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# Triumphs and Challenges of Using TSP/PSP at Intuit

TSP/PSP Users Symposium  
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PSP and TSP are service marks of Carnegie Mellon University.



# Topics to be Covered

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- § Background
- § A journey begins
- § How to deal with senior engineer resistance
- § Changing mindset in a resistant culture
- § Reinforcing management confidence and commitment
- § Building internal coach strength
- § Building infrastructure to support TSP/PSP on a broader scale
- § Integrating TSP/PSP with other development methodologies

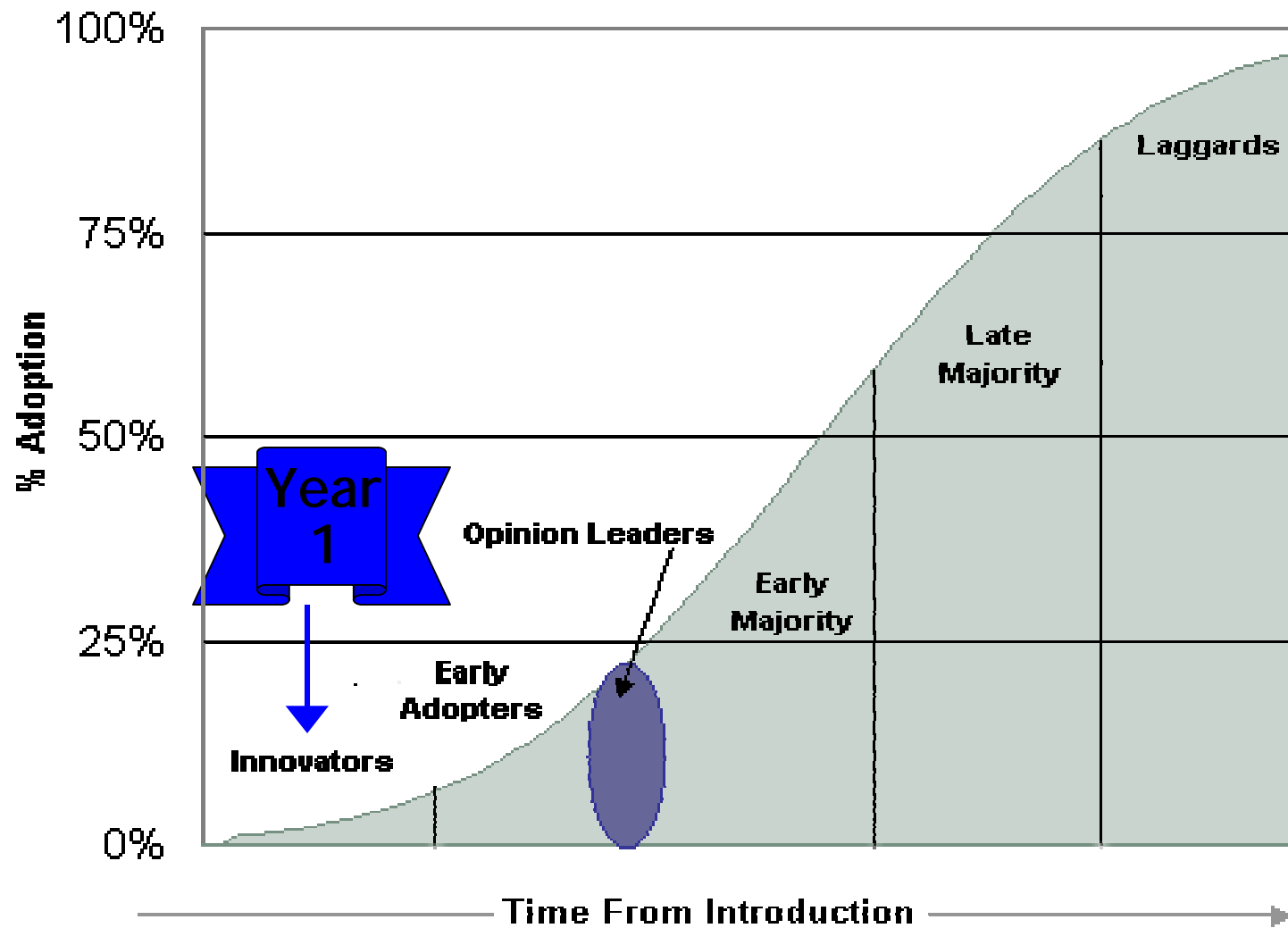
# Who is Intuit?

