Opening the Quality Bottleneck

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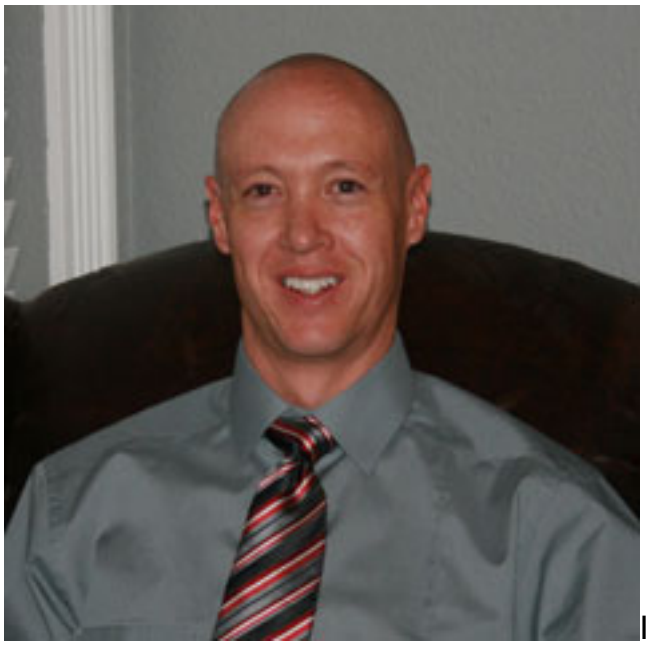 If your quality function or inspection process has become a bottleneck, the answer may be to increase its authority, not to reduce it.

Most production and product development systems include a quality function. Typically, because we don’t want our quality function to be biased by marketing, engineering, or production agendas, our quality functions are independent groups with a mission to ensure that nothing sub-standard reaches a customer. Does this sound about right?

Does your quality function accomplish this? If not, then there is something out of balance in your overall system. You must regain some balance to keep defects from meeting customers.

Alternatively, is your quality function a bottleneck? Do your designs wait around for signatures or approvals? Do shipments wait while tests or inspections are performed so they can even get to customers? Again, if so, something is out of balance.

Ironically, the cure for both scenarios is often the same. That cure is also often counter-intuitive. I suggest that the answer to restoring balance is greater involvement and more authority to your quality function. Let me explain.

When our quality function fails to meet our expectations and allows defects to reach our customer, our knee-jerk tendency is to either punish our quality group and reduce their authority, or to try and shore up the weakness by supplanting their

function and sharing or giving their authority to another group. We expect that added group will either make better decisions or teach our quality function how, or both, and that our defect rate will improve.

When we can't get our designs or our product through the quality bottleneck fast enough, we begin to look for ways around the bottleneck. Again, we might try to increase throughput by sharing the function with other teams, or we might simply reduce the authority of the quality function so we don't need as many, or any, of its approvals to proceed.

In the immediate crisis, these actions might appear to be good ideas, and we might experience some improvement in performance. However, shortly we experience the drawbacks to such actions. Objective decisions will not be made because they will be biased by other teams' agendas, or the other teams will begin to slow down because of the added responsibility. We all know that quality inspections are a "waste" step in our overall process, but when the quality function loses its authority, the whole function becomes waste.

I've witnessed a cycle before where the quality function was perceived to be poor performing and non-value added. Admittedly, that particular group was disappointing in my opinion too. The business abolished the whole team and transferred responsibility to the engineering function. One engineering team was supposed to provide quality perspective for the other, and vice-versa.

It didn't take more than a year, if I recall, before the burden of doing so, and the difficulty in determining which team was really correct when disputes occurred, drove the business to decide that it needed an independently directed quality function and formed a new team to do so. The business went full circle in a very short time.

My point is this; reducing the authority of your quality function won't improve your quality. Let's think about it for a paragraph or three.

Your quality function doesn't insert or produce the quality; it only judges it. The quality comes from the design (engineering) and its manufacture and assembly. Reducing your quality function's involvement or authority won't make these functions do their job better and it won't make your product quality improve.

