

Five Whys – How To Do It Better

Five Whys – Definition. As explained in the previous article, we define root cause as simply the uncovering of how the current problem came into being. For a simple causal chain, it is the entire chain. For a complex system of interlocking paths and events, again it is the entire thing. You know you are done gathering information when you see the complete picture of how this problem came into being and are ready to consider what to do about it.

The following are several tips for making better use of the Five Whys procedure.

1. **Verify the cause before proceeding.** One way to improve the use of the “Five Why” procedure is to insist that all answers be verified (to the extent possible.) It is one thing to ask what caused something and it is another to know the answer! It is not enough to give an answer that seems right or popular. It is crucial that each link in the causal chain is the **verified, true cause**. False links will lead to ineffective corrective actions (at best) and disasters (at worst). (Use the **BPI** Problem Solving tool when cause analysis is required to verify a link.)
2. **Find the cause *first* then decide what to do to fix the problem.**

It is common to confuse the cause of a problem with the world’s failure to implement your solution! For example, one might see the cause of the increase in absenteeism as a lack of an *absenteeism policy*. And, one might believe the cause of a child eating cookies before dinner to be the lack of *discipline* by the parents. Or, perhaps one thinks the cause of a defective part delivered to a customer was because we do not have a *final inspection point* prior to shipping.

 - ❖ Though a new policy may affect absenteeism, a missing policy does not *cause* absenteeism.
 - ❖ While discipline can affect a change in the child’s behavior, the lack of discipline is not the cause of the behavior. A child eats cookies

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because she is hungry, and she thinks cookies are delicious.

- ❖ Installing an inspection station could prevent the delivery of defective parts after they are created. But, installing an inspection system will not stop the creation of defective parts.

The existing series is:

- 1] create defective parts,
- 2] ship to customer.

The focus now should be on what triggered the problem, today, not what to do about it in the future. Learn the current sequence and use this knowledge to develop the best way to correct the problem.

Ask, “How did this problem come into being?”, and lay out the answer step by step. This is an historical investigation – *don’t change the system or anything else yet!* Put a hold on ideas for how to prevent this problem in the future.

Logically, deciding what to do to fix a problem comes after a full understanding of how the problem was created in the first place.

3. **Use *simple, not compound* cause statements.**

Properly implemented, the Five Why procedure will often reveal higher level causes. For example:

- Parts failing at a high level
- Many workers using an improper fitting technique
- Many workers don’t know the proper technique
- Manager decided to cancel training
- Worker staffing level reductions mandated

But, one problem we have observed with using the Five Why procedure is that people get stuck at one level. When they should proceed deeper down the causal chain (from problem, to a part, to a procedure, to the system, to a management decision), instead people get stuck providing more and more detail about one link.

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After considering this, we noticed that people get stuck because at some point they created one (or more) compound cause statement(s) in their Five Why series.

Compound Cause Statements - Example: *(How the mind interprets WHY? in parentheses.)*

Problem: SUV Model Z exhaust system rattle

- (A) Why? *(Why does the exhaust system rattle?)*
Because of a change of **position of the bracket** results in **vibration**.
- (B) Why? *(Why does the bracket position cause vibration?)* Because the bracket is **too close** to the pipe resulting in vibration.
- (C) Why? *(Why does being very close result in vibration?)* Because the vibration from the pipe and vibration from the road are additive due to vibrational harmonics.
- (D) Why? *(Why are road plus pipe vibrations harmonic?)* ...STOP! (we are off into a technical rabbit hole thinking about "HOW" position created more vibrations and not progressing deeper, back in time.)

Asking "Why?" of a compound cause often results in our reversing the analysis to a cause-effect sequence (going forward in time) and out of the effect back to cause "5 Whys" pattern. The reverse sequence of causes is interrupted because in compound sentences the mind becomes confused about what "Why?" refers to.

Statement (A) contains a compound cause. Asking "Why?" tricks the mind into interpreting the question as "*how did bracket position result in vibration?*" The chronology is wrong. We're not trying to explain "how" the bracket position caused vibration. We want to focus on the bracket positions and find out "*What caused the bracket to be in that position?*"

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Always work to go back in time from cause to its cause not forward explaining cause to its effect. Statement (B) also contains a compound cause.

The following shows the Five Why procedure without the trap of compound cause statements leading to (or towards) a systemic cause:

Problem: SUV Model Z exhaust system rattles

- (A) Why? (*Why does the exhaust system rattle?*)
Because of the exhaust pipe **vibration**.
- (B) Why? (*Why does the pipe vibrate?*) Because the exhaust **bracket is very close** to the support.
- (C) Why? (*Why is bracket now very close to the support?*) Because the line **workers installed** bracket in this location.
- (D) Why? (*Why did workers install bracket very close to support?*) Because **specifications** stipulate this new location.
- (E) Why? (*Why did specs stipulate this location?*)
 1. We don't know!

Notice this analysis correctly moves backward in time, making clear the entire chain of events which led to the presently observed problem.

4. **Use the "THEREFORE" test** to check your RCA series! The purpose of the "THEREFORE" test is for the troubleshooter to check the logical flow of the causal chain from the earliest point in the sequence up to the present. After completion of any causal chain, go to the earliest link reading each statement in turn with the word "therefore" between links. In the example above this would become:

(D) The specifications stipulated this location
– THEREFORE –

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(C) The line workers installed the bracket in this location

– THEREFORE –

(B) The bracket was too close to the support

– THEREFORE –

(A) The exhaust pipe vibrates

– THEREFORE –

The model Z exhaust system rattles.

[The “Therefore” tip comes from the [“Three Legged Five Whys”](#) technique as described in the 3L5W article.]

Conclusion

The 5-Whys procedure is not an ANALYSIS tool. You need a cause analysis tool to use the 5-Whys properly. The **BPI Problem Solving** process is a powerful tool for finding cause. It answers the question “Why?” and can be used when needed to proceed back into the past, down the causal chain, one link at a time. Please click [Contact](#) to let us know what information you might want about **BPI** products and services. Or read more about our **BPI workshops** related to problem solving and tracking root cause here:

- [Systematic Problem Solving](#)
- [Critical Thinking](#)