

Eliminating Defects in the Vertical Supply Chain

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Root cause analysis can turn an emotional free-for-all into constructive problem solving.

Manufacturers' efforts to do more with less have resulted in purchasing departments sourcing cheaper products and parts, often from overseas. Such cost cutting certainly makes purchasing look good to management. But the effect on quality professionals may be just the opposite: product or part defects, malfunctions or undesirable side effects, not to mention the challenge of producing high-quality end-products within narrow timelines and budgets. Many sleepless nights are a frequent outcome.

Because cost cutting and global sourcing are here to stay, how can quality professionals combat these monumental challenges? Root cause analysis (RCA), when fully utilized, can eliminate defects in your operations as well as defects that you inherit from suppliers, ultimately helping to maintain a satisfied and engaged customer base.

The blame game

Doubtless you've heard stories like the following. The customer is angry because Biggie Inc.'s product or service doesn't meet expectations and standards. The customer notifies Biggie's customer service department, which passes the information along to its manufacturing department. Based on what manufacturing is told, the department concludes that the issue didn't originate in its own plant, but instead from Acme Co., its supplier. Biggie cracks down on Acme by throwing grenades over the fence and making threats. Why not? The supplier was responsible for making Biggie look bad to its customer. On the defensive, Acme scrambles to perform damage control. Meanwhile, Biggie tells its customer that it's very sorry and the problem has been solved. How? "We fired the operator." Everyone has been told what he or she wanted to hear, blame has been fixed, and business can resume as usual.

Do any of the players really make changes that solve the problem? Does the manufacturing company truly understand its customer's issue? Does the supplier know what the problem really is, let alone what will meet the end-customer's needs? Does the customer really feel heard and trust that the supplier is being honest? Scenarios like these, where there's a disconnection in problem resolution, are common in the upstream and downstream flow of materials. With niche specialization an economic necessity, there are more levels and players in that stream, which means more layers between the customer that has a problem and the solution that will solve it. It also means that more companies find themselves in the middle of a supply chain with a complicated upstream and downstream to manage.

Players in the supply chain, in an effort to handle customer complaints quickly, may not even realize that they are restricting the flow of meaningful information that would enable actual problem resolution.

Problem-solving best practices

How can we handle problem resolution in a vertical supply chain more effectively? RCA is a powerful tool to help all interested parties truly understand a problem and pinpoint effective solutions without the finger-pointing or emotions that derail true progress. Following are some best practices.

- Go beyond your customer service department's efforts to ensure that a problem really gets solved. Take the lead by scheduling an RCA immediately. When memories are vivid and evidence is readily available and fresh, there's a much greater chance of getting to the bottom of the issue.

- Bring together people from quality and manufacturing so that they can share perspectives and perceptions. Problems aren't effectively solved when work is done in silos. Factions may prefer to speak privately so that they can complain about each other. Getting everything out in the open--although initially uncomfortable--will lead to mutual empathy and understanding, and eventually more effective and lasting solutions. Be prepared for people to come in feeling that participation is a waste of time. Most conventional attempts to solve problems degrade into blame games or, at best, an exercise in jumping to conclusions that results in ineffective or suboptimal solutions. But after participating in their first RCA, most people become believers that their time was well-invested, and that the resulting improvements outweighed sticking with "business as usual."
- If internal controversy and divisiveness loom large, consider bringing in an outside facilitator who can be impartial and apolitical, and doesn't risk long-term internal ramifications.
- Involve both suppliers and customers in the RCA. Yes, your customers. Although conventional wisdom says, "Never let the camel look under your tent," do you think that your customer is completely ignorant to what's really going on? Involving customers not only gives you a clearer understanding of an end-user's experience and needs, it's also the best way to show customers that you truly care and are taking the issue seriously. Human nature will prompt the various parties in the supply chain to throw grenades, but once that's out of their systems, they inevitably begin discovering tremendous opportunities to proactively eliminate problems. What's more, the parties are developing relationships that will engender trust and empower them to preempt and prevent future problems. For instance, they may open the communication channel at the onset of a problem, rather than waiting to see if it can be fixed later, such as before shipment.
- Set the tone for a no-blame atmosphere to govern interaction between all involved parties. Inertia is one of the biggest obstacles to achieving this; it takes organizational maturity to resist pulling out the big stick. Many people initially view this approach as a risk, when in reality the real risk is in not taking this approach, thus leaving problems unsolved. When a supplier feels that the true objective is problem solving, it won't be on the defensive or focus on making excuses. Instead, it will be fully committed to fixing the problem so lasting improvements can be made. You must gain your supplier's trust that you aren't seeking to punish them; rather, you're trying to help both organizations improve so that together you can defeat the competition. When people feel that they're in a safe environment, they're more comfortable taking ownership for their actions and mistakes.

Acme and Biggie

A situation with one of our clients illustrates these points well. In this case, our client--previously referred to as Acme--was the sole-source supplier of a key component to the highly technical manufacturing company that we're calling Biggie. Biggie, angry and frustrated at ongoing, unresolved quality problems as well as numerous, minor communication problems encountered for years, began threatening to stop doing business with Acme. In a sole-source situation, this would create significant fiscal ramifications for both sides. Acme, which had been using RCA for problem-solving, was convinced of its ability to rectify this situation and persuaded Biggie to participate in an RCA investigation.

Biggie entered the process with much skepticism and a know-it-all attitude. Senior engineers in particular didn't think that the process would be helpful, let alone valuable, enlightening, or conclusive. Complicating matters was the fact that Acme and Biggie were in different countries, resulting in cultural differences that gave the appearance of arrogance and non-cooperation.

Going in, a facilitator from Apollo Associated Services LLC, an RCA consultancy, immediately encouraged group members to stop viewing the situation as Biggie vs. Acme, and instead to view it as both companies against the problem. Along with that, they were asked to resist the urge to point fingers or make premature assessments, but instead to allow the RCA process to play out.

As might be expected, people did need to vent some pent-up frustration. However, they were then able to move on to identify causes and back them up with evidence. By focusing on the cause-and-effect relationships, Biggie and Acme were able to see the following:

- Both companies were responsible for many causes on the chart. There was no immunity for Biggie because its processes and specifications were far from perfect. Acme, meanwhile, was providing inferior product characteristics.
- Each party had significant challenges to surmount in their processes due to the cutting-edge nature of their product lines. By creating a visual picture of the problem with a cause-and-effect chart, everyone could see the entire system of causation and move beyond finger pointing. An empathetic environment was established because logic, not emotion, prevailed. Eventually, mutual brainstorming of solutions occurred, and the collective mood of both parties became one of understanding and collaboration. They uncovered and realized a host of issues that in themselves weren't big deals, but when combined created significant problems.

After two full days, Biggie and Acme participants walked out shaking hands, listening to each other, and truly understanding that they were all after the same thing--individual and collective success. In the closing evaluation exercise, people admitted that they went in expecting the RCA process to be a waste of time. Each participant volunteered that in the end it was a worth while investment of time and resources, and that he or she would never have been able to accomplish what the group did without the process and facilitation. Not only was the contract saved, but the adversarial relationship also began to heal and the product problems were solved.

Looking back at that situation, several more best practices come to mind:

- When there's a problem, be conscious of where your eyes search for the causes and solutions. If you're looking solely at people, the resolution invariably becomes personal. If, on the other hand, you're looking at impersonal (i.e., conditional) causes, the process will be more objective and productive.
- Document or chart causes, effects, and evidence for all participants to see. A visible charting exercise not only helps people think comprehensively and requires them to back up their hypotheses with evidence, it also gets people talking to the chart, rather than arguing with each other. Technical people in particular are hardwired to argue, but it's tough to argue when causes are documented with evidence; opinion must give way to logical fact. Individual perspectives combine to build a broader perspective, and people suddenly understand and empathize with aspects outside their own silos--even including how the whole process interacts. Direct accusations and human issues are downplayed as not leading toward productive or lasting solutions.
- Skilled facilitators who utilize a cause-and-effect charting system well will help to diffuse emotion and maintain the focus on the problem.

You can overcome defects in your vertical supply chain and improve relations with both customers and suppliers by involving them in RCA. Along the way you'll move past the blame game, improve communications, effectively solve problems, keep your customers happy, and, ultimately, enjoy business success.

About The Author

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