



A3 Problem Solving





Trainer and
facilitator
Cormac
Johnston

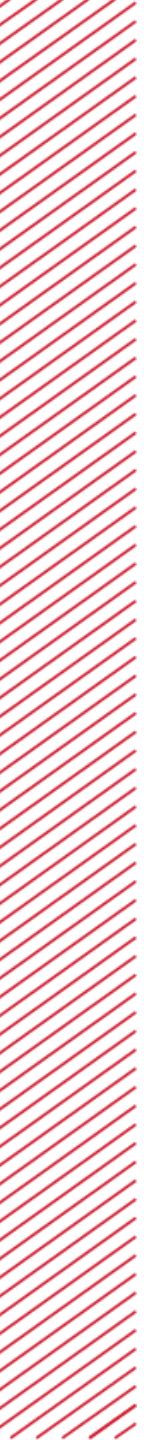


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Agenda

- What is a problem?
- History of A3
- What is A3 thinking?
- What A3 problem solving?
- Why we use A3 ?
- A3 story board creation





What is a problem and why is it so hard to solve ?

“It takes a different kind of thinking to solve a problem than the kind of thinking that produced the problem”

Albert Einstein

History of A3

- The A3 report is one of the many Lean management tools, developed as part of the Toyota Production System (TPS)
- The name A3 simply comes from the European A3 paper size corresponding to 11-inches by 17-inches or 29.7cm x 42cm

What is A3 Thinking

- Logical Thinking
- Present Information Objectively
- Process & Results
- Focus on Essential Data & Information
- Actions are consistent with company goals

What is A3 problem solving

- A common Format
- A single sheet
- 7 Blocks
- Based on PDCA Cycle
- Focus on understanding
- Advantage of planning

A3 & PDCA Cycle

Background & Support Data
(PLAN)

Describe the Current state
What are we trying to solve.
(PLAN)

Set Goals and Targets.
Define what success looks like
(PLAN)

Perform Root Cause Analysis
(PLAN)

Design Counter Measures
(PLAN)

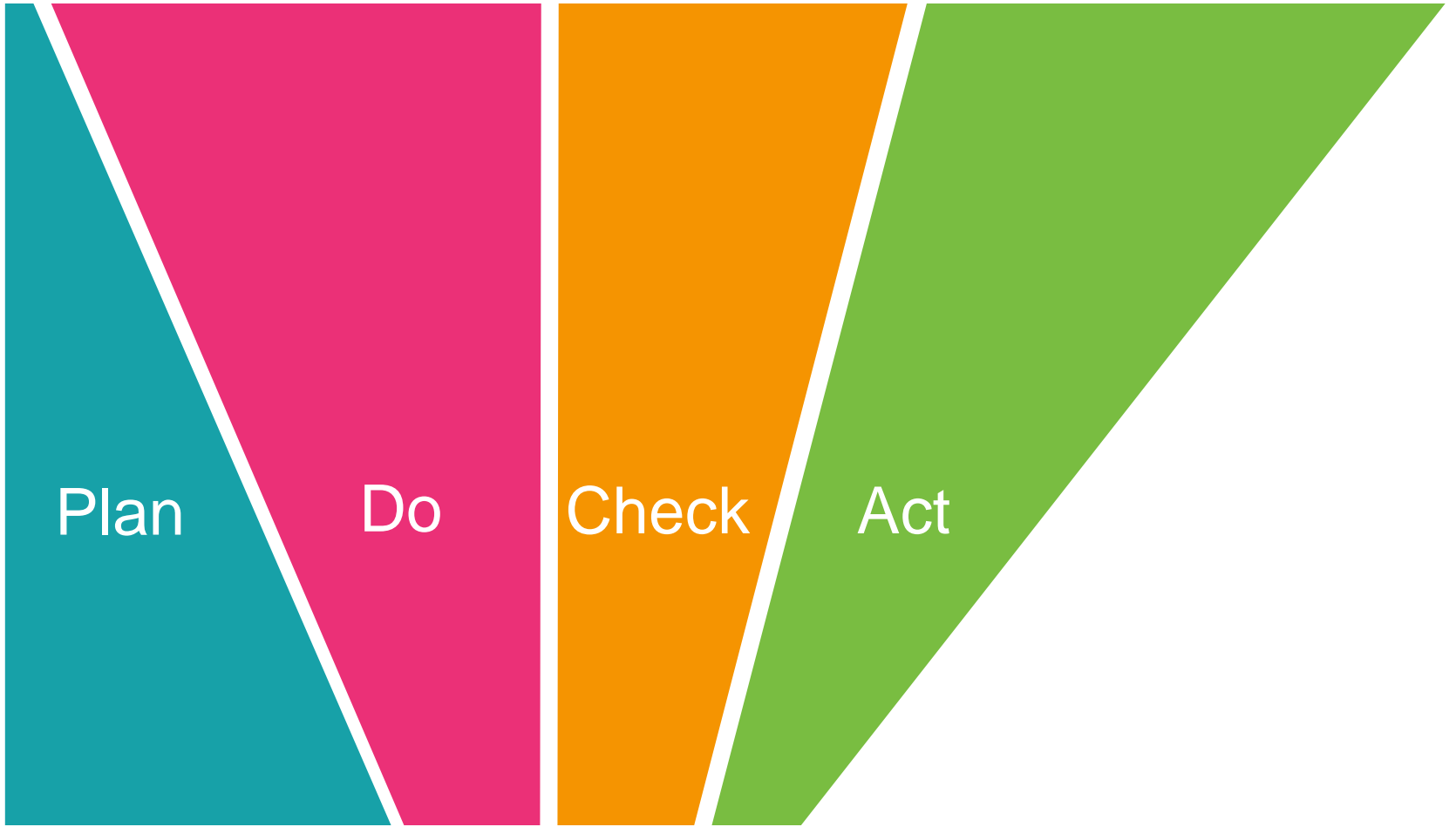
Implement the Countermeasures
(DO)

