

2014 Lean Transformation Conference

October 21, 2014



Continuously Improving Technology Development & Delivery

Using the Improvement Kata



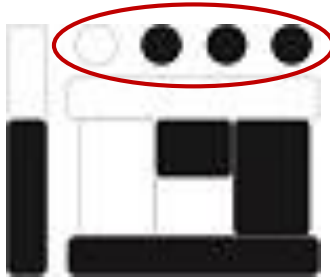
About Me



- 20 years delivering technology solutions
- Founded SoTech in 2008
- Help leaders learn and improve
- Long-term focus on capabilities; deliver results in the short-term
- Culture change and improvement come from new behaviors

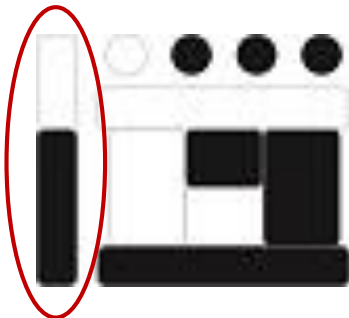


About You



- Supervisors?
- Mid Level Management?
- Executives?

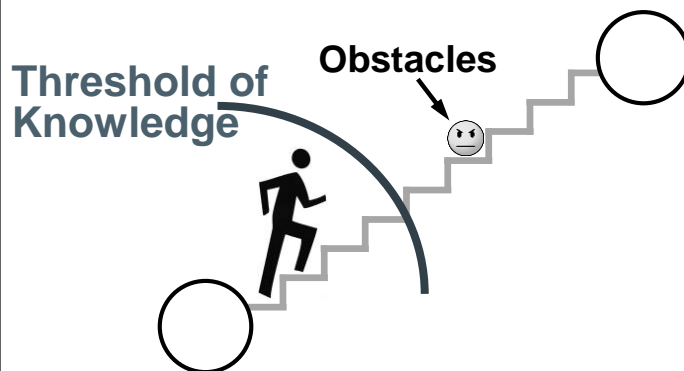
About You



- Lean?
- Agile?
- IT Process Frameworks?

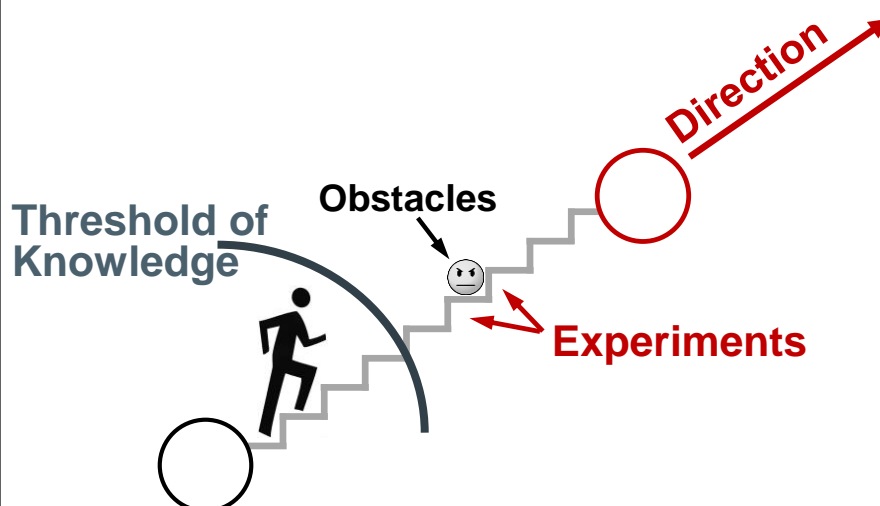


A Pattern For Improvement



Graphics by Mike Rother

Lean Supplies the How and Why



Graphics by Mike Rother

Understanding The Improvement Kata

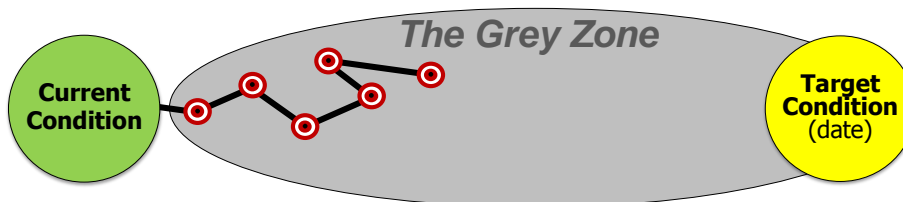
- The Thinking Pattern
- Its Origins
- How to Execute

