

Root Cause Analysis

Solving Problems for Good

Root Cause Analysis Mindset

- Focus is on system, not people
- Goal is prevention of recurrence



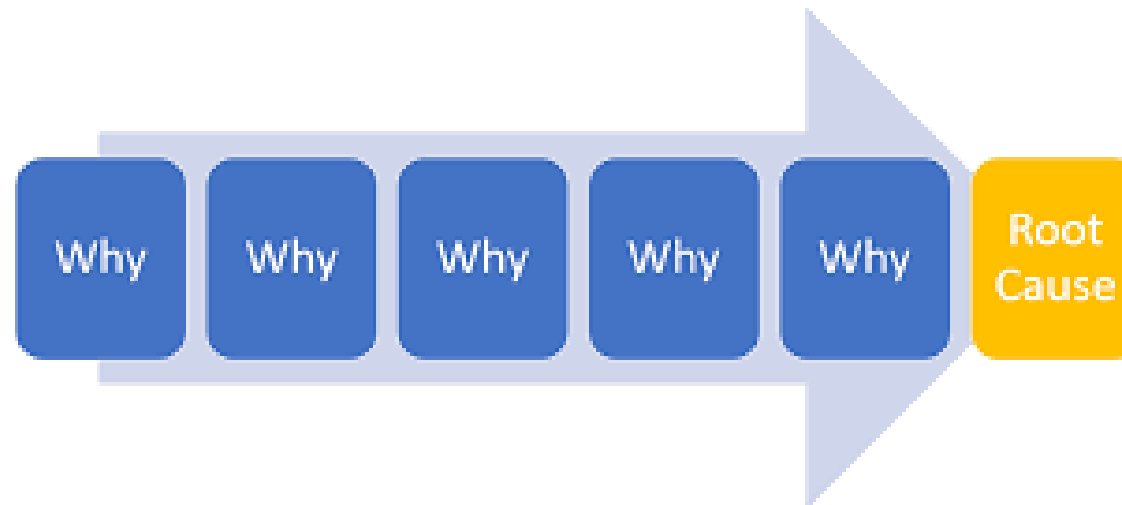
Symptoms v. Root Causes

- Symptom -
- Root Cause



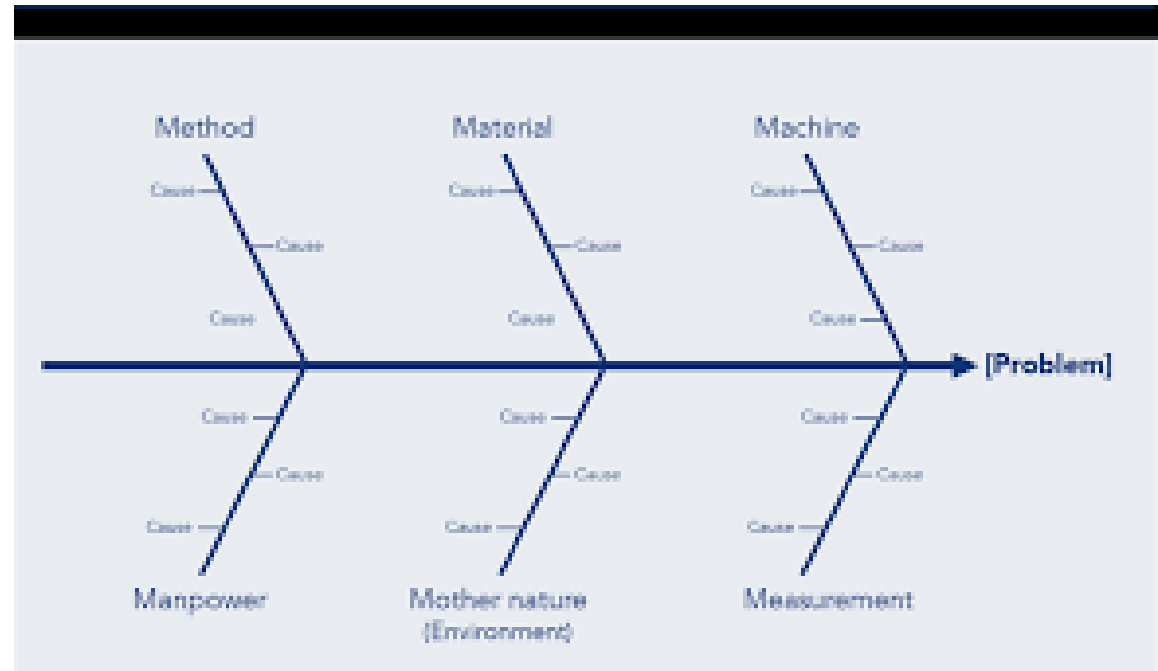
5 Whys

- Simple way to drive to root cause
- Based on asking “why” until process or system failure is identified
- Called 5 Why but could be more or less
- Can be expanded to 5 Why and 2 How



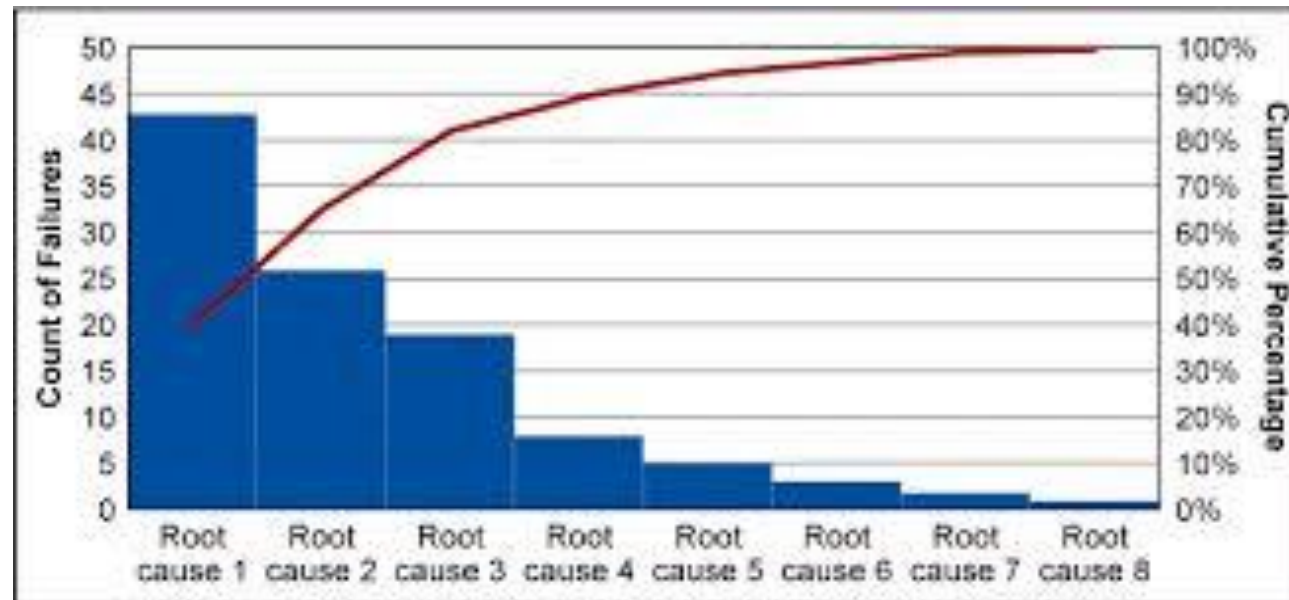
Fishbone / Ishikawa Diagram

- More complex tool to look at various factors
- Typically uses 6 “M” Categories
 - Manpower
 - Methods
 - Machines
 - Materials
 - Measurement
 - Mother Nature



