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**Why Root Cause Analysis Doesn't Always Work**  
**Having the answers does not necessarily mean that something will be done.**  
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*Abstract: Have you ever conducted a comprehensive, disciplined and accurate Root Cause Analysis (RCA) only to find that the recommendations fell on deaf ears, or worse, approvals not followed through on? When performing **true** RCA, getting to the causes is the easy part, getting something done to eliminate the causes is a whole different story.*

Picture the scenario, you identified a failure worthy of RCA and determined its total value loss to the company in terms of maintenance dollars expended, manpower dollars expended and lost profit opportunities. Such a failure is generally in the six (6) to seven (7) figure ranges. You strategically organize a team based on their diverse backgrounds and develop a team charter and elements of success. The team skillfully develops strategies to collect appropriate failure data for the failure at hand. The data is collected and presented for analysis. A deductive logic process is utilized to ensure all hypotheses developed are validated and various physical, human and organizational root causes are determined. Recommendations are developed to mitigate or eliminate the causes identified. A presentation is made to decision makers who authorize the implementation of the recommendations and that is the last that anybody hears of the RCA. If this scenario is familiar, it is an organizational cardinal sin!

Think of the resources employed to perform such a beautiful work of logic. Think of the thought, diligence and dedication that went into this process. Think of the anticipation and expectations of the team members regarding their recommendations. Think of how they feel when **nothing** happens as a result of their work. Would you try it again?

As a teacher and a practitioner of RCA, I see not only the physical motions of going through such an effort but also the psychology behind what will make or break it. When you consider all the effort that goes into obtaining accurate root causes and developing reasonable recommendations, why should it be such a hard sell to get something done?

It is ironic that we see average returns for RCA in the neighborhood of 800% to 1000%, yet no one believes these figures because they are considered too "pie-in-the-sky". If management honestly believed that such returns were obtainable then they should not have a problem in making sure the recommendations were executed immediately. The problem we see is that they *do not* believe it. Some of their thinking in this regard may be well founded. For instance, maybe such efforts in the past have not produced what they promised, therefore, why take the risk again. Some people say they do ROOT cause analysis on everything. This is impossible! I have not seen a company yet that can afford to perform true RCA on everything. This is where one of the problems lies, in what people defines as RCA.

If management's question whether or not it is economically feasible to implement solutions as a result of an RCA, then the failure should not be worthy of performing an RCA. "True" RCA involves getting past the physical components of failure and into specific actions by humans that triggered the cause and effect chain that led to physical failure. It also involves finding "why they did it". Most people value their income as it provides them the means to support their lifestyle. Therefore, most people do not intentionally make bad decisions that lead to failure. In most cases that I see, the decisions were made with good intentions; they were just made with bad information. This bad information comes from what we call "Latent Roots" or management system roots. These are the rules and regulations of a plant environment. These are the policies, procedures, specifications,

training systems, stores systems, etc. These are the sources of information that people make decisions on. If these sources of information are flawed, then so will be the decisions made from them.

It is commonplace and a cultural paradigm that when we have fixed something tangible (physical) that the problem will go away. Even worse yet, some still believe that “witch hunting” will also prevent failures from recurring. It is just not true. Management is generally satisfied when a physical root has been resolved. However, this will temporarily prevent the failure from recurring. Unless the flawed decision making process is corrected, another person will utilize the same flawed information source to make a decision that will result in the same or similar failure happening again.

People are more amenable to spending money on tangible items such as a motor, or a coupling rather than on correcting management systems such as modifying a start-up procedure, changing the specifications on a mechanical seal or providing training in proper alignment practices. The truth of the matter is that the physical roots typically cost much more money than the latent roots. The hard part about dealing with latent roots is that they are soft issues that deal with human beings. Whenever you delve this deep into RCA you can expect plant politics to become a factor. Turf protection, bonus incentive systems, retirement dates, future promotional opportunities, etc. are some of the issues we run into when trying to get management to act on latent roots. What would you do if you performed a comprehensive RCA and one of the latent roots was a flawed procedure that your boss implemented? Do you cover it up and run the risk of recurrence or do you strategically plan your presentation in a manner so as to protect your boss and make him appear the open-minded hero?

These are real and difficult situations. Once appropriate recommendations are developed, the team must strategize with regards to how the presentation should be designed and executed. The most important thing that people must understand is that it does not matter who did something, what matters is why. If we do not address the “WHY” a failure is likely to recur. Therefore, if we have verified beyond a doubt that a latent root exists, then it is a fact. All facts must be addressed with recommendations.

