

point**b**®



6 Step Problem Solving Using the A3 as a Guide

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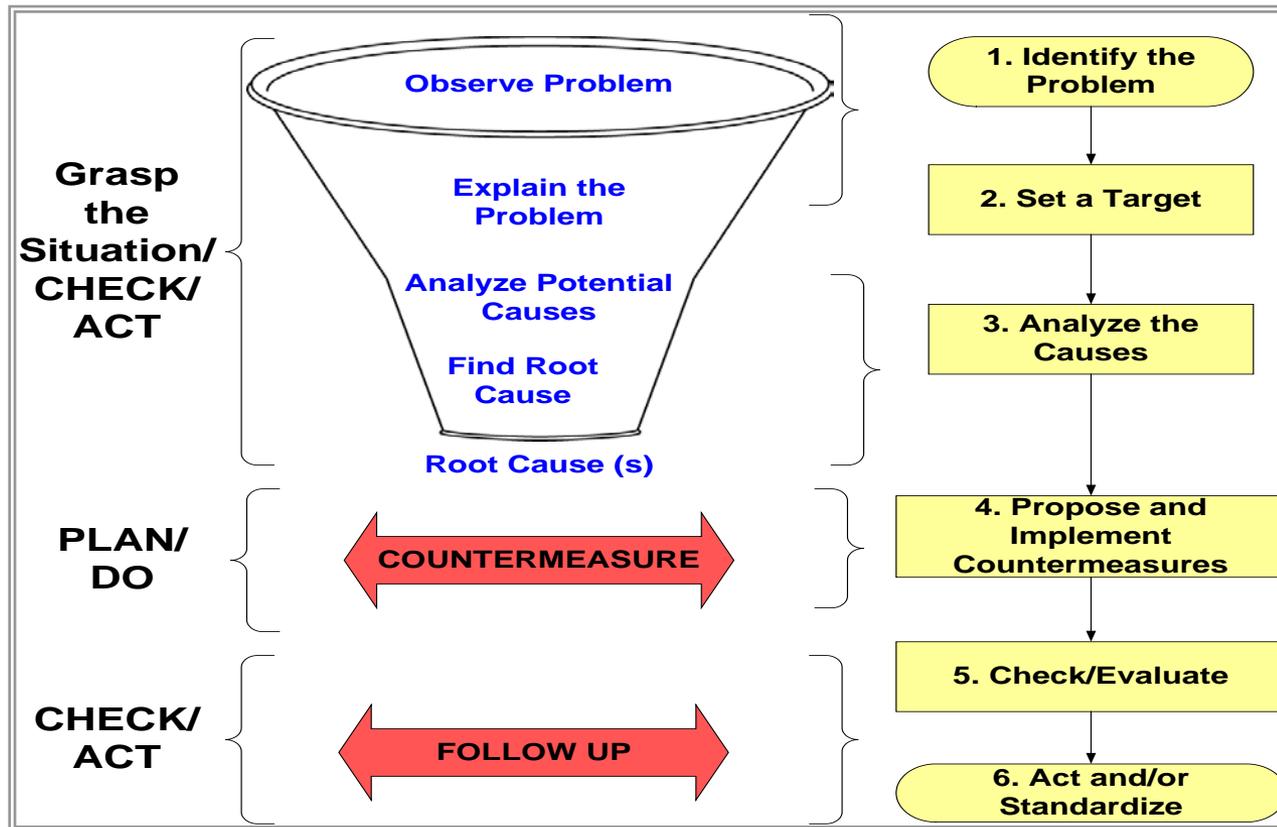
6 Step Problem Solving Process



"BEFORE I STATE THE PROBLEM, ARE THERE ANY SOLUTIONS?"

6 Step Problem Solving Process

What is a Problem Solving Process?



6 Step Problem Solving Process

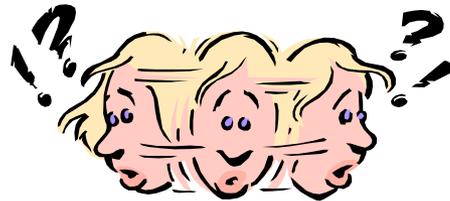
Why Use PDCA?



Fire, Aim? Ready!

Aim, Ready? Fire!

Ready! Aim! FIRE!



6 Step Problem Solving Process

- It is every team member's responsibility to improve processes.
- We want to **eliminate** waste. Wastes, in all forms, are problems. To eliminate wastes we need to uncover the problems.



