

Andy's Apollo Root Cause Analysis "How-To" Checklist

4-22-2025

1. Define the problem – Common understanding

- WHAT – Which aspect has the biggest impact
 - i. Use Noun (subject) Verb (action) words (2-4)
 - ii. Leave out relative adjectives
- Where did it happen
- When
- Significance – Answer these questions intentionally
 - i. Should we continue the investigation?
 - ii. How much time should we spend?
 - iii. How many people and what types should be involved?
 - iv. How much \$ and effort are we willing to spend on solutions?

NEVER INCLUDE:
Who-Avoid blame, stay objective
Why-Resist asking why before defining what
* Remember, there is **POWER** in the place of **agreement!**

2. Causes – Effects

- Causes and Effects are the same thing
- Causes and Effects are part of infinite continuum
- Each effect has at least 2 causes
- Effect exists only if it's causes exist in the same point in time and space
- Five elements of cause and effect chart
 - i. Primary Effect
 - ii. Causes in the form of Actions and Conditions
 - iii. Causal Connections (arrows between the causes)
 - iv. Evidence
 - v. Stop or question mark at the end of each cause chain
- Evidence – Need for each Cause
 - i. Sensed (5 of 'em) = **Know**
 - ii. Inferred = **Know**
 - iii. Intuitive = Explore further (**Need to know, Think we know, Opinion**)
 - iv. Emotional = Explore further (**Think we know, Opinion**)

Two Causes (at least):
Action-are momentary
Condition-exist over time

Question Marks
(end of chain):
Cause Valid?-in the text
Unknown Next?-after box
No Evidence?-below box

3. Solutions

- Brainstorming
 - i. Creative part of process
 - ii. Generate numerous ideas
 - iii. Resist analysis now...later
- Analysis – Challenge against criteria
 - i. Within our control
 - ii. Prevents recurrence
 - iii. Complies with organization's goals and objectives
 - iv. Does not create other problems
- Most effective solutions
 - i. Typically address **Condition** causes
 - ii. More control over **Conditions** than **Actions** and more reliable
 - iii. **Action** solutions need very specific desired outcome definition
 - iv. Punishment and retraining are rarely effective at preventing recurrence
 - v. More solutions are better – more to choose from – choose wisely.

BRAINSTORMING:

1. **Establish Guidelines**-Work methodically, start at the right side of chart
2. **Answer Question**-What can we do to change/control/prevent cause from occurring again?
3. **Capture All Ideas**-Don't judge good/bad
4. **Repeat for all causes**-All the way back to primary effect – review and discuss

Summary Report Should Contain:

1-Problem Definition 2-Summary Statement 3-Team member list 4-Viable Solutions 5-Cause and Effect Chart