When designing a presentation to management, first decide amongst the team what you want as a result of the meeting. Clearly define the corrective actions that you want to take place and work backwards from that. Presentations should be designed to link with the objectives and goals of the audience. We make it a practice to clearly understand what makes the decision makers tick. How are their incentives paid, what are their directives and goals for their departments, what are their personalities, etc.? For instance, inevitably we face egos that want to be protected in these situations. That’s the fact, those are the cards we are dealt with and now we must play them the best we can. The key is to design your presentations to link with the minds of the people in the audience. You can be assured that if you convince them that spending the money will help them meet their goals and objectives, it will be more likely to happen (and quicker). In a nutshell, you must make the people you are presenting to look good to get what you want.

Part of the physical presentation should involve some quantitative measure as to what course of action will be taken when the meeting ends. Too often, people make such presentations and then leave the meeting wondering, “How did it go?” That is an empty feeling and should not have to be experienced. With all the hard work that has been done prior to this meeting, it is well deserved (and should be expected) to know before leaving the meeting what the course of action will be. Even a decision to do nothing is a decision. At least, you know where you stand and that is information in itself. At a minimum, when the presentation part of the meeting is over, the question should be raised casually, “Where do we go from here?” The objective before leaving the meeting is to obtain commitment to action one way or the other.

Once a consensus has been reached on the course of action, a time line should be set and responsibilities assigned. An “account manager” should be assigned to oversee the compliance to schedule. It is our opinion that the account manager should NOT be the principal failure analyst. A true RCA analyst should be just that, a person who facilitates getting to root causes. If this same person were to be responsible for implementing the

recommendations for all of his RCA's, he would not do many RCA's in a year. Recommendation implementation can take an immense amount time the way most organizations are currently structured.

Typically, most RCA recommendations would be deemed as "improvement work" relative to the urgent reactive work that plagues industry today. Where does such improvement work fit into your current CMMS system? Most CMMS systems have variations of a prioritization system where an "E" ticket is an emergency, a "1" is to be acted on within 24 hours, a "2" will be acted on within 72 hours and a "3" will likely never be acted upon. It has been my experience that in such systems, RCA recommendations would be put into the work order system and given a priority "3". If this happens, forget it! Chances are, it will never get done because all of the reactive work will always take precedence.

I once heard the saying that the Chinese definition of insanity was, "... when you do the same thing over and over again and expect a different result." I think this applies here. If nothing changes with regards to giving improvement (proactive) work an even chance against reactive work, then such work will never get done. Some successful ideas we have seen are assigning a certain block of numbers for proactive work and assigning a certain % of the maintenance resources to complete that work. We have seen people add a priority designation of a "P" for instance. This would stand for Proactive work and again its priority would be equated to an "E" ticket. Whatever the modification, if your current system does not accommodate proactive work, then something has to change.

Let's assume at this point that we had a bunch of promises made, they were acted on with good intentions, and the work was scheduled and executed via the CMMS work order system. Are we done? Absolutely not! If a predetermined, quantifiable metric has not been achieved than something has gone awry. If there is no bottom line benefit achieved as a result of RCA, then we have not been successful. Only when the objectives that we set out to accomplish prior to starting the RCA are accomplished, will we be successful. Therefore, someone should have the responsibility of tracking the parameter by which we measure success. Attention should be paid to relative consistency of the variables involved in the measurement to make sure that we are comparing apples with apples.

Theoretically we have achieved our team charter and attained all of our critical success factors. Now are we successful? Yes, but.....! We can be more successful by exploiting our findings to the rest of the organization so they can learn from previous work. More times than not, when we drive down to management (organizational) system roots we find causes that happen daily throughout the organization. After all, not only one person uses a management system, many do. We often find that recommendations for management system roots apply throughout the facility. Those in charge of recommendation implementation should review the applicability of these recommendations in other areas of the facility. Once successful, let everyone know about it. That is how we gain commitment from others to get on board the RCA train. Use your company newsletters, recognition systems, e-mail networks, magazine profiles, etc. to let everyone know about your progress. This is when you will truly be successful!

The biggest problem you will face at this point is how to deal with all the departments that will now hand off all of their failures into your lap. How to deal with that is another article.

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