6 Step Problem Solving Process

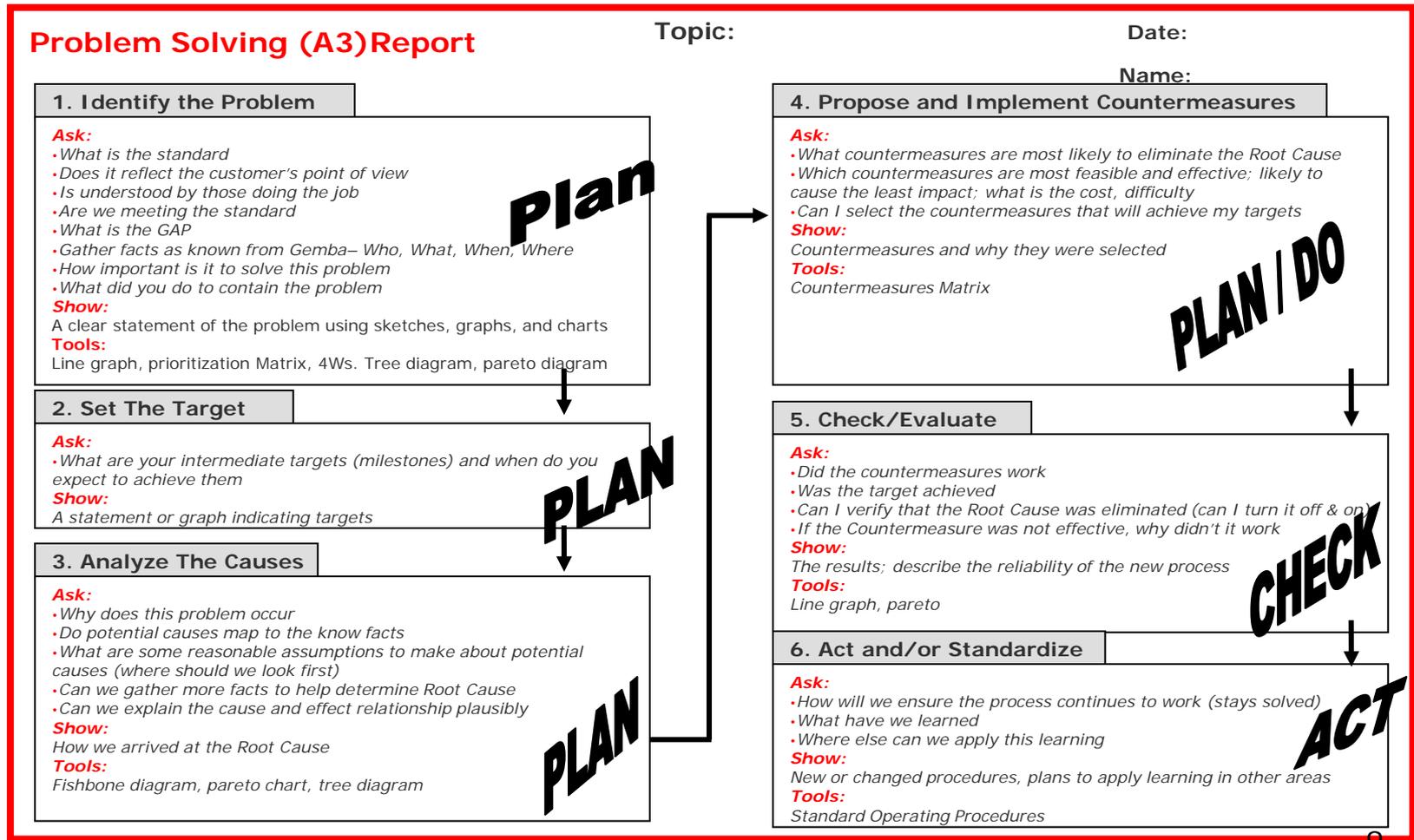
We use this approach because:

- It efficiently explains our approach to people whose agreement or approval we need.
- It documents what we did and why we did it for future problem-solvers.
- Those who understand the format can follow the logic of our reasoning, even if they are not experts in this area.
- It forces us to become better problem-solvers because we have a structured process to follow.

Where Does **A3** Fit In?

