Seaman Corporation Is on the Transformation Fast Track

Jonathan Wheatley, TBM Senior Management Consultant

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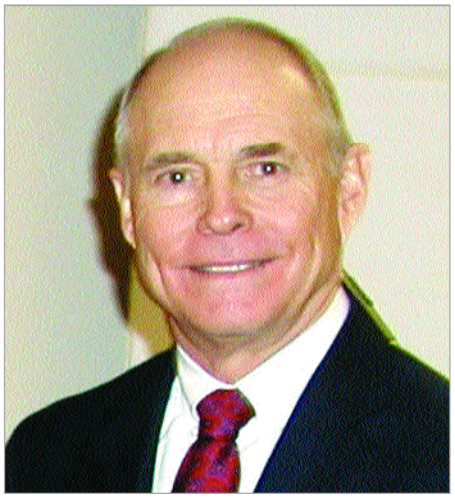
–Richard Seaman



Richard N. Seaman
President and CEO, Seaman Corp.

The textile industry has faced some tough challenges in recent times, including recession, globalization, and rising raw materials and labor costs. Although these sorts of issues can spell trouble, companies that use LeanSigma® proactively to transform themselves into world-class operations can avoid the worst of the problems and flourish. Last year, Seaman Corporation, an industrial fabrics manufacturer, achieved record sales, and maintained gross margins from those sales in light of dramatically increased raw material costs. Had raw materials costs not increased significantly, the company would easily have improved on gross margin, notes Richard Seaman, president and CEO of the company. "This is in large part due to our efforts to increase capability and capacity and reduce costs through LeanSigma," he adds. "Lean will continue to allow us to take waste out and keep costs down while optimizing our business."

Seaman is privately owned and was founded in Ohio in 1949. It is currently headquartered in Wooster, Ohio, with factories in Wooster and Bristol, Tennessee. Seaman is not a typical process manufacturer, which we most often associate with the food, beverage, and pharmaceutical industries, but instead makes industrial coated fabrics such as high-performance roofing systems and architectural structures, geomembrane liners, truck tarps, and sign facing. John Crum, vice president of operations for the company, says, "When we put up a roll [of fabric] on a line, we pretty much have to process through that roll. If we stop the process, we're going to produce bad product, and that's why we're considered a continuous operation or a process industry."

On starting their lean journey, Crum comments, "I wondered if lean could be applied to our process and where to start with the process. We really started trying to create value through quality, productivity, and responsiveness to our customers. We needed to create flexibility in our process and we needed to create standard work."

Seaman Corporation

Gains Everywhere

The company first implemented lean on their calendar lines, which at the time had a four-hour changeover time. "Our set ups were very long, which is typical of a process industry," notes Crum. For their first kaizen event, they brought in calendar line team members from both plants plus several engineers. The team was able to reduce changeover time on the line by 75 percent. Reducing changeover time increased the company's flexibility and productivity by allowing them to produce more special items in a day than they had been able to do in the past. Says Crum, "We are running more set ups a day than we did three years ago and this in turn means that we can be more responsive to our customer base. We have transformed from a rigid production schedule to a flexible one."

Additionally, Crum attributes lean with enabling the company to cut its production lot sizes in half, which in turn allows for more diversity in the production schedule. "Before lean, we thought we had to have large production runs to gain productivity," says Crum.

Stopped production lines are generally anathema in process industries, but at Seaman, if a lean event requires suspending production on a line for 8–10 hours, Crum considers it part of doing business. Why? Because any revenue loss incurred by

shutting down a line is more than made up for by the gains achieved by the event. In fact, Crum expects TBM-facilitated events undertaken at either plant to return an annualized average return factor of 3–5 times over the cost of the event. Seaman has maintained these returns on LeanSigma event investment even with the economy in a downturn.

Standard Work

Another lean tool, standard work, has helped the company to vastly improve quality. According to Crum, several hundreds of yards of material would be run on a line before the necessary quality was achieved, but with the implementation of standard work they can now achieve that same level of quality while reducing change over start-up scrap by 87 percent. Everything is interconnected when it comes to the gains made through lean, so work in one area may well provide benefits in another. For example, improved quality helps reduce costs because the company produces less off-grade material (scrap). That in turn affects capacity, because less scrap translates into more good material, which directly translates into increased capacity.

