Of Lost Luggage and Root Cause

BY STEPHEN RUSSELL

The auditees turn the looking glass on the auditor in a fine example of root cause analysis.

HAVING SPENT NEARLY 10 years conducting audits to the AISC Quality Management Systems Standards, I remain fascinated meeting and interacting with the cast of characters throughout the "World of Steel." Thus it was with great anticipation that I recently arrived at a highly regarded erection company in the southeastern U.S. to perform an annual audit.

This progressive company has been certified for a number of years, which has allowed me to witness the continued improvement of its quality and safety management systems. The firm's staff and management are very professional and friendly, and I always look forward to my visits.

On this audit, I hoped they would overlook that I quite noticeably cut myself while shaving. It is rather unprofessional for an auditor to arrive with tissues adorning his face.

On the second day, as our review was coming to a close, the conversation turned to non-conformance and corrective action procedures and eventually to performing root cause analysis (RCA). As anyone who has performed this exercise can attest, identifying the root cause of a problem or incident can be exceedingly difficult because often the real problem lurks beneath several layers of symptoms. This day the group decided to apply a few of the tools used in RCA to attempt to identify the real reason (root cause) for my facial injury and initiate corrective action to prevent future occurrences. Around the table was a group of experts with many years of shaving experience who would make a perfect assembly, it seemed, to bring value to the quest. Each member of the team had an opinion: dull razor, broken razor, single bladed razor, lack of training—which hurt a little—and so on.

The minor downside to interacting with all these truly wonderful people is that it requires traveling thousands of air and highway miles each year. Rule No. 1 in the road warrior game is never ever check luggage, especially if one has a connecting flight. However, this particular two-week trip included much of the U.S. eastern seaboard, South America, and finally making a presentation in Orlando. There was no option but to check baggage. Sadly, my baggage never made the connection.

The data collected during the RCA process revealed that one of the world's largest airlines, upon learning my bag had never been loaded at the connection, graciously offered me an "emergency kit" containing a toothbrush, toothpaste, an official airline T-shirt, a small tube of some type of skin cream, and a 2-in.-long, single-bladed razor. The roundtable of shaving professionals determined that because I typically use a triple-blade razor with Teflon glide and super-sensitive-skin shaving cream the root cause could only be that my luggage had been lost. As a possible corrective action and to close out the matter, the group suggested I never check luggage again. Knowing the travel process must include checked bags from time to time, I decided that the final, workable solution is to carry my razor and shaving cream in my computer bag.

I recount that story to demonstrate the difficulty and the benefits of RCA. Root cause analysis is a group of problem solving methods used to identify the root cause, or causes, of problems or incidents. RCA is employed in the safety field for analyzing accidents/incidents, in production for manufacturing issues, in maintenance for failure analysis, and in business for risk management. The process assumes that problems can be solved by eliminating root causes instead of simply addressing the obvious and sometimes numerous symptoms and that by initiating corrective action on well vetted root causes the possibility of recurrence should be reduced or eliminated. If multiple root causes are identified by the RCA process, the objective then becomes the selection of the simplest and most economical solution to the problem.

Achieving well vetted—or as my good friend and fellow auditor Bob Zaykoski suggests "well scrutinized"—root causes often is an elusive goal. The basic steps in conducting root cause analysis are relatively straightforward:

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- Define the issue.
- Collect data to determine the nature of the issue.
- List potential causes of the issue.
- Identify the root cause or causes.
- Implement corrective action to prevent recurrence.
- Review corrective actions and monitor for effectiveness.

Basic quality tools such as the Five Whys, fishbone (Ishikawa) diagrams, and Pareto analysis can greatly enhance the process of inventorying potential causes and provide documented confirmation of root causes. Fortunately, their use does not require complex statistical analysis.

Why then do many organizations appear to struggle with basic root cause analysis? Over the years significant research has been conducted and much has been published regarding the impediments to successful RCA. Some of these barriers include:

- Skepticism in the RCA results due to preconceived ideas.
- A misunderstanding of the RCA process.
- A misunderstanding of the RCA objectives.
- A perceived lack of time by potential team members to become involved in the RCA process.
- A lack of communication and common goals (the "silo effect").
- Dysfunctionality of the RCA team (it is not cross-functional, consists only of individuals from the group under review, has a non-independent facilitator, lacks a visionary management champion).
- Fear that someone on the RCA team will be held responsible.

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My observations over the past few years lead me to conclude that fear that some individual has to be held accountable for the cause is a significant barrier to successful RCA. This same apprehension is a major reason there is often reluctance within organizations to report nonconformances, but that we shall reserve for a future discussion.

In his book *Project Retrospectives: A Handbook for Team Reviews*, Norman L. Kerth describes what appear to be very effective techniques for conducting post-project reviews (retrospectives). The book is intended to assist software organizations in their efforts to document lessons learned, successes and failures, following a project. One of his foundational tools is Kerth's Prime Directive which is designed to keep focus on the process and to avert individual blame. It states:

> *"Regardless of what we discover, we must understand and truly believe that everyone did the best job he or she could, given what was known at the time, his or her skills and abilities, the resources available, and the situation at hand."*

Research has repeatedly shown that nearly 95% of issues or problems within organizations are traceable to a process or the quality management system, and the remaining 5% are attributable to "people problems." So when a problem arises or mistake occurs, it seems apparent that conducting an exhaustive search for a culpable individual will yield little return. People will make mistakes, regardless of experience, diligence or expertise.

Perhaps more effective root cause analysis could be attained by creating a people-safe environment with a focus on what process failure allowed the problem to occur and what changes to that process are required to prevent, or lessen the likelihood of recurrence. This appears to have the potential for significantly better return on investment to the organization. MSC

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