- It's **not just** a "**Tool**" – it's a visual manifestation of our thinking to share our wisdom with others.
- The **A3** is only as good as the "**dialogue**" that creates it. (?’s asked at gemba).
- The **A3** is 5S of information- not everything I did in between.
- Understanding the importance of the "**people side**" of the **A3** is more important than the actual tool itself. (Don't just fill in the boxes) Engage, Coach, Involve and Challenge your people at every level.

6 Step Problem Solving Process – The “Thinking” Behind the A3



6 Step Problem Solving Process – A3 Example

Problem-solving Report: Reimbursement Problem

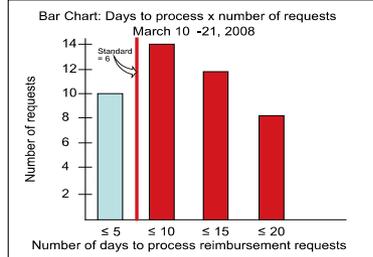
Date: _

Name: _

1. Identify the Problem

Many complaints regarding the reimbursement process: the reimbursement process takes too long.

34 of 44 check reimbursements that were investigated took longer than the standard of 6 days.

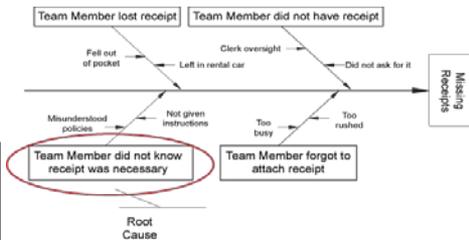
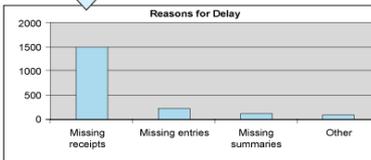
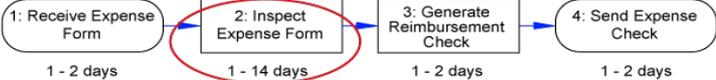


2. Set a Target

Shorten the reimbursement process turnaround time to be consistently performed in 6 working days or less by 17 October 2008.

3. Analyze Causes

Flowchart of Expense Reimbursement Process

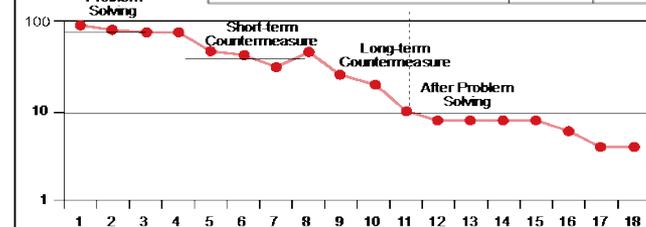


4. Propose Countermeasures

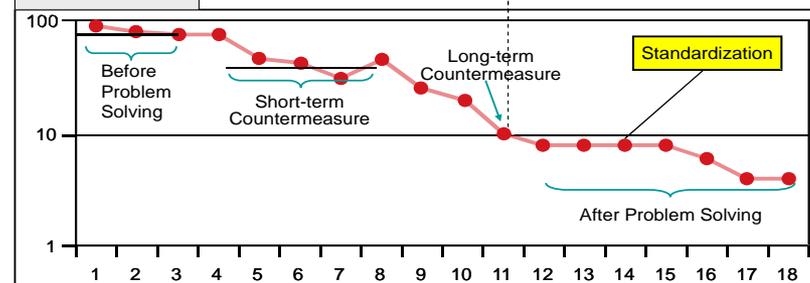
Cause	Countermeasure(s)	Who	When
Team Member did not know that a receipt was necessary	1. Review/revise guidelines and policies for expense reports.	MA	Week 1
	2. Conduct informational sessions to communicate guidelines.	RB	Week 2

5. Check/Evaluate

Countermeasure	Actual	Goal	Evaluation
1. Review/revise guidelines and policies for expense reports.	20-April	1-May	✓
2. Conduct informational sessions to communicate guidelines.	15-June	1-June	✗
3. Create quick reference guide covering expense report submittal guidelines.		15-June	
4. Add to new hire orientation.		15-June	



6. Act/Standardize



6 Step Problem Solving Process

In the Lean Operating System, we achieve operational excellence by:

- *Defining our standards*
- *Continuously compare our operations against those standards*
- *Engaging in aggressive and rigorous problem-solving when there is any deviation from the standard.*



