Striving for Perfection:
How to Manage a Successful Lean Program that Creates Customer Value and Drives Business Growth

A white paper providing guidance on how companies can improve efficiencies and yield greater financial results through lean manufacturing.

Manufacturers are constantly looking for ways to eliminate waste, reduce operating costs and satisfy customer requirements in the most efficient way possible. Today’s business leaders want their operations to do more with less. Many of them accomplish this by implementing a variety of continuous improvement systems and management philosophies.

Most operations managers are familiar with popular management strategies, from Six Sigma, 3P and 5S to A3, SMED and even a mistake-proofing concept called “poka yoke.” But how can manufacturers turn what sounds like alphabet soup into lean practices that really create positive change within their organizations?

Like any ongoing initiative, lean manufacturing depends on a company’s ability to carry out four basic actions – plan, implement, measure and repeat.

PLAN SUCCESS AND IT WILL COME

For Lauren Manufacturing, a single-facility operation in New Philadelphia, Ohio, the planning started more than a decade ago. Its plant produces custom-molded and extruded polymer products used in a variety of industrial and transportation markets.

Company leaders started researching how lean manufacturing could eliminate waste and improve their financials. They took a hard look at their daily operations and uncovered many non-value-added positions and activities.

“We could easily see how that waste was starting to erode operating income,” says Lisa Huntsman, the company’s president, who started her career at Lauren as a chemist. “While we didn’t anticipate the global recession of 2008, we did believe at the time that if we didn’t start changing the way we thought about our business, we might not be a viable company in five to 10 years.”
Getting Organized

The first two orders of business were to establish executive ownership of the process and to define desired outcomes.

“Lean manufacturing is absolutely a top-down strategy,” says Huntsman. “It will never work from the bottom up. Your CEO and CFO have to be on the same page leading it, because things will look worse financially before they get better. It’s very easy for a naysayer to complain that lean is a lot of smoke and mirrors.”

Sometimes company leaders who are afraid of this initial dip may pull the plug on lean manufacturing before it has a chance to work. However, long-term goals, not short-term impacts, are what should drive the planning and implementation process.

Companies with the most successful lean manufacturing programs have defined objectives that relate to their overall business strategies. Common objectives include improving customer service and delivery, generating greater profits by reducing costs, and becoming so efficient that more time and resources can be spent going after opportunities that bring in new business.

At Grede Holdings LLC, a manufacturer of cast, machined and assembled components based in Novi, Michigan, two main reasons for implementing lean manufacturing were to improve performance metrics and increase profitability.

“We operate in a very mature industry with razor-thin margins,” says Todd Heavin, senior vice president and chief operating officer for Grede. “We have 13 foundries and two machining plants, and the top three performance metrics at each facility are safety, quality and delivery. We have very good leaders at every plant who understand those metrics, and we found that lean manufacturing was the most powerful tool at our disposal to improve our operations.”

Lean manufacturing can be powerful, but its actual implementation often hinges on one of the most important questions posed during the planning phase – who is actually going to do it?

Some firms bring in consultants and lean specialists. Others rely on existing employees within the company to manage the process. Both approaches can work, but Lauren and Grede both opted for implementing lean manufacturing using internal resources.

“We try to stack the deck with talent,” says Heavin. “For example, my director of Lean Six Sigma is also an ex-plant manager. We look for people who are solid in the technical areas of manufacturing, information technology and so forth, but also have a business mindset. These are the people that can achieve results every day and not get wrapped up in activities that don’t relate to improving the business.”

IMPLEMENTING LEAN INITIATIVES

After a company has executive buy-in, clear objectives and a precise plan of execution, it may seem like a good time to begin implementation. And it is, but not before the employees are all on board.

According to Huntsman, fear is the single greatest challenge to getting lean manufacturing up and running. At her facility, lean managers spent considerable time educating employees about what was happening and why it was good for the company as a whole.

