11 PROBLEMS WITH YOUR RCA PROCESS

AND HOW TO FIX THEM

ARMS RELIABILITY

INTRODUCTION

You're a problem solver. That's why you're here. But as you forge a path to solutions, sometimes you get tripped up. Sometimes the barriers to effective solutions lie in the problem-solving process itself.



Maybe you're spending too much time solving problems. Maybe you find yourself chasing long lists of possible causes but never finding real solutions. Maybe you're coming up with great solutions but they never get implemented.

This eBook explores these and other common issues that can arise in a root cause analysis (RCA) program and presents practical tips on how to resolve them.

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COMMON PAIN POINTS

1. CONFUSION OVER WHICH PROCESS FOR WHAT
2. NO RCA PROCESS EXISTS
3. NO PROBLEM MANAGEMENT
4. HIGH NUMBER OF INCIDENTS
5. LIMITED TIME FOR RCA
6. INEFFECTIVE SOLUTIONS
7. SOLUTIONS DON'T GET IMPLEMENTED
8. NO SOLUTION TRACKING
9. RESISTANCE TO CHANGE
10. NO QUALIFIED FACILITATORS
11. NO INFORMAL PROBLEM-SOLVING PROCESS

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1 CONFUSION OVER WHICH PROCESS FOR WHAT

There are many different tools available to an organization, and once you get good at using a tool it is very easy to forget to check whether it's actually the right tool for the specific job.

Unfortunately, the old saying "if all you have is a hammer, then everything looks like a nail" too often applies. "I am good at root cause analysis, I have the software, and I've done this many times before... so I know I can pound this nail with my hammer."

Root cause analysis is good at identifying what *did* happen, not what *could* happen.

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TIPS TO OVERCOME CONFUSION OVER WHICH PROCESS TO USE

RCA can prevent recurrence of a past problem, but it's not necessarily great at predicting the future. To make sure RCA is being used appropriately, it's important to clearly define what it is used for, when to use it, and then train everyone on how to use it.



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Root cause analysis can be defined as:

Any structured process used to understand the causes of past events for the purpose of preventing recurrence. The results of this process must produce clear and concise documentation of all items listed below:

1. Define the problem to include the significance of its consequences to the stakeholders
2. Determine the causal relationships that combined to cause the problem
3. Identify effective solutions that will eliminate those causes, or causal relationships
4. Implement and track solutions to validate their effectiveness

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Definition of a Root Cause:

Any cause in the cause continuum that prevents recurrence of the problem when a solution is applied to it.

It is not the root cause we seek, it is effective solutions.

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2 NO RCA PROCESS EXISTS

There is most likely some form of problem solving going on in your organization, but it might not be pretty. More importantly, it might not be effective. Here are some of the more common scenarios when there is no formal RCA process:

RCAs are done ad hoc by individuals and stored on local hard drives. There is no feedback on the issues and no communication about the potential cost savings.

There is no trigger system in place so RCAs are done on those issues deemed important by the person who speaks the loudest or carries the biggest stick.

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TIPS TO OVERCOMING LACK OF RCA PROCESS

Establish an RCA process by:

- Picking an RCA method and tool to use
- Getting training in the method and tool
- Defining a champion for the process
- Getting help if necessary to adopt or modify an existing program (easier to modify than create)
- Defining root cause analysis for your company and disseminating the results to your teams
- Establishing your company standards by conducting an RCA implementation workshop focusing on triggers, KPIs, roles and responsibilities, reporting standards, and calculating ROI. This can be conducted either internally or using an external consultant.
- Having outsiders audit your program to suggest changes / improvements