Improving Development and Delivery

- Challenges
- Lessons

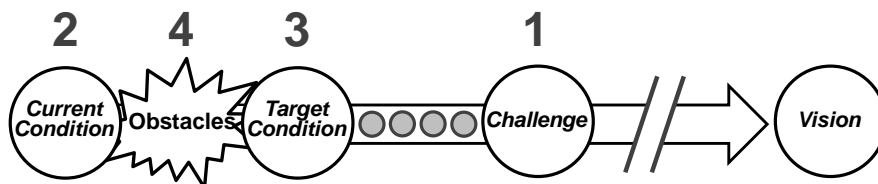
A Scientific Approach

**SMALL, RAPID EXPERIMENTS
ADVANCE YOUR KNOWLEDGE QUICKLY**



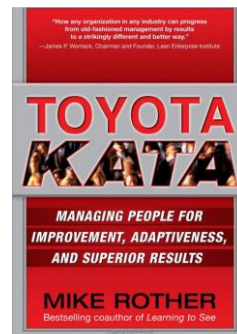
Graphics by Mike Rother

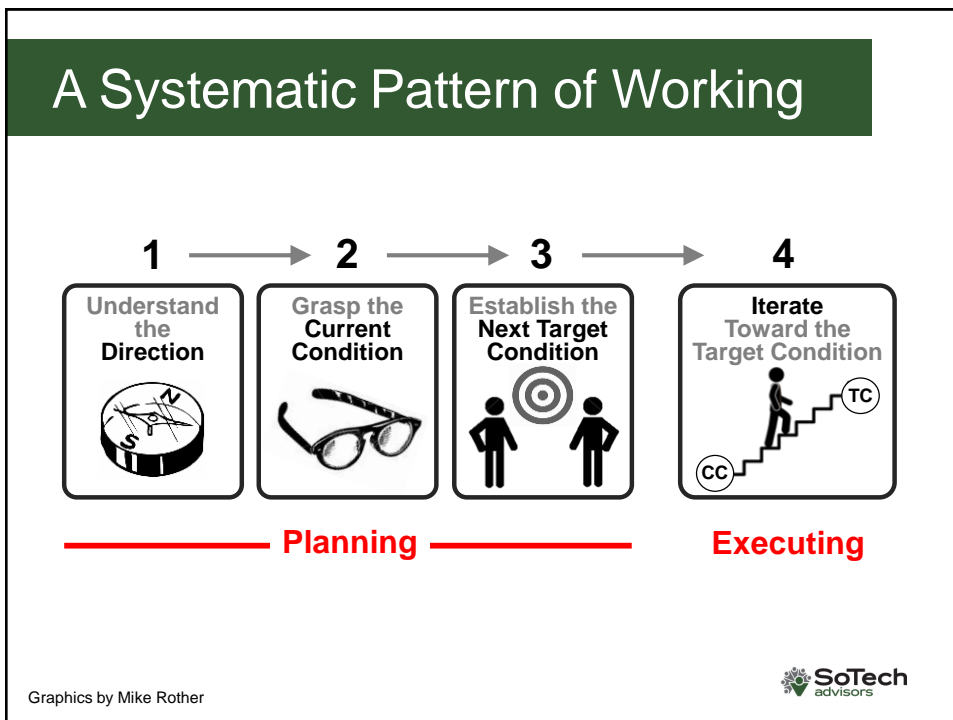
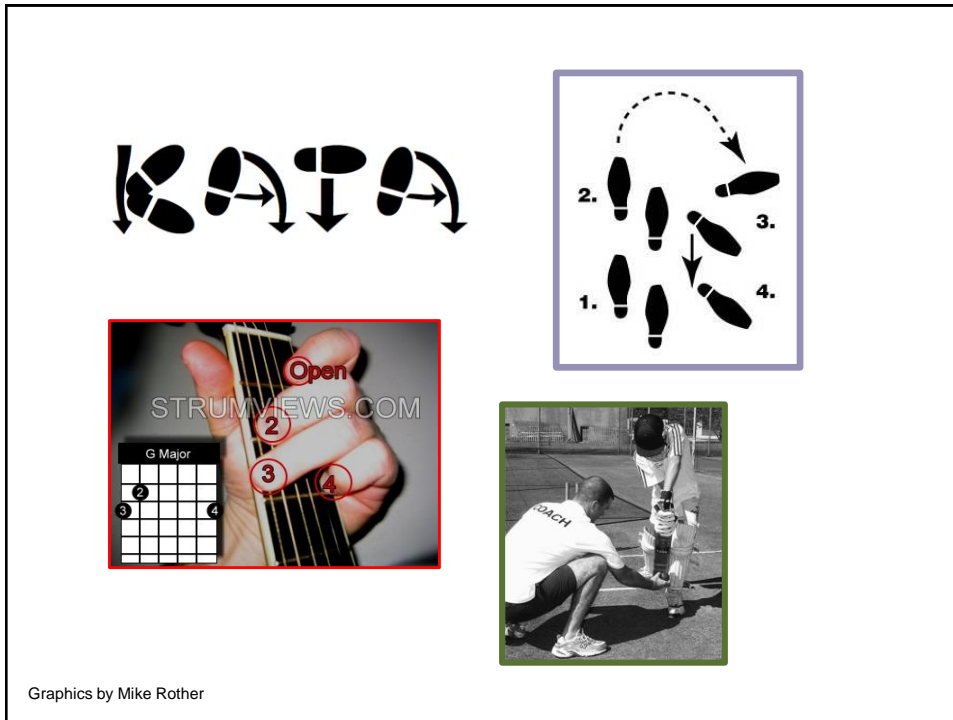
Improvement Kata: Four Steps



Graphics by Mike Rother

Improvement Kata Origins





How Execution Works

PATTERNS and ARTIFACTS


- Learner's Storyboard
- Target Condition
- Plan Do Check Act (PDCA) Cycles Record
- 5 Coaching Questions

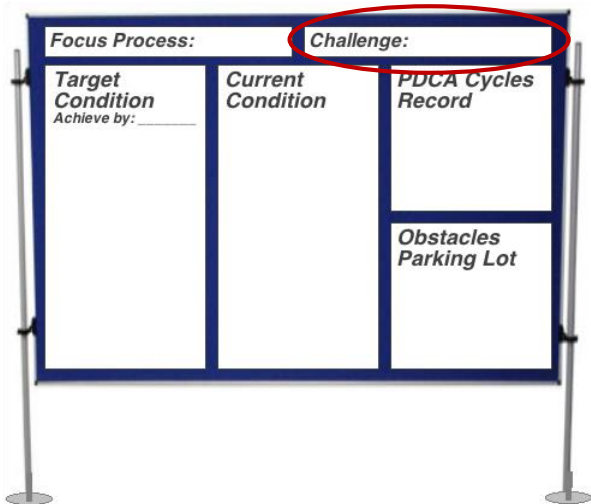
The Learner's Storyboard

Focus Process:		Challenge:
Target Condition Achieve by: _____	Current Condition	PDCA Cycles Record
		Obstacles Parking Lot