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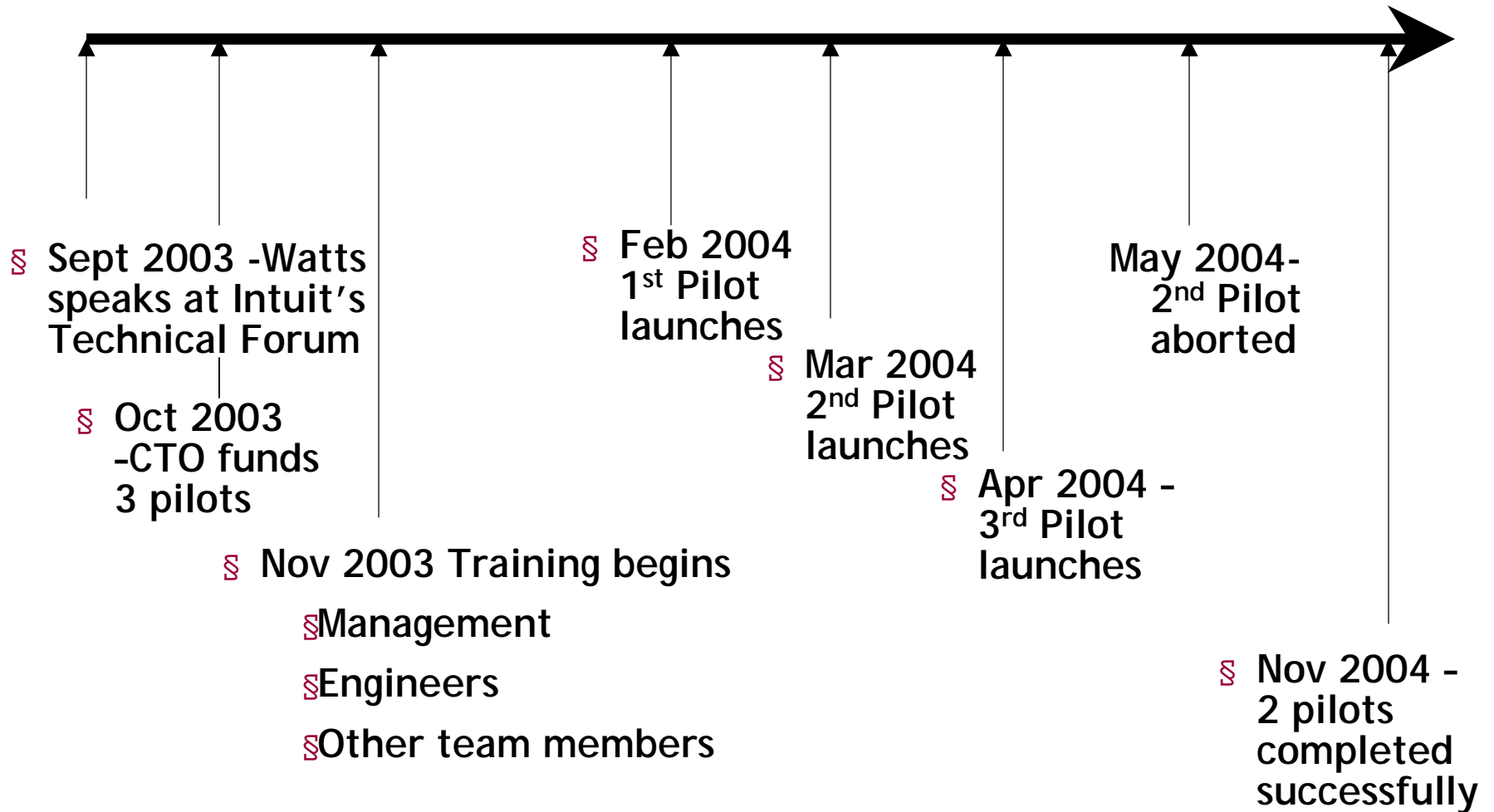
**Intuit's mission:  
Revolutionize People's Lives by Solving Important  
Problems**

- § Leading provider of business and financial management solutions for small and mid-sized businesses, consumers and accounting professionals
- § Makers of TurboTax, Quicken, and QuickBooks
- § 2006 Revenue of \$2.3 billion
- § Nearly 7,500 employees
- § Fortune™ magazine named Intuit one of the 100 Best Companies to Work for!

