

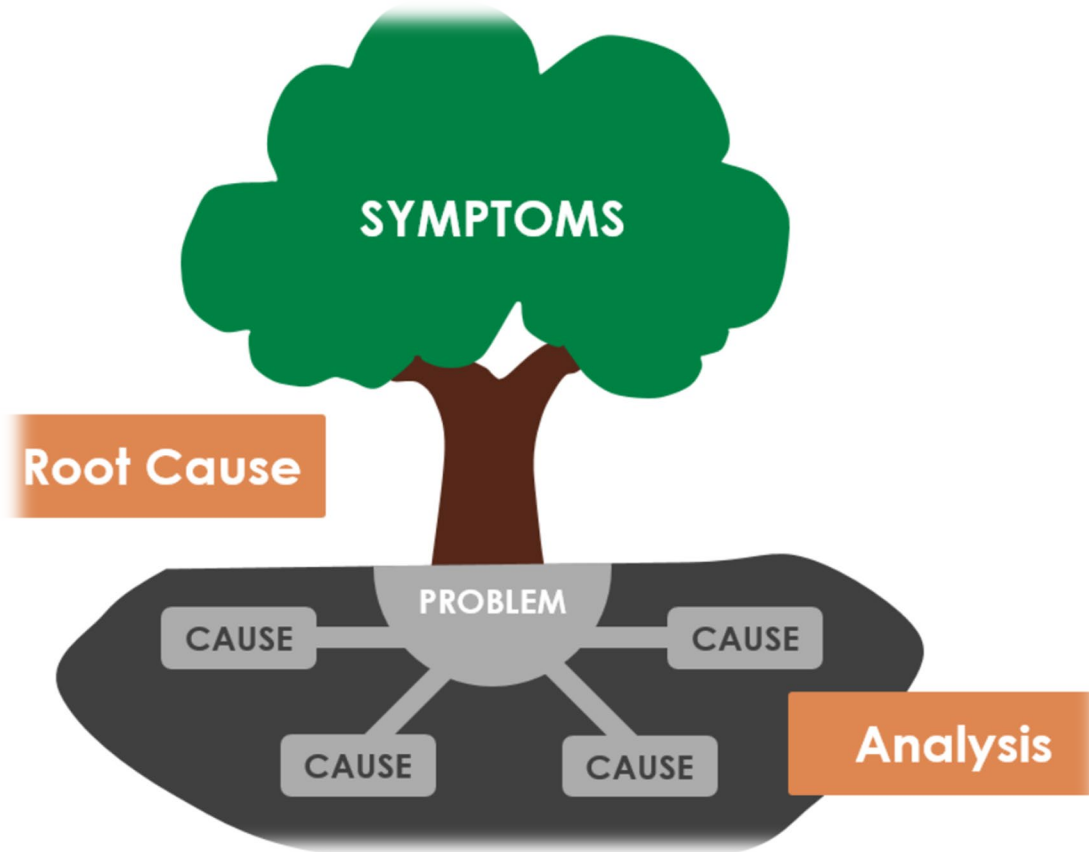


NPCE

National Precast Concrete Association

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ROOT CAUSE ANALYSIS



Root Cause Analysis (RCA) is used to determine the underlying issues in an incident. While this is a presentation focused on safety use, RCAs can be used in anything from accounting to quality issues.