Follow UP (Check)

Follow UP (Act)



Project Leadtime



Plan

Do

Check

Act

Project Leadtime



Why use A3

- Encourages collaboration and team involvement
- Promotes information sharing
- Encourages learning
- Reinforces commitment to common goals

Advantages of Format

- Keeps everything concise
- A3 Model is consistent
- Information on just 1 page
- Uses Visual Charts and Graphics
- Encourages consensus & collaboration

Formats of A3

Title: What Are You Taking About ?



Owner / Date

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A3 & PDCA Cycle

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(PLAN)

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(PLAN)

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(PLAN)

Design Counter Measures
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Implement the Countermeasures
(DO)

Follow UP (Check)

Follow UP (Act)

Roles in A3 Process

- Mentor or Coach
- Problem Owner
- Stakeholders - internal and external
- A3 Task Team

How to create an A3 Storyboard

A3 Report Name

1. Background

- Importance
- Context

2. Current Situation

- Problem Statement
- Process Mapping

3. Set targets/goals

- Desired Outcome
- Success Metrics

4. Root Cause Analysis

- 5 Whys
- Dig Deeper
- Find Initial Problem

5. Countermeasures

- Possible Solutions
- Go Back to Goals and Add Details If Needed

6. Implementation

- List of Actions
- Assign Responsible Individuals

7. Follow-Up

- Report Results
- Standardize or Modify

Project Leader:

Team Members:

Department:

Date:

Step 1 Describe the Background

- State the Problem & Impact
- Provide Context
 - Background Information
 - How does it relate to company goals
 - How was it discovered
 - How does it manifest
 - What is the extend of the variation
- Present visually if possible
- Justify & Sell the issue

Step 2 Current Situation

- Visit the Problem (Gemba)
- Form a full understanding of the issue
- Write a Problem Statement
- Map the issue or process
- Present visually if possible

Step 3 Set Targets & Goals

- After the current situation is clear you need to set goals
- You don't have all the information- keep this in mind

