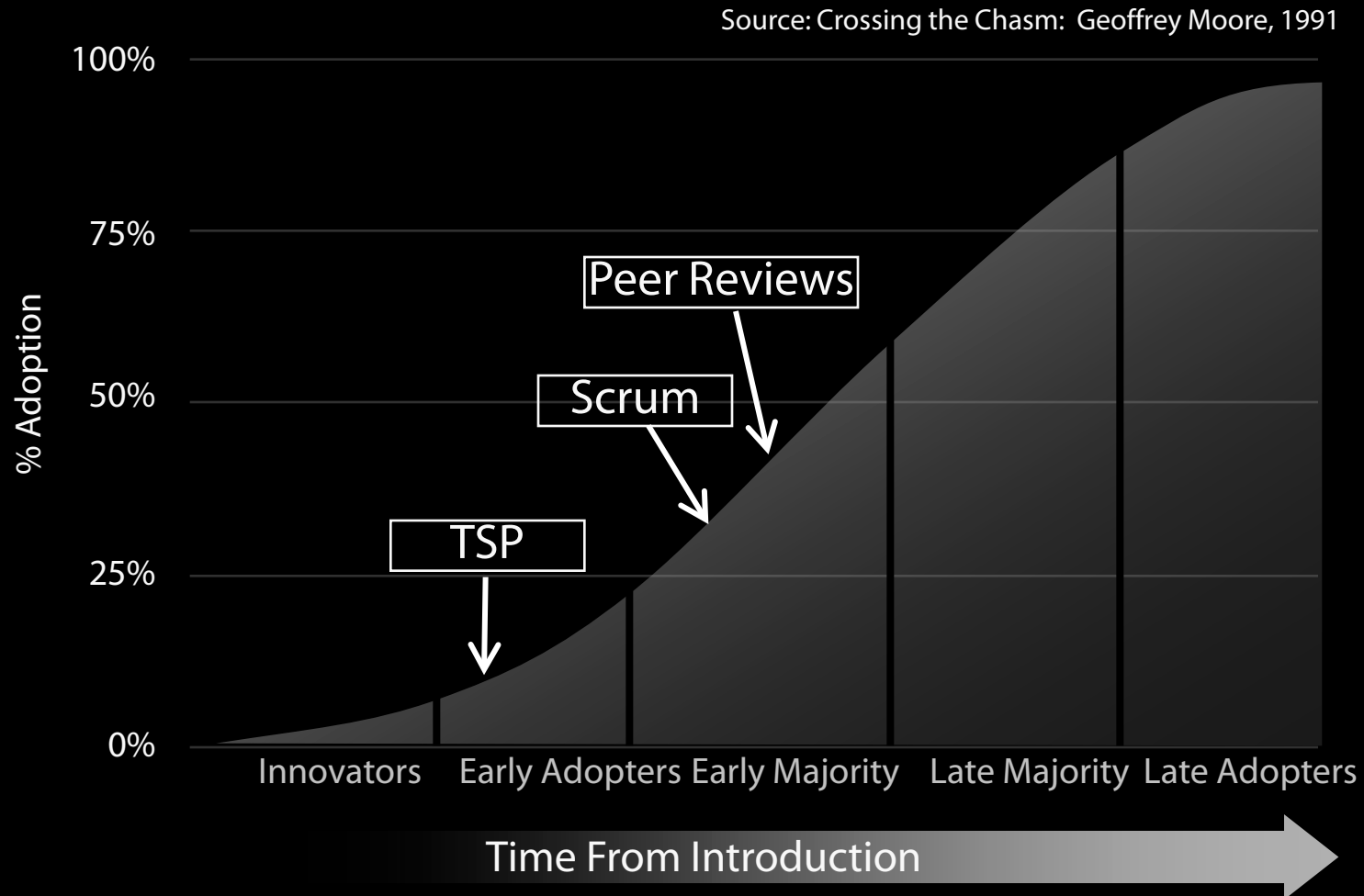
Minutes to Find and Resolve a Defect by Discovery Activity