“With the shop floor, we met with the union leaders and took them with us to benchmark other union facilities that were well-entrenched in lean manufacturing processes,” she says.

In the office, company leaders were also open and honest about the forthcoming changes. They discussed the difficulties that lean processes would present in the transitional period and how those challenges would benefit the company and its employees long-term.

“At the end of the day, most companies are focused on minimizing scrap costs, reducing rework and using the equipment more efficiently,” says Huntsman. “The lean manufacturing approach is to maximize these resources.”

At Grede, employees know which performance metrics are most important and how they are expected to achieve them. They also have constant access to information and metrics that help them do their jobs, and they collaborate at the end of every workday to discuss results and talk about improvements for the next day, week and month.

“We really educate our people on how different factors, like materials scrap, hit the profit and loss statement,” says Heavin. “For instance, our production teams track scrap every day in a war-room format. They review the day’s statistics and quantify how much the cost of that scrap will impact the profit and loss (P&L) statement.”

From the leadership team to the shop floor, Grede employees talk openly about the numbers. Graphs displayed throughout the plants illustrate how much money was spent in a given day on labor, materials and maintenance. Kaizen scorecards track savings. Employees can also see which lines did and didn’t hit their production targets.

“When you walk through one of our plants, you can see exactly where it is tracking financially,” says Heavin. “As employees see their work in terms of numbers, they start to ‘get’ why they need to produce.”

Huntsman agrees. At Lauren, the information technology department has played a major role in setting up systems that help employees track data electronically.

“Due to the custom nature of our business, our performance is really about the execution of our changeovers,” she says. “All lines are computerized in terms of the reporting system. We also have visual boards in the aislesways for everyone to see the different lines. When an operator gets ready for a changeover, you can tell by the color that’s on the board. If the operator hasn’t clicked in that they are now taking production, a ‘rainbow’ that operates at that work center provides a visual cue that resources need to be directed to fix a problem.”

That’s important because 60% of Lauren’s scrap is generated at the changeover. The faster resources are dispatched to address an issue – whether it’s with the material, the dies or the equipment – the less scrap will be generated. As a result, lost revenue due to scrap costs is reduced.

UNDERSTANDING THE RESULTS

Both Huntsman and Heavin concur that assigning dollar amounts to metrics is the best way to know how operational activities really impact a company’s profitability.

Heavin believes that traditional metrics like safety, quality and delivery are still valuable, as long as they are tied back to the P&L.

“These traditional metrics hit the P&L in the form of labor and materials costs,” he says. “People start to make the connection that if a machine is down, it’s hurting the company financially and it could be hurting their role there.”

Understanding the results also helps a company prioritize where to direct its resources.
For example, Lauren has some production lines with a high scrap percentage, but the parts are very small. Other lines have a lower scrap percentage, but run larger components.

“One line could run 20% scrap that only costs $30,” says Huntsman. “Yet a larger line with 15% scrap might cost us $550. Valuing the scrap helps us communicate to the shop floor why our process engineers are working on one line instead of the other. Even though it’s running less scrap, it’s costing us more and we need to put our energy into improving that process first.”

Saving small amounts of money over time can definitely add up to greater overall financial performance. But when it comes to freeing up larger amounts of cash, tracking inventory metrics can have a huge impact.

Heavin partially attributes Grede’s survival through the recent economic downturn to tracking its inventory turns. Analysis of the data showed that the company could cut its inventory by 50% and still meet customer requirements. The inventory reduction freed up $25 million in working capital that Grede now is using to bolster its maintenance program and buy new equipment.

…THEN DO IT ALL OVER AGAIN

Some organizations never implement lean manufacturing because it seems like a daunting task. After all, it’s a journey that never really ends.

“I’ve heard some say it’s a three-year journey,” says Heavin. “But you just start day one and go for improvement next month because you’ve got limited capital to work with. Then you can build on it. Make next month or next year better than the last, and take small steps to advance from where you were before. It’s the most cost-effective way to improve your operation.”