



[Session M3]
**PEOPLE + PROCESS = ROI! - THE BENEFITS OF IMPROVED
SOFTWARE OPERATIONS**

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People + Process = ROI!

The Benefits of Improved Software Development Operations

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ROI Is in Fashion

"We are pleased to extend our alliance with Company X to help customers further drive ROI throughout the IT environment"



“We Are Pleased to Extend Our Alliance With Company X to Help Customers Further Drive ROI Throughout the IT Environment”

- **What** does this mean?
- **How** is the ROI achieved?
- **Why** does this generate the expected ROI?
- **When** will this ROI be of any significance?

What Is ROI?

ROI = Relatively Obscure Idea...

$$\text{ROI} = (\text{Benefit} - \text{Cost}) / \text{Cost}$$

Under what conditions can significant ROI be achieved?

Motivation For Improvement

	1994	1996	1998	2000
Succeeded	16%	27%	26%	28%
Failed	31%	40%	28%	23%
Challenged	53%	33%	46%	49%

www.standishgroup.com/chaos.html



Succeeded: The project completed on time and on budget with all features and functions originally specified.

Failed: The project is cancelled before completion or is never implemented.

Challenged: The project is complete and operational, but over budget and over time estimates and with fewer functions and features than originally specified.

Motivation For Improvement

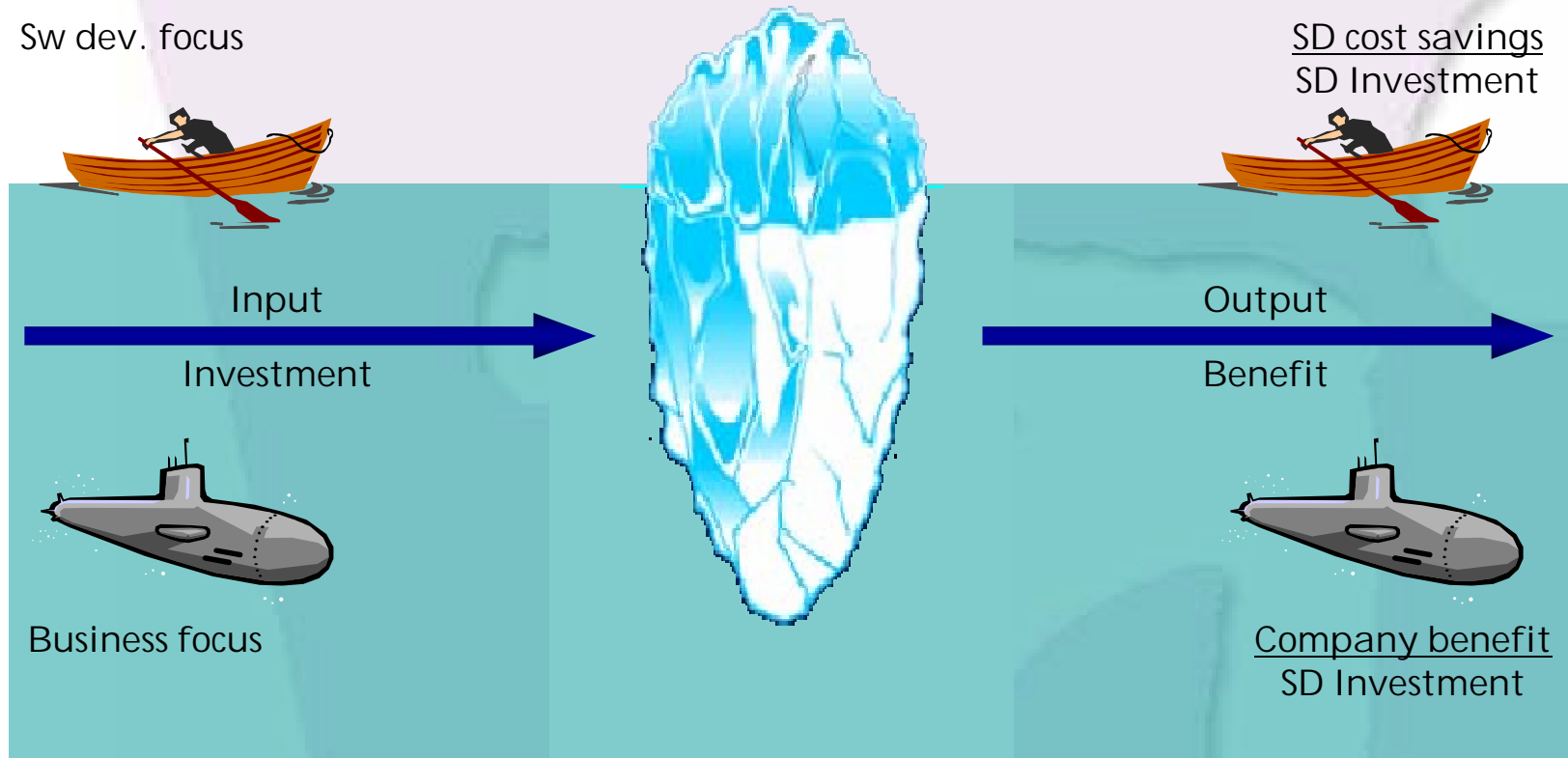
- The average software project experiences:
 - 63% schedule overrun
 - 45% cost overrun
 - 33% functionality reduction
- Typical Symptoms:
 - Conflict/misunderstanding of desired product functionality
 - Too many high criticality defects discovered by customers
 - Inability to stabilize development code
 - Unrepeatable build and deployment
 - Inaccurate software project estimates (or lack of them entirely)