# Innovators Self Select as Pilots



# Our First Year



# A Successful Pilot was the Spring Board to Wider Adoption of TSP/PSP

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## Outcomes:

- § Engineers *doubled available time for developing features* by reducing rework and testing time to <10%
- § Reduced project risk by finding 86% of defects before System Testing even started

## Observations:

- § Team had a “let’s try it and see” attitude and was very disciplined in their execution
- § Their director was wholeheartedly supportive in full implementation
- § Lots of people were watching from the sidelines

**The productivity gain got the attention of senior executives!**

# Senior Management Attention

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- § The productivity gains of this team provided a lot of visibility for TSP
- § It got the attention of:
  - Division VP
  - Intuit CEO, Steve Bennett
  - Intuit founder, Scott Cook
- § **Management encouraged TSP usage**
  - TSP was used on the two most important projects of the next release
  - Limiting factor was coaching resources

**Change requires senior management support, but if the culture is resistant and the engineers do not want to follow their lead...tread carefully.**

# Everyone Feels the Pressure

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- § Scott and Steve had senior executives from all over the company wanting to do TSP NOW!
- § Steve wanted faster progress in rolling out TSP
- § Some engineers (and some managers) were feeling forced into doing this and were feeling stressed about it.

They rebelled against the training  
They were annoyed with anyone who said the word "TSP" or openly supported the process  
They feared the unknown...