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3 NO PROBLEM MANAGEMENT



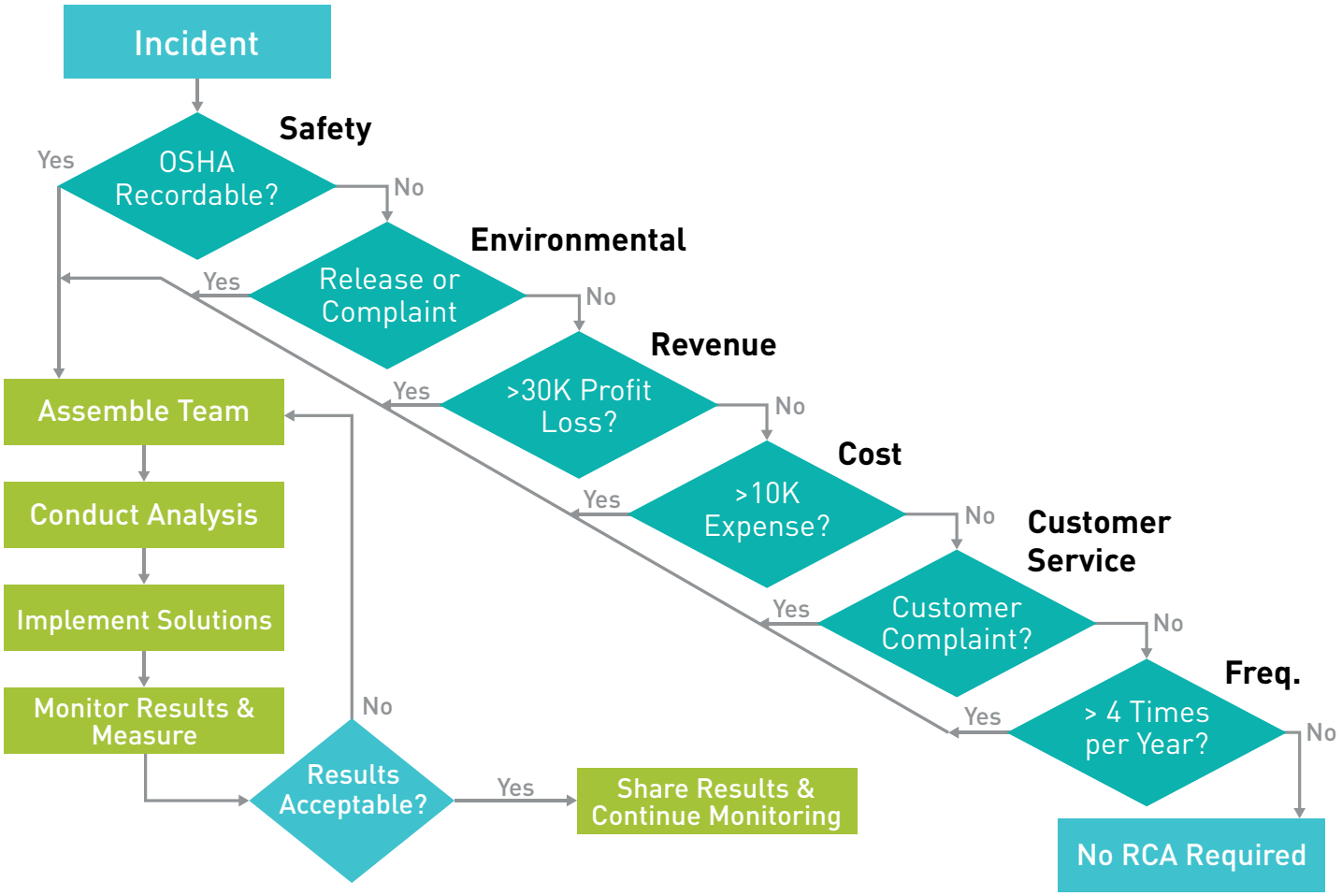
Remember, root cause analysis is just a tool -- you need to know when to get it out of the tool box and when not to.

How do you make it clear?

You need a robust business process in place to manage the use of your root cause analysis program so that it returns best value to your business. It needs to take into account trigger values that fit with your goals and objectives, ensuring consistency of use.

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Here is a sample trigger system:



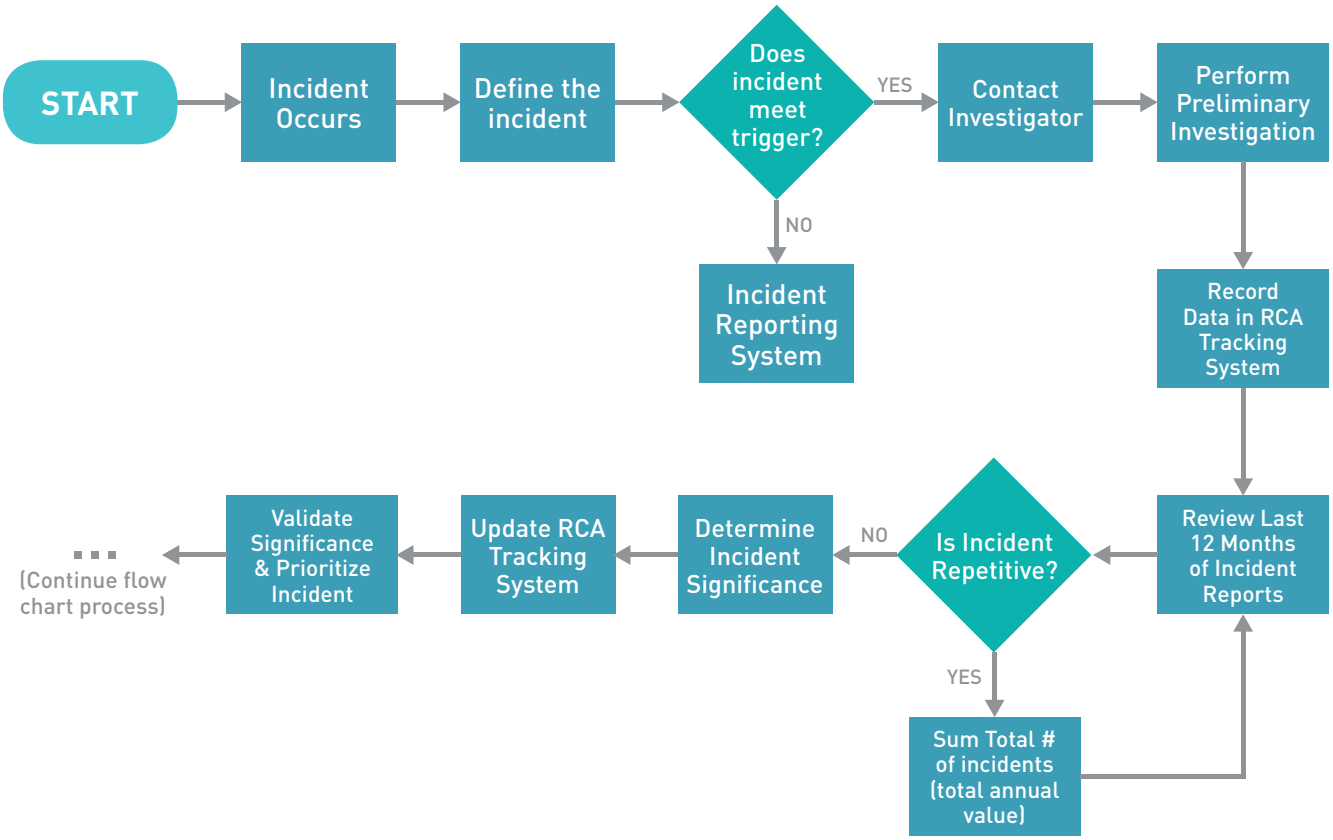
Keep in mind that your trigger system will require careful fine-tuning to be most useful. If this example system triggers too many RCAs for your resources, this will be seen as a system failure and will bring the whole process into disrepute.