1

Understand the Direction






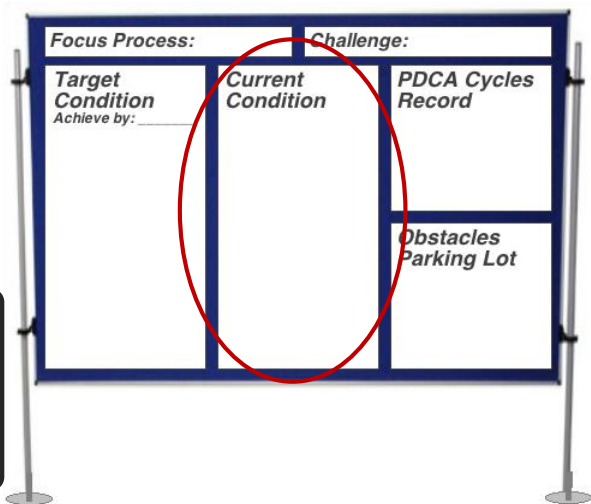
Graphics by Mike Rother




2

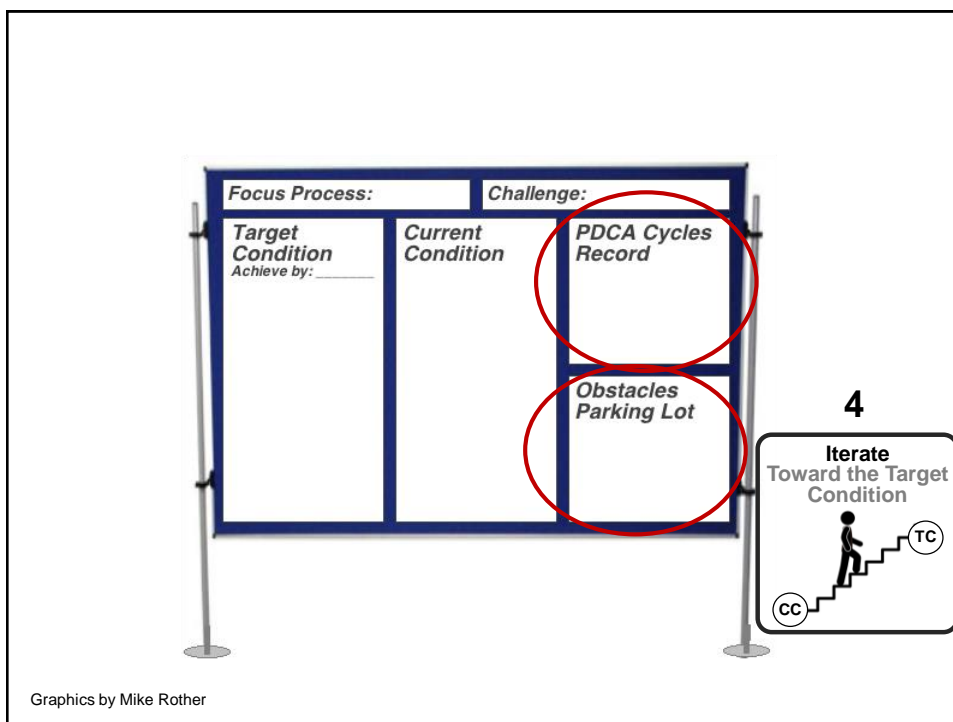
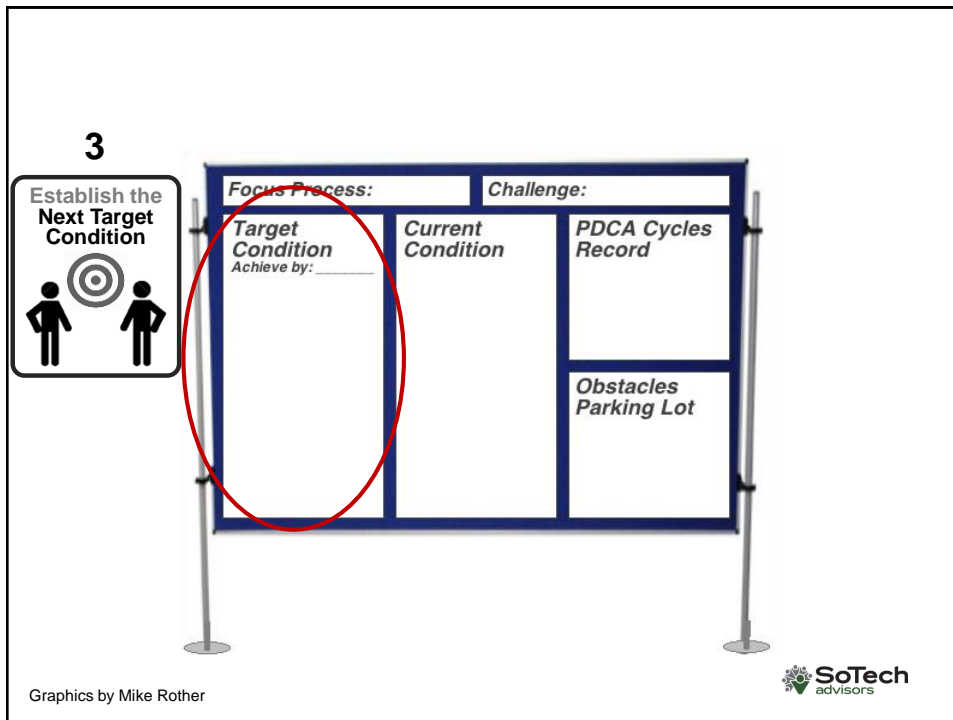
Grasp the Current Condition





Graphics by Mike Rother





Target Condition Example

Focus Process: Web service production install		Challenge: Push-button install	
Target Condition Achieve by: October 30 <ul style="list-style-type: none">First-time deployment of new web services90% success rateFaster average deployment timeNo additional staffNet decrease in defects		Current Condition <ul style="list-style-type: none">New services fail to install on the first try about 50% of the time	
		PDCA Cycle	
		Obstacles P	

PDCA Cycles Record <small>(Each row = one experiment)</small>				
Obstacle:		Process:		
		Learner:	Coach:	
Date, step & metric	What do we expect?		What happened	What we learned

PDCA Cycles Record (Each row = one experiment)				
Obstacle:		Process:		
		Learner:		Coach:
Date, step & metric	What do we expect?		What happened	What we learned
	1	Planning Cycle Experiment	2	
	3			
		Do a Cycle Conduct		

Each row = one experiment

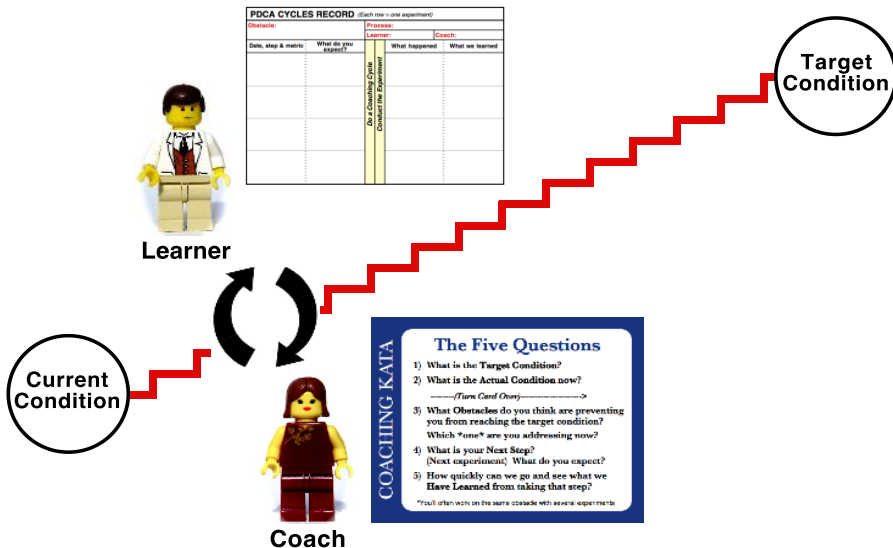
Five Questions Card

<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); background-color: #003366; color: white; padding: 5px; font-weight: bold;">COACHING KATA</div> <div style="margin-left: 10px;"> <h3 style="margin: 0;">The Five Questions</h3> <ol style="list-style-type: none"> 1) What is the Target Condition? 2) What is the Actual Condition now? -----<i>(Turn Card Over)</i>-----> 3) What Obstacles do you think are preventing you from reaching the target condition? Which *one* are you addressing now? 4) What is your Next Step? (Next experiment) What do you expect? 5) How quickly can we go and see what we Have Learned from taking that step? <p style="font-size: small;">*You'll often work on the same obstacle with several experiments</p> </div> </div>	<h3 style="margin: 0;">Reflect on the Last Step Taken</h3> <p style="font-size: small;">Because you don't actually know what the result of a step will be!</p> <ol style="list-style-type: none"> 1) What did you plan as your Last Step? 2) What did you Expect? 3) What Actually Happened? 4) What did you Learn? <p style="text-align: right; font-size: small;">-----> <i>Return to question 3</i></p>
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Card is downloadable at:
http://www-personal.umich.edu/~mrother/KATA_Files/5Q_Card.pdf

Graphics by Mike Rother

Ask the Five Questions at Every Step



Graphics by Mike Rother

Coaching Example

What obstacles do you think are preventing you from reaching the target condition?

