Is Quality Undermining Your Bottom Line?

Quality is nonnegotiable. But the costs may be unsustainable if you're catching and addressing defects too late in the game.

You Can No Longer Afford Quality at Any Cost

Any manufacturer that has caught a quality issue in the final testing phase knows all too well the great lengths program managers and value stream managers will go to in order to right the situation. They can't deliver substandard product. So, they beg, borrow, borrow, and steal to push through the rework and chase down what they need to make their delivery commitments. It stresses the whole system, leading to rework, scrap, overtime, expedited shipping, and shuffling other orders in production.

In the end, the quality is where it needs to be and the customer is satisfied. But the costs add up fast, doing serious damage to profitability.

In today's operating environment, with COVID-19 mitigation, inflation, and supply chain disruptions all putting extreme pressure on already-tight margins, companies

need a more affordable way to get quality product out the door.

A lean approach increases first pass yield and protects your bottom line

Leading manufacturers are finding that they need to recommit to lean as a way to reduce their controllable quality costs. While lean isn't a new concept and most manufacturers have some lean practices in place already, now is the ideal time to see where or how else you can implement lean. By baking lean discipline into every phase of your processes, you can become more proactive in achieving quality, and you can significantly reduce your costs in the process.

There are four keys to a lean approach to quality:

1. Reinforce lean in your production processes.

Every manufacturing organization is in a different place in its lean journey. Depending on your level of maturity, you may be in a position to adopt major process changes such as single piece flow or cellular manufacturing with cross functional teams. These types of changes can be the gateway to improved efficiency, less waste, and higher quality, and they will turn up mistakes much faster and in fewer products than batch production processes.

We worked with one company that originally claimed its processes were too complex for cellular manufacturing. However, when the business ultimately made the transition, it saw WIP (work-in-process) fall from extremely high levels to virtually nonexistent. The business went on to make the same changes in its repair and overhaul divisions because they worked so well on the manufacturing floor.

But, if such dramatic changes really are not an option right now, you can still realize significant impact from minor lean process improvements. Kaizen events are a great way to accomplish this. The events bring together all the operators, managers, and owners of a process to trouble shoot and collectively come up with rapidly implementable improvements. Such events can also be a great way to refocus and shore up any lean processes that have fallen by the wayside as a

result of your company' response to COVID-19.

2. Ensure your people are as productive and accountable as possible.

With the talent shortage issues in manufacturing exacerbated by the COVID-19 crisis, it is more important than ever to ensure the people you do have in place are efficient. Lean techniques like leader standard work, managing for daily improvement, root cause analysis, and countermeasures are keys to creating discipline at the point of impact and getting the greatest contribution from every single employee on the line.

This type of lean environment also lays the perfect foundation for creating ownership of quality on the front lines. Such programs are essential to keeping defects from being passed down, where they are more challenging and much more expensive to address.

3. Build lean into engineering and product development.

We often find process capability and consistency issues— or an inability to consistently produce products that meet specifications—in companies that struggle to implement lean. More often than not, the root cause is a failure to design for manufacturability, or to design products that are easy and cost-effective to manufacture. Conversely, companies that take a lean approach to engineering are much more successful at proactively preventing problems from occurring during the manufacturing process. Lean engineering begets lean manufacturing, and the advantages accumulate along the way.

We saw this play out in a company where production was essentially attempting to produce six sigma quality from three sigma drawings, and the machines were not able to consistently follow the work instructions and meet the extremely tight tolerances dictated by engineering. Operators were regularly producing parts that did not meet the print and passing them along anyways with a mindset that quality is the inspector's job. However, when an operator ownership accountability initiative was put in place, and operators began to be terminated for knowingly

passing on bad parts, the number of rejects being passed on to assembly decreased as expected. Internal rejects, however, went through the roof.

Ultimately, engineering agreed to revisit and change prints to include dimensions that could be consistently achieved by the process and still meet quality requirements. By pushing responsibility for quality to the very beginning phases of its process, the company dramatically improved first pass yield and reduced the need for downstream course correction and expensive firefighting.

4. Consider Lean 4.0.

Some manufactures have already captured the majority of their surface-level performance improvement and quality optimization opportunity. For these companies, Lean 4.0 represents the next frontier. Per the TBM definition, Lean 4.0 includes 100 percent institutionalizing lean across the organization, and then digging deeper into IIoT data. By marrying lean practices with industry 4.0 and adopting advanced technologies, companies can understand and address previously untapped areas of improvement opportunity in their business processes. Even manufacturers that still have plenty of traditional lean work to do need to have Lean 4.0 on their radars. The insights you need to eliminate defects and fully optimize quality often lie in machine data. By pairing IIoT with automation and advanced technologies—such as digital standard work, connected worker solutions, robotics, and co-bots—you can reduce any lingering variances in quality outputs.

Recommit to lean today

Many costs are outside of manufacturers' direct control. The cost of quality and doesn't have to be one of them. Greater lean maturity continues to be the best answer to balancing the scales and combatting the margin pressures you're under right now. The more proactive you are in adopting lean principles, and the further you can push quality control upstream in your process, the better positioned you'll be to cost-effectively deliver the quality your customers expect.

Jeff Baenen, Managing Director, Business Development

At TBM, Jeff focuses on the aerospace and defense industry—working with both prime contractors, OEMs and tier suppliers on dramatically creating operational speed, flexibility and responsiveness in the areas of operations, supply chain management, human capital, technology adoption, and operating system implementation.

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John Lewis has extensive experience maximizing profit through cost reduction and streamlining operations, particularly in turn-around and startup leadership roles.