If you have a squeaky wheel in your organization, you may find that person is triggering extra RCAs. This can overload the system or take focus away from your triggered investigations.

It's critical to have a business process that is both robust and visible so that everyone understands how and when RCA should be used.

Involve your team in the development of your trigger process to ensure maximum buy-in and success.

Sample RCA process flow:



4 HIGH NUMBER OF INCIDENTS

It is possible to have events that cause problems but never are recorded in a tracking system, such as a maintenance downtime system.

The definition of an event would be something that causes an interruption to a process, whether it fixes itself over a short period of time or requires an operator to briefly intervene.

An example might be a limit switch that isn't functioning. An operator goes to it and jiggles it with a stick or bends the whisker back or other minor adjustment and the process continues to run. Since there is no maintenance involved a work order is most likely not written and downtime is not recorded or is considered inconsequential.

These "events" are a source of pain for operations and may generate some animosity and grumbling, leading to loss of credibility.

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TIPS TO OVERCOME A HIGH NUMBER OF INCIDENTS

Recognize that these events merit attention and establish an event recording system so the minor downtimes can be tracked and reported similar to your larger downtime triggers. This type of event can then be put into a Pareto chart and dealt with once the primary source of problems is identified.



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5 LIMITED TIME FOR RCA



Often when RCAs don't get enough time and attention, it is because:

- RCAs are an afterthought, or a "check the box" exercise for some upper manager who read that a company needs to be doing RCAs.
- The RCA team is dictated by someone other than the facilitator, the time allotted is based on production schedules, and a "just get it done" attitude prevails instead of "let's get the right answer."
- Not enough time is spent identifying all the causes. RCA teams often jump to the corrective actions step too early limiting their ability to identify all the possible causes and therefore effectively find solutions to prevent recurrence.
- The trigger to do an RCA is set so low that everything requires an RCA. If there are too many to do then there isn't enough time to do them with any rigor.

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TIPS TO OVERCOME LIMITED TIME FOR RCA



- Set effective triggers so that the number of formal RCAs that require a team and report is about one per month for each facilitator.
- Track the number of RCAs done by each facilitator to ensure this level is being met.

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- Adjust your triggers on a regular basis to maintain the rate of one RCA per month. Remember that as you improve, the number of events that trigger RCAs will decrease. You must change your trigger level so that your improvement remains continuous.
- Establish an RCA champion whose job it is to manage the program and deal with any issues that arise.
- Train everyone including managers on the intent of the program and the responsibility of each to ensure a quality RCA is done.