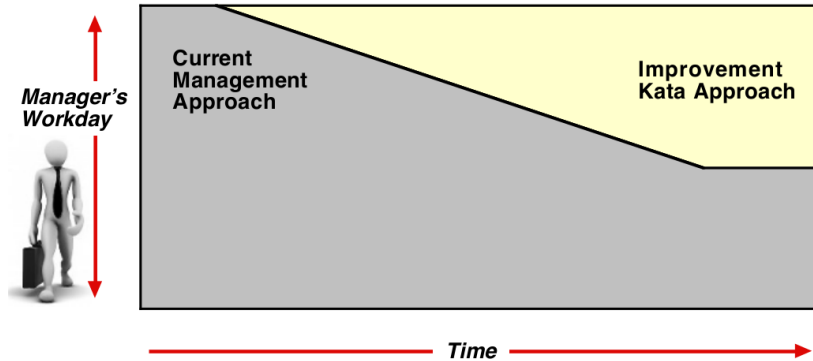
Focus Process: Web Service production install		Challenge: Pu
Target Condition	Current Condition	
Achieve by: August 30 <ul style="list-style-type: none"> First-time deployment of new web services 90% success rate Faster average deployment time No additional staff Net decrease in defects 	<ul style="list-style-type: none"> New services fail to install on the first try about 50% of the time 	

Target Condition Example

Focus Process: Web service production install		Challenge: Push-button install	
Target Condition Achieve by: October 30 <ul style="list-style-type: none"> First-time deployment of new web services 90% success rate Faster average deployment time No additional staff Net decrease in defects 	Current Condition <ul style="list-style-type: none"> New services fail to install on the first try about 50% of the time 		PDCA Cycle
			Obstacles P

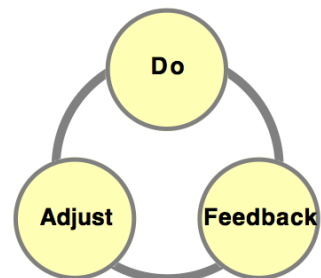
PDCA CYCLE RECORD						
Obstacle: Web service deployment is unreliable			Process: Web Service First-time Install in Oper			
			Learner(s): Kathy Iberle		Coach: Adam	
Start/End	Cycle #	What Will You Do? (Step)	What Do You Expect?	Do a Coaching Cycle Conduct the Experiment	What Happened	What We Learned
Day 1-2	1	Require developers of new service to do trial install following their own instructions prior to submitting service to Ops.	They will find the errors in their instructions and we will get correct instructions.		Team A could not do a trial install because they didn't have extra server on which to install the services.	Development doesn't have servers.
Day 3-4	2	Ops will set up "staging" server for development to use for trial install.	They will find the errors in their instructions and we will get correct instructions.		Development's trial install onto staging server failed.	Environment on staging server different than environment on dev server.
Day 4,5,6	3	Inform R&D of environment on staging server.	They will correct their dev server, and their installation instructions, and the instructions will		Development's trial install onto staging server failed.	Our account of the staging environment was not correct to replicate the environment on their dev server.

A New Approach to Management

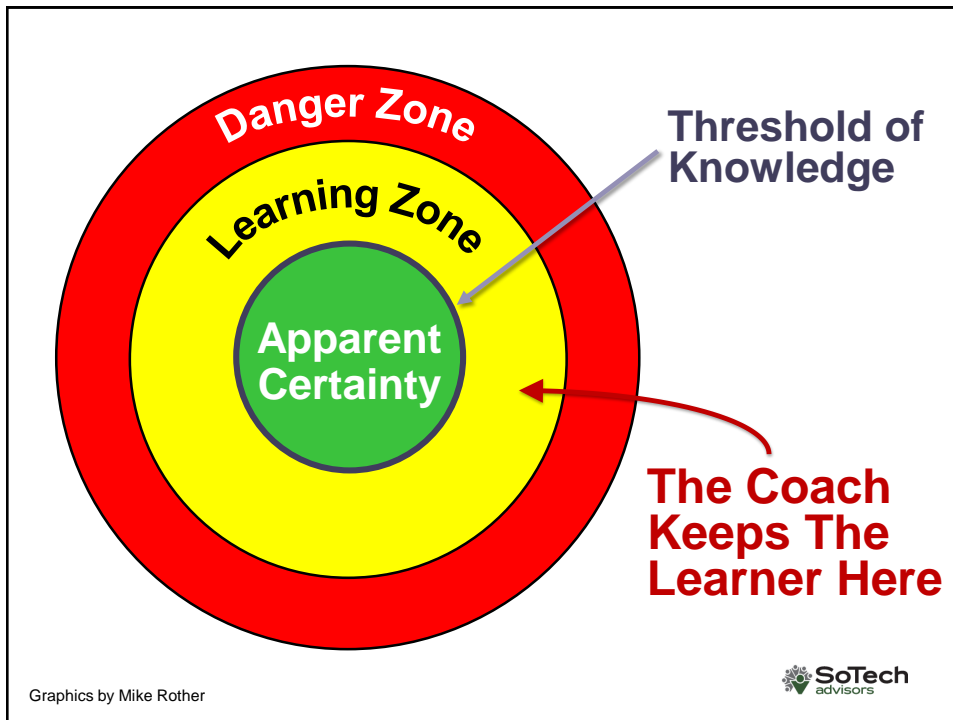


Graphics by Mike Rother

Deliberate Practice



Graphics by Mike Rother



Understanding The Improvement Kata

- The Thinking Pattern
- Its Origins
- How to Execute

Improving Development and Delivery

- Challenges
- Lessons

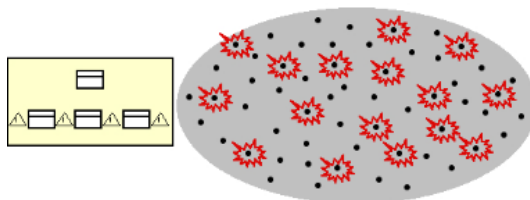
Improving Development and Delivery	
Challenges	Lessons

Improving Development and Delivery	
Challenges	Lessons
• Changing Conditions	
• Complexity	
• (Lack of) Framework Fit	
• Multiple Initiatives	
• Shifting Ends	

Changing Conditions

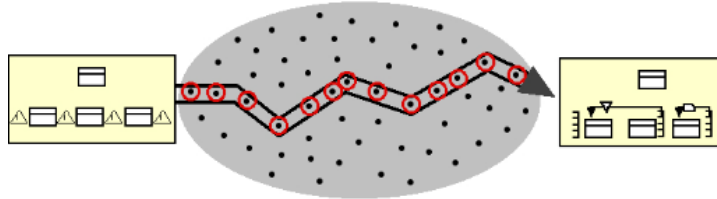


Improvement Efforts Not Aligned



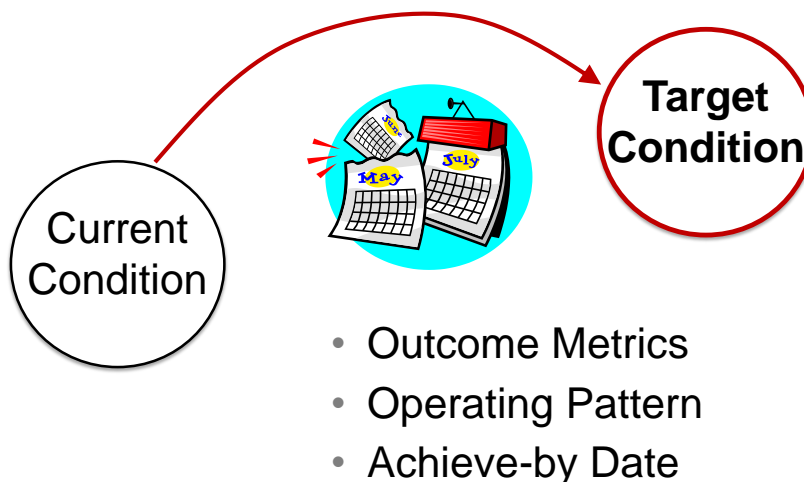
Graphics by Mike Rother

Efforts Aligned to Target Condition



Graphics by Mike Rother

A Target Condition Is Like Time Travel



Target Condition Example: Subtraction

	Target Outcome Metric
	90% of Students Proficient in Subtraction

Target Condition Example: Subtraction


	Target Outcome Metric
	90% of Students Proficient in Subtraction
	Can't be achieved directly