**A "circle of wagons" of senior engineers appeared to fend off the TSP attack.**



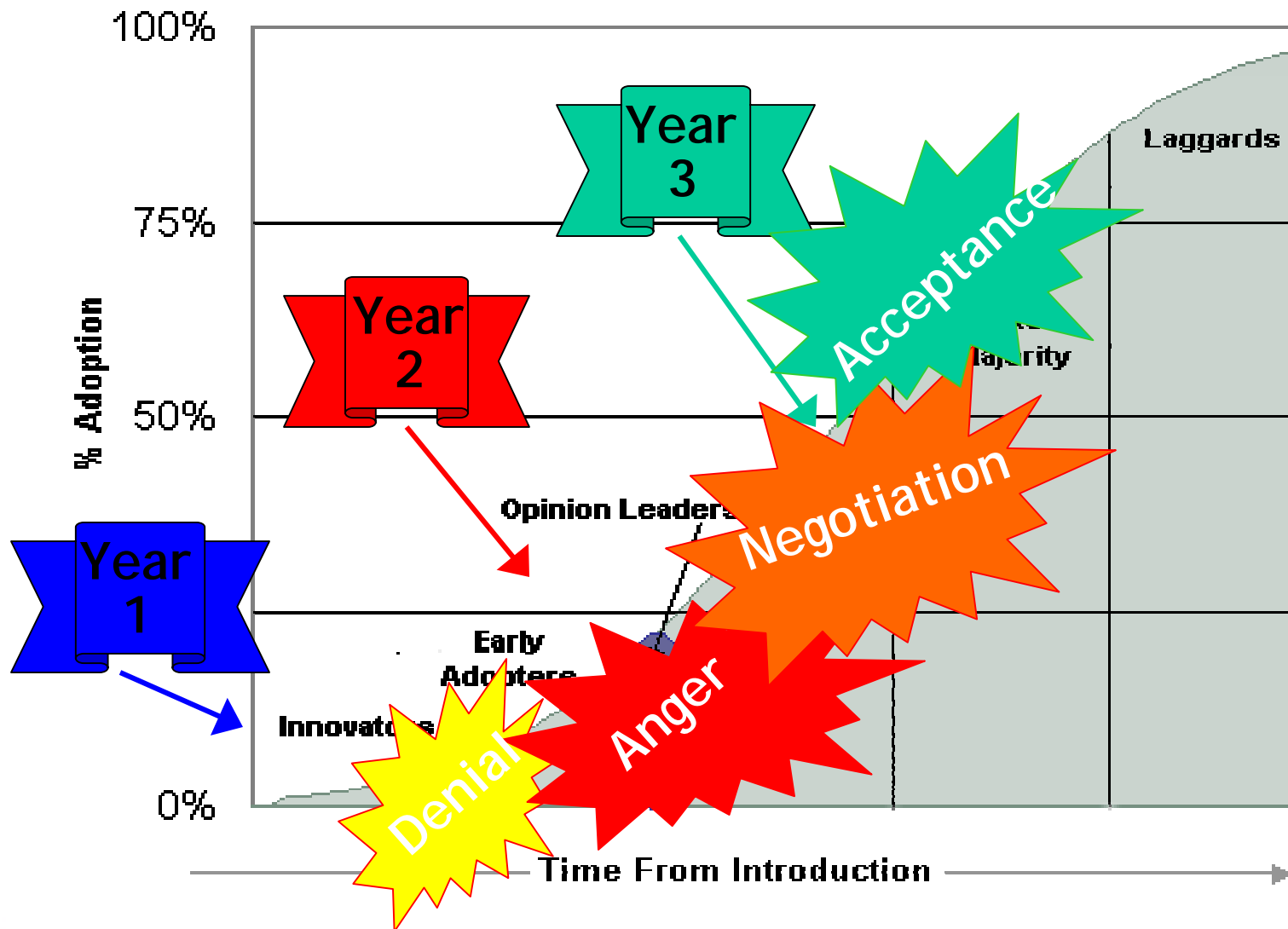
# Phases of Change

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- § Denial
- § Anger
- § Negotiation
- § Sadness
- § Acceptance

Different parts of the organization are in differing phases at various times; probably correlates with technology adoption curve.