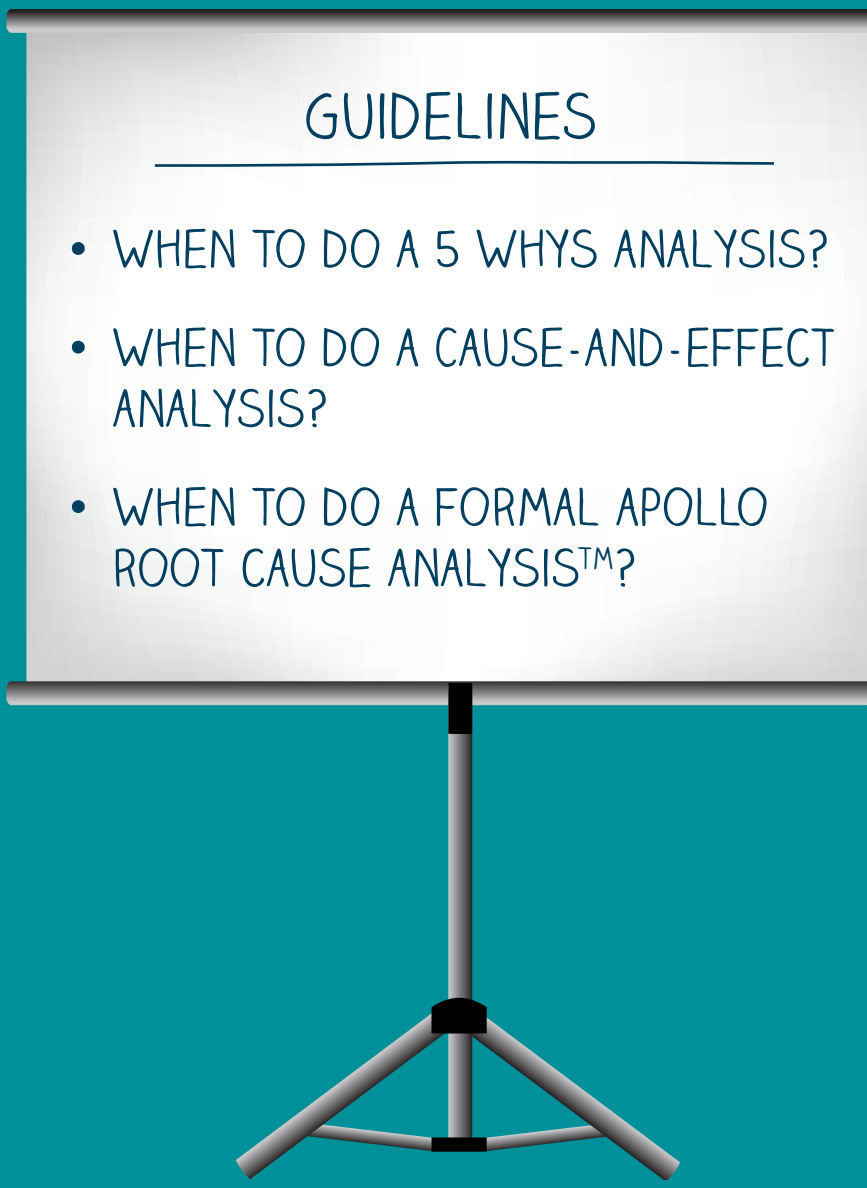




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- Do a quality check on all RCAs to verify they are up to standard. If they aren't, check to see if unfair time constraints are the culprit and make sure they get proper time and attention.

- Establish guidelines for when to do different types of analysis on incidents with different levels of severity e.g. 5 Whys analysis, cause-and-effect analysis, or a formal Apollo Root Cause Analysis™ with a cross-sectional team.



6 INEFFECTIVE SOLUTIONS

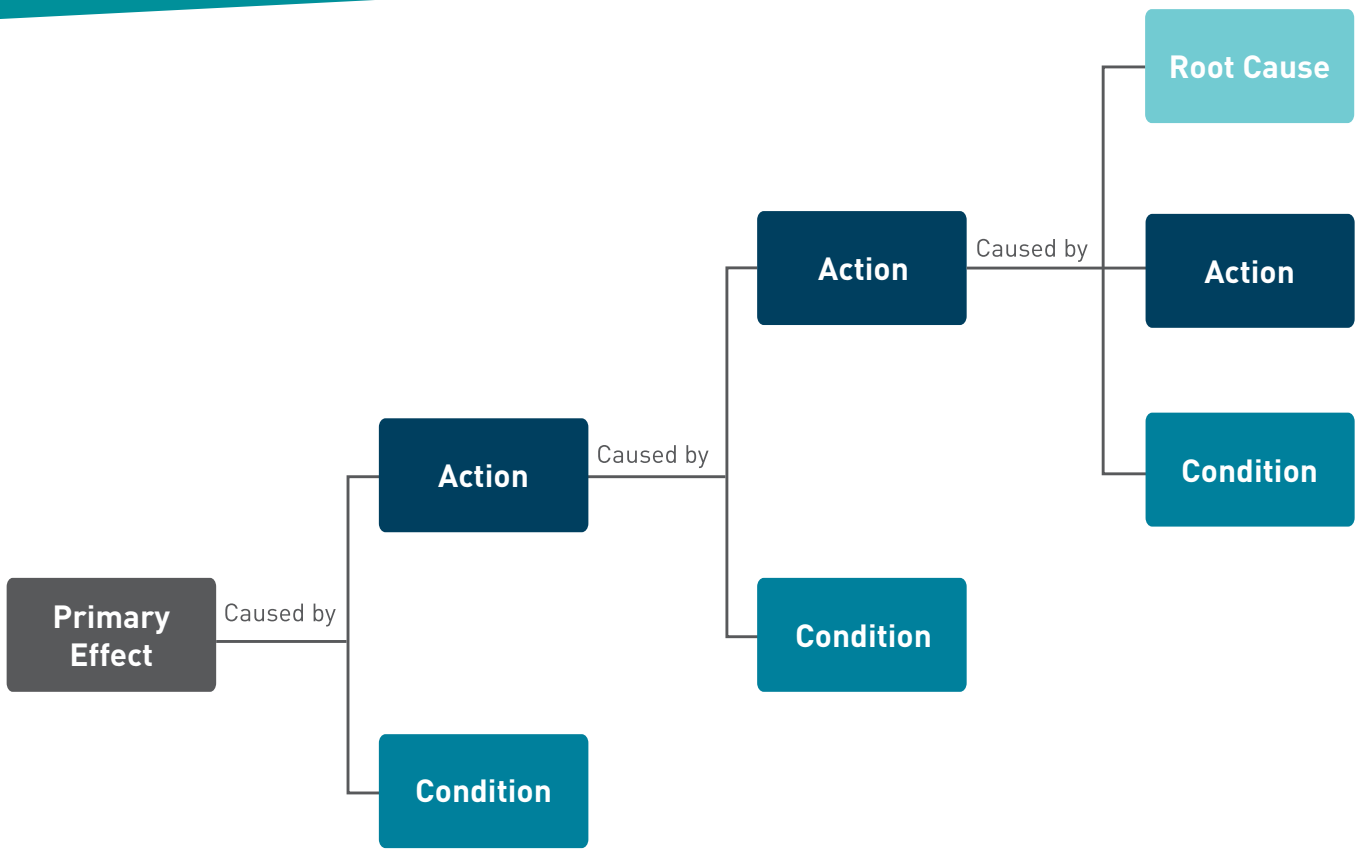
There are two kinds of ineffective solutions:

1. Solutions that are generated and implemented and eventually prove to be wrong after the issue happens again.
2. Solutions that just won't solve the problem in any shape or form and that most people recognize as being ineffective from the beginning.

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TIPS TO OVERCOME INEFFECTIVE SOLUTIONS

To give yourself the best chance at finding an effective solution, you must be sure to address the true causes of the problem. A strong cause and effect chart will help you get there. The ideal chart meets all of the principles of cause and effect, has no rule violations, and has also been reviewed against the advanced rules of space-time logic and causal logic review.



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The stronger your chart, the more likely that your solutions will be effective. Not only will you be sure you're getting at the true causes of your issue, you are able to clearly illustrate how your solution is tied to individual causes, making it easier to get support from all stakeholders.

If for some reason the problem returns, it is now easy to retrieve the analysis and look at what went wrong. This will help provide understanding of how the original error was made, which will help you continually improve your problem-solving process.



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7 SOLUTIONS DON'T GET IMPLEMENTED

How many of your solutions have been implemented? 100%? 90%? 60%?...10%?



Why is it difficult to get solutions implemented?

There are a number of barriers to a successfully implemented solution. Here are a few of those barriers and tips to overcome them.

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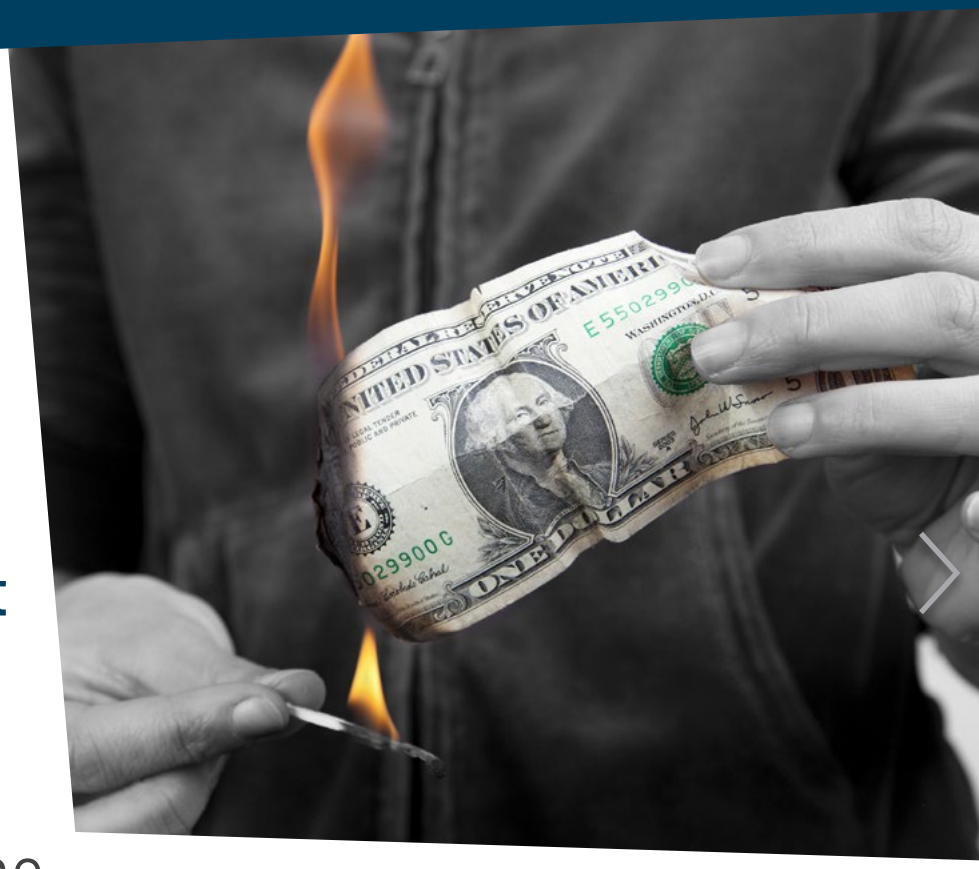
Barrier:	How to overcome:
The right stakeholders have not been involved from the onset of the study.	The stakeholders need to be taken through the journey of the RCA to fully understand the need for the proposed solutions.
The stakeholders have not been sold the cost-benefit case.	Walk all stakeholders through the cost-benefit case, making sure to help them see how proposed solutions fit into the bigger picture. Establish an iron-clad tracking system that includes stakeholders at the highest levels, then follow up to verify the action items are completed and report on the benefit gained.
The solutions negatively affect others.	If your solutions are adversely affecting others then you may need to re-evaluate your solution criteria. Make sure to share the output of the RCA with all affected parties so they can either get on board with your solution or suggest new ones. If a solution is not within your control, you are set up for failure. Fix this by involving all affected parties prior to implementing a solution.
The solution has been passed to another department to progress.	Ownership of the solution needs to stay with the original team, specifically an SPA (single point accountable) team member. Departments who have not been involved in the RCA process will not be as dedicated to the solution.

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Barrier:	How to overcome:
Ownership of the RCA is not clear.	Clearly establish who will manage stakeholders and participants. Don't run the process without first getting buy-in from management as well as stakeholders.
The process for managing solutions is not clearly defined or not followed.	All of the processes in the world will not be useful if there is no discipline to follow them. Establish a solution tracking system and ensure it is rigorously followed for at least three years to embed it and avoid reverting to old, ineffective practices.
The solutions have not been specific enough.	During the creative solutions phase of the root cause analysis the facilitator may have allowed ambiguous or poorly defined causes and solutions to be raised. Have your RCA champion review solutions for ambiguous words such as: review, re-read, re-instruct (almost anything with "re" in it), gather, contact, validate, council with, talk with, observe, verify, survey, etc. If these appear send back for adjustment.
The solutions have been lost in a pile of other urgent/ breakdown work.	If the solutions are handed over to the breakdown team to implement then their priorities are going to interfere with the completion. Ensure there is an iron clad tracking mechanism reviewed at the highest levels. This should include escalation of the solution the longer overdue it is.

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8 NO SOLUTION TRACKING



All the time and money spent on identifying solutions is worthless if the solutions are not implemented.

An investigation can usually be done within a week, but solutions take much longer to implement and may involve regulatory agencies, engineering, planning, budgeting, etc.

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TIPS TO OVERCOME LACK OF SOLUTION TRACKING

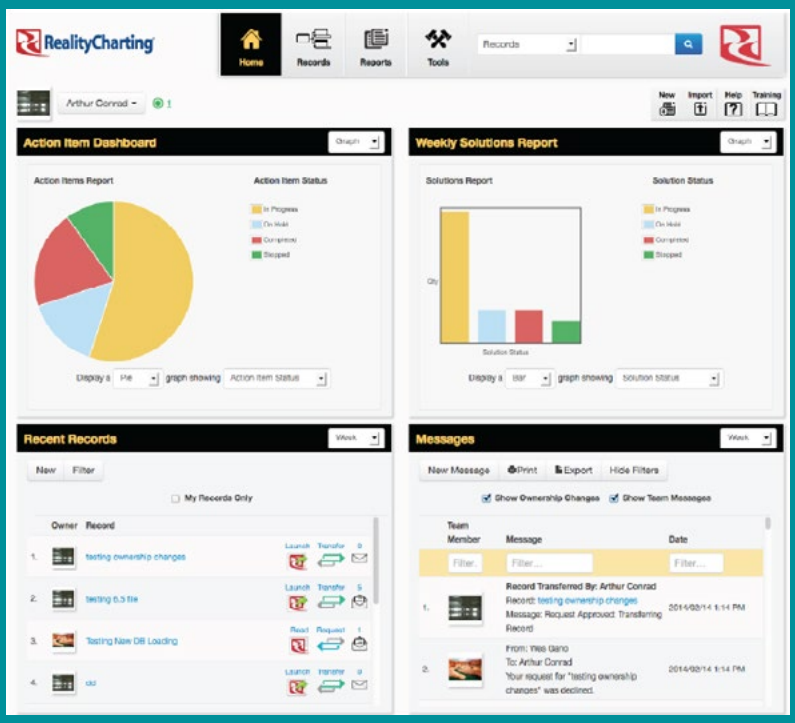
This is an easy one to fix:

If your RCA system is starting to mature, consider an enterprise solution. RC Pro™ helps companies implement and manage an effective root cause analysis program. Some of its features include:

- **Common Cause Searching** - Identify trends across your investigations.
- **Categorized and Tagged Files** - Categorize your analysis using company standards and naming convention. e.g. failure modes and data, equipment types, safety categories, human factors, and more.
- **Action Tracking** - Look at your investigation details and work flow in a single location allowing quick review of progress
- **Customized Searching** - Pull meaningful data from individual and group analyses.
- **Interactive Reporting** - Create and share unique reports with tables, charts, and graphics.

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- **Personalized Dashboards** - Display your most important reports on your home page.



- **Saved Reference Files** - Preserve integrity by securely storing evidence and important reference files.
- **Progress Updates** - Communicate with all users via on-page messaging to quickly share information and record comments.
- **Assignment Tracking** - Maintain visibility and accountability with tracking of action items and assigned solutions status.
- **Intuitive User Interface** - Save time and ensure your team's adoption with the modern browser layout and intuitive interface.

Regardless of how you track solutions – "just do it."



No matter what tracking system you use, it will require someone taking ownership and ensuring that the process gets established and carried forward.

You have to ask yourself, "Am I *involved* or *committed*?" What's the difference you ask?

Think about a breakfast of bacon and eggs. The chicken was involved in breakfast... the pig was COMMITTTED!

Which are you?

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9 RESISTANCE TO CHANGE

"The only person who likes change is a wet baby." *Mark Twain*

What does this quote mean?

It means people like change if they are going to get something out of it and if it's going to happen now.



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Think of the following quote:

"Tell me, I may listen. Teach me, I may remember. Involve me, I will do." *Chinese Proverb*



Telling and teaching people to change their behaviors is a difficult path. How many times have you seen solutions that insist on disciplinary and training solutions fail? If you involve people and empower them they will change themselves.

So how do we ensure people are going to get something out of it and quickly? We must involve all that will be affected by the change.

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TIPS TO OVERCOME RESISTANCE TO CHANGE

Give the RCA champion some Management of Change training and support their decisions and counsel. It is not easy to effect change and there are many pain points involved. Training for the champion can help ensure that the change is dealt with on a people level. There are many books and training classes available on the subject. One such book that may be helpful is "Leading Change" by John P. Kotter, Harvard Business School Press.



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10 NO QUALIFIED FACILITATORS

A lack of qualified facilitators may or may not be immediately obvious.

It can look like everything is being handled, but if the plant isn't making progress -- repeat failures, equipment downtime, lack of improvement in safety or any of your critical metrics -- then it probably indicates unqualified facilitators.

Rumors, gossip, and negative comments about repeat problems could be a clue that your facilitators are not effective.



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TIPS TO OVERCOME HAVING NO QUALIFIED FACILITATORS

Identifying the ineffectiveness may be the hardest part.

To fix this:

- Enlist volunteers to receive formal training and insist they become accredited in the chosen process.
- Have an outside company audit your process and facilitation to provide recommendations for improvement.



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11 NO INFORMAL PROBLEM-SOLVING PROCESS

If you are using your most formal problem-solving process for even your most minor problems, you might find yourself bogged down, using time and energy that could be better spent elsewhere.



You may feel you can't keep up with the demand even though you seem to have plenty of facilitators.

Perhaps you just can't catch up and find yourself spending more time than necessary on things that don't need it. For example, it shouldn't take days to find out why an incorrect motor was delivered to stores.