Target Condition Example: Subtraction

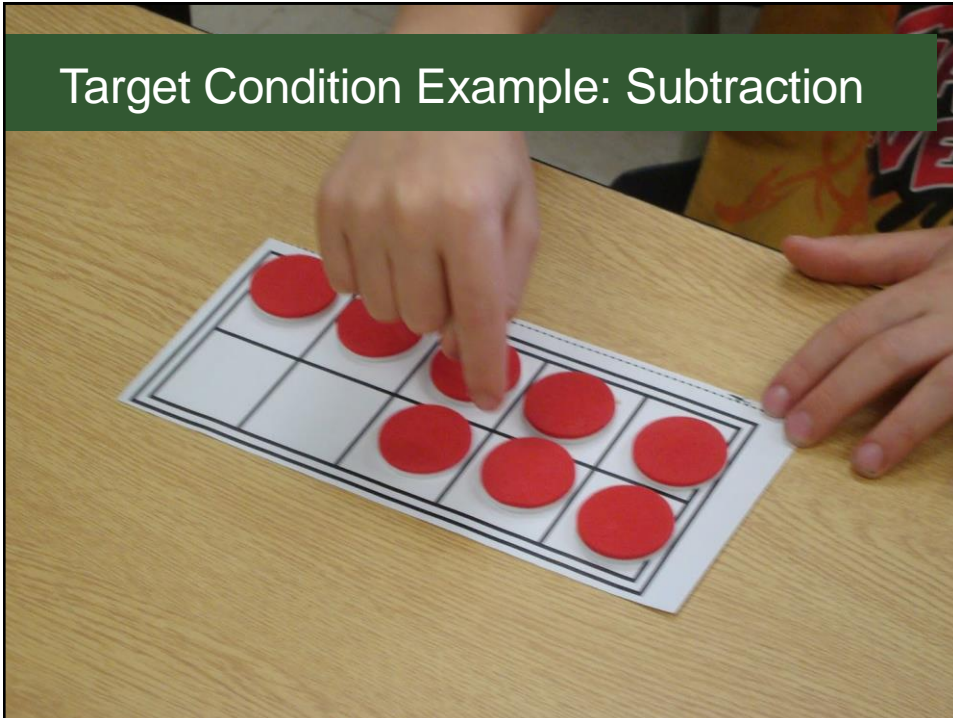
	Current Outcome Metric		Target Outcome Metric
	60% of Students Proficient in Subtraction		90% of Students Proficient in Subtraction

Can't be achieved directly

Target Condition Example: Subtraction

Current Operating Pattern	Current Outcome Metric		Target Outcome Metric
Instruction method: "Carry the ones" 	60% of Students Proficient in Subtraction		90% of Students Proficient in Subtraction

Target Condition Example: Subtraction



Target Condition Example: Subtraction

Current Operating Pattern	Current Outcome Metric	Target Operating Pattern	Target Outcome Metric
Instruction method: "Carry the ones"	60% of Students Proficient in Subtraction	Use manipulative tools to learn place value	90% of Students Proficient in Subtraction

We predict that this pattern will achieve...

...this outcome

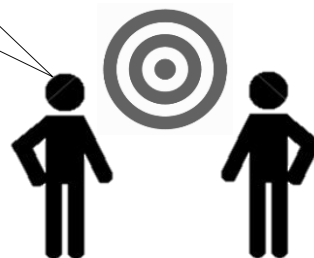
Without a Target Condition

- Enthusiasm Outpaces Knowledge
- Dueling Improvement Road Maps



With a Target Condition

Which **one** obstacle are we addressing now?



No Best Practices Apart from Learning

CONTINUAL CHANGE REQUIRES:

- Ability to Learn and Adapt
- Deeper Process Understanding

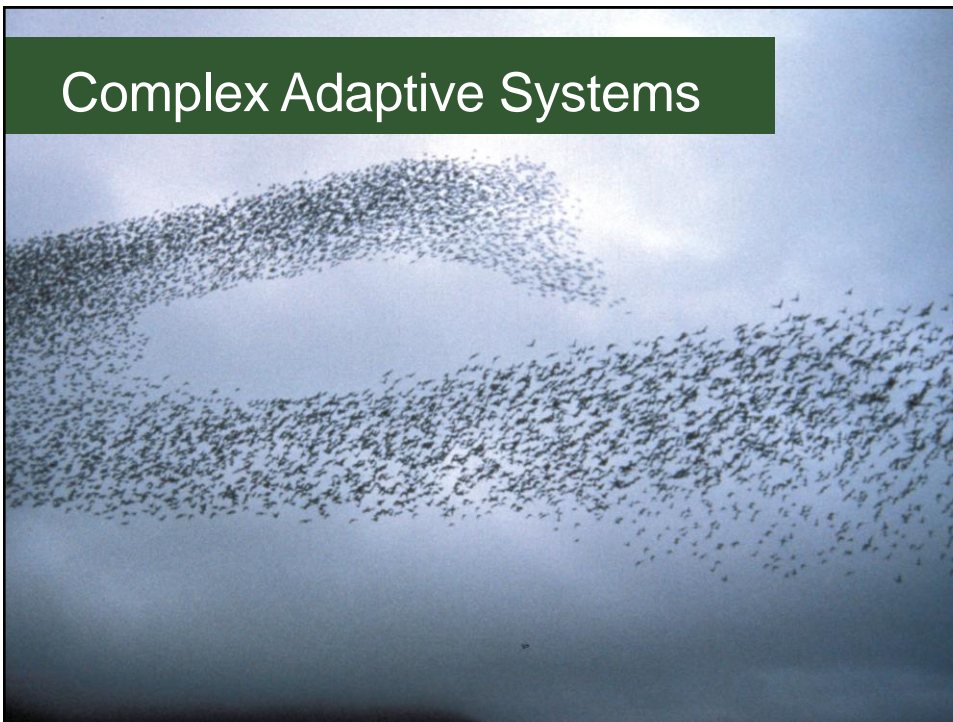
Complexity

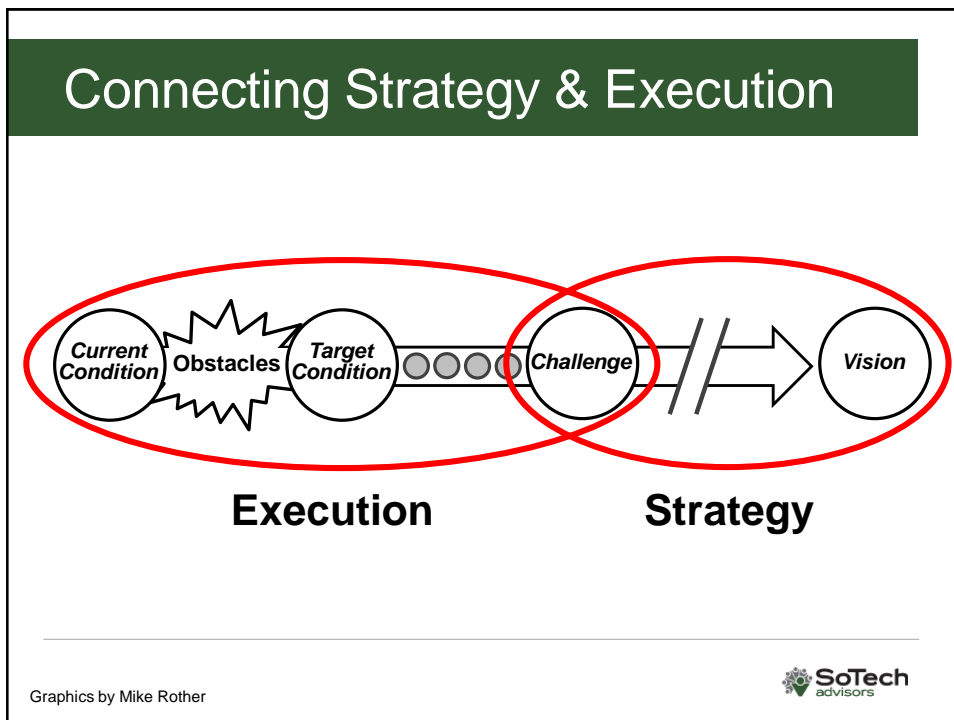
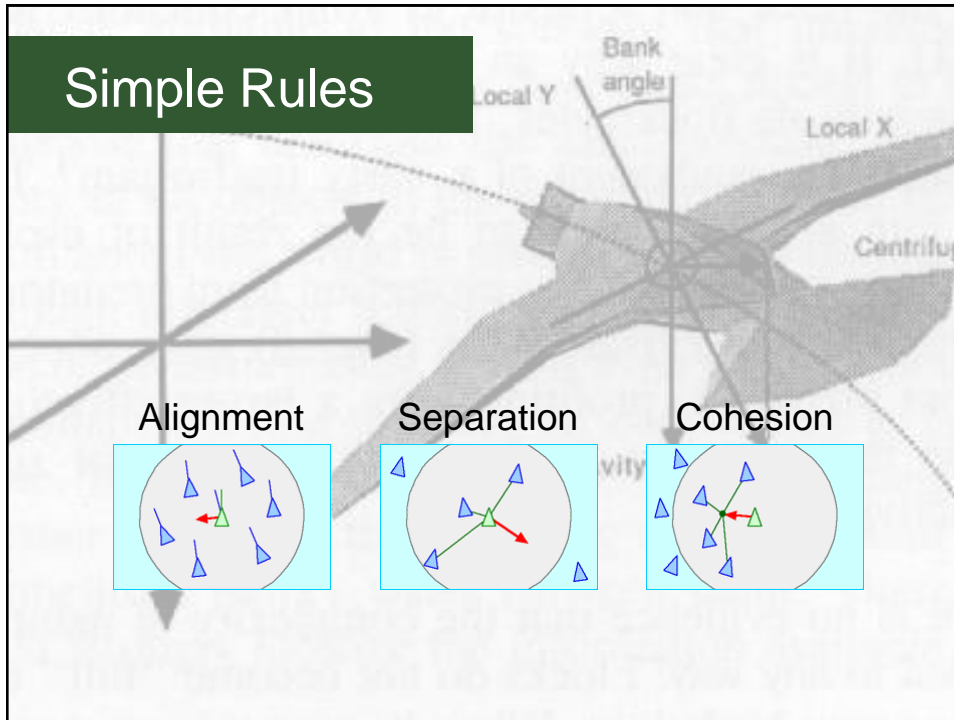


Complexity



Complex Adaptive Systems





Graphics by Mike Rother

Management by Simple Rules

- Recognize Inherent Complexities
- Create the Right Container

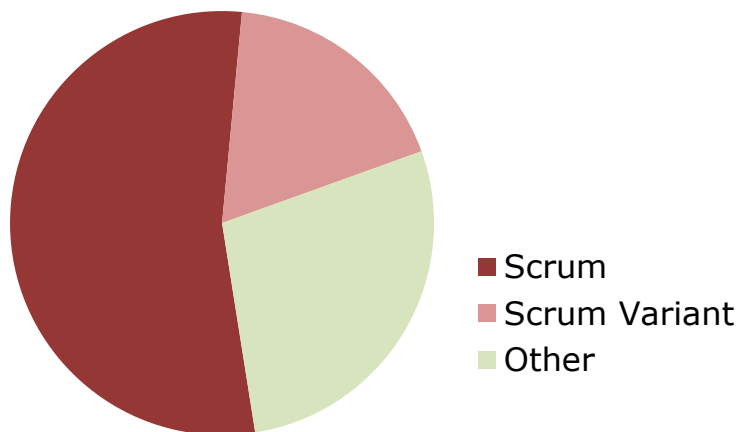
Improving Development and Delivery

Challenges	Lessons
• Changing Conditions	No best practices apart from learning
• Complexity	Management defines simple rules
• (Lack of) Framework Fit	
• Multiple Initiatives	
• Shifting Ends	

Finding Framework Fit

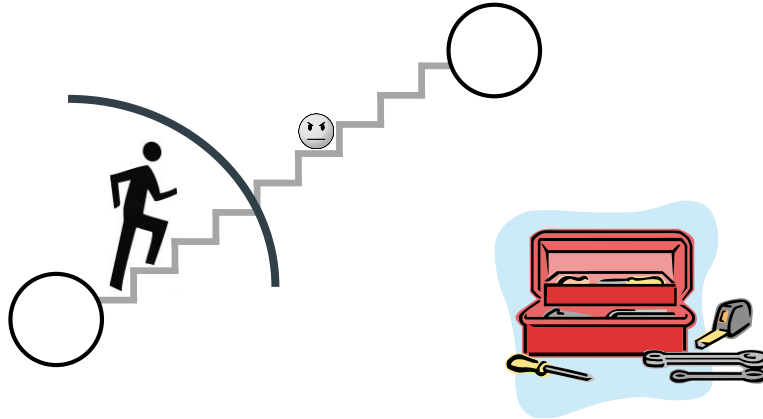


Framework is a Standard *Starting Point*



Source: VersionOne 7th Annual State of Agile Development Survey

Pull in Lean Knowledge at Each Step



Graphics by Mike Rother

Frame Lean For Knowledge Work

WHICH IS YOUR WORKFLOW?



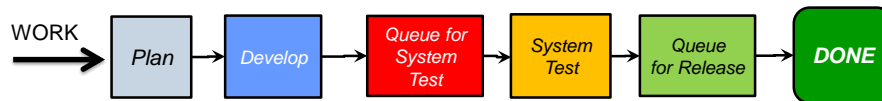
- Steady arrival rate
- Evenly sized batches of work
- Physical objects



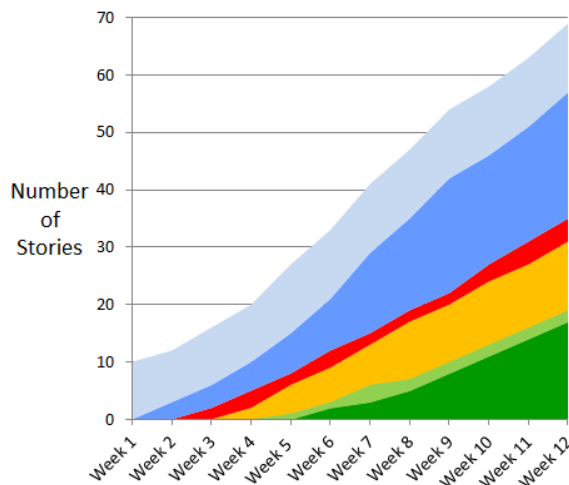
- Variable arrival rate
- Differently sized batches of work
- Not physical objects

Your Process May Be Variable...

