

## 5 Components of an Effective and Sustainable RCA Program

From the experience we've gained working with hundreds of organizations, we've recognized 5 key components that are essential for developing an effective and sustainable root cause analysis (RCA) program. We've defined a system within each of these elements that provides a structure for companies to foster and improve their internal efforts. While a proven methodology and sound training are important, they are only one part of the equation that determines the results you get from your investigation and prevention program.

This graphic outlines the 5 key components of an effective and sustainable RCA Program. At the top, you must have a structured and **proven methodology** for investigating problems. A developed and **defined RCA process** will dictate how the RCA is used within the organization. **Sound training** on the tool and the RCA process provide your employees with the skills needed to get the expected return from your program. Identifying and developing **RCA Champions** are important to drive consistency and provide support to sustain the effectiveness of the program. Leveraging the expertise of an external partner to provide **Support** for investigating high severity/risk problems and provide feedback and support for your RCA program.



### #1 - Proven RCA Methodology: **CAUSE MAPPING**<sup>®</sup>

Problem Solving • Incident Investigation • Root Cause Analysis • Risk Mitigation

The Cause Mapping method is an extremely effective **systems-thinking approach** to root cause analysis that improves the way people collect and organize information. This methodology captures the complete investigation with the best solutions all in an easy to understand format. It minimizes terminology and buzzwords by focusing on basic principles. Clear communication is required for **solving problems effectively**. We teach individuals how to document information with pen and paper, using sticky notes on dry-erase boards or chart paper or even electronically in Microsoft Excel. The Cause Mapping method is used in a variety of industries by front line employees and management to prevent problems and improve results. Benefits of Cause Mapping:

- Effective at exposing causes and therefore multiple solutions.
- The visual nature improves problem communication.

- Easy to understand and apply at all levels within the organization.
- Minimizes the use of terminology and buzz words; focuses instead on the details of the problem
- Does not exhaust resources to apply.
- Scalable: Can be used to troubleshoot small day-to-day problems as well as large high severity problems.
- No software installation is needed to apply.
- Incorporates customizable tools and templates that align with your organization's goals.

## #2 - Sound Training

An effective training solution will teach your employees the skills necessary to apply the Cause Mapping methodology. ThinkReliability has developed an extensive multi-faceted training program to meet the training requirements for the different roles within your RCA program. We pride ourselves in our ability to customize our training solution to meet specific client needs. We host workshops (public, client site, online) and provide ongoing training support and solutions after the workshop ends.

Cause Mapping  
Workshops  
Incident Case Study  
Facilitator  
Certification

- Each one of our instructors has an engineering background along with vast experience investigating problems across multiple industries. To ensure consistency, we put each instructor through an intensive training process lasting several months.
- We have created training solutions to match the role an employee has within the investigation program.
- The training solutions incorporate exercises and examples of “real world” problems and company specific examples.
- Additional training support solutions after the workshop ends includes remote support and incident case study.

## #3 - Defined RCA Process

An important and often overlooked factor to getting sustainable results from your RCA program is defining a detailed process for how and when an RCA is conducted. The process must be built specific to your organization. A few of the elements that should be clearly defined include:

- Data developed trigger points for conducting an investigation.
- Guidelines on the appropriate level of detail (based on severity).
- Documentation and Database requirements for incidents and action plans .
- Steps for implementation and follow up on action items.

- Roles and responsibilities.
- Defined Stakeholders and RCA Champions
- Reporting requirements
- Protocol for sharing lessons learned across the organization (Cumulative Cause Maps)
- Training requirements

ThinkReliability can provide support and recommendations for your RCA process or help design and develop it. Because our methodology minimizes terminology and has easy to use tools with no software, we are able to build on the strengths of your RCA program without adding excess processes and systems. Typically this is done in two phases with the goal of leveraging and building on what you already have in place.