6 Step Problem Solving Process

Step 1:
Identify the
Problem

Step 2: Set
the Target

Step 3:
Analyze
the Causes

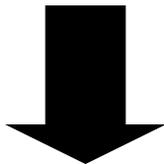
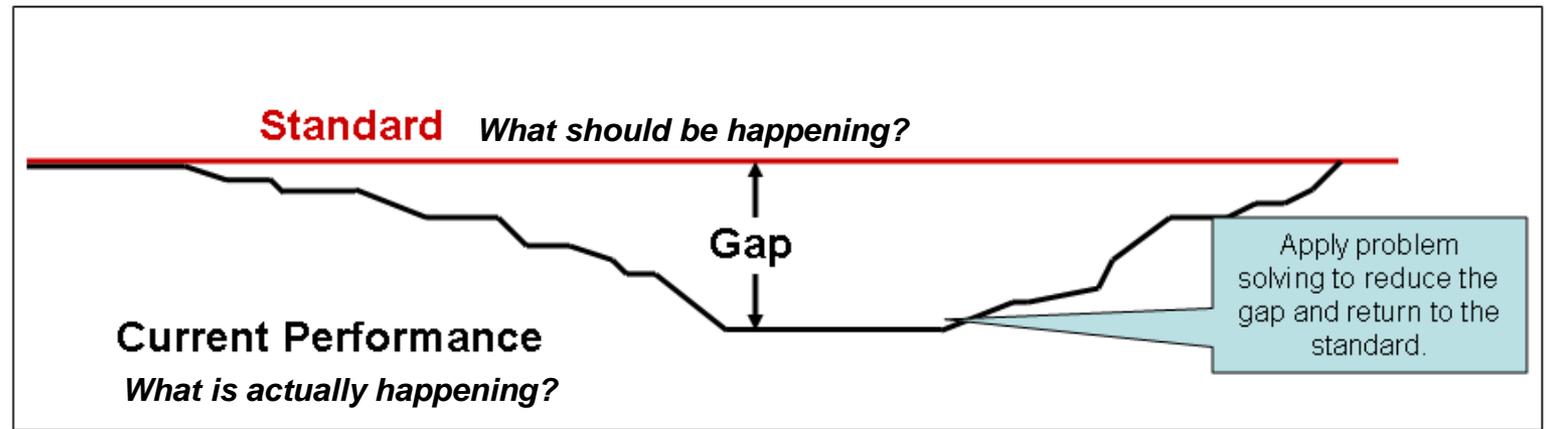
Step 4:
Implement
Counter-
measures

Step 5:
Check &
Evaluate

Step 6: Act
and/or
Standardize

Step 1: Identify the Problem

What Is a Problem?



Any deviation from the standard.

Step 1: Identify the Problem

What Is the Standard?

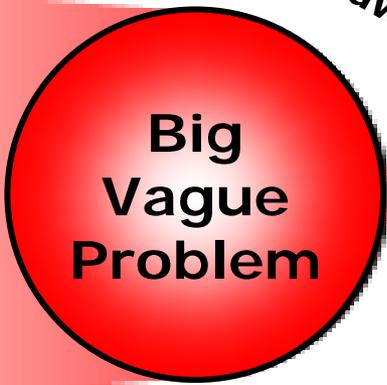
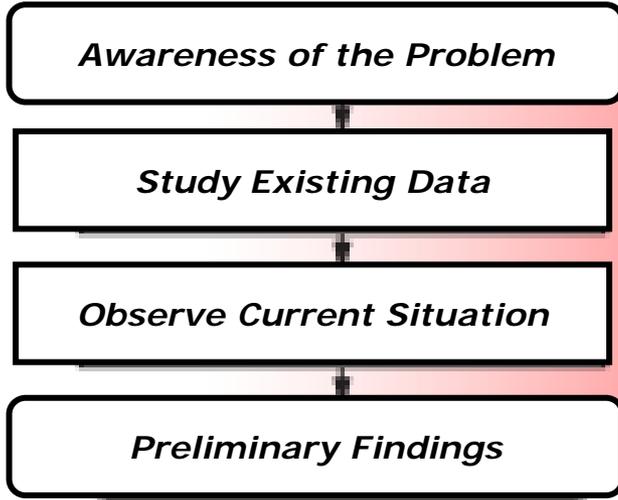
- A standard, or a standard condition, is a specific, explicit, and known expectation.
- A standard is either ***met*** or ***not met***.
- What is actually observed (what ***really*** happened) is the *current condition*.
- This is the first question you must ask when you encounter a problem. You cannot begin problem-solving until you have asked this question.
- ***You cannot define a problem or improve a process without this critical baseline.***

Step 1: Identify the Problem

Grasp the actual situation based on facts and "go and see".



Is the data consistent with my own observations and findings?



What conclusions can I draw from these?



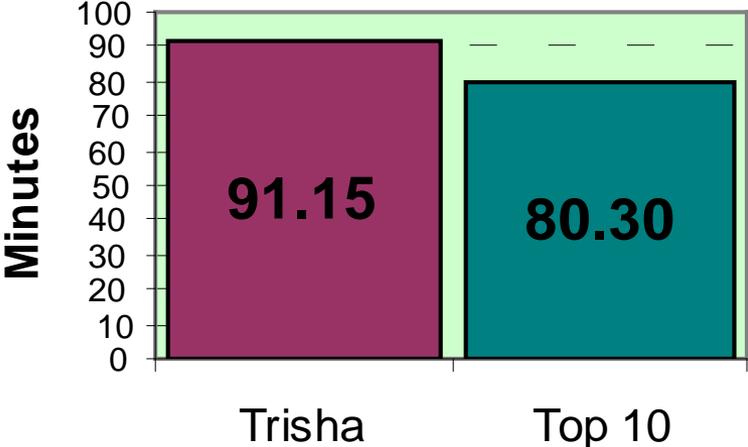
Step 1: Identify the Problem

What is the Gap?

Current Situation: *13th Place* out of 30 Master Females at Cascade Edge Sprint Triathlon

Ideal Situation: *Top 10* of the Master Females in a Sprint Triathlon Race

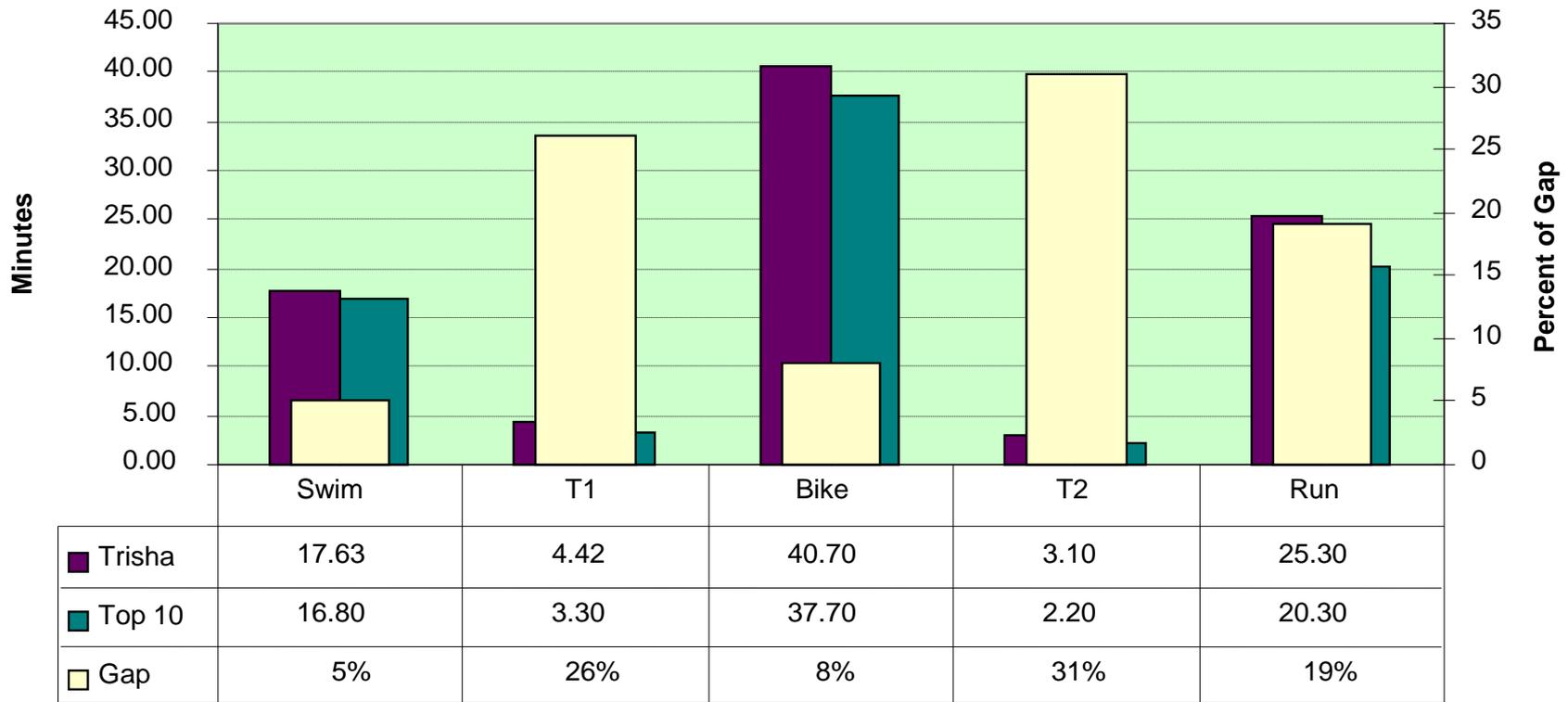
Trisha's Finish Time vs Top 10 Triathlon