Where Is The ROI? – Myths

- ROI is only about controlling costs
- ROI is only relevant as an up front cost justification
- Tools inevitably create positive ROI
- Process models like CMM and CMMI have guaranteed ROI
- Process improvement has a defined end point

Reality

ROI at the Corporate Level



Realizing the ROI



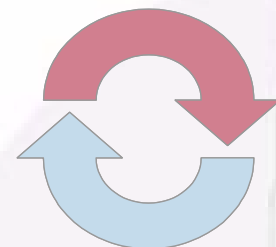
Successful solutions are aligned with core business goals...

People + Process = ROI!

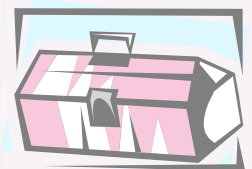
Successful solutions integrate processes, tools and trained staff



People



Process



Tools

Align With Business Goals

Business Goals

Accelerate Time to Market

Increase Feature Set

Reduce Maintenance Cost

Increase Customer Sat

Increase Product Life

Increase Staff Utility



Impr. Targets

Productivity

Productivity

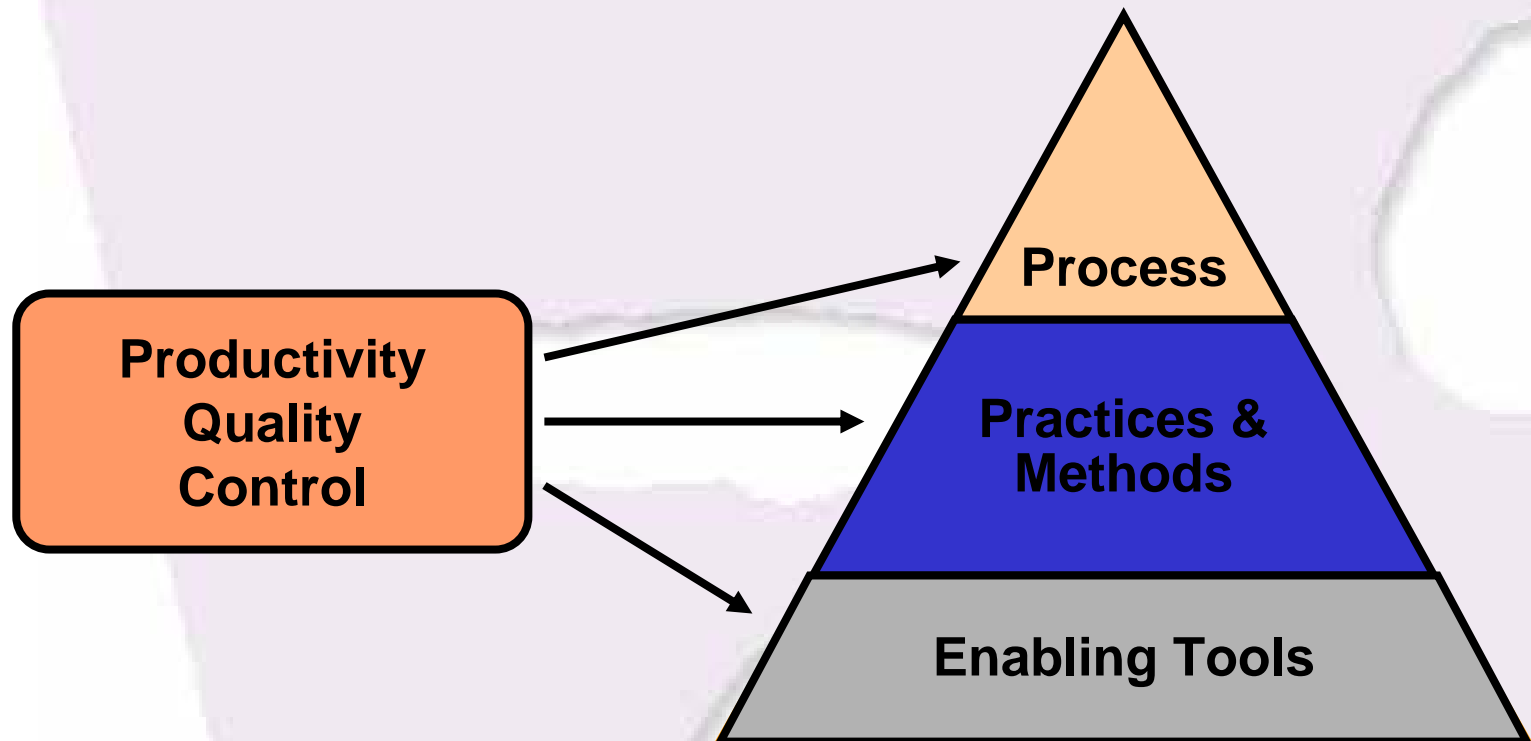
Quality

Quality

Architecture

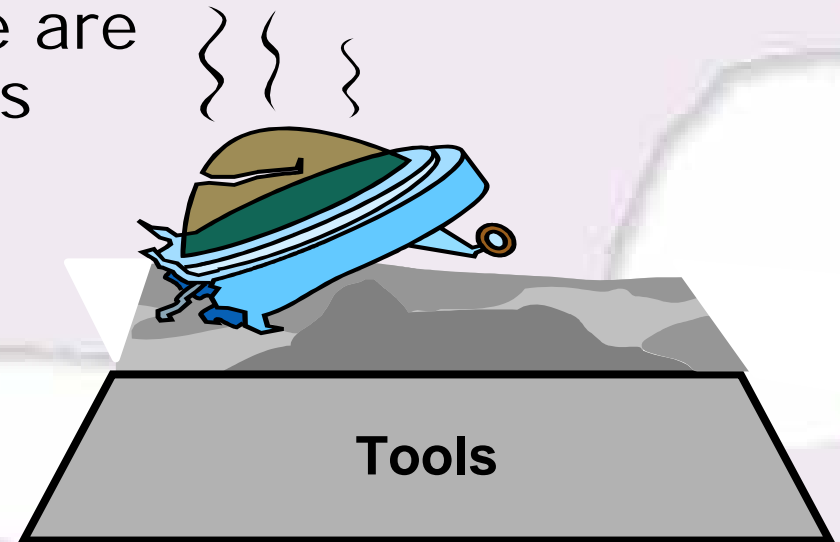
Training, Process

Process & Practices



Enabling Tools

- Unfortunately there are no silver bullet tools



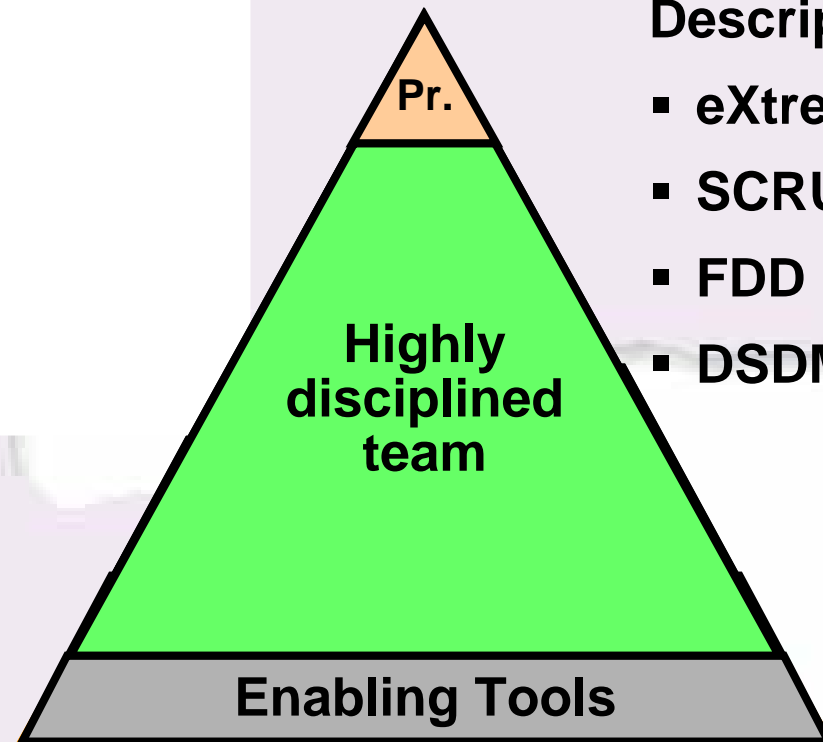
- Tools are best used to increase the efficiency and consistency of processes through automation and enforcement of business rules

People Bridge The Gap

- The success of your processes depends on the ability of your team to perform them:
 - Management commitment to stay the course
 - Familiarity with new or improved processes
 - Knowledge and experience in new or improved practices
- Training, coaching and management support are key