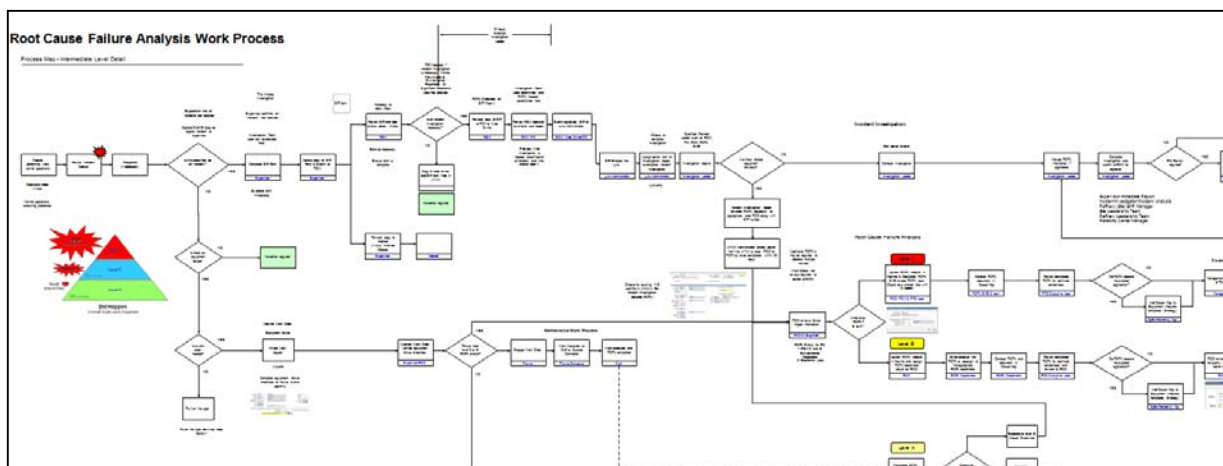
**Phase 1: Capture Current RCA Process**

The ThinkReliability approach to solving problems and improving organizational reliability emphasizes the importance of clearly defined process. We begin by capturing a current-state process map of your RCA program. This process capture will provide valuable insight into the strengths and weaknesses of the current RCA process. Strengths of the program will be built upon with the future RCA program and solutions will be incorporated to mitigate any weaknesses.

**Phase 2: Develop Future State RCA Process**

ThinkReliability will work with your stakeholders to develop the future state RCA program and processes. The RCA program recommendation will include at a minimum RCA trigger points for 3 levels of severity, RCA role definitions, investigation guidelines, documentation guidelines (forms, etc.), corrective action implementation, and reporting requirements.

Below is a partial screenshot of an RCA program that we developed for a client. As mentioned above, our methodology leverages work process to improve reliability within an organization. This same approach also applies to the development of a complete RCA program.










## #4 – RCA Champions

One of the characteristics of organizations that have an effective and sustainable RCA program is the development of key people who are experts at investigating problems. For the organization, they play an important role serving as a subject matter expert (SME) for root cause analysis/incident investigation and help champion the Cause Mapping efforts. As trained facilitators they're able to break down a problem effectively and efficiently and document the entire incident. As a result, they are also the people that your organization will rely on to help investigate complex and high risk problems.

To help identify and develop champions of the Cause Mapping approach, ThinkReliability has created a **Lead Facilitator Certification** program. The program is designed to provide one-on-one coaching and feedback on several investigations facilitated by the candidate. The candidate must meet defined requirements around the investigations and also must pass an Excel skills test to verify efficiency of documentation. Characteristics of people who make good candidates are typically individuals who strive to put in the extra effort to develop and hone their investigation skills.