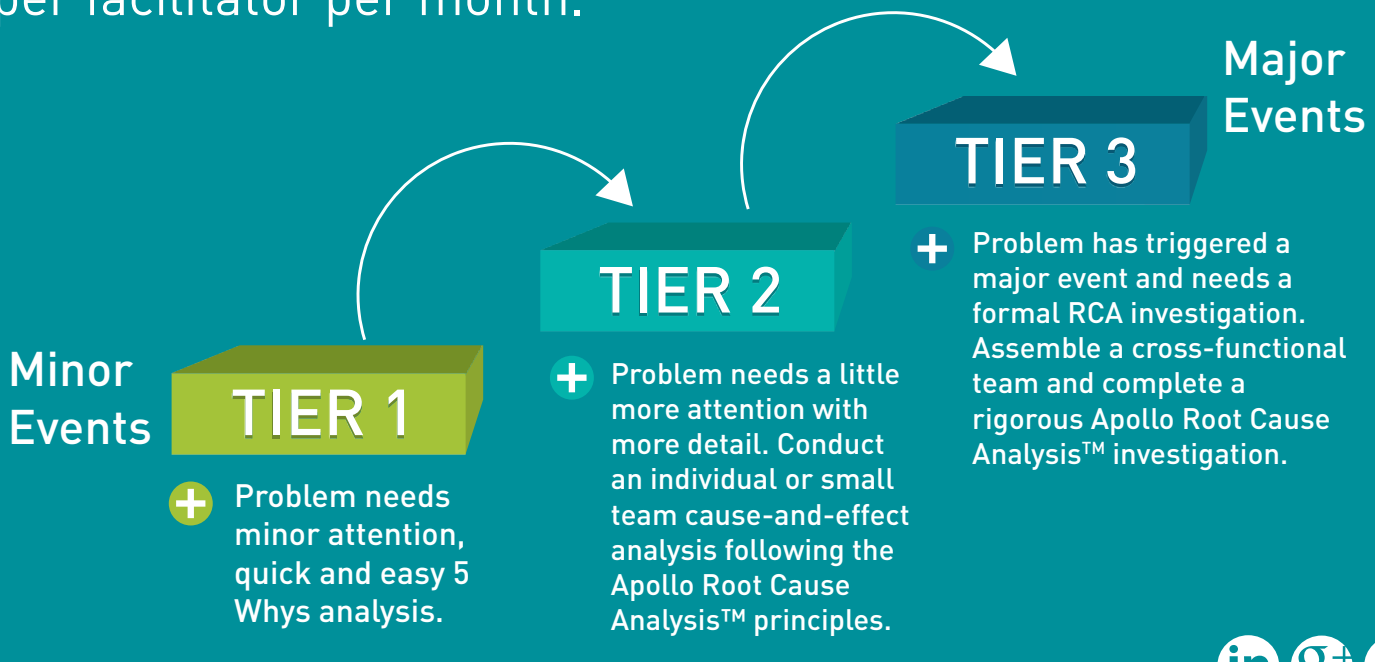
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TIPS TO OVERCOME LACK OF INFORMAL PROBLEM-SOLVING PROCESS

Define a multi-tier process that accounts for differences in the severity of events and adjusts the formality of the response accordingly. If a wrench that is needed for a special repair is dropped and the production line is delayed because of it, this probably calls for a "5 Whys" type of analysis. Quick, easy, done by the operators, and checked by supervision.

If the problem needs a little more attention than the 5 Whys, perhaps it is appropriate to provide branches and give more detail. In this case, an individual or small team should perform a cause-and-effect analysis using the Apollo Root Cause Analysis™ principles.

Continue to trigger your major events and perform formal RCAs as required with a load of about one RCA per facilitator per month.



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CONCLUSION

Perhaps in this eBook you've recognized some familiar scenarios that have created headaches for you in the past. Hopefully we've given you some helpful advice to ease those pain points.

Remember, root cause analysis is one tool in your tool box. It shouldn't be your only tool – there's no sense using a bulldozer when all you really need is a shovel. And as with any tool, it is most helpful when it's kept sharp, well maintained, and when it's used correctly.



When your RCA program needs sharpening, ARMS Reliability is standing by, ready to offer our proven services, software, and support.

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ONSITE TRAINING

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ONSITE TRAINING BENEFITS

- Cost effective for a larger group size
- Avoid travel expenses for attendees
- Reduced time away from work for students
- Schedule convenience - working around your availability and schedule
- Personalisation and customisation for certain courses to make it relevant for students
- Get all team members speaking a common RCA language

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FACILITATION SERVICES

Sometimes there will be an issue of sensitivity that requires greater objectivity and facilitation skills in finding out the root cause and developing solutions. **Click to learn how we can help.**

Learn more about the Apollo Root Cause Analysis™ method at **www.apollorootcause.com**

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About ARMS Reliability

ARMS Reliability is a service, software, and training organization providing a "one stop shop" for root cause analysis, as well as reliability engineering, RAMS, and Maintenance Optimization for both new and existing projects.

Since 1996, ARMS Reliability has trained over 30,000 people in root cause analysis. ARMS Reliability provides RCA Training, software, and services throughout the world, and today it is used successfully by thousands of people from a wide variety of industries such as aerospace, petro-chemical, utilities, manufacturing, telecommunications, and healthcare.

Apollo Root Cause Analysis™ Method

The Apollo Root Cause Analysis™ Method is an intuitive principle-based root cause analysis process that:

- Easily embraces all perspectives
- Eliminates the usual frustration and arguments
- Creates a common reality of your problem
- Ensures buy-in from all stakeholders
- Integrates a user-friendly software application to create evidence-based cause & effect charts

For more information on how ARMS Reliability can help, please contact us at the office location nearest you (details below).

You can also make an enquiry on **www.apollorootcause.com**

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