Source: Six Adobe Projects using the Team Software Process

TSP Projects are showing what is possible to the larger organization

Best Practice Adoption at Adobe

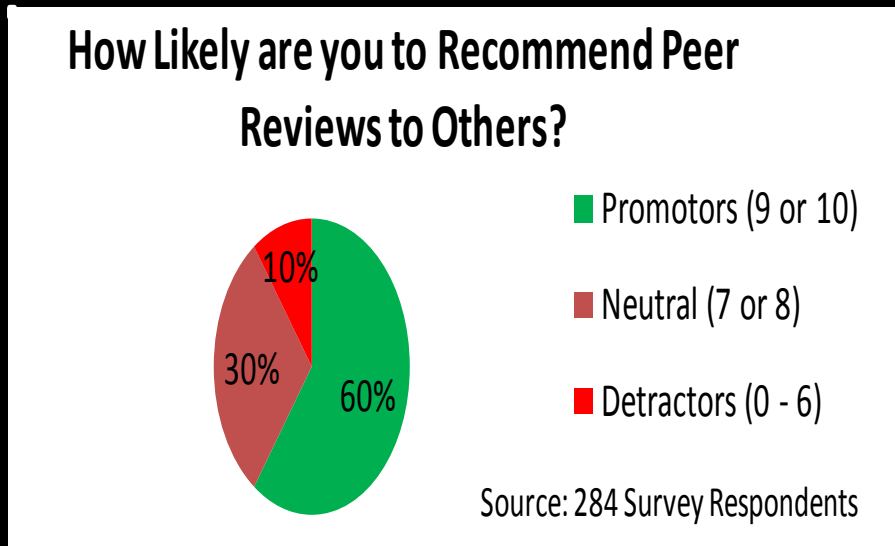
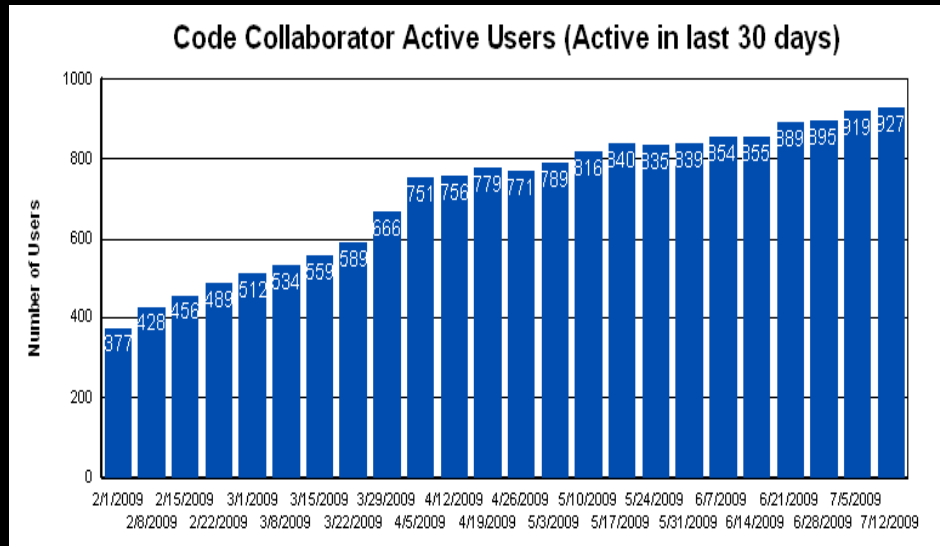


