



Common Lean Implementation Traps

June 2001

Over the past several years, I've worked closely with a number of manufacturing plants as they've introduced lean production systems into their operations. I've noticed that there are some common traps that they fall into.

Novelty Trap

The first is a tendency to overemphasize the novelty of lean manufacturing. Lean has been marketed as an entirely new set of manufacturing fundamentals, a new set of performance measures, and a new way to manage the business. Although this hype has helped grab everyone's attention and keep lean from getting lost in the shuffle of day-to-day activity in the plants, it has actually made it more difficult to implement.

Lean manufacturing doesn't really alter the fundamental objectives of the business. It just offers a different way to achieve them. Its purpose is to improve quality, cost, and delivery by making exactly what customers want, when they want it, without any wasted movement of materials or wasted effort by people.

That isn't so novel. What is new about lean, relative to what's come before, is its focus on the value stream and its emphasis on total cost. Industrial engineers have always tried to eliminate wasted motion, but they have traditionally focused on individual jobs. The reengineering movement broadened that focus to business processes. Lean goes a step further to focus on the whole value stream.

The same is true for costs. Managers have always tried to reduce costs, but they have traditionally focused on discrete actions within their functional area. Total quality cost processes broadened the focus by looking for ways to reduce costs across functional areas. Lean goes a step further to focus on total costs along the whole value stream.

In doing so, lean requires a more systemic and holistic approach to improving the fundamentals of the business. It requires managers to not only rethink the way they organize production, but also the systems that support it. And it requires managers to weigh additional factors into their financial decisions. However, it does not change the fundamental drivers of quality, cost, and delivery.

This last point gets lost in the process of rolling out lean as a corporate initiative. To differentiate lean from previous initiatives, the training often goes overboard by suggesting that lean requires a complete break from past ways of doing things and measuring things. This message creates quite a bit of confusion among production managers about which things to keep doing and which things to stop doing. Many basic manufacturing disciplines get neglected or even abandoned as a result.

To compound the problem, lean often gets rolled out with a corporate disclaimer that better results won't show up right away. Instead, sponsors claim that results will come later if the prescribed processes are faithfully followed. This approach offers little room for experimentation. And it leads plants to assess the success of their lean efforts in terms of "did we do it right," rather than "did we make a difference."

In many lean projects, basic productivity and quality data don't even get collected, making it impossible to determine whether the changes actually make a difference, and if so, how. In this Alice in Wonderland world, many plants end up focusing mainly on process, even in the face of growing red ink on their bottom line. As a result, their lean efforts get disconnected from the mainstream of the business.

Showcase Trap

Another trap is the tendency to put lean in a showcase. The assumption behind this approach is that people need to see lean in action to understand it. Once

they understand it, they will be open to trying it. And if they try it and get good results, they will commit to it. Therefore, the key to successfully introducing lean in a plant is to showcase a lean line that produces good results. (Building a showcase is also a highly visible way to demonstrate compliance with corporate directives to implement lean.)

In practice, the showcase approach leads to a preoccupation with lean cells, since they are the most obvious physical manifestation of what many people think of as a lean system. However, a lean cell is not a lean system. At best, a lean cell is just a stepping off point to a lean system.

The showcase approach almost always leads to a dead end. Its focus on a single line precludes realizing the biggest benefits of lean, which lie in changing the systems that support that line, not in changing the line itself. Building the showcase invariably becomes an engineering project, focused on rearranging a straight line into a U-shaped cell. The results, at best a 5-10 percent improvement, are usually insufficient to justify all the added expense that distinguishes this as a “lean” project, such as the cost of the lean expert(s), dedicated plant resources, and training.

Moreover, if lean principles are applied in a formulaic way, the resulting changes often make things worse. Most lean experts have a preferred template for rearranging a production line into a lean cell, based on what’s worked for them somewhere else. If their template doesn’t fit, or if they are too rigid or inexperienced to adapt it, performance suffers.

Morale can also suffer. In order to get hourly employees to participate in building a showcase for lean, managers need to reassure them up front that lean isn’t just a smokescreen for getting more work out of fewer people. Yet, because all the expected savings have to come from just one line, managers end up between a rock and a hard place. If they don’t wring all the possible costs out of the showcase line, they risk losing management support for lean. But, if they do wring all the possible costs out of the showcase line, they risk losing the trust and support of hourly employees, whose worst fears about lean will be confirmed.

If the plant does manage to get past these roadblocks, it faces an even bigger challenge in figuring out how to expand lean beyond the showcase. Typically, lean is launched as a special project outside the operational mainstream, with its

own dedicated resources and organizational structure. By the time the showcase is built, the dedicated resources are often desperately needed back in their home areas, and maintaining a separate organizational structure becomes difficult to justify under pressure to reduce indirect labor costs. Maintaining a separate organizational structure also adds complexity to managing the business at a time when managers are desperate for ways to streamline their operations.

Success with one showcase usually leads to more showcases, as plants try to replicate their success on other lines. However, as the number of lines grows, so does the infrastructure required to support this process. But, that infrastructure is hard to maintain.

Work Group Trap

A third trap is the tendency to rely primarily on work groups of hourly employees to drive lean implementation. A lot of training and resources have gone into equipping work groups to perform that role. Yet, although they play an important role in maintaining the stability of existing processes, and often improving on them, the work groups are poorly suited for this transformational role.

Relying on self-directed work groups to drive lean implementation has the same shortcomings as building a showcase. Because most work groups are organized by production line, their focus is inevitably on perfecting a single line. And, even if they do see the need for more systemic changes, they are in a weak position to act on them. Therefore, the work groups tend to have very little leverage for implementing lean.

One response has been to hold production managers and support departments accountable for responding to all the suggestions and work orders generated by the work groups, but that has created new problems. The work groups have developed a sense of entitlement that all their ideas will be implemented, regardless of their potential to improve performance. Managers have become hesitant about giving direction and maintaining discipline and standards for fear they will undermine the work groups and be labeled “old school.” Accountability has been turned on its head.

Under these conditions, the more successful the plants are in getting the work groups to drive lean, the more likely they are to get bogged down. The more

work groups the plant launches, and the more active they are, the more work orders and improvement suggestions they generate. Ultimately, the managers and support departments get overwhelmed, and the backlog becomes so great that work group members themselves become frustrated and demoralized. Meanwhile, the more time that managers and support departments spend responding to the low-leverage issues identified by the work groups, the less time and resources they spend on higher-leverage issues that would have a more significant and lasting impact on overall performance.

This bottom-up system of leadership and accountability is a major obstacle to implementing lean. Managers, who are in the best position to identify and act on the systemic issues that are at the heart of implementing lean, end up looking for leverage in all the wrong places. The work groups, whose engagement is essential to the success of lean, end up frustrated by what they perceive is the lack of management support. Both become trapped in roles that are counterproductive and expectations that are unrealistic.

Avoiding the Traps

There are a number of lessons that I take away from this experience that suggest a more effective and streamlined approach to managing lean implementation.

- First, plants need to focus on leaning out larger systems to realize the benefits of lean as a system, rather than perfecting a single line or lines. The initial focus lines can serve as probes into those larger systems to identify what's causing the problems on the line. With some help, production managers should be able to spot opportunities where a small amount of effort can produce a significant improvement in performance.
- The next step is to focus on the fundamentals of quality, cost, and delivery and focus on what lean can do to improve them, not act as if lean means starting over with a new set of fundamentals. Lean projects need to be rigorously evaluated on the basis of whether they improve these fundamentals, not whether they faithfully follow a particular formula.
- Next, the production managers need to organize ad hoc cross-functional (kaizen) teams to address systemic issues, not rely on the existing work groups to do so. Hourly workers need to be involved because they have critical information and perspective, but additional perspectives are also

necessary, as well as the authority to implement whatever the team comes up with. The teams need to have a clear business objective, then disband once that objective has been met to avoid adding too much cost and complexity to managing the business.

- The plant leadership needs to organize this whole process, not a corporate staff group or a special lean team within the plant. They need to make sure that production managers are focusing on the right issues, then help them stay focused, and give them whatever support they need to execute their plans. Where there are resource constraints, they need to decide what the priorities are. They also need to look for opportunities to share lessons across the plant, and for opportunities to lean out systems plant wide.
- Finally, corporate staff need to add value to these efforts by providing opportunities for plants to learn from their own experiences and from each other, not by pretending that they have all the answers. Instead of relying on existing hands-off reporting structures, they need to create hands-on learning structures both within the plants and among the plants. They also need to identify where corporate systems and structures are getting in the way of implementing lean in the plants and organize task forces to address those issues.

This model represents a much leaner way to implement lean production by starting from the inside and working out, rather than by trying to push lean into the plants from the outside. In doing so, it helps plants avoid many of the common implementation traps by removing them altogether.