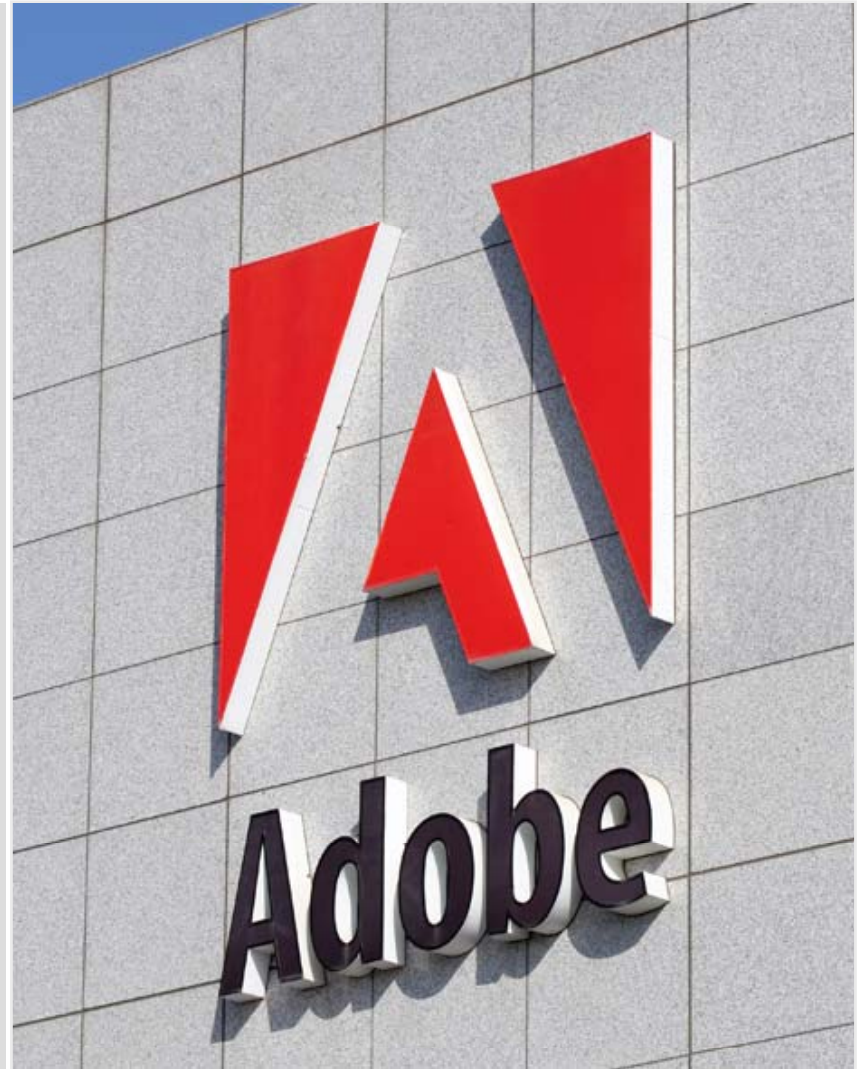


# Critical Success Factors for TSP<sup>SM</sup>/PSP<sup>SM</sup> Adoption in a Consumer Software Company

Jim Sartain, Senior Director  
Adobe Software Quality Engineering



# Acknowledgements

- Watts Humphrey (SEI) and Noopur Davis (Davis Systems) for the excellent training, consulting and coaching support that helped make the initial pilots successful.
- Bill Ihrie (SVP, Intuit Small Business Division Product Development) for his strong and unwavering support of the Intuit TSP initiative over these five years
- Eileen Fagan (Intuit) for guiding the Intuit TSP program during its formative years.
- Johnny Loiacono (Adobe) and the Creative Solutions Business Unit for their support of the Adobe TSP initiative.

# Agenda

- Background
- What is the Team Software Process - TSP<sup>SM</sup>?
- TSP Rollout Strategy and Journey
- Project Outcomes
- Critical Success Factors for Adoption

# My Background

- Senior Director, Software Quality Engineering at Adobe
- With Intuit for 7 years
- 17 years in software development at Hewlett-Packard
- M.S., Management of Technology, Walden University
- B.S., Computer Science and Psychology, University of Oregon



# TSP is a software process framework

- Works with many of the other tools in the toolbox
- Is a framework that enables/supports the use of engineering best practices.
- TSP teams are self-directed and define their own work process...and make changes as needed.

# What is TSP... and Not???

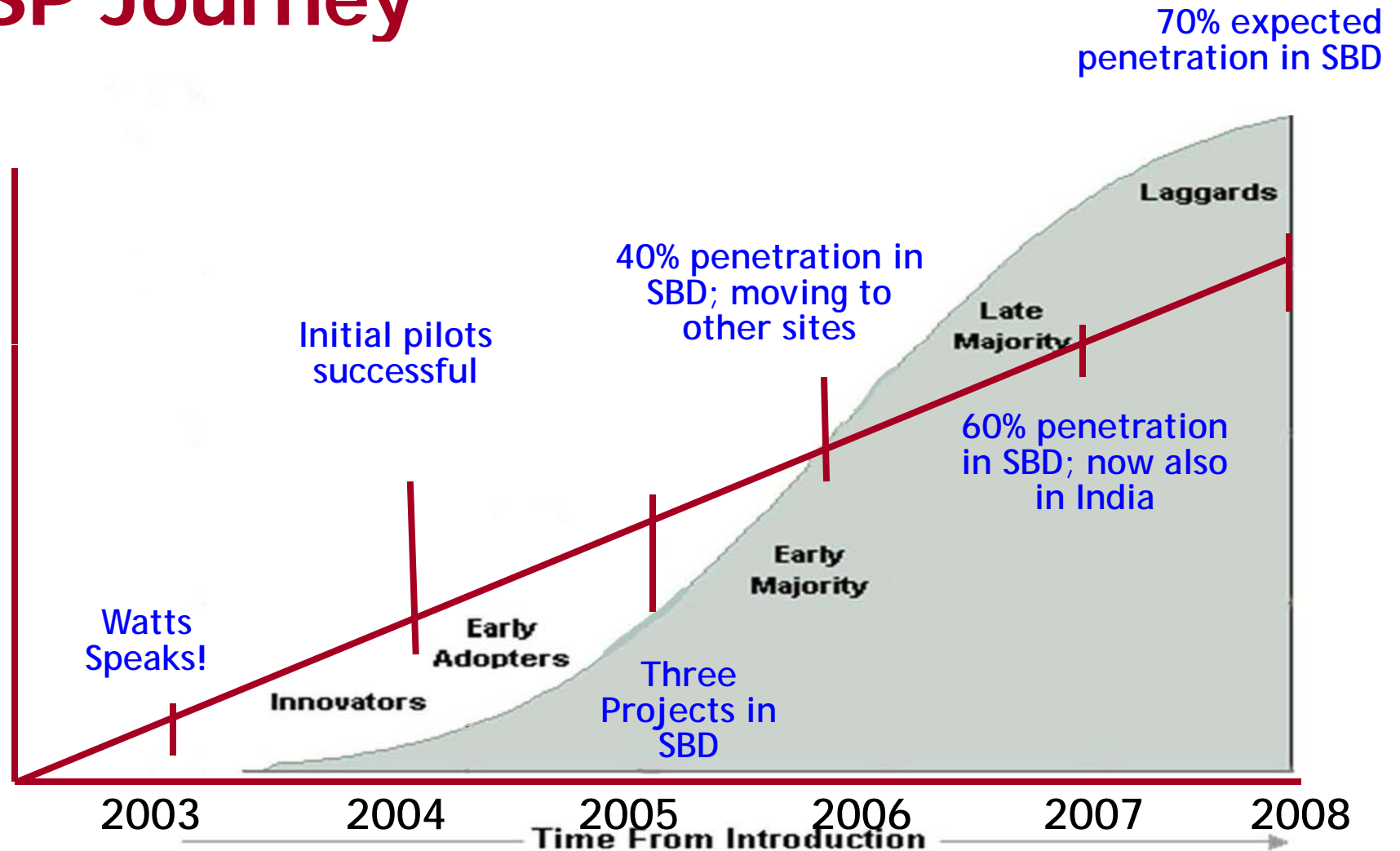
- It is NOT:

- a Silver Bullet solution
- a radically different approach to development
- a new programming language
- a way to invent more task time

- It is:

- a framework that allows detailed planning and tracking of project status
- a vehicle to collect “in process” metrics to provide insight and opportunities for improvement
- a team building approach
- a way to protect development steps needed to “build in” quality

# Intuit Small Business Division (SBD) TSP Journey



# TSP Rollout Strategy

- Ensure the leadership expects and requires delivery of software products with quality
- Identify pilot teams that are enthusiastic about using TSP
- Ensure each project is staffed for success with a strong coach
- Don't try to go too far, too fast. Any failed projects will make future ones more difficult
- Use pilot teams as internal references and sources of champions/future coaches
- Build internal coaching capacity within each adopting organization

**A viral adoption model will work best for most organizations**

# TSP Goals

**Improve software development productivity, quality, and project predictability by driving adoption of TSP**

## What's Important

**Productivity – Increasing product development throughput by reducing rework**

**Quality – Plan & practice early defect detection/ prevention**

**Scope – Deliver agreed upon scope on time**

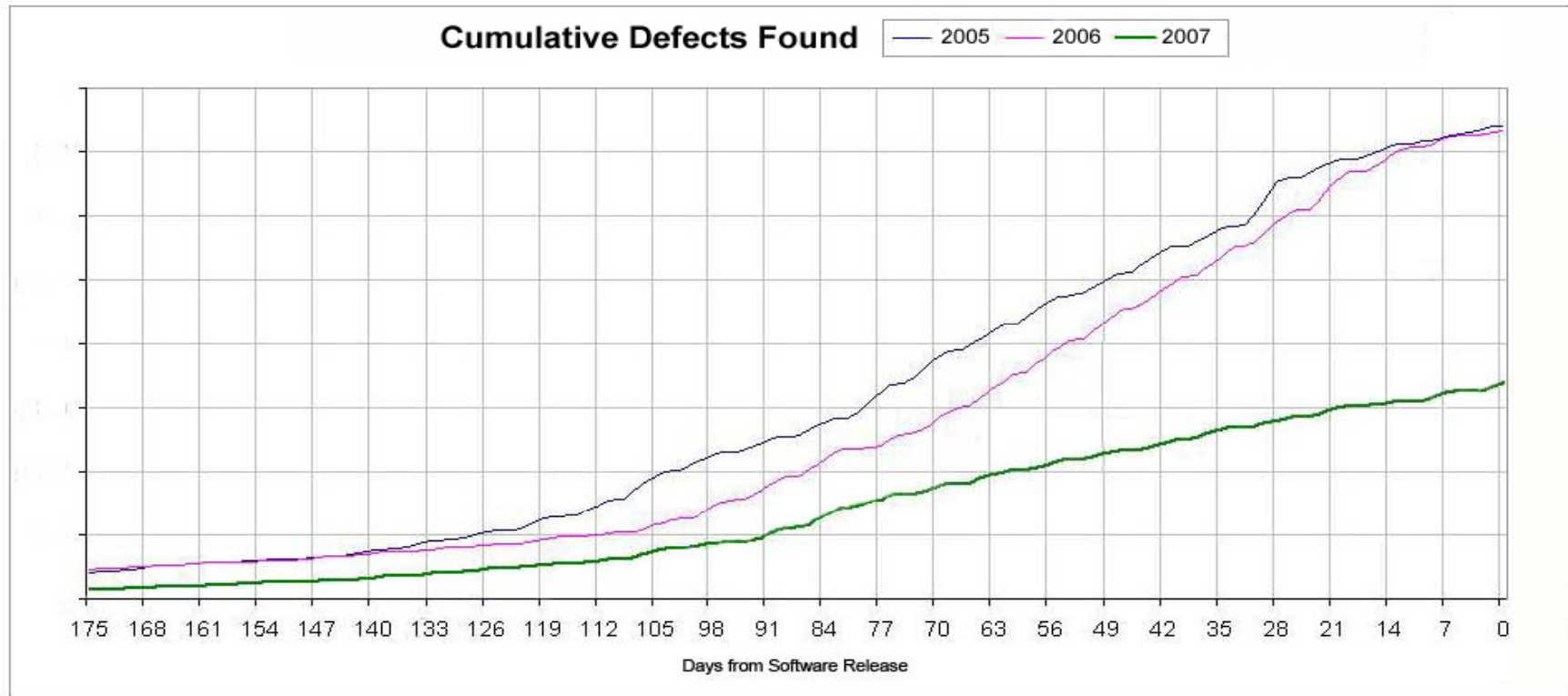
**Employee Engagement – Team leaders/members empowered and enabled to improve their own work processes**

# Results at Intuit: Productivity

- During 2007 over 60% of Intuit's Small Business Division used TSP
- TSP was a major contributor to the QuickBooks 2007 release
- It was the smoothest release anyone can remember:
  - On time delivery of all planned scope
  - 13 new features were added during the cycle(33% of initial scope)
  - Saved \$700K in temporary testing staff expenses
  - Level of automated testing coverage was doubled compared to previous year

**Focused improvements helped deliver a great release**

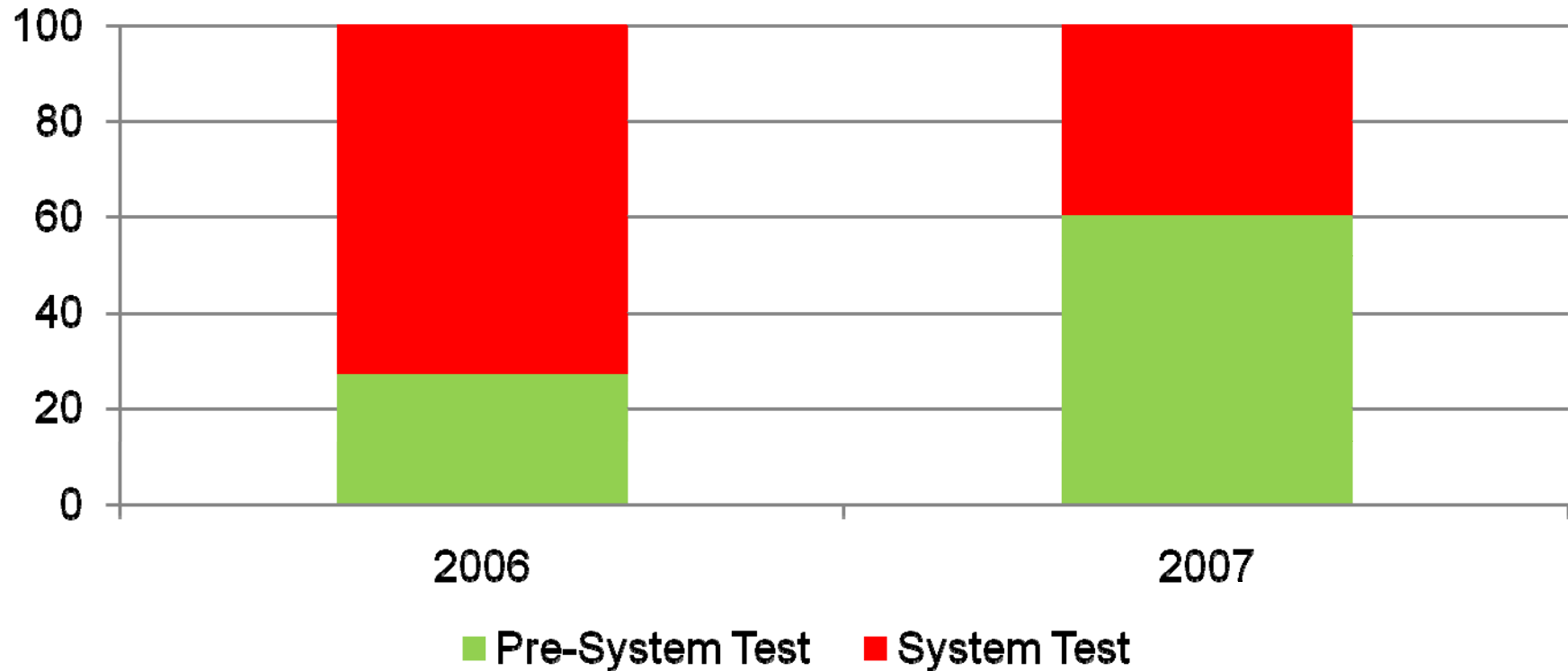
# Results at Intuit: Improved Quality



**In 2007 ~60% fewer defects were found  
in System Test than the previous two releases**

# Results at Intuit: Improved Efficiency

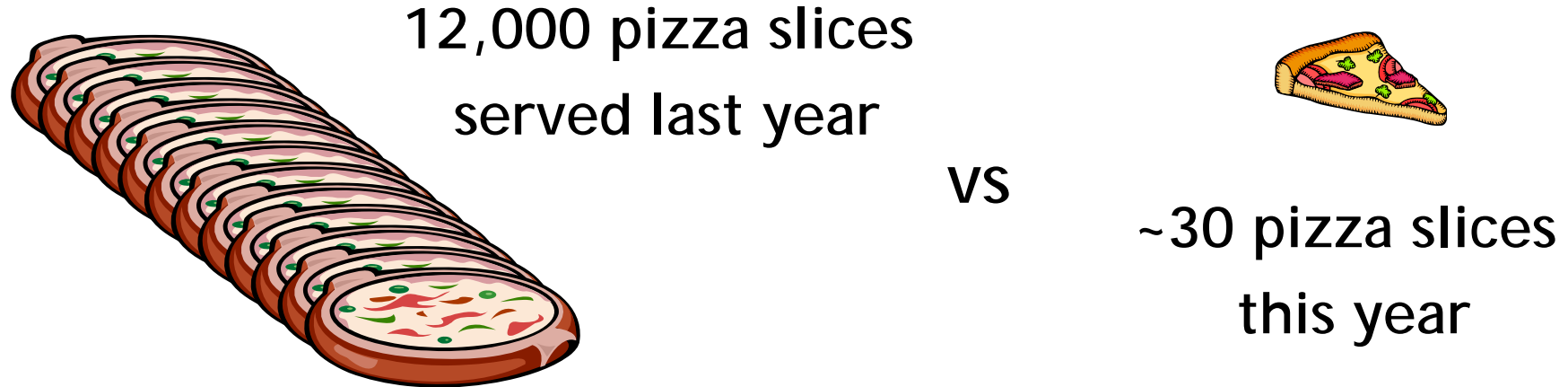
% of defects discovered by development phase



**In 2007 a higher percentage of defects (33% more) were found prior to System Test**

# Results at Intuit: Improved Work-Life Balance

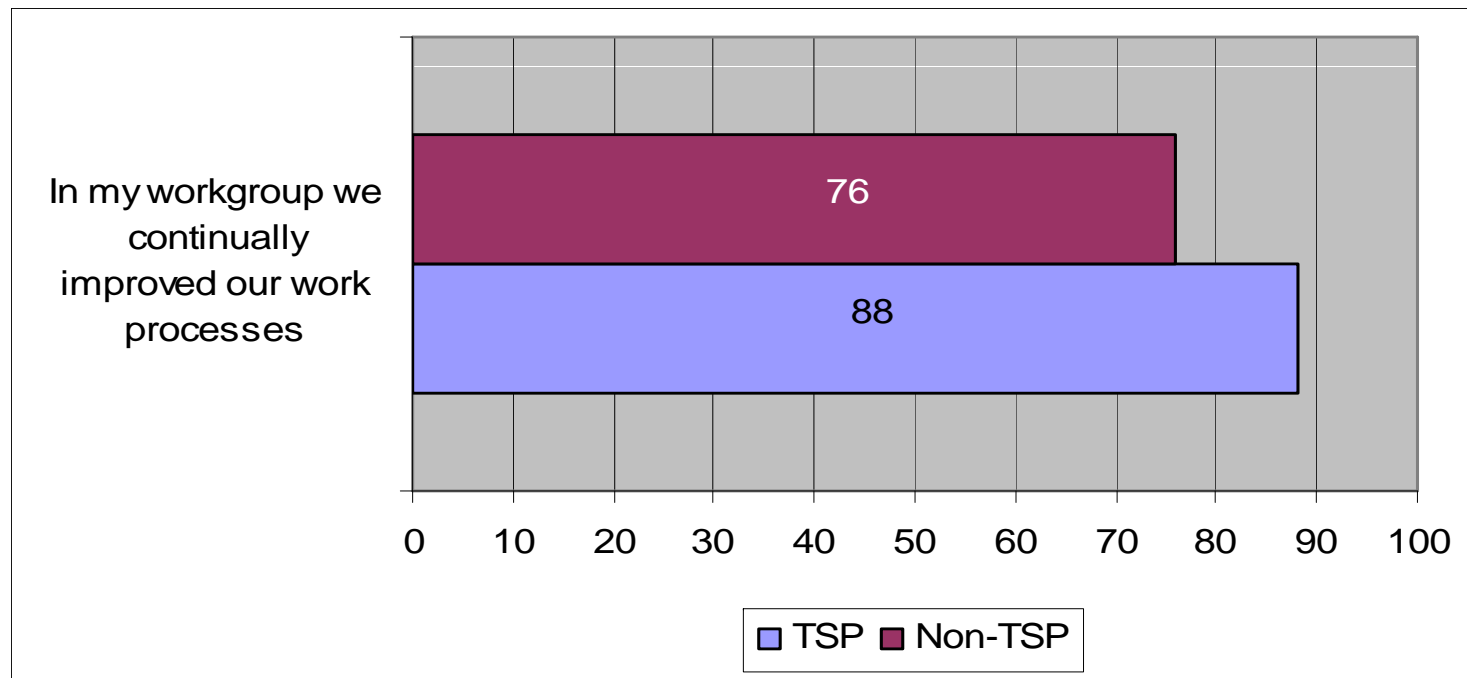
- Half as many weekend source check-ins (<3%)
- Reduced \$ on dinners as measured by PSS - "Pizza Slices Served"



**TSP helped improved employee work life balance**

# Results at Intuit: Employee Engagement: Annual Employee Survey Results

Confirming what we expect TSP to deliver, TSP teams responded more favorably to the annual survey question 'In my workgroup we continually improved our work processes.'



**TSP team members feel more empowered**

# Results at Intuit: Employee Engagement

Engineers take ownership for delivering quality software:

**The mindset shift: *"... defects must be prevented or found before system test"***

Engineers embrace project planning and tracking:

***"It provides solid ground for knowing what I can and cannot commit to."***

***"It makes sure we plan and do the key tasks such as design reviews that are essential to ensure quality."***

**This mindset shift has changed the engineering culture of the Intuit Small Business Division**

# Critical Success Factors

- Leadership Support
- Executive Support
- Coaching Support
- Training

## Leadership Support (First three Intuit TSP Projects)

	Level of Support for TSP Adoption		
Leadership Level	Project X	Project Y	Project Z
Senior Leader	Neutral	Neutral	Positive
Middle-Manager	Positive	Neutral	
Project Manager	Positive	Positive	Low
Team	Neutral	Positive	Low
Level of Project Success	High	Medium	Low

**Willing and effective participants, particularly project and middle-management support, key to successful adoption**

# Executive Support

TSP adoption received strong and unequivocal support from the CTO, CEO and company founder.

- In the 1st year TSP was funded from a Corporate budget. In the second and third year expenses were split between Corporate and the Business Units.
- Assigned a dedicated program manager and TSP coach to carefully select initial projects and shepherd their success.
- TSP was highlighted in the Intuit Senior Leadership Conference and Technology Forum keynotes.
- Two TSP champions received Corporate Innovation awards (2 of the 5 awards for 2006).

**Strong executive level support was crucial to our success**

# Coaching Support

Coaches Must:

1. Facilitate both project outcomes and process adoption.
2. Assess a team's progress on a "quality journey" and push the team as far as the team can go.
3. Have pragmatic judgment about when to be flexible vs. where to hold the line on PSP principles.
4. Work well with the project manager; their influence is best when it is not visible outside the team.
5. Spend significant 1-1 time with project participants, especially in the beginning of the project.

**Highly-effective coaching is crucial to project and TSP adoption success**

# Training

1. Need to ensure all team participants (engineers, non-engineers, and leaders) have appropriate training.
2. Provide customized PSP training to allow developers to get to a TSP launch faster.
3. As TSP becomes incorporated into how an organization works, it becomes possible to acquire more of the necessary learning from standard processes, operating mechanisms, tools and training

**A good training experience sets the stage for success**

# Questions?

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