"First-run yields have also benefited from the implementation of lean, with close to a 40 percent overall reduction" adds Seaman. This improvement in off grades has helped in offsetting the increased cost of material. He notes that lean has enabled the company to significantly improve response times and capability as well. "Over the coming months, even if we don't have a lot of opportunities to reduce costs, we do have opportunities to increase productivity," he adds, "and this includes productivity of our sales people." And so the improvements will keep coming.

Capital Avoidance

One big savings companies can realize through lean is reduced capital expenditures. Crum notes, "We would rather optimize our current capital investment through lean than pursue additional capital investment." He notes that improving productivity of machines by a 15 percent increase represents a higher return on investment than you could expect to get through capital expenditures, especially when you must also factor in depreciation. "You leverage your assets by using lean," he says. "The ability to use flexibility and increased capacity to grow the top line is a winning equation."

When a capital expenditure is considered, it must offer greater benefit than could be gained simply by increasing capacity and flexibility. For example, adding a line that could handle wider-width material might make sense because it could not only help improve quality of a product—through

This custom architectural tension structure, part of the Sault Ste. Marie, Ontario, Canada, welcome center, features Shelter-Rite® fabric, coated with Tedlar® PVF film for ease of cleaning and UV protection.

Seaman's rigorous project-selection process and intense focus on sustainment has led to some amazing results:

Improved first-pass yields to 96 percent

Reduction in set-up times of up to 75 percent

21 percent average increase in productivity

An average $100,000 return on every TBM-led lean event

$2 million in capital avoidance for one facility as a result of improved productivity and yield and faster set-up times

Minimum 3–5X return on all consulting engagements

fewer welds or sewing points—but also create access to new customers.

Capital avoidance is always an attractive alternative. Lean can provide the option of not having to make capital investments. Seaman thought that it would have to invest nearly $2 million in on-site compounding at the Bristol plant. By linking the results of several events, which included transportation as well as space and time that had been freed up through lean efforts, the company was able to increase the capacity for compounding at the Wooster site, and then use an improved transportation loop to deliver dry blend compound to the Bristol site.

A Critical Eye Toward Project Selection

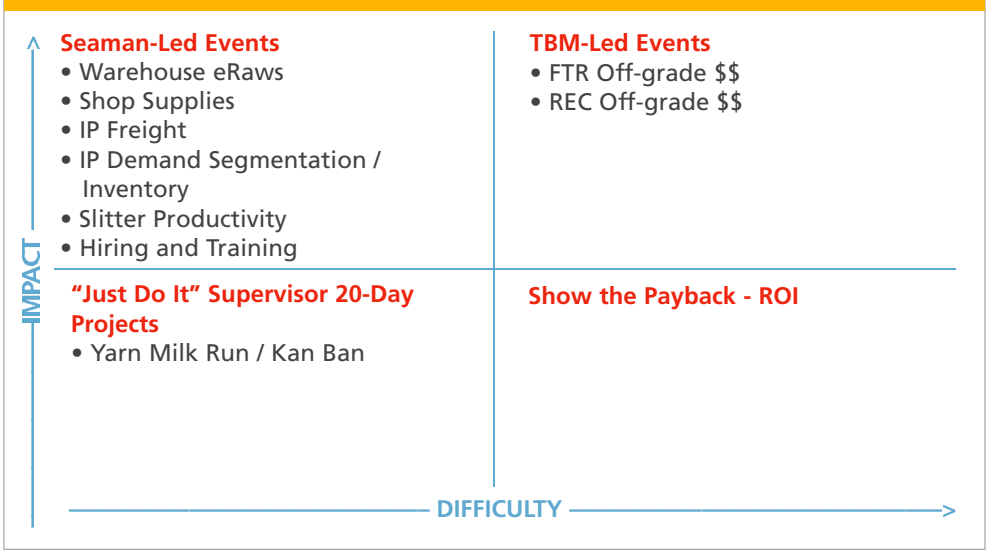
One way that Seaman is able to achieve such a high return on investment from its lean projects is through a very rigorous selection process. "Lean has given us a good process for project selection," says Crum. "We select projects that have potential for real bottom-line results. Selection may take two to three days, but the end result of selecting projects with the greatest impact—the highest return on investment—is critical." One key to success is to stay away from intangibles during project selection.