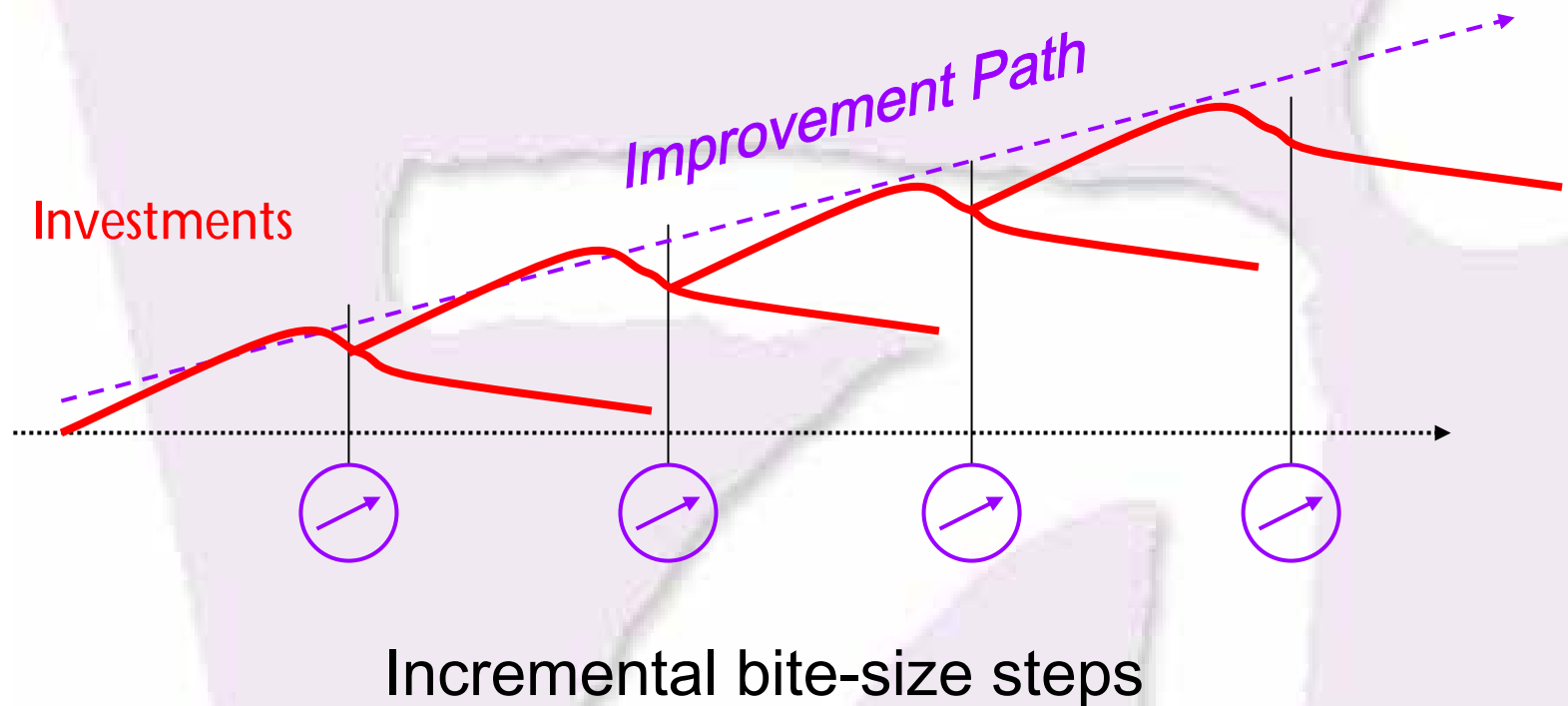
A Spectrum of Process Solutions



Descriptive processes:

- eXtreme Programming
- SCRUM
- FDD
- DSDM

Incremental Improvement



Demonstrating The ROI

**Do you have current measurements
you can use to compare with future
improvements?**

Cost/Benefit Measures

Cost Measures

- Improvement effort
- Tool costs
- External consultants
- Training costs

Scope Measures

- Reqt's, Use Cases
- SLOC, FP, UI features
- Defects

Benefit Measures

- Increased revenue
- Customer satisfaction
- Reduction in cycle time
- Development cost/schedule reduction
- Reduced maintenance cost
- Lower staff turn-over
- Higher predictability

High Impact Areas Of Leverage

- Here are some examples:
 - Requirements
 - Configuration and Change Management
 - Testing and quality assurance



What's Possible? Requirements

- Motivation
 - Planting the right seeds for whole development effort
 - Development AND testing depend on it
 - Outsourcing depends critically on tight requirements
- Methods and Tools
 - Professional requirements capture and definition (Process)
 - Peer review (QA practice)
 - Requirements management tools
 - Change management tools

What's Possible? - Requirements

Consulting & Customer Effort:	\$60k
Productivity Improvement:	144%
6 Months Benefit: (15 Team Members)	\$648k

$$\frac{\text{Benefit} - \text{Cost}}{\text{Cost}} = \frac{\$648\text{k} - \$60\text{k}}{\$60\text{k}} = 9.8 \text{ (ROI)}$$

What's Possible?

Quality

- Motivation
 - Consistent, effective, repeatable testing process
 - Cycle time reduction through early test involvement
 - Test automation to increase test productivity
 - Disciplined defect tracking and change management
- Methods and Tools
 - Professional test process, test plans, test scripts
 - Test automation tools
 - Defect tracking data base tied into change tracking, CM
 - Quality criteria incorporated into software release decision-making

What's Possible - Quality

Consulting & Training Effort: \$200k

Customer Effort: \$415K

Business Productivity Improvement: 25%

12 Months Benefit: \$2.1M

(175 business staff)

$$\frac{\text{Benefit} - \text{Cost}}{\text{Cost}} = \frac{2.1\text{M} - 415\text{K}}{415\text{K}} = 4.06 \text{ (ROI)}$$

What's Possible?

Configuration & Change Management

- Motivation
 - Tracking issues and changes
 - Ability to roll back to stable states
 - Maintaining multiple versions
- Methods and Tools
 - Professional change management process
 - Change control board
 - Change management tools

What's Possible

Configuration & Change Management

License, Consulting & Staff Costs:	\$600K
3 Year Benefit:	\$12.1M

$$\frac{\text{Benefit} - \text{Cost}}{\text{Cost}} = \frac{12.1 - 0.6}{0.6} = 19.2 \text{ (ROI)}$$

Summary

- Significant ROI is possible in improving in our software processes
- Highest ROI derives from a focus on business benefits rather than cost controls
- Align improvement strategies and ROI targets with business goals, and select techniques acceptable to your culture
- Make sure to have sound process before introducing new tools.
- Plan improvements in small increments and measure (input, output) to demonstrate ROI
- Look to high leverage areas (e.g. requirements, change mgmt & CM, testing)

The Big Picture

Improving software operations is not only about cutting costs:

- added value to the business
- increased competitiveness
- increased market share
- reduced maintenance/operations costs
- keeping up with other parts of the business



But be patient – don't expect instant results in Q1.