



"End-to-End Lean Management"

Taking lean way beyond manufacturing

By Robert Trent

Meet Robert Trent

Dr. Robert Trent is the co-director of the Center for Value Chain Research, the supply chain management program director, and the George N. Beckwith professor of management at Lehigh University, where he teaches at the undergraduate and graduate levels. He holds a B.S. degree in materials logistics management from Michigan State University, an M.B.A. degree from Wayne State University, and a Ph.D. in purchasing/operations management from Michigan State University.

Prior to his return to academia, Bob spent seven years with Chrysler Corporation. His industrial experience includes assignments in production scheduling, packaging engineering with responsibility for new part packaging set-up and the purchase of nonproductive materials, distribution planning, and operations management at the Boston regional parts distribution facility.

Robert Trent's End-to-End Lean Management

While doing research for his book, End-to-End Lean Management, it struck Robert Trent that the majority of previously produced works on the subject on lean management were geared toward manufacturing and operations within manufacturing. After looking into numerous cases, and visiting multiple companies that were not manufacturing firms, he saw lean being applied in different areas, and soon came to the conclusion that lean thinking is so skewed toward manufacturing that it is constraining some companies from adopting the concept.

As the title of Robert Trent's book implies, End-to-End Lean Management takes a broader view of lean, from suppliers to customers, and applies it to virtually any industry, including railroads, hospitals, universities, distribution networks, etc. By taking a broader view himself, Robert uncovered a number of myths about the concept of lean management. For example, many people believe lean is about cutting costs. But, as Robert pointed out, cutting cost could be about going to China and sourcing what you believe to be a cheaper component, which is something that may not contribute to lean management at all.

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A Contrarian View

Robert Trent wants to shake things up, to take a contrarian view, if you will, because in his mind it gets tiresome to hear only what Toyota is doing. In fact, one of the myths he uncovered is that "lean is forever." If you study Toyota right now, he said, you know that they just recalled nearly three million cars, and they're having a series of issues that really work against their lean principles. Along those same lines, Robert said, another myth is that once you've achieved the lean, those gains are sustainable forever.

Overall, Robert Trent's point is that lean can be applied to any part of a supply chain and any part an organization. He simply doesn't buy into the idea that lean is only applicable to manufacturing or to internal operations. To apply lean principles to areas other than manufacturing, you have to get past misconceptions, such as viewing lean as a set of techniques, which Robert says it is not. Instead, he says, lean is really more of a philosophy you try to embed within your organization.

Robert Trent also says too many people see lean and just-in-time (JIT) as being synonymous, but according to Robert, "Saying that lean and JIT are synonymous is like saying total quality management is about statistical process control (SPC), and nobody would believe that. SPC is a technique, just as JIT is."

Think Beyond Toyota's "Seven Wastes"

Going back to the Toyota example, Robert said, you always hear about the Toyota production system's seven wastes, but if you really study those wastes, you'll find that they're very manufacturing focused. Robert believes if companies really want to pursue lean, they have to take a broader view of what waste is. For example, Robert says he can make the argument that waste is embedded in too many bits and bytes, too much digital communications going on. He could argue that waste is embedded in overdesign of products. He could argue that waste occurs simply by the number of meetings you have to attend to every day as a manager. The point being, companies have to take a broader view of waste as it applies to lean or they're right back to thinking about lean as something exclusive to the manufacturing space.

For most companies, Robert believes the biggest gains in the lean space are likely to be outside of their four walls -- downstream in the distribution network and upstream in the supply network. In the future, he sees a lot of lean activity surrounding inventory management and the financial implications of the supply chain in general. That, he says, is how you can tell if you're doing a good job.

The Pursuit of Lean Should Not a Primary Objective

According to Robert Trent, too many people believe see the pursuit of lean as their primary objective, but there is much more to being successful than being lean.

Case in point, Robert said, "The highest-quality award in the United States is the Malcolm Baldrige National Quality Award. Well, how do you explain a study that showed If your portfolio consisted of the companies that won the National Quality Award, you would've lost 18% starting in about 1991, and every year you bought the winners' stock, you would've lost eighteen percent, while if you just bought a fund that invested in SMP 500, you would've made 35%? How do you explain the disconnect?" The logical conclusion is that there is more to business success than winning an award for quality. The same, he said, can be applied to lean; it's going to take much more than just saying, 'We're lean and, therefore, customers should buy our product.'