# TSP and the Technology Adoption Curve – How the Rest of the Org is Reacting



# TSP/PSP Support Infrastructure

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## § Training

All team members and management trained

## § Coaches

External  
Support/direction during launch  
Weekly meeting support  
Coaching "as needed"

## § Tool

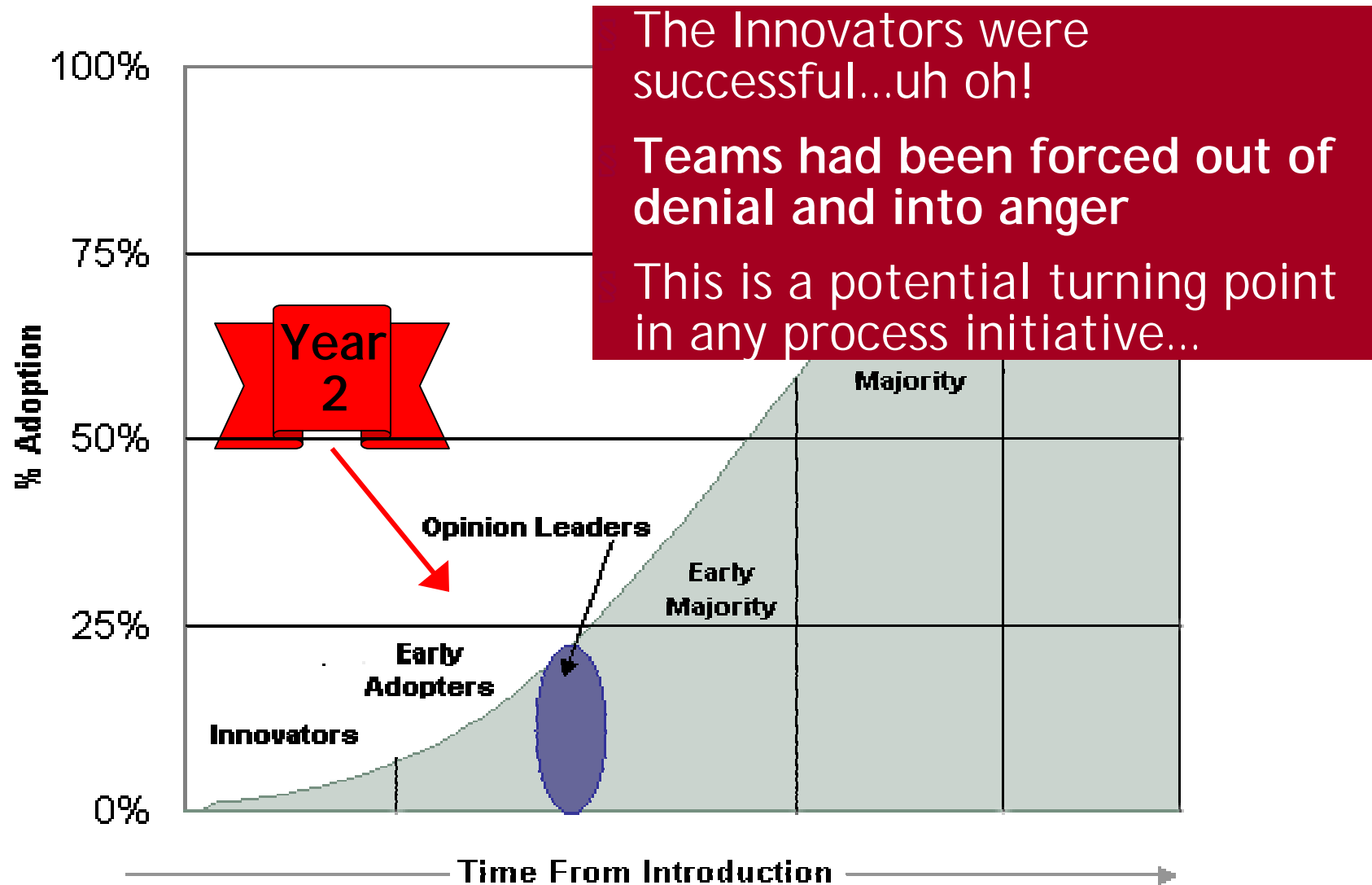
SEI tool  
Absolutely necessary for data collection  
Does not reflect or enhance flexibility of process