VALUE STREAM MAP



Your Process May Be Variable...



CUMULATIVE FLOW DIAGRAM

Expect Multiple Target Conditions



Using Kata to Adopt and Adapt

FINDING FIT

- Framework is a Standard Starting Point
- Pull In Correctly Framed Lean Knowledge
- Plan for Adaptive Action

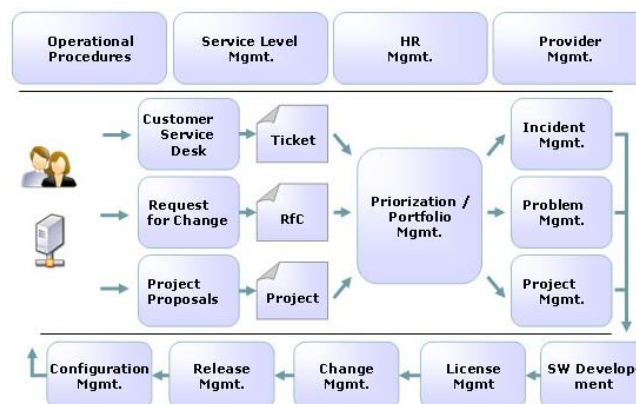
Multiple Initiatives

YOUR MISSION:

- Employ IT Service Management
 - Adopt Agile Methods
 - Use Lean Practices
- and*
- Increase Quality
 - Implement New Technology
 - Do More Work with Less Budget



Tells You What You Need to Do

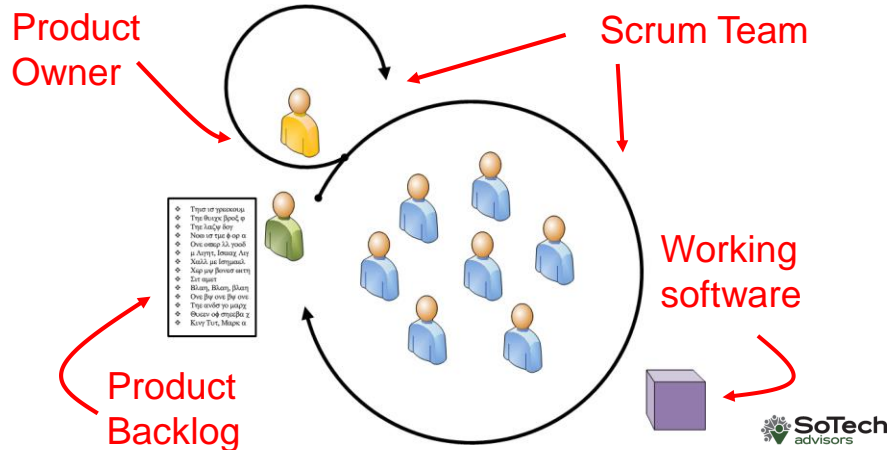


IT SERVICE MANAGEMENT (ITSM)

Graphics by Project Open

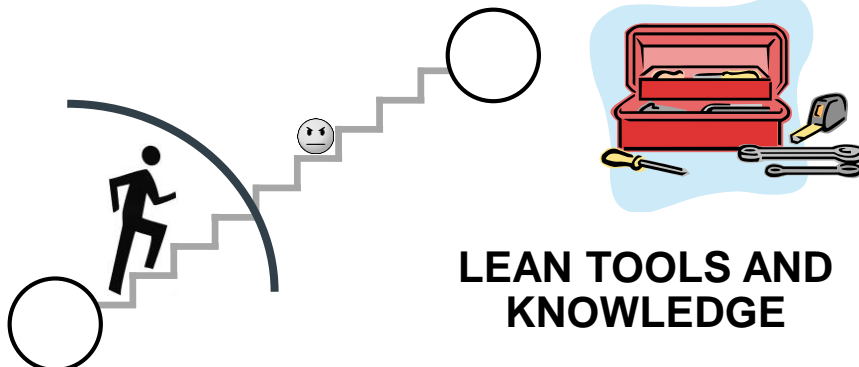
Tells You How to Do Something Specific

SCRUM



Why it Works and How to Implement

IMPROVEMENT KATA AND COACHING KATA

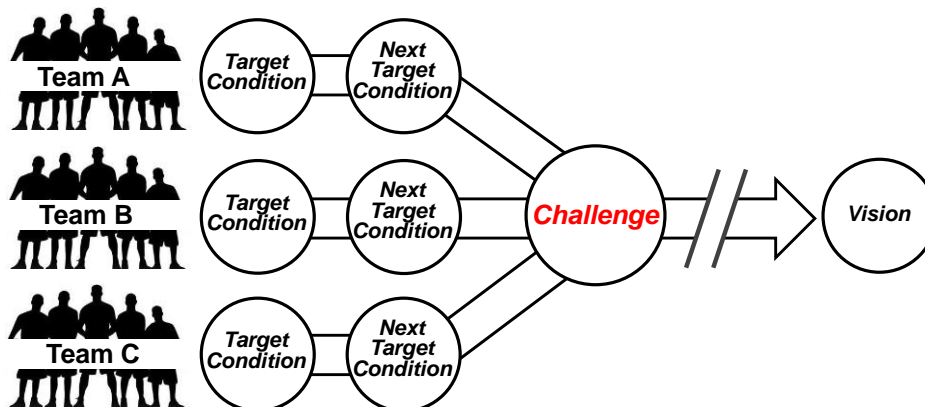


Graphics by Mike Rother

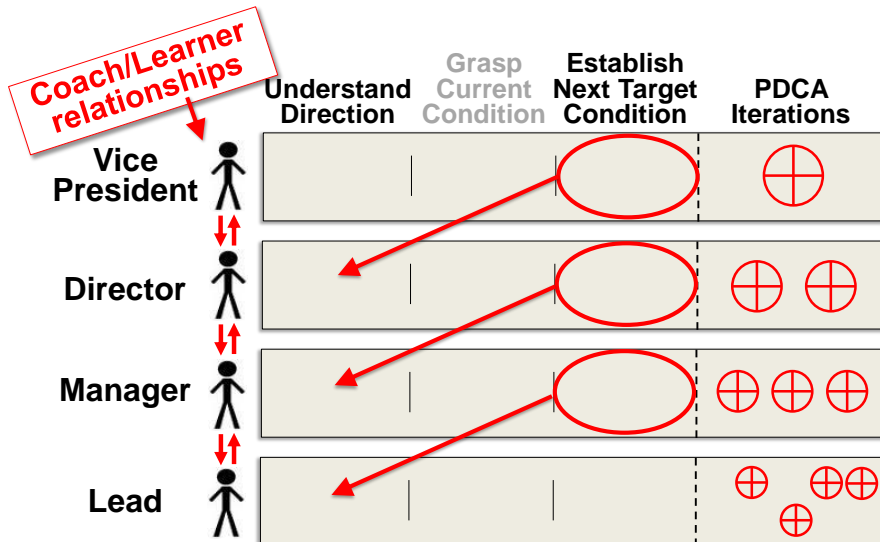
Sequential Target Conditions



Cross-Team Alignment



Aligning Management Hierarchy



Integrate What, How, and Why

USE THE IMPROVEMENT KATA PATTERN

- Maintain Output and Quality While Improving
- Define Serial Target Conditions
- Align Improvement Across Teams
- Align Improvement With Hierarchy

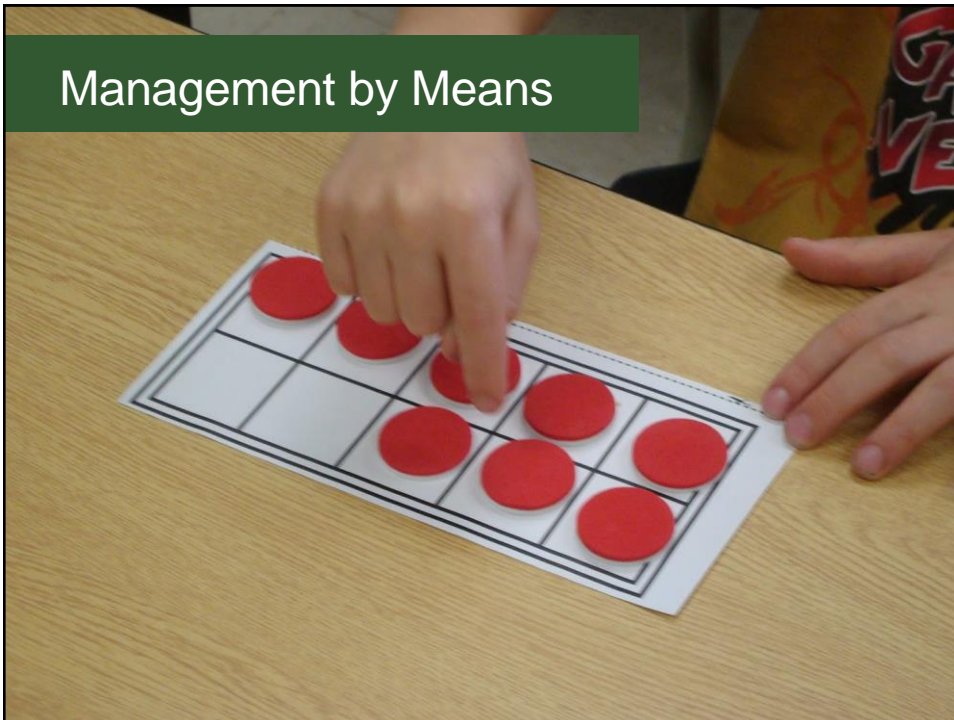
Improving Development and Delivery	
Challenges	Lessons
• Changing Conditions	No best practices apart from learning
• Complexity	Management defines simple rules
• (Lack of) Framework Fit	Framework is the starting point; pull in lean tools
• Multiple Initiatives	Integrate What, Why, and How
• Shifting Ends	



Example: Changing Standards

Current Operating Pattern	Current Outcome Metric	Target Operating Pattern	Target Outcome Metric
Instruction method: "Carry the ones"	60% of Students Proficient in Subtraction	Use manipulative tools to learn place value	90% of Students Proficient in Addition and Subtraction

Management by Means



Self Documenting Journey

PDCA CYCLE RECORD						
Obstacle: Web service deployment is unreliable				Process: Web Service First-time Install in OpenShift		
				Learner(s): Kathy Iberle		Coach: Adam
Start/End	Cycle #	What Will You Do? (Step)	What Do You Expect?	Do a Coaching Cycle Conduct the Experiment	What Happened	What We Learned
Day 1-2	1	Require developers of new service to do trial install following their own instructions prior to submitting service to Ops.	They will find the errors in their instructions and we will get correct instructions.		Team A could not do a trial install because they didn't have extra server on which to install the services.	Development doesn't have servers.
Day 3-4	2	Ops will set up "staging" server for development to use for trial install.	They will find the errors in their instructions and we will get correct instructions.		Development's trial install onto staging server failed.	Environment on staging server is different than environment on dev server.
Day 4,5,6	3	Inform R&D of environment on staging server.	They will correct their dev server, and their installation instructions, and the instructions will		Development's trial install onto staging server failed.	Our account of the staging environment was not correct to replicate the environment on their dev server.

Manage by Means

IN THE FACE OF SHIFTING ENDS...

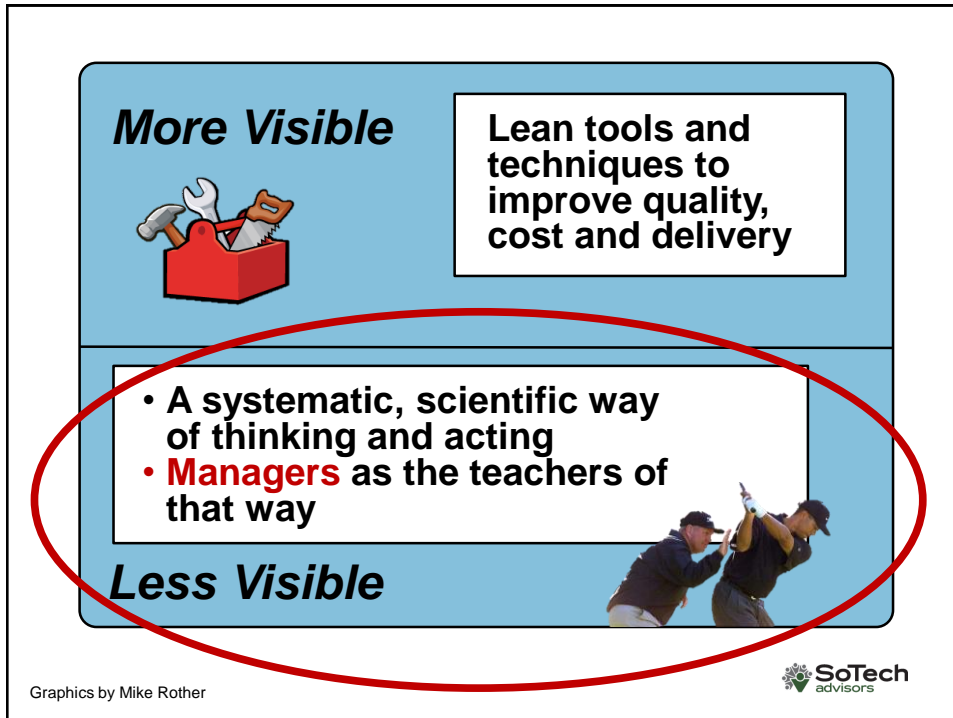
- Focus on the Operating Pattern
- Use the Process to Maintain a Record

Understanding The Improvement Kata

- The Thinking Pattern
- Its Origins
- How to Execute

Improving Development and Delivery

Challenges	Lessons
• Changing Conditions	No best practices apart from learning
• Complexity	Management defines simple rules
• (Lack of) Framework Fit	Framework is the starting point; pull in lean tools
• Multiple Initiatives	Integrate What, Why, and How
• Shifting Ends	Management by means; record of journey



Improvement Kata in Your Work

CONTINUOUS IMPROVEMENT, SOUND AND SIMPLE

- Integrate Lean and Agile Improvements
- Use When No Single Solution Fits
- Talk to Me About Getting Started

Contact Information

Thank You!

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SoTech Advisors

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503.522.1499