The company uses the value stream map to identify opportunities and an impact-difficulty matrix to help standardize and codify the process. Impact-difficulty matrices are divided into four quadrants, with increasing impact and difficulty going up and to the right, so that high-impact but difficult projects are listed in the top right quadrant, and high-impact but relatively easier projects are listed in the upper left quadrant. Projects that appear in the lower right and left quadrants represent lower levels of impact and difficulty.

Seaman approaches upper right quadrant projects as those that will require outside help from TBM. Upper-left-quadrant projects are those that can be led in-house. Projects that appear in the lower left quadrant are considered one-to-two-day "just do it" events.

This is a very methodical and logical way to weed through potential projects and choose only those that will have the greatest impact. It allows the company to connect the dots between what they agree needs to be done during planning and review with projects that fit the lean strategy and the yearly business plan. Seaman sets its LeanSigma strategy during its planning and

BRISTOL IMPACT/DIFFICULTY MATRIX



Seaman's Fiber-Tite® roofing system was chosen to cover the new state-of-the-art high school and community center in Wooster, OH.

This geomembrane system was used as an alternative to clay-based systems to line an offshore waste-containment bund (embankment or dike) for the government of Singapore.

review sessions twice a year. Planning and review stems from that established strategy. Then the company plans projects using the impact-difficulty matrix, making sure that projects are tied back to the corporate business plan for the year. In this way, Seaman aligns its plans and its resources to generate both top- and bottom-line gains—gains that can be achieved even in an economic downturn.

If you compare Seaman's progress with other companies who have been working on their lean journey for the same amount of time, it becomes clear that Seaman's discipline and project selection methods have paid off for the company. From a process capability and a Sigma kaizen standpoint, Seaman has managed to shift the entire transformation process up by six months—moving through critical phases much sooner than the average company. By being able to accelerate the process, Seaman is able to reap the benefits of lean much more quickly.

Sustainment: Managing for Monthly Improvement

Often organizations that have embarked on a lean journey obtain great early results but then struggle with sustainment. "Many companies have successful events and then down the line find themselves doing those events over because they failed to sustain the improvements," notes Crum. "We use a process we call managing for monthly improvement (MMI), where the operations group takes about five minutes to go over each event and determine whether the gains from that event are being sustained."

They use a red, yellow, and green tag process, with green tags going to those events whose results are being sustained, yellow tags for events whose results are in danger of slipping, and red tags for those events that have failed to sustain for whatever reason. They then go back and address those areas that are slipping or failing and bring them back up to green status. By reviewing event sustainment monthly and addressing problems immediately, the company has created a benchmark model for sustainment.

As with project selection, Seaman also has a rigorous process for ensuring sustainment. Sustainment ultimately depends on accountability, and by setting up a monthly review process, the company has found a way to hold everyone accountable for sustaining results.

A Key to Success: Focus, Focus, Focus

One overriding theme you will notice at Seaman is a very intense focus on their lean efforts. Crum acknowledges, "It's all about focus—knowing where you want to go, what you're trying to achieve, and making sure you stay on task. The second you're too busy to focus on lean it will fall apart."

"You must be committed and must have leaders with passion," he adds. "If you don't set high standards, you'll achieve low standards. You have to believe that every event has the potential for breakthrough changes."

Indeed the focus of which Crum speaks is evident in the way the company selects projects and the way it sustains them. It's the sort of focus that other companies—both new to the journey and well along it—can take to heart. Learning how to rigorously deselect projects so that you can gain the utmost from your lean efforts and then setting up a strict process by which you hold everyone accountable for the sustainment of gains—like Seaman's MMI process—is how others can build from Seaman's story. As Richard Seaman notes, "A quality initiative is a never ending journey. LeanSigma must be institutionalized; it must become a way of life." In truth it has become a way of life at the company, and if you follow their lead, you will be able to institutionalize lean into your culture for the kind of long-term success that lean promises, no matter what the economic climate. ■