IT and Supply Chain

The situation: While doing research for his book, End-to-End Lean Management, Robert Trent saw lean being applied in a variety of industries, and soon came to the conclusion that lean thinking is so skewed toward manufacturing that it is constraining some companies from adopting the concept.

The details: To apply lean principles to areas other than manufacturing, you have to get past misconceptions, such as viewing lean as a set of techniques, which Robert says it is not. Instead, he says, lean is really more of a philosophy you try to embed within your organization.

What it means: If you are serious about learning more about lean practices, Robert Trent suggests stepping out of your comfort zone. What he means by that is don't just look at what your competitors are doing with lean, look at what other industries are doing with lean.

Any Process Left Unattended Tends to Migrate Toward Chaos

Commenting on a recent Q & A session with Gallup CEO, Jim Clifton, during which Clifton said, "Process improvement was the last big leadership evolution," and that the next leadership opportunity will be in understanding human behavior, Robert Trent said Clifton made some good points, although he cautioned that any leader of an organization who believes he has achieved total quality or lean, and therefore can move one, is going to take a step backwards.

Using the second law of thermodynamics to make his point, Robert said, "Any process left unattended tends to migrate toward chaos." Leaders who take their eye off that ball, he continued, will be wondering in two to three years what the heck just happened. Why they have recalls? Why are they losing market share? Why are their costs going up? Arguing against Jim Clifton's point that the days of lean, total quality management and Six Sigma are over, Robert Trent said, "I don't believe for one minute companies could ever, ever turn their back on quality or the pursuit of lean and expect to be successful in the long-term."

Robert Trent's concern for leaders who think they've achieved lean, and can therefore move on to other issues, is the back-slide that can occur. Even if you don't take a step backwards and remain right where you are, Robert warns, your competitors are still moving forward. By way of example, Robert said, "JD Power ranks vehicle quality based on defects per hundred vehicles. In 2004, Hyundai was the lowest-ranked vehicle brand in the United States. Three years later the rankings come out, and they reduced the number of defects per one hundred vehicles by almost 40%. But guess what? Compared to the other brands, they were still ranked second or third from the bottom. So, here they improved on a real basis 40% and barely nudged up in the rankings. What would they have looked like if they hadn't improved? What it tells you is that everybody else was not content to sit there with their defect per one hundred vehicles."

In supply chain, Robert Trent says, managers are always under intense cost-reduction pressure, which leaves him wondering why companies would ever turn their backs of lean when it makes tremendous contributions toward removing waste and other costs from their supply chains?

In terms of Jim Clifton's belief that understanding human behavior is the next big leadership opportunity, Robert Trent agrees wholeheartedly, and points to indicators like companies mining sites like Twitter for immediate feedback on products as proof that the business world agrees as well. But, he cautions, that doesn't mean companies should pay less attention to quality. If anything, they should probably pay more attention to it.

Get Out of Your Comfort Zone

If you are serious about learning more about lean practices, Robert Trent suggests stepping out of your comfort zone. What he means by that is don't just look at what your competitors are doing with lean, look at what other industries are doing with lean.

For those who believe lean and Six Sigma stifle innovation, and that the quest for standardization and conforming to a well-defined process leaves no room to be creative, Robert Trent says he has seen no evidence of that, especially when you begin to take a broad view of innovating in the name of lean and Six Sigma. When you look at the whole green movement, Robert says, your carbon footprint is all about lean. It's about doing more with less, which is exactly what lean is all about, and companies are doing incredibly creative things around sustainability.

In short, leaders who are serious about getting the most out of lean need to apply its proven principles to every corner of their companies.

About the Center for Value Chain Research

The Center for Value Chain Research is a joint venture between Lehigh University's P.C. Rossin College of Engineering and Applied Sciences and the College of Business and Economics. A core group of over 25 faculty members from both colleges is affiliated with the Center. The Center provides a unique, multidisciplinary approach to research, offering exciting new opportunities for innovation by integrating analytical and quantitative engineering approaches with process-driven and field-based business research.

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