## § Corporate/SEPG Support/Senior Management Support

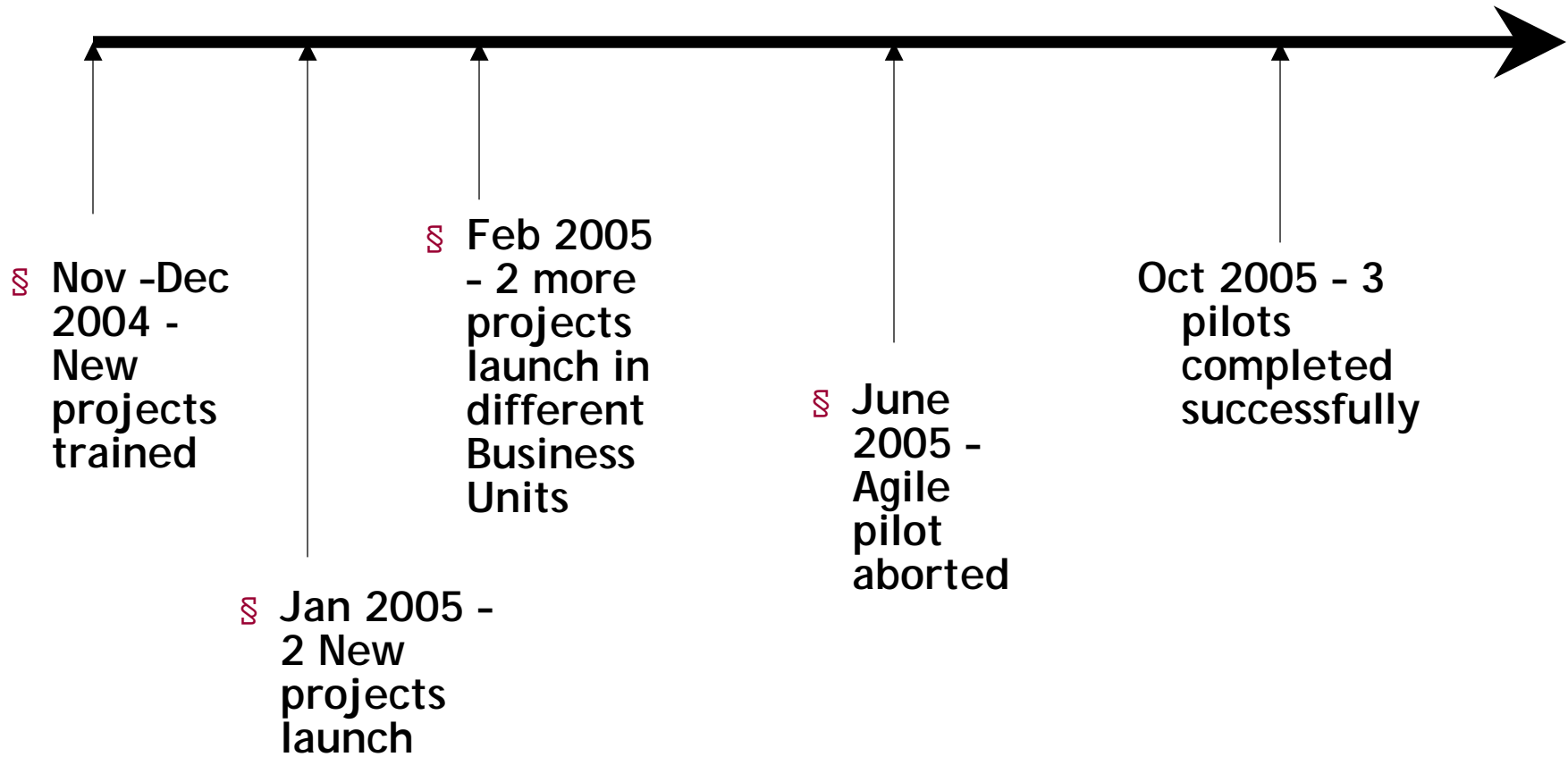
Funded training and pilots  
Observed/monitored pilot progress  
Internal "TSP Users Group"  
Monthly status meetings with senior managers