Step 4 Root Cause Analysis

- Conduct a RCA

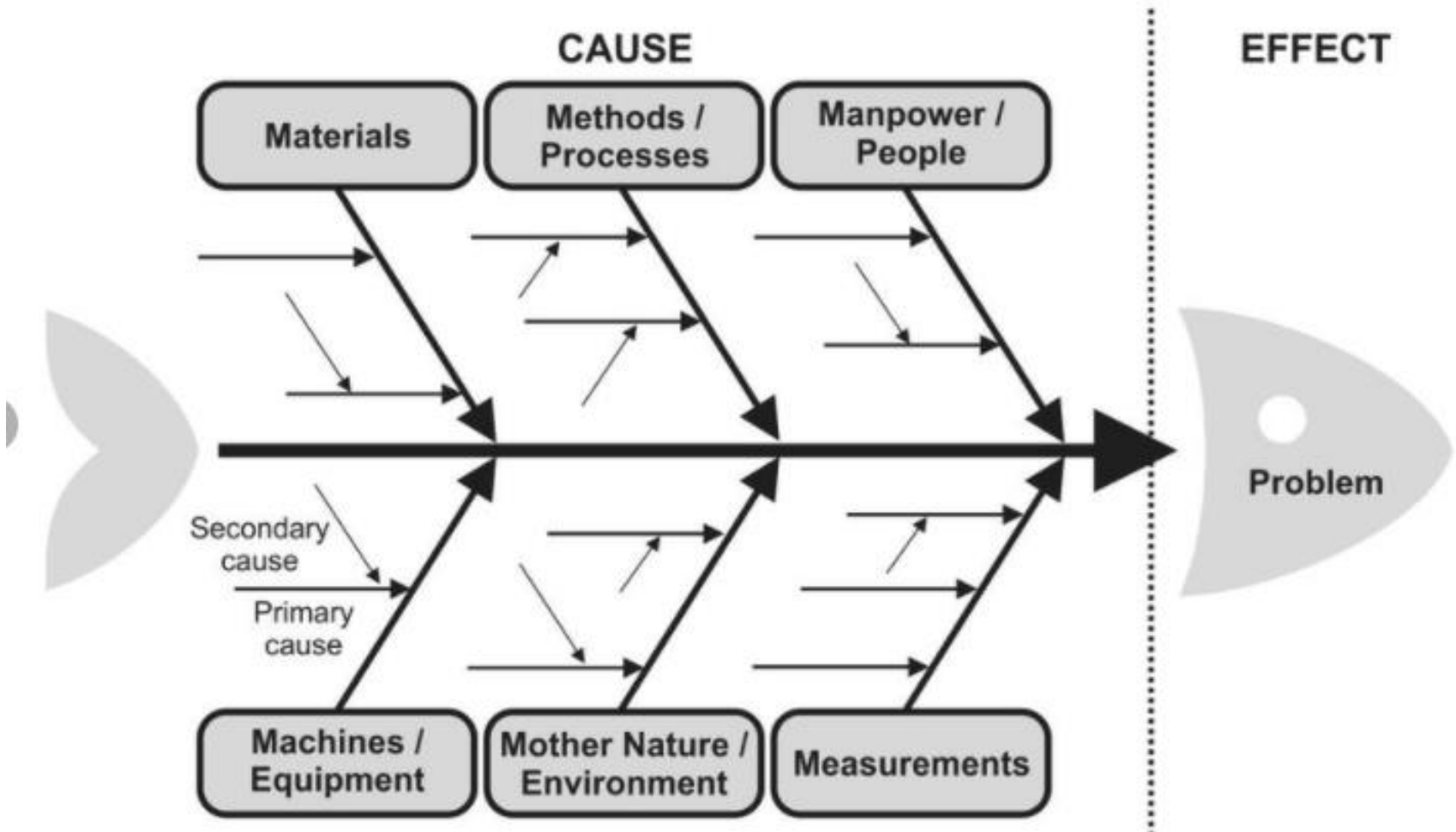
5Why's



5Why's

- Why are deliveries late
 - The driver gets lost
- Why does driver get lost
 - They do not use his sat nav
- Why do they not use his sat nav
 - Because they do not know how to use it
- Why do they not know how to use it
 - They were never trained

Ishikawa



Step 5 Design Counter Measures

- Design appropriate counter measures

Brainstorming Strategies

- 1) Analytical
- 2) Role Play Brainstorming
- 3) Quiet Brainstorming
- 4) Supported Brainstorming
- 5) Radically Creative Brainstorming

Brainstorming

- Mind mapping
- Reverse Brainstorming
- SWOT Analysis
- 5 Why's - already looked at
- Roleplay Brainstorming

Step 6 Implement Counter Measures

- Set up a blank register
- Use 4-5 counter measures
- Define
 - What
 - Who
 - When
- Set follow up schedule

Step 7 Follow UP / Verify

- Compare plan to actual
- Establish a new A3 ?
- Lessons learnt

Theme: Reducing Jeff Hajek's tardiness

Background

Tardiness has become a problem, jeopardizing job

- Last year, attendance was good—4 tardies all year
- This year, starting in March, averaging one per week
- Want to minimize the time spent preparing and driving
- Tardy defined as not being ready to work at 8:00

Jeff's Tardiness

Current Condition

- Planned departure time 7:15 for 8:00 start
- Average of 37 minutes from door to 'ready to work'
- Average 22 minutes of evening prep work
- Average 26 minutes of AM prep work
- Average 6 minutes to get settled at desk

Goal

- Reduce tardiness from 12/qr to 1/qr
- 91.6% reduction
- Minimize time spent preparing for / travelling to work

Jeff's Tardiness Target (per qtr)

Root Cause Analysis

Contributing Factors, Q2-2010

Tardy by month 2009-2010

- Old coffee shop closed in March
- New shop closer to home (higher variation, less information)

To: Jeff's Boss
 From: Jeff Hajek
 Date: October 14, 2010

Countermeasures

Suspected Cause	Action Item	Responsible	Due	Fining
Stopping early for coffee eliminates option to skip.	Find new coffee shop closer to work.	JeffH	9/14/10	@red and tested new shop. Decent brew, good donuts.



Follow-Up Actions

Action Item	Responsible	Due	Status
1. Open donut shop on-site at office	John Doe	3/1/11	Scheduled start 12/1/10
2. Improve AM process to prevent skipping breakfast	JeffH	1/31/11	Data collection in process

Learnings

Key Points A3

- A3 thinking is more than just filling out an A3 report
- Stops haphazard problem solving
- A3 thinking is a structured thought process that is based on the PDCA cycle.
- The A3 process is not an individual activity. It requires the effort of the whole team, including stakeholders

Key Points A3 Thinking

- No problem is ever fully resolved
- Make the target specific / have clarity to what agreed
- Don't expect to be an A3 expert immediately.
- Think about the process not the report
- Use imagery they are clear than words

What to learn more



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