Adoption of best practices follow a traditional technology adoption curve

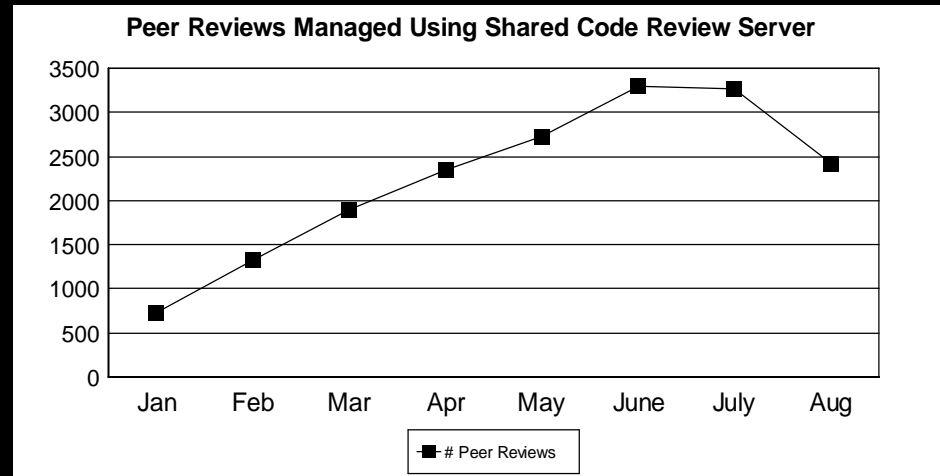
Peer Review Adoption at Adobe

Number of staff doing reviews is growing

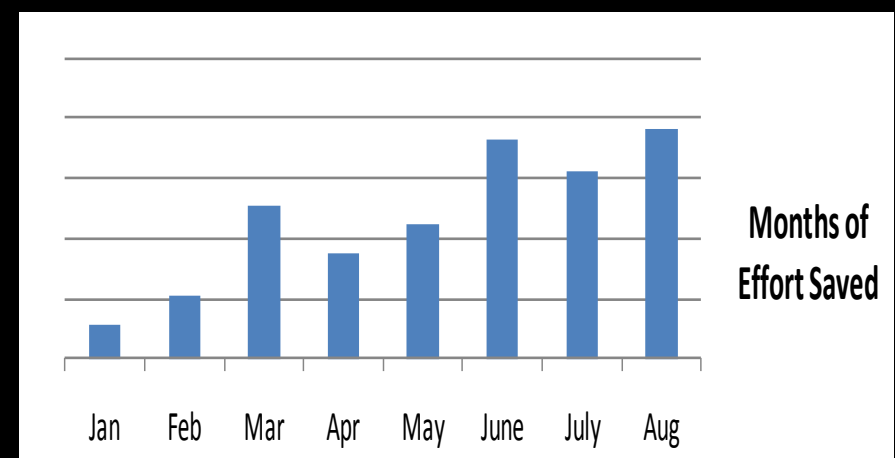
Enthusiasm for doing reviews is high



More Peer Reviews are being done



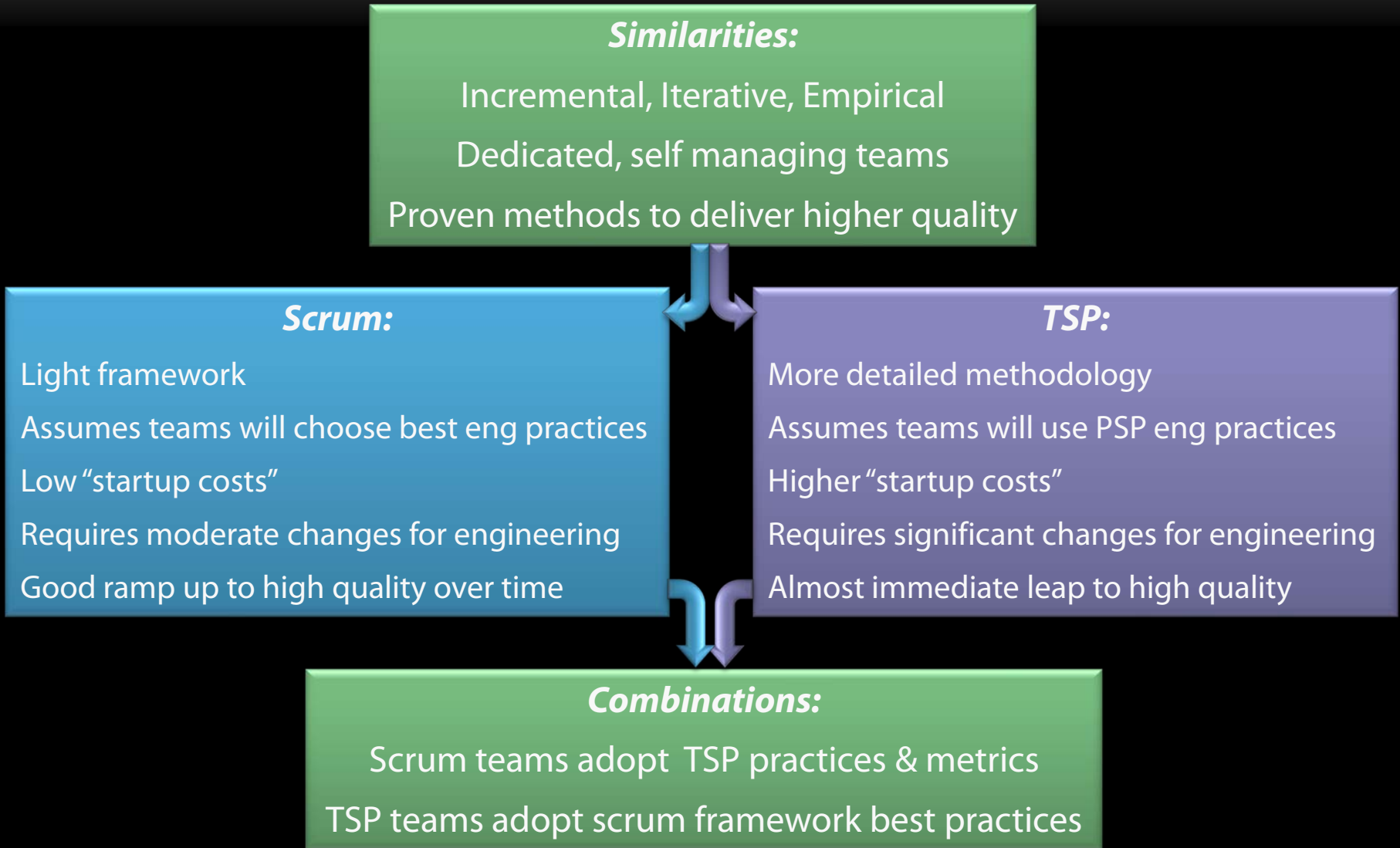
Peer Review effectiveness is increasing



Great progress... Adoption increasing while we improve effectiveness



Scrum & TSP can work together



TSP Rollout Strategy

- Ensure organizational leadership expects and requires delivery of software products with quality
- Use TSP to establish examples of excellence
- Only choose teams that are generally excited
- Ensure each project has a strong coach
- Use pilot teams as internal references and sources of champions/future coaches
- Build internal coaching capacity within each adopting organization

