



Root Cause Analysis – The Thoughts of a Crisis Manager

Why Understanding Root Cause Analysis (RCA) Is Critical to any Organisation

It doesn't matter how large or small the organisation is, or what profile the organisation may operate in, there are some core concepts to understand in risk and crisis management that are critical in dealing with crises. The organisation and its key quality and risk management teams must understand that, should they want to negate risk and control factors from any post-risk crisis event, it is important to know how to get to the true underlying cause of the issue, so they can prevent it from resurfacing in the future.

There has been one major oversight I have witnessed when closing out on product recall incidents – the failure to formally understand root cause analysis and the lessons learnt to improve on performance for the future. All too often a crisis is closed in formal terms, without completing a root cause analysis, thereby allowing the potential risk to resurface later, resulting in multiple recalls which are, again, common in the marketplace.

A Classic Example of Root Cause Analysis

Imagine an investigation into a machine that stopped because it overloaded, the fuse blown. Investigation shows that the machine overloaded, because it had a bearing that wasn't being sufficiently lubricated. The investigation proceeds further and finds that the automatic lubrication mechanism had a pump which was not pumping sufficiently, hence the lack of lubrication. Examination of the pump shows that it had a worn shaft. Investigation as to why the shaft was worn discovers that there wasn't an adequate mechanism to prevent metal scrap getting into the pump. This allowed scrap to get into the pump and damage it.

The apparent root cause of the problem is therefore that the metal scrap can contaminate the lubrication system. Fixing this problem ought to prevent the whole sequence of events recurring. The real root cause may be a design issue - there is no filter in the pump to prevent the metal scrap getting into the system; or, if it has a filter that was blocked due to the lack of routine inspection, then the real root cause is a management issue.

Compare this with an investigation that does not find the root cause. Replacing the fuse, the bearing, or the lubrication pump will probably allow the machine to go back into operation for a while. But there is a risk that the problem will simply recur, until the root cause is dealt with [Wikipedia, Root Cause Analysis. accessed 19 July 2019].





The above is a super example of a methodology to determine Root Cause Analysis (RCA). As the name implies, the method seeks to identify the root cause of any issue. Bear in mind that RCA is typically not concerned with developing a proper solution, but rather pointing you in the right direction with regards to what the problem was in the first place, allowing the organisation to introduce changes which will negate or reduce the impact of a crisis. Without analysing the root cause, you will likely spend a lot of time, resources and revenue applying solutions that either work as a temporary fix, or don't do anything to address the problem at all.

Core Principles

There are several core principles that guide effective RCA, some of which should already be apparent. Not only will these help the analysis quality, these will also help the analyst to gain trust and buy-in from clients.

- Focus on correcting and remedying root causes, rather than just solving the initial crisis
- Realise that there can be, and often are, multiple root causes
- Focus on HOW and WHY something happened, not WHO was responsible
- Be methodical and find concrete cause-effect evidence to back up root-cause claims
- Provide enough information to inform, and thereby take a corrective course of action
- Consider how a root cause can be prevented (or replicated) in the future

As the above principles illustrate, when we analyse deep issues and causes, it's important to take a comprehensive and holistic approach. In addition to discovering the root cause, we should strive to provide context and information that will result in an action or a decision. Remember: good analysis is actionable analysis.

What's Included in Security Exchange's Template (Root Cause Analysis)

An RCA template, also known as a root cause corrective action template, typically contains the following sections.

- **Event description:** The problem or crisis being investigated is described in as much detail as possible. This includes the date and time of the event, what happened, who uncovered it and who was impacted by the problem (as well as how they were affected).
- **Timeline:** This section includes a thorough description of all events before, during and after the problem or crisis occurred. This can help uncover potential underlying causes of the incident
- **Investigative Team/Method:** This section identifies the team that will be responsible for investigating the problem, what methods they will use for collecting and analysing data, and how their findings will be reported
- **Findings/Root Cause:** The investigative team reports their findings and describes the root cause they have identified
- **Risk Analysis:** What is the likelihood of further risks and can they be determined accurately?
- **Corrective Action:** The action(s) that must be taken to correct the problem and ensure it doesn't happen again. These actions can result in project scope, schedule, and budget changes
- **Solutions:** Reduce risk by controlling causes. Any cause is a potential candidate for a solution - we manage risk through diversification by finding creative ways of controlling multiple causes





Solutions need to be effective and be implementable. It makes no sense to recommend a solution that cannot be implemented.

Challenge the investigation team to identify creative solutions that will reduce risk for everyone involved in future similar events

- Reporting/Closing Finally, report findings in a consistent format. At a minimum, include a problem statement, a summary of the event, a list of proposed solutions and also plan to follow up, to ensure solutions are completed and are working as intended.

The above are a small selection of the points included in the Security Exchanges Root Cause Analysis supporting documentation. Root cause analysis is essential in a modern business and is part of every crisis team leader's toolkit. In conjunction with regular auditing and other process monitoring activities, it is possible, with experience, to highlight potential risk and the subsequent crisis often before they can jeopardise the company and also describes the approach that will be used to address the problem and prevent against it going forward. Diagrams illustrating cause-and-effect relationships may also be included as part of the analysis

Solutions

Solutions reduce risk by controlling causes. Any cause is a potential candidate for a solution, not just those at the end of a cause branch. In fact, a diverse set of solutions is desired to minimize the risk of recurrence. Just like a balanced investment portfolio, we manage risk through diversification by finding creative ways of controlling multiple causes.

Be sure the solutions offered will:

1. Be effective. Solutions need to control the target cause and break the causal chain
2. Be implementable. It makes no sense to recommend a solution that cannot be implemented
3. Provide a positive return on investment. Is there a solid business case to implement the solutions proposed based on the impact of the problem?
4. Solutions should not cause other problems. Consider how the proposed solutions could potentially impact others in a negative way. Anticipate potential negative impacts and adjust accordingly
5. Challenge the investigation team to identify creative solutions that will reduce risk for everyone involved in future similar events

Reporting

Finally, report findings in a consistent format. At a minimum, include the problem statement, a summary of the event (based on the cause and effect chart), a list of proposed solutions, a list of team members, and any remaining tasks. Be sure to assign each solution to a person along with a due date. Plan to follow up to ensure solutions are completed and working as intended. Be sure to share with others that could benefit from the RCA.

Closing

Audit quality issues are significant problems because they undermine trust. These problems offer valuable learning opportunities that must not be overlooked. Conducting a root cause analysis is the best way for the organization to learn and improve. Root cause analysis is not difficult. With the right training, tools, and a bit of practice, competency can be achieved in a short period of time.