**Teams need a lot of support to cope with the changes.**

# Early Adopters



# Our Second Year

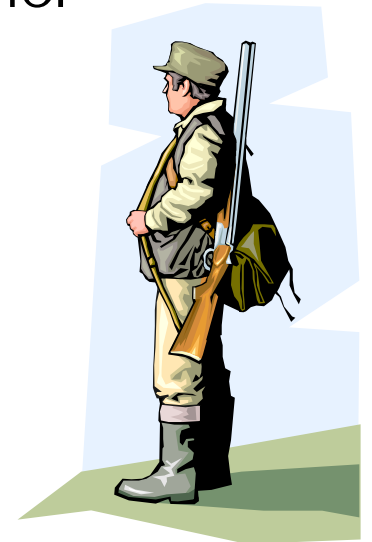


# Two New Pilots are Chosen

- § We had a “volunteers only” policy
- § The two most important projects of the QuickBooks release that year were “volunteered” as TSP projects *by their Directors*
- § Many senior members were not happy
  - One of the teams was divided between former pilot members and the new disbelievers



- § During the launch, tensions were high
- § After the launch, there was one cohesive team



Real difference came from the courage of two directors and a handful of engineers who had the courage to push forward.

## 2 Large Pilots Succeed Again

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### § Projects were both very successful!

One had zero defects in several components

Both were very high quality

Project managers loved the tracking mechanisms

No surprises in the release

All scope delivered on time

### § Both features called out in *PC World* as very successful- "some of the most significant upgrades to Intuit's small-business accounting software that we've seen in years"

### § The team worked well together and resolved issues

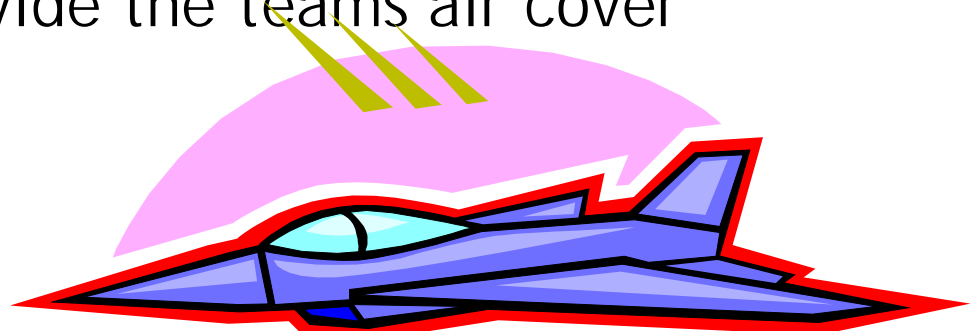
### § Both teams enthusiastically did postmortems and came up with lots of PIPs