Step 1: Identify the Problem

Dig a little deeper!

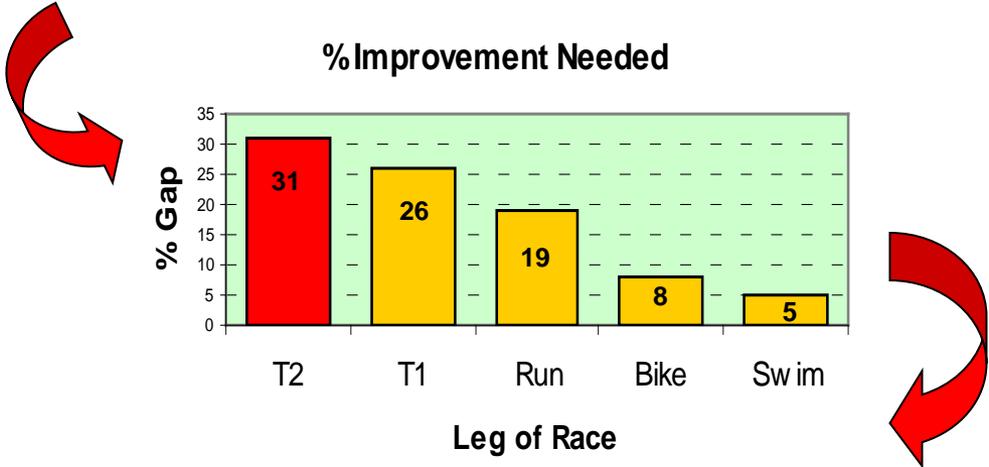
Stratification by Leg of Race



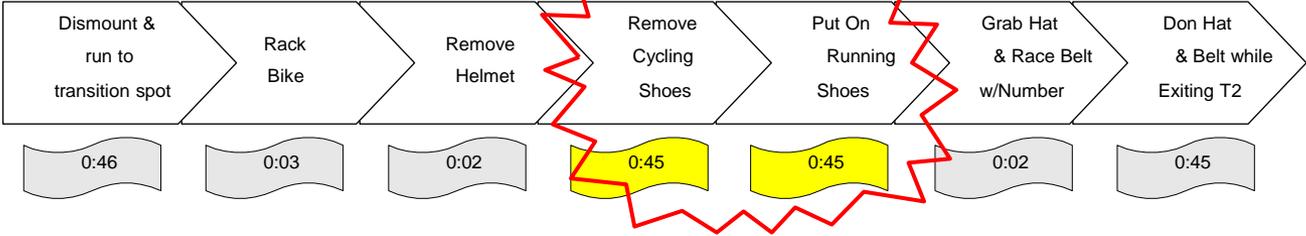
Step 1: Identify the Problem

Largest area for improvement

Still deeper!



Trisha's Leg 4 Times



Step 2: Set the Target

Triathlon Target

Reduce Cycling to Running Shoe changeover time:

From: **90** Seconds (0:45 + 0:45)

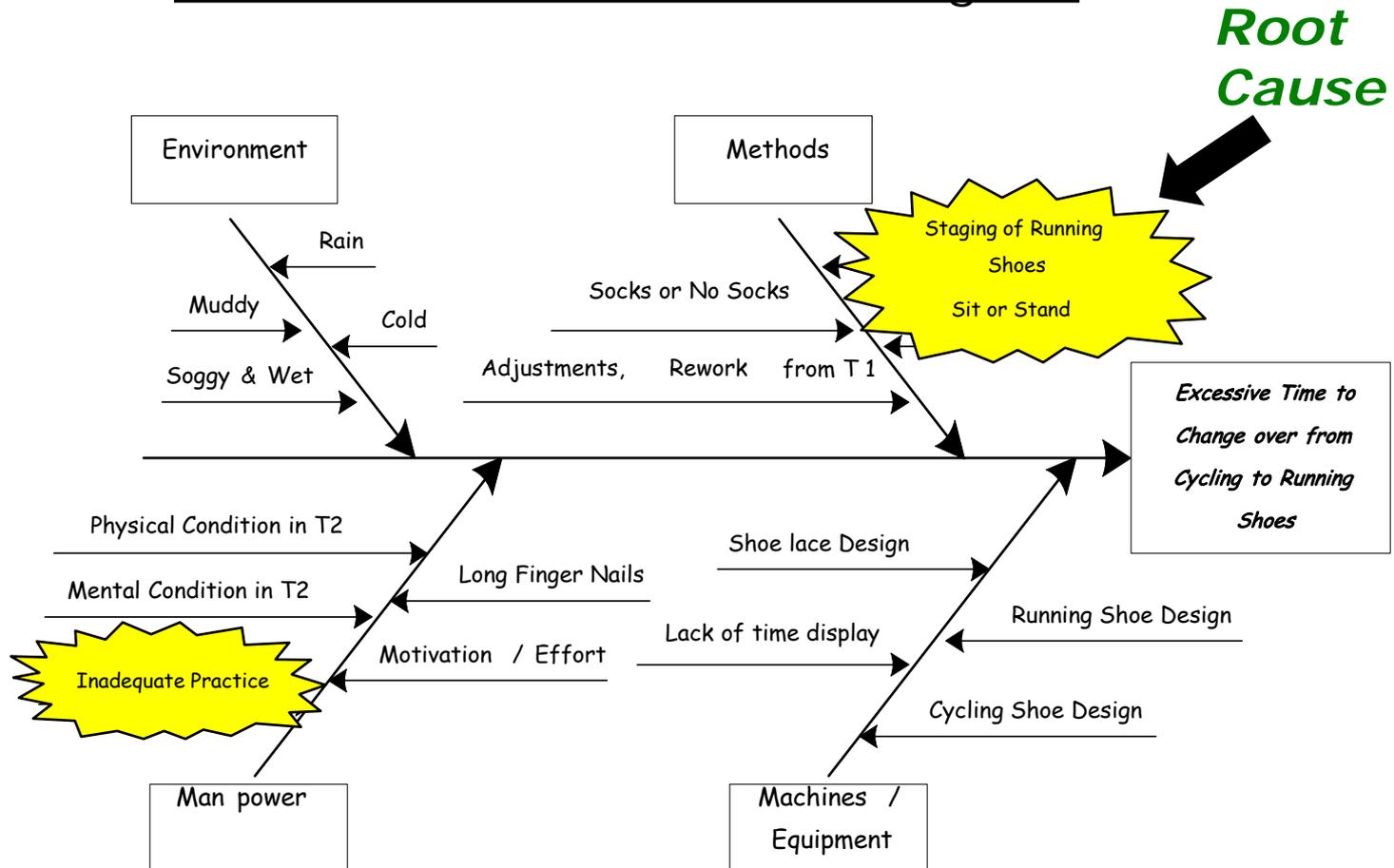
To: **32** Seconds

Net Improvement: 58 seconds

(By the Seafair Triathlon on **7/15/07**).