Now, let's look at the other side of the coin. If your product quality is probably fine, but you aren't getting through the inspection process, how is avoiding the process going to help? Sure things will get through, but what's going to give feedback to your engineering and production systems if something is sliding out of expected limits?

In my experience, the quality function becomes a bottleneck when it simply can't make a decision. The key to increasing throughput from quality is to increase its ability to make a decision. How does reducing its involvement or authority accomplish that?

The only scenario I have ever experienced where the quality function needed a reality check was when the quality group possessed different, sterner expectations than the rest of the business. This problem was fixed, not by taking away the quality group's veto power, but by improving the way in which the business generated its product specifications. When those became more cut and dry, the subjectivity became much reduced and the pass-fail decisions quicker and less debated.

Broken down simply, the whole quality tangle can be straightened out more or less as follows. If you have a clear set of values and criteria that define the quality you desire, then the quality function's role is to ensure that those expectations are met.

If those expectations are not met, there are three scenarios. Your quality function detects it but defects get through anyway, or your quality function doesn't detect it, or your quality function detects it and stops it and your throughput is suffering. If your quality expectations are met, but the process of determining so is too slow, then the solution is to increase the rate at which your quality function can make the determination.

Let's look at all four problems in order …

Problem 1: Quality expectations are not being met and defects are escaping to customers.

Solution 1: Find out why defects are getting to customers knowingly. Does your quality function have the authority to stop a shipment of poor quality goods? Is someone overriding your quality function's authority? Are your business values compromised?

This problem is very dangerous. It will force your business to make a hard behavioral commitment. What comes first, quality or throughput? If your business decides that it is willing to ship sub-standard stuff in order to ship it when it wants, then stop the false pretense of quality and change the standard to something you can pass. Now your quality function can do its job and you can afford to let it.

Problem 2: Quality expectations are not being met and your quality function does not detect it. This is the worst scenario of the three.

Solution 2: Find out why your quality function is not detecting the poor quality. Does the function lack the tools or necessary skills? Are they not inspecting enough material or product to detect the defects? Do your specifications address the defects? Does the function lack the authority to prevent defects from escaping?

For both problems 1 and 2, address the quality function gaps first. Once you are satisfied the quality function is capable, begin addressing the source of the defects in design and production. Use your quality function to continue to address those issues in the future.

Problem 3: Quality expectations are not being met, quality is catching it, and your

throughput is suffering.

Solution 3: Don’t do anything to your quality group, unless to congratulate them for doing their job. Fix the problems in design and production that are causing the poor quality. Exception: if your quality function possesses different expectations than the rest of your business, level set those expectations, probably with better specifications.

Problem 4: Quality expectations are generally satisfied, but the process of assessing so is too slow.

Solution 4: This is similar to problem and solution 2. Find out if your quality function needs more tools or skills, more manpower, or fewer things to inspect and resolve the shortcoming. Do not take away your quality function’s power to make the call.

Notice that in every case above, the answer is to bolster the quality function’s capability, and increase its power, not to reduce it. I’ll repeat one sentence that I wrote above. The key to increasing throughput from quality is to increase its ability to make a decision.

One of the most effective ways to increase your quality function’s decision-making ability is to increase its understanding. Increasing its involvement in the total product development process does that. Let me give a quick example, and then I can wrap up.

In some rare cases, particularly with custom order equipment, the quality assessment or functional capability is a judgment call more so than a measurement. If the quality function must engage engineering in order to ask about the design intent or to make that judgment call, then the process slows down and we have our bottleneck. However, if quality is involved in the design and testing process, intimately and throughout, then it is better able to understand the intent, the issues, and to make the call without asking for permission or waiting for second opinions.

I hope that at this point, I have made my case. In the typical scenarios surrounding quality problems, the solution is likely to increase your quality function’s involvement and authority, not the opposite, though the opposite often occurs. Of course, we must hold our quality groups accountable for their role and authority too.

If you are having quality issues, consider my arguments above and see if some of those suggestions won’t address your challenges. If your quality function is a bottleneck for your production and a threat to your on-time delivery metrics, consider if it has the authority and ability to make the right decisions, or if its lack of decision-making prowess is actually the source of your bottleneck problem. Be prepared to increase quality involvement and authority to solve your problems.

Stay wise, friends.

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