### § Most of Intuit's first generation of coaches came from these pilot teams.

# But, It's Hard to be an Early Adopter

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- § Internally, these teams were under constant scrutiny during development
  - Lots of “why isn't there any code?” questions
  - Lots of watching over their shoulders
- § Their response was to “duck and cover”
  - Not talk about their TSP experience, even though the results were so impressive!
  - Our role was to provide the teams air cover



The engineers had high anxiety over sharing their data and talking about TSP...much of the organization still had a wait and see attitude.



# Tough Choices to be Made

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- § Some teams would not share data with the rest of the organization, even though the results were fantastic

Fear that lack of knowledge and context would cause misinterpretation of the data

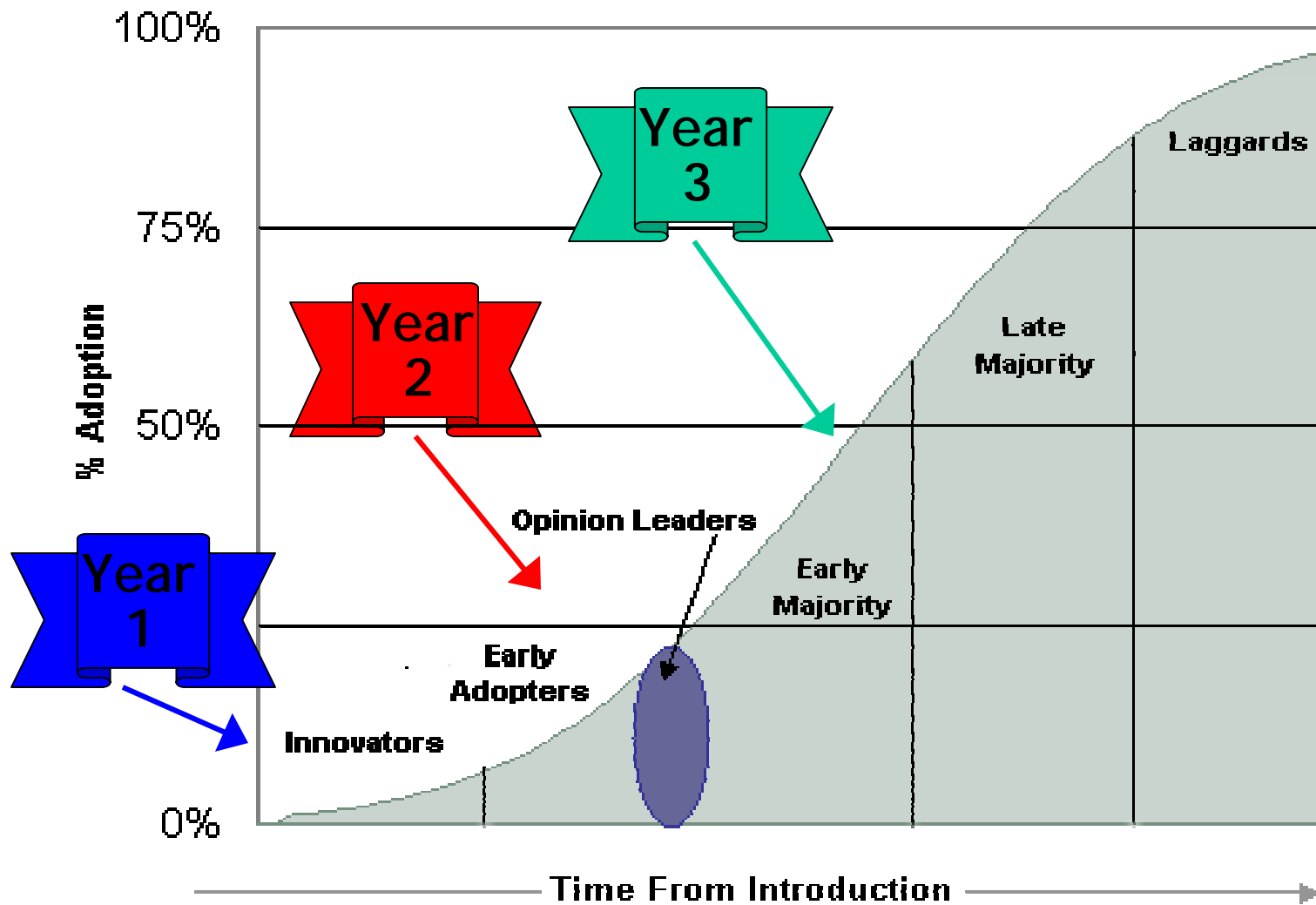
Preferred to stay under the radar

*Forcing them to share would have resulted in a lack of trust*

- § We supported the teams perceived need for privacy of their data.
- § When the engineers felt safe, they started to own the TSP...and began to trust us.

**Sometimes optimizing for the long term means not optimizing for the short term.**

# TSP and the Technology Adoption Curve



# Our Third and Current Year

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- § TSP is being used widely at three Intuit sites in the U.S.

Two of the three sites have decided to adopt TSP across the board.

- § Over 40% of our largest Business Unit is using TSP and expanding.

- § Projects are also underway in some of our sites outside the U.S.

- § Training has been modified and is more widely accepted: **Basics and Advanced courses**

Only for organizations that are already using TSP  
New locations or organizations must start with the two-week standard PSP course

- § Some teams are threatening to stop TSP use without a new tool

# TSP Takes on a Life of its Own

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- § 8 Coaches trained! And more to come...
- § They began ways of improving the tools, launches, development practices, inspections and reviews
  - 2 out of 5 "2006 Scott Cook Innovation Awards" were awarded to TSP efforts*
- § Asking for SEPG support to improve their development processes!
- § Teams now schedule their own launches, coordinate coaches, etc.
- § SEPG role changed
  - Air cover is needed less
  - Improved training and tools are a high priority
  - Coordinating with wider organization
  - Driving wider adoption and working with other functional areas

**40% of a major business unit is using TSP; will grow in 2007**

# Ongoing Issues

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- § **Tool - Not providing better tool support continues to undermine adoption and use of the process**
- § **Training - What level of training is sufficient but not painful...especially as we move up the technology adoption curve**
- § **Coaching resources are still a constraint**
  - Model for observation is not scaleable - will inhibit growth or cause us not to get coaches observed.
  - Master/apprentice coach model should be supported.
  - Coach training should be offered more often.
- § **Best resources are all in this room - we need to share more than once a year! And not just our successes, but our struggles**
  - Wiki?
- § **Blending with new technologies like Agile**
- § **Still do not have comparable data from non-TSP teams to demonstrate improvements**

# I SP Represents “Acceptance”

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- § Teams want to own the TSP to the degree that it becomes the “Intuit Software Process”
  - What does this mean to the identity of the TSP?
- § True adoption requires feeling ownership of the process
- § Teams are broadening the TSP usage:
  - TSP for Requirements Gathering/Product Planning
  - Blending TSP and Agile
- § Some teams have created their own tools and add-ons

**Not allowing teams to own their own processes will ultimately thwart adoption.**

# Do's and Don'ts of TSP Rollout

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- § DO have great coaching and training support!
- § DO have a lead coach and the SEPG/Champion meet regularly and coordinate efforts.
- § DO ensure senior management support is there - sometimes with a little pushing behind it.
- § DO have an understanding of organizational dynamics and change management.
- § DON'T be perceived to be inflexible.
- § DO try to work with new technologies and look for the positive elements to incorporate.
- § DON'T push an engineer into a corner.
- § DON'T start pilots without understanding the organizational dynamics.
- § DON'T forget what you are solving for.

# Summary

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- § Overall, it has been a very successful journey in adopting and using the TSP!
- § We have faced and conquered challenges...but will face new and different ones in the future.
- § Our goal is to continue to stay true to the TSP process and principles while allowing for adaptation and ownership of the process at Intuit.



# Contact Information

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