Step 3: Analyze the Causes

Triathlon Cause and Effect Diagram



Step 4: Propose & Implement Countermeasures

Triathlon Evaluate & Prioritize

	Possible Countermeasures	Cost		Effectiveness		Ease of Scheduling	Overall Rank
		\$	Ranking	Shoe Change over	Overall Race Time		
1	Enter more triathlon races	\$55 - \$70	4	4	1	4	13
2	Supervised Swim/Bike/Run workouts	\$15 - \$45	3	4	2	3	12
3	Supervised Bike/Run (Brick) workouts	15 - \$25	2	4	3	3	12
4	Quick Laces	\$6	1.5	2	4	1	8.5
5	Stage Shoes in Leg 4	\$0	1	1	5	1	8

Step 4: Propose & Implement Countermeasures

Triathlon Implementation Plan

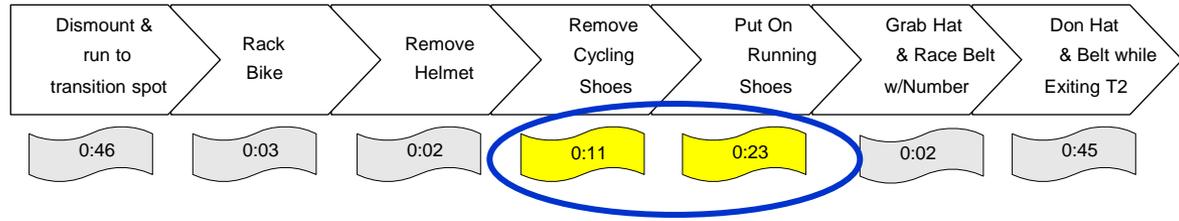
WHAT		BY WHEN
Acquire Quick-Laces	Order Quick-Laces	1-June
	Install in shoes	4-June
Supervised Mini Practice Tri Race	Raise-The-Bar Workout	27-Jun
	Luna Chix Workout	3-Jul
	Danskin Team Workout	11-Jul
On Own - Bike/Run Workout		4-Jul
		6-June
		12-June
On Own - T2 Transition Practice		7-June
		13-June
		14-June

Step 5: Check & Evaluate

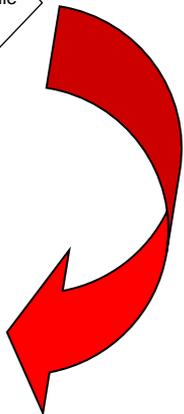
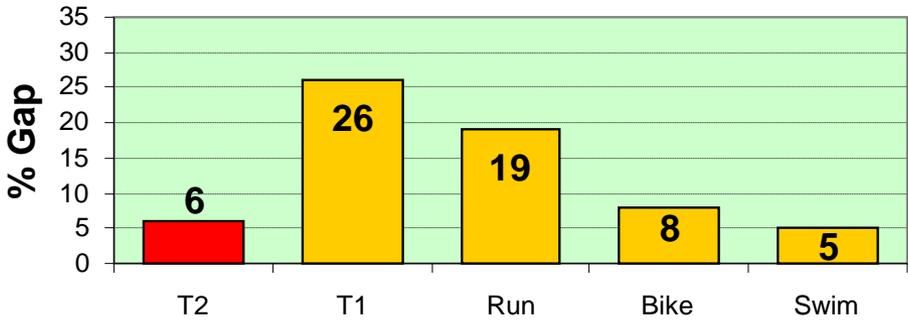
Triathlon Check

Five Mile Lake
 Woman's Sprint Triathlon
 30-Jun-07

New Leg 4 Times



% Improvement Needed



Step 5: Check & Evaluate

Are we "On Track?"

	WHAT	BY WHEN	STATUS
Acquire Quick-	Order Quick-Laces	1-June	● Complete
	Install in Shoes	4-June	● Complete
Supervised Mini Practice Tri Race	Raise-The-Bar W/O	27-June	● Complete
	Luna Chix Workout	3-Jul	● Complete
	Danskin Workout	11-Jul	⊕
On Own - Bike/Run Workout		4-Jul	⊕
		6-Jun	● Complete
		12-June	● Complete
On Own - T2 Transition Practice		7-June	● Complete
		13-June	● Complete
		14-June	● Complete

Step 6: Act and/or Standardize

Implement the Standard and follow it.

- Revise or develop Standard Work
- Make sure the “right way” is the “easy way”
- Explain the reasons for Standard Work and gain approval
- Train Team Members who will be using the new standard
- If possible include Poke-Yoke in the standard

Step 6: Act and/or Standardize

Triathlon Standardization

1. Video T2 of race to use in development of standard work.
2. Write Standard Work to share with other team mates.
3. Start analysis on T1 of race, 2nd largest area of improvement needed.

Step 6: Act and/or Standardize

Follow-Up on your results

- Ensure stability in the process with the new countermeasure
- Act on any remaining or unforeseen issues that may come up
- Communicate the process and results to appropriate

A departure from your new process is a problem!

Questions?

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