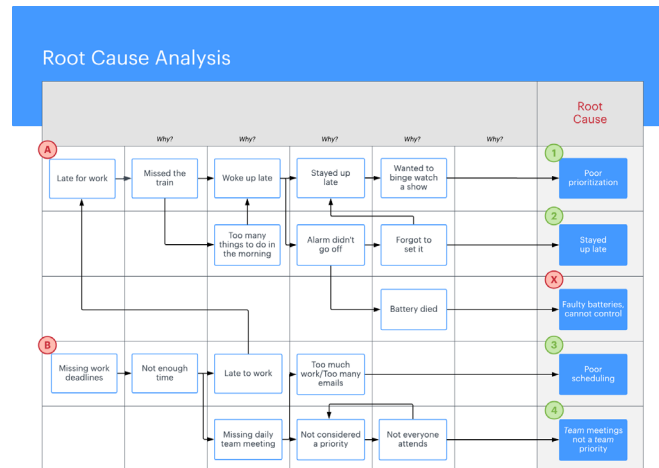
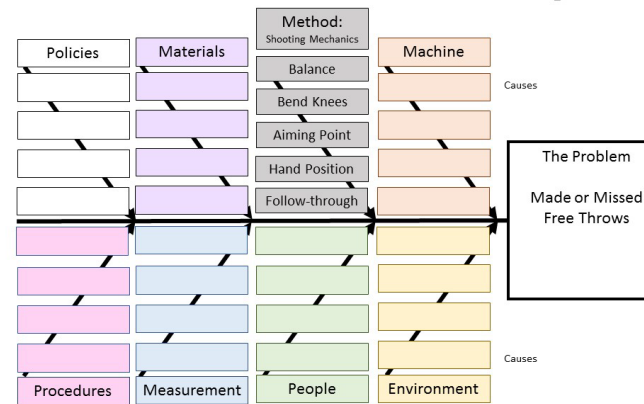
Safety incidents can quickly be summed up by saying that it was employee error. While that solution may seem likely, there is always at least one or more underlying management failures that contributed to the incident. If left unaddressed those failures will lead to more incidents.



There are multiple ways to conduct RCAs. Fishbone diagrams, risk/fault/factor trees, 5 whys, parent/barrier analysis, etc.

Root Cause Analysis Template					
PROBLEM	WHY?	WHY?	WHY?	WHY?	WHY?
Evidence What is the expression of the problem that is immediately identifiable?	Symptoms What are the symptoms on the surface? What are the basic assumptions as to why this problem is occurring?	Humans Who are the players directly or indirectly responsible for the problem to occur? What is the consistent behavior that repeats with each player? Consider visiting the Persona Creator to dive deeper into your audience's psyche.	Variables What are the variables that drive responsible parties to the behavior that persists? Sub-cause Sub-cause Sub-cause	Status Quo What are established systems and processes? What's a habit, tradition, obligation that connects to the problem variables sprout? Is it unchangeable?	Origins What is the original reason that funnels the responsible parties towards the problem? What are the real life factors? What is the opportunity for a solution?

The Fishbone **Root Cause Analysis**



Made in
Lucidchart



Despite the variety of ways to conduct RCAs, the basics remain fairly consistent. Please acknowledge these 6 useful steps in conducting your RCA's.

1. Define the Problem

The first step when performing root cause analysis is to analyze the existing situation. This is where the team identifies the factors that impact the problematic event. The outcome of this step is a statement that comprises the specific problem. A small team is tasked with the definition of the problem. This could be research staff who assesses and analyzes the situation. The question to be answered at this initial stage is: What is the problem?, How does the problem affect customer needs? etc.



2. Collect Data about the Problem

A critical step in root cause analysis is the collection of relevant data about an incident or a problematic event. Documenting all the characteristics and specifications of the event will help you answer questions like What are the contributing factors? When did the problem occur? Is it a repeating event? What is the observed impact? etc.



3. Determine Potential Causal Factors

Creating a sequence of events is important to identify causal factors that can contribute to the observed problem or event. The project team tasked with the analysis of the problem should establish a timeline of events and brainstorm as many potential causal factors as possible by asking “Why?” questions. Using a causal graph, for instance, helps to visually represent the connection between events and enables tracking of the root cause.



4. Determine the Root Cause of the Problem

This is the time to identify as many causes as possible. The analysis team can use techniques such as the 5 Whys, Fishbone analysis, or Pareto chart to narrow down the potential underlying cause or causes of the problem and the major contributing factors. During this phase, stakeholders and other relevant teams should be involved.



5. Prioritize the Causes

Once the root causes are established, they need to be prioritized and tackled accordingly. To determine which cause or challenge to address first, the analysis team needs to assess what is the impact of the cause - the higher the impact, the greater its priority. Another point when prioritizing root causes is the number of causal factors triggered by a specific challenge - the greater the number of causal factors, the greater the impact of the root cause is and yields immediate addressing.



6. Solution, Recommendation, and Implementation

Next step upon establishing root causes and their prioritization is finding solutions to the problem and their implementation. Brainstorming is a great way to attempt and come up with a variety of potential solution scenarios. Another approach is interviewing as many people as possible. Gathering input as well as the implementation of the solution requires involvement from everyone. On one hand, every recommendation counts, and on the other, a successful implementation is the one that sticks with everyone affected.