**Training Recommendations based on RCA Role**

	<b>Investigation Participant &amp; "On the Job" Troubleshooting</b> 	<b>Cause Mapping Facilitator</b> 	<b>Certified Lead Facilitator</b> Cause Mapping SME, Champion 	<b>Stakeholder</b> 
<b>Typical Title within Organization</b>	Operator, Technician, etc.	Manager, Supervisor, Engineer, etc.	Manager, Supervisor, Engineer, etc.	Executives, Directors, Managers
<b>Role within RCA Program</b>	<ul style="list-style-type: none"> <li>Called upon to provide information during an investigation.</li> <li>Someone directly involved with the incident or a subject matter expert.</li> </ul> 	<ul style="list-style-type: none"> <li>Responsible for conducting investigations for small to medium severity problems within the organization.</li> </ul> 	<ul style="list-style-type: none"> <li>Responsible for conducting investigations for complex and high severity problems.</li> <li>Serves as a subject matter expert and Champion of the Cause Mapping approach.</li> </ul> 	<ul style="list-style-type: none"> <li>Vested interest in the output of the RCA program.</li> <li>Provides necessary support for RCA process</li> <li>May help select solutions for implementation</li> </ul>
<b>Training Rationale</b>	<ul style="list-style-type: none"> <li>Prepare the individual to become an active participant during an investigation.</li> <li>Reinforce "prevention" focus</li> <li>Can apply concepts to "on the job" problems and troubleshooting.</li> </ul>	<ul style="list-style-type: none"> <li>Works on wide range of problems from small day-to-day to high severity</li> <li>Will apply Cause Mapping skills formally through RCA program and informally in daily work</li> </ul>	<ul style="list-style-type: none"> <li><b>Validate</b> Cause Mapping skills on "real world" problems with one-on-one coaching.</li> <li><b>Verify</b> proficiency using Excel to document complete investigation</li> </ul>	<ul style="list-style-type: none"> <li>Understands approach and fundamental concepts</li> <li>Sets expectations from RCA program and can challenge investigation if falling short.</li> <li>Support and "buy in" is essential to drive results from program</li> </ul>
<b>RCA Tools Used</b>	5 Why Starter Page	<ul style="list-style-type: none"> <li>5 Why Starter Page</li> <li>Sticky Notes</li> <li>Cause Mapping Template</li> </ul>	<ul style="list-style-type: none"> <li>5 Why Starter Page</li> <li>Sticky Notes</li> <li>Cause Mapping Template</li> </ul>	N/A

## #5 - Expert Support

To maintain the health and consistency of the RCA program, it is important to have outside resources available to provide guidance, auditing, and complex investigation support. RCA experts can provide valuable insight on RCA best practices, can help solve challenges within the program, and provide unbiased facilitation support on high severity incident investigations. ThinkReliability specializes in providing remote support on investigations.

The benefits of ThinkReliability Investigation support are:

- **Immediate start to the investigation** – No need to travel to the site, we can connect and get started immediately after the incident has taken place.
- **Cost Effective** – Since travel is not required, you will only be charged billable hours spent on the investigation. We can be involved from start to finish, in a capacity as small or large as you require.
- **Experienced and highly educated Cause Mapping expert** – ThinkReliability is very particular in regards to the people we employ to teach and consult with the Cause Mapping methodology. All of our consultants have technical degrees and have vast experience investigating problems. Biographies are included for reference.
- **Unbiased Perspective** – Because we are not connected to your problem and have little familiarity with your specific processes, we will naturally drive to a detailed analysis in order to conduct the investigation. As you will learn in our training, it's the added detail that provides the clarity to understand and prevent problems.
- **Efficiency** – Our consultants have logged thousands of hours conducting investigations across multiple industries. We have become extremely efficient at facilitating and conducting investigations on complex problems. Many of our clients have noted that the amount of internal time and resources saved more than covers the cost of our consulting services.

## About ThinkReliability

Our goal is to be the problem solving, risk mitigation resource to our clients. We specialize in teaching and applying the **Cause Mapping** methodology to find help companies find the best solutions to all types of problems. ThinkReliability provides investigation services and root cause analysis training to clients around the world and is considered the trusted authority on the subject. ThinkReliability also helps companies to develop their company-wide root cause analysis investigation and prevention programs.

Mark Galley founded ThinkReliability in Houston in 2000. His practical experience in root cause analysis and work process reliability was developed during his time at the Dow Chemical Company where he worked for almost 9 years. He has been facilitating incident investigations and teaching workshops on root cause analysis since 1991.