A viral adoption approach works best

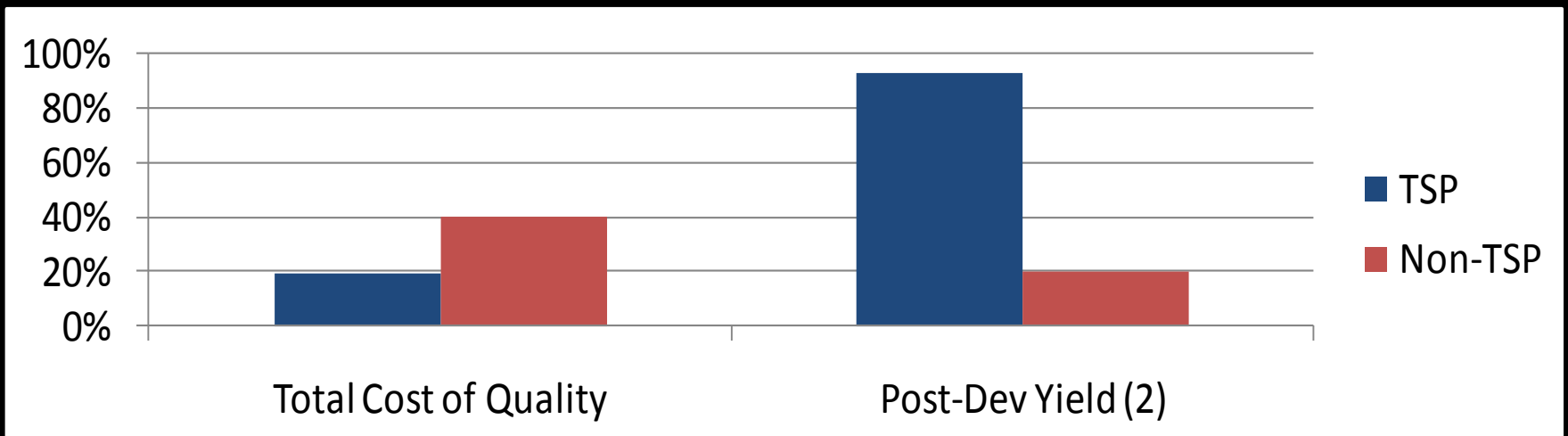
Team Software Process Adoption at Adobe

Since January 2008

- Featured in keynotes at Adobe Tech Summits in San Jose, California and Noida, India
- 325 executives, managers, developers, and team members trained
- Classes conducted in San Jose, San Francisco, Noida (India), Bangalore (India), Beijing (China), and Hamburg (Germany)
- 9 TSP projects underway, approximately 100 developers and quality engineers using TSP
- Many teams are broadly adopting engineering practices learned from their TSP training

The rate of TSP adoption is accelerating

Early Quality Results for our TSP Projects Are Impressive



Source: Quality Data for Six Adobe TSP Pilots

- Total Cost of Quality = Quality Activities (e.g. Peer Reviews, Unit Testing) + Effort for Defect Rework (System Testing + Bug Fixing)
- TSP teams average of 9% is four times less rework than typical
- Teams found 93% of all defects before integration and system test

Adoption of TSP is a great way for teams to improve both quality and productivity

Other Benefits realized by teams adopting TSP

- Teams are making plans they can fully commit to
- Teams are taking ownership of quality
- Decision making has been pushed to lowest possible level
- Teams plan, track, measure, and improve
- Measurement has encouraged other improvements
 - Improved design practices
 - Defect analysis to determine common causes and implement improvement methods
 - Better estimation methods
 - Automated unit tests (most teams are getting >80% statement coverage)
 - 100% of designs and code inspected

The Benefits have been more than improved quality

What you must do to Inspire, Enable and Drive Improvement

- Build an inspiring vision for the future
- Ask senior leadership to require measurably better quality with each release
- Use metrics to identify what is important and help the teams assess how they are doing
- Be an enabler of teams... be a coach, not a cop
- Broadly communicate the vision, plans and progress
- Share successes and recognize improvement

Acknowledgements

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Adobe