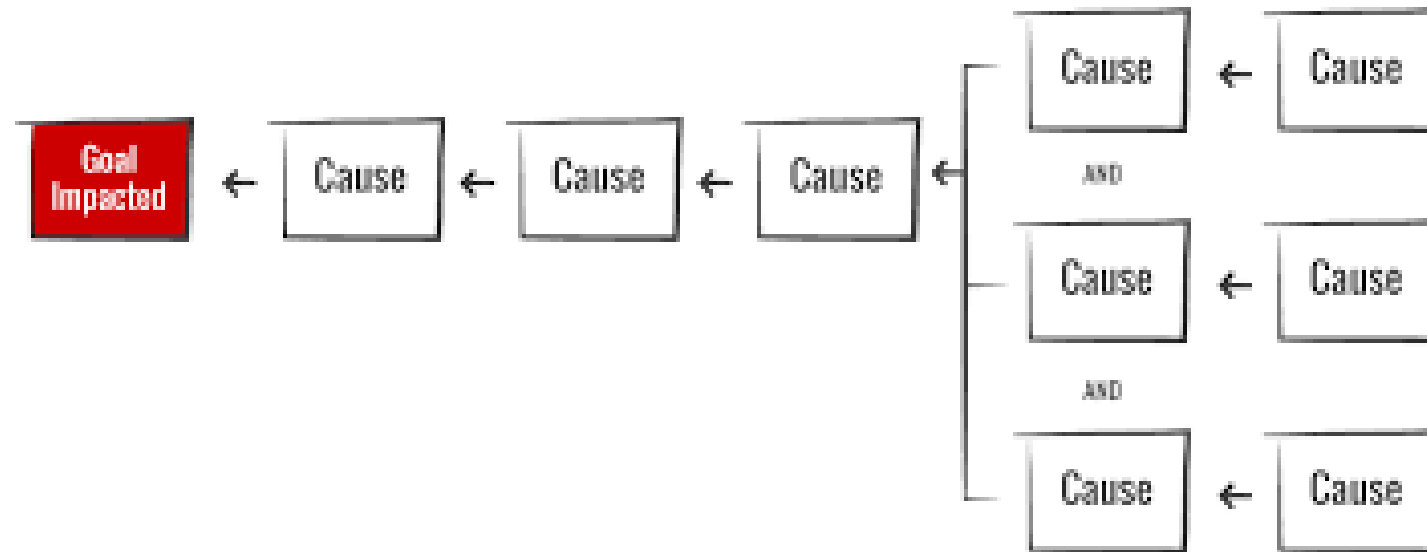
Pareto Analysis

- 80/20 rule
- 80% of the problems come from 20% of the causes
- Tool to help determine where causes are and allocate resources



Cause Mapping

- Amalgamation of 5 why and fishbone/Ishikawa
- Allows a 5 why to branch off into other causes



A practical example

Morning Coffee Emergency:

You wake up in the morning, expecting a carafe of coffee ready when you get to the kitchen.

When you get to the coffee maker, there is coffee all over the floor since you forgot to put the carafe in place.

What's the root cause?

A practical example

Morning Coffee Emergency:

Using 5 Why:

1) Why was coffee on the floor?

- The coffee started without a carafe in place to catch it

2) Why was no carafe in place?

- I forgot to replace it after washing it

3) Why did I forget to move it?

- I took a call while drying the dishes and walked away

4) Why did the machine brew without the carafe in place?

- The coffee maker only has a timer, not a sensor

5) Why use the timer and not an interlock?

- The design does not prevent the operation

A practical example

Morning Coffee Emergency:

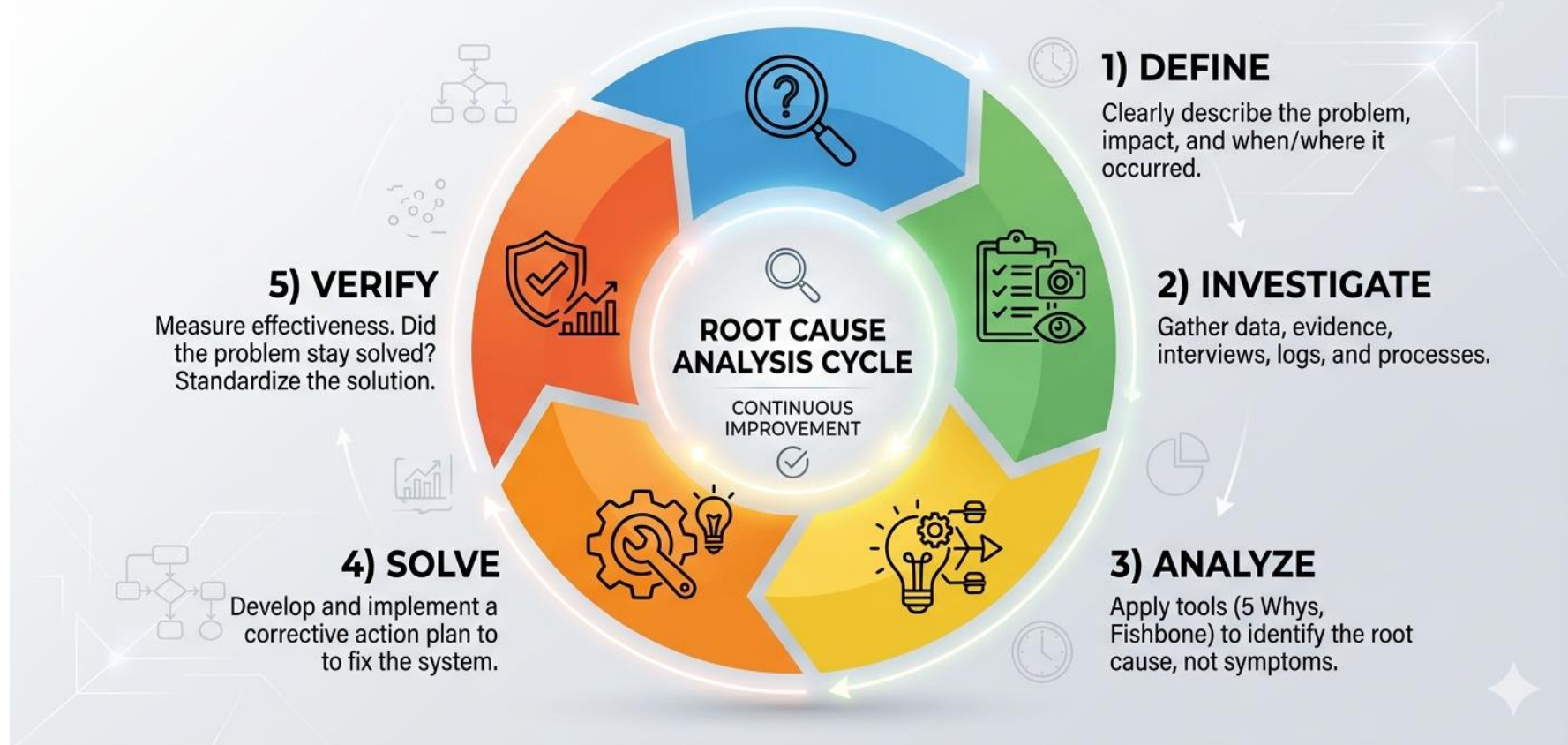
Root Cause

- The design of the unit doesn't have a built-in mechanism or fail-safe to prevent the occurrence

This could be an opportunity to apply the Poka-Yoke or mistake-proofing philosophy.

RCA Workflow – Simple 5 Steps

THE RCA WORKFLOW: YOUR 5-STEP ACTION PLAN



Call to Action

- 1) Identify where your organization is firefighting rather than fire prevention
 - Conduct a 30 day “Problem Log” audit
 - Look at the top 5 recurring issues and determine if the fix was a patch or addresses the root cause
- 2) Find a few small problem to work through the 5 why approach
 - Use and document a 5 why analysis on a small-scale problem
- 3) Scale internal expertise
 - Enroll key personnel in a specialized RCA Facilitator workshop to address the how-to elements of effective RCAs