

Lean implementation failures

Why they happen, and how to avoid them

By Richard G. Kallage

July 11, 2006

The most important parts of lean implementation are preparation—especially an objective assessment and development of the business and technical cases for lean—leadership that can get things done, appropriate training, resolution of people issues, and well-designed deployment methods.

Editor's Note: This article is adapted from Richard Kallage's presentation at Practical Lean: Successful Lean Manufacturing for Smaller & Midsized Manufacturers, Oct. 17-18, 2005, Lafayette, La., © by the Fabricators & Manufacturers Association, Intl. (FMA).

One of the most frustrating and misunderstood issues regarding lean manufacturing is its implementation. Lean is a powerful organization and manufacturing model that most experts agree could be the dominant paradigm worldwide in the next five to 10 years.

However, current lean implementation failure rates—well over 50 percent according to many lean advocates and professionals—are much too high for this to happen.

The reasons cited for failure usually fall into these categories: Didn't meet expectations; too long to do; too expensive; risks or costs started to exceed benefits; or too resource-intensive.

It is unlikely that the benefits of lean will accrue for the majority of North American manufacturers—most of which are small and midsized enterprises—until the failure causes are understood and realistic, effective solutions are devised.

The Root Cause of Failure

No manufacturer, especially a small or midsized one, would purchase a major piece of equipment or invest in a new facility without answering, at the very least, the following questions:

- Why buy it?
- What does it cost?
- What are the benefits?
- What are the risks to realizing those benefits?
- What are the impediments to implementation?
- What are the alternatives?
- What happens if we don't invest?
- What people resources do we need to commit?
- Over what period of time?

Answers to these questions form the basis of the "business case," or the company-specific, risk-adjusted economic argument for the investment.

Most of the literature and training in lean address only some of these key questions, often in a cursory, dismissive, or unsatisfactory (to most manufacturers) fashion.

This "hole" in traditional lean may be the root cause of most implementation failures. Knowing the benefits that "worst-case / best-case" example companies have derived is not enough to convince most manufacturers to make the proper commitment to lean. Understandably, they need to know what lean will do for their own company, not someone else's. They need to know, upfront, what's involved.

Without this basic knowledge, manufacturers' attempts at lean implementations become tentative, confused, and prone to fizzle at the first signs of difficulty. Lean implementation becomes "Let's give it a try" instead of "We will do it, and here's why."

Other major causes of failure involve how lean manufacturing is deployed and the characteristics and preparation of the people involved in the implementation.



Common Failure Modes

To start lean manufacturing, two conditions are necessary:

- Processes are under control and predictable.
- Basic disciplines involving quality control, material handling, setups, and so forth, are in place.

These conditions are fundamental and usually are met by most manufacturing companies, sometimes extraordinarily well. However, while they are necessary, they are not sufficient for lean implementation. Examination of the failure modes provides a look at what is needed beyond these basics.

Twelve common failure modes can be sorted into three categories:

- Top management leadership
- People issues
- Deployment methods

Among these three categories there are, of course, overlap and interdependence, but each has sufficient uniqueness to discuss individually.

Top Management Leadership

Almost all lean experts agree that the main reasons for implementation failures involve senior management and ownership. These people are ultimately responsible for everything that happens, or doesn't, in the company.

However, simply blaming the top people for these types of failures is not very useful. The following are the actual reasons for failure and their causes. The modes cited often are related, but each is identified separately because of its unique nature.

Poor Development of the Business Case for Lean. The key business case questions listed previously either are not asked or not answered satisfactorily. Unless there is a strong business case for lean, it's very hard for top management to develop the passion and determination necessary to implement it, and the initiative likely will founder.

A realistic impact on overall competitiveness and the value proposition must be derived first. Lean then must be translated into the language of business: time, money, and risk. Future-state modeling is vital. A strong, objective assessment of where the company is now, where it needs to be, and how lean will get it there is fundamental. Think in terms of return on investment (ROI).

Insufficient Understanding of Lean Six Sigma and Its Elements. It is very important that senior managers understand, in sufficient detail and from an overall business point of view, what lean and its elements are and what they nominally provide. This is critical to prevent expectations from being overestimated or understated. Senior management must have a sufficient knowledge base to provide strong, informed direction.

Further, it is difficult to build a proper deployment order and structure without understanding how the elements self-reinforce and contribute to the goals of the company. The choice of which lean elements to deploy and the order of deployment is critical and depends highly on the company.

Insufficient Top Management Focus and Involvement. The implementation is treated as a delegated "project." But lean manufacturing is not a project. It is a fundamental change in the value delivery system. Top management must be in front.

Communications: Too Little, Too Complex, Too Simple. Different audiences need different descriptions of the benefits, risks, changes, and commitments required. Top management must take the lead and explain "what" and "why." Much of the fear, resentment, misunderstandings, and blame game maladies that plague change initiatives can be pre-empted by solid, consistent communication.

Poor Organizational and Leadership Development. Deployment and implementation can fail before it starts without a strong implementation team. Everyday support must come from important, respected line managers who have the most to gain or lose and have the power and authority to make things happen. This is a core top management task.

Lack of Proper Metrics to Determine Performance and Isolate Challenges. Lean requires metrics that focus on the processes of value creation and their associated costs. Traditional cost accounting techniques such as absorption, as well as individual machine and employee performance, can cause a lot of nonlean behavior.

Lean accounting ties directly to financial measures but focuses on performance of the entire value delivery system. Special consideration is given to cost of quality, inventory levels, throughput and flow, overall equipment effectiveness, on-time deliveries, and customer satisfaction measures.

Lean can and does provide powerful, sometimes company-saving benefits. However, translating these benefits into time and dollars is more difficult than calculating payback on a capital investment.

That doesn't mean that the benefits don't exist. It does mean that failure to do this properly can cause a company either to dismiss lean for the wrong reasons or fail to implement it properly.

People Issues

The people issues in lean have been covered extensively in print. Much of the literature on the subject has to do with general change management, and a lot has to do with effective deployment and top management leadership. While lean, like almost everything else related to business, relies on the brains, commitment, and energies of people, the causes for the most common lean failures related to individuals can be summed up in two main categories.

Lack of Middle-Management Buy-in. It's not just buy-in that can be lacking. It's also pushback. Middle managers and professionals of every stripe and function are the heart and soul of every company. They have a lot of collective responsibility, but not an equal amount of control and authority.

Traditional lean dogma puts a further squeeze (real or perceived) on this critical source of skills and talent. It really doesn't answer the key question: What's in it for me?

Traditional answers typically are: "You'll have a job (maybe)" or "We'll fire you and get somebody else." The real answer, though, is the company will be more competitive, and your job will be much more satisfying.

For small and midsized manufacturers to implement lean, this issue must be resolved realistically. The key middle-management and professional team must be onboard, or lean will fail.

A lot of resistance disappears when middle management is highly involved in the design and deployment of lean. Fear is removed through communication, training, involvement, and support.

If changes need to be made, senior management should make them, but only after exhaustive efforts are made to retain the company's known and proven skill base.

Management or Employee Capabilities Are Lacking. These are generally technical, people-skill, or leadership capabilities. Key elements of lean rely heavily on continuous improvement (CI) methodologies. Proper deployment of CI requires competence in technical areas (including math) and team-building. Launching even a modest lean initiative without having the required skills is not realistic. A good assessment can identify the skill gaps and prescribe the solutions needed to bolster the capabilities.

Not everyone is a leader. Lean requires top-to-bottom leadership of a special kind. Lean leaders are firm and inspiring, relentless and resilient, demanding and forgiving, focused and flexible. Above all, they have to be smart and highly respected in the organization. Every successful company has at least one of these leaders. These people must be a passionate part of the lean leadership team.

Deployment Methods

Lean also can fail because of faulty deployment methods.

Weak Deployment Strategy. Companies must determine ahead of time what core elements are to be deployed and the order of deployment. They also must determine where to start and how lean will expand throughout the operation. This is critical. Companies can fail by attempting too much. They also can fail by attempting too little and assigning the initiative to a "backburner" status.

A proper strategy must assign clear responsibilities and show what resources are to be committed. Metrics and timelines must be defined. Finally, the strategy should anticipate problem and recovery scenarios.

Insufficient or Inappropriate Training. Lean training is crucial, obviously. But the content, level, and depth vary by the company and its needs, activity, and function. It goes back to the business case. Training should be appropriate for the lean elements to be deployed.

For example, in-depth training in one-piece flow and kanbans for a fabricator or processing-oriented company usually is not as critical as it is for an assembler or integrator. In-depth training in operational equipment effectiveness (OEE), CI, and hybrid pull production may be far more important, at least initially.

Failure to Learn Proper CI Methodology—Reliance on Kaizen Blitzes. Blitzes can be powerful.

They are short-term, intense, and can provide quick improvement results. They also can require a significant amount of on-demand resources. The kaizen blitz is an important part of the CI toolkit. But realizing successful and sustainable change through blitzes without first having a tested and consistent CI methodology base is more luck than system. It's like trying to hit a major league slider without first playing in the minor leagues. A strong, steady CI culture is critical to a successful lean journey.

Reliance on a Single In-house Champion or Expert. Expertise obviously is necessary. So is critical mass. There must be a sufficient amount of knowledge among a sufficient number of people for lean to work initially and spread. Further, the expertise must reside with line people as well as staff. The preferred method of gaining expertise is through a combination of formal (classroom) training and on-the-job coaching. Reliance on an outnumbered staff expert who has no line authority to implement lean simply is not realistic.

Looking at the list of deployment methods, it's interesting to note that most of the failure modes occur before the deployment. Lean can be set up to fail!

Lean implementation is not simple or easy. However, results show that, when done properly, lean lives up to its promises. Lean and its elements work. All of the failure modes presented here can be avoided or overcome.

The most important parts of lean implementation are preparation—especially an objective assessment and development of the business and technical cases for lean—leadership that can get things done, appropriate training, resolution of people issues, and well-designed deployment methods.

Every company that implements lean will have its own story to tell and will have overcome roadblocks unique to it. The ones cited here are common, and they can be deadly. Awareness and avoidance of these modes will make the implementation a lot smoother and faster.