

# LOSING LEAN RELIGION

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## Sourcing with lean suppliers does not mean you have a lean supply chain.

Not having any certifications, I learned lean through the school of hard knocks. My lean experience has been mainly through managing supplier development projects. I like lean thinking and practice as far as they go, but in the supply management world, I've seen the need for revision and evolution.

When I talk to lean practitioners about this, though, I often get a reply to the effect that “lean doesn't need to be revised since, in its current state, it offers all that is needed relative to waste elimination.” To that point, with some practitioners anyway, lean seems to have taken on the status of a religion, and woe to those who try to modify or otherwise change it.

I often use the phrase “lean supply chain performance” to describe what should be the primary goal of every OEM supply management department. You may think this is a complicated way of saying that supply management should be sourcing with lean suppliers. That alone, however, is not sufficient for designing a lean-performing supply chain. This distinction is the first point—of several—that I come into conflict with the lean practitioner community. Let me explain.

First, there really is no such thing as a lean factory. Rather, factories can be set-up to produce parts or part families in a lean way; i.e., with reduced levels of waste. You may think this is quibbling over terms. It is not. Rather, it is fundamental to understanding how lean should be applied to supply chains.

### Let's start with the basics.

Many companies that initiate lean do so by working to lean-up functional factory departments (or work centers) through individual kaizen events. This is a mistake, since isolated lean interventions “do not a lean factory make,” since they do not result in overall lean-ing up process flows.

Top-flight lean practitioners know this. Consequently, they work first to evaluate the overall flow of product through its processing and second, to develop an overall strategy—and work prioritization—that will deliver products produced in a lean way. To summarize the above, the sum of individual, isolated lean departments does not deliver lean processing.

A strong analