



Root Cause Analysis – The Five Whys Method

The Five Whys RCA model is a simple, effective, easily accessible root cause analysis tool which, if used effectively, can improve accident/ incident investigation and assist in the improvement of work practices, operational procedures and workplace safety culture.

Definition

Root cause analysis (RCA) - a method of problem solving that tries to identify the root causes of faults or problems to focus on preventing them, rather than to 'simply address symptoms'. RCA is undertaken post event/incident. It is a systematic, iterative process, and as such, a tool of continuous improvement.

RCA identifies:

- factors that resulted in the nature, magnitude, location, and timing of the harmful outcomes (consequences) of an event/s
- behaviours, actions, inactions, or conditions need to be changed to prevent recurrence
- lessons to be learned to promote the achievement of better consequences.

Rationale

Focusing correction on root causes of a problem or the 'true cause' rather than just addressing symptoms, is effective in preventing problem recurrence leading to reduced incident frequency over time. This focus enables efficient, targeted use of resources for prevention strategies.

Root cause analysis can transform a reactive culture to a forward-looking culture that solves problems before they occur or escalate.

RCA also enables the identification of the most effective, cost efficient solution to address the root cause.

Background

ACT Government and JACS accident incident reporting data trends identify little improvement in numbers or severity of accident/incidents. This along with the escalating Comcare premium of approximately 80 million dollars indicate that current approaches to the investigation of Accident/Incidents and application of prevention strategies/existing controls require closer scrutiny to improve injury prevention outcomes.

Improved investigative procedures must be applied to incidents to determine the underlying cause, relevancy and effectiveness of controls. This will lead to the development of effective strategies that effect change to work practice and cultures that impact on safety performance. These strategies/controls should be communicated to all relevant staff and documented in iterative review of Local Risk Registers.

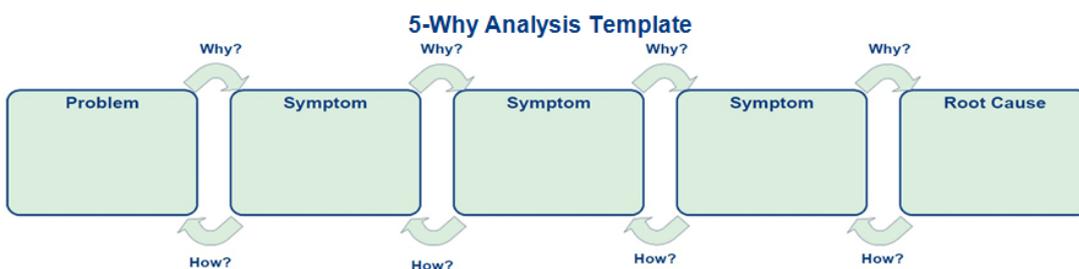


Proposed Implementation:

The Five Whys Method of RCA can be easily employed at the local business unit level. This will correctly place ownership of prevention and application of corrective action within the local site, with the team where the incident occurred, the most effective means of achieving improved outcomes.

The Five Whys Overview

The Five Whys RCA was made famous in the Toyota Production System. It is based on the principle that often the answer to the first “why” a problem/incident occurs uncovers another reason and generates another “why.” It often takes five “whys” to arrive at the root-cause of the problem.



The Five Whys Procedure

1. Assemble a team of relevant people knowledgeable about the area of non-conformance/incident
2. Write out a description of what is known about the problem. Document the Problem/Incident and describe it as completely as possible. Refine the definition with the team. Come to an agreement on the definition of the Problem/ incident at hand.
3. Have the team members ask “Why” the Problem/Incident as described could occur, and write the answer down underneath the description. Use the validation step (below) to ensure the answer provided is valid.
4. If the answer provided from 3 (above) does not solve the Problem, repeat steps 3 and 4 until solved.
5. If the **answer from step 3** (above) **seems likely to solve** the Problem, make sure the team agrees and attempt a resolution using the answer.

You may find that there is more than one root cause for the problem/incident. Where there is more than one; corrective actions should be implemented for each one.

‘Why’ Validation Questions

1. Is there any proof (something you can measure or observe) to support this root-cause determination?
2. Is there any history or knowledge to indicate that the possible root-cause could actually produce such a problem?
3. Is there anything “underneath” the possible root-cause that could be a more probable root cause?
4. Is there anything that this possible root-cause requires in order to produce the problem?
5. Are there any other causes that could possibly produce the same problem?



ACT
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Example

Problem Description: The Lift failed and was stuck between floors*

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|---|---------------------------------------|
| Why 1 - Why did the equipment fail? | Because the circuit board burnt out. |
| Why 2 - Why did the circuit board burn out? | Because it overheated. |
| Why 3 - Why did it overheat? | Because it wasn't getting enough air. |
| Why 4 - Why was it not getting enough air? | Because the filter wasn't changed. |
| Why 5 - Why was the filter not changed? | |

Root Cause: Because there was no preventive maintenance schedule in place informing the operator to do so.

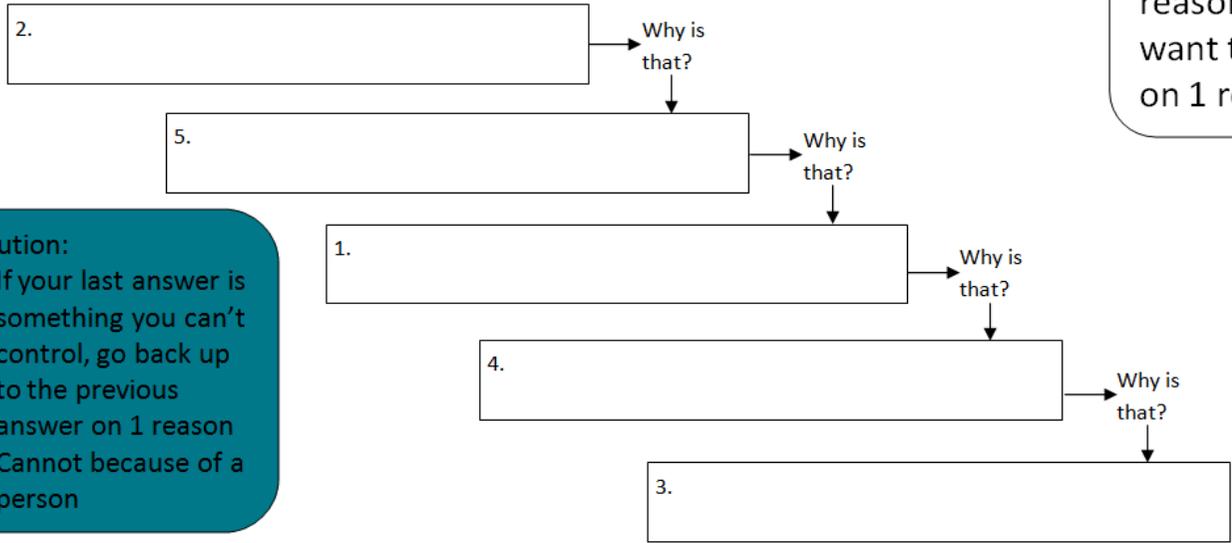
*N.B. Hypothetical example which bears no relevance to any similar event



5 Whys Worksheet

Define the Problem:

Why is it happening?



You don't want to list 5 different reasons; you want to go deep on 1 reason.

Caution:

- If your last answer is something you can't control, go back up to the previous answer on 1 reason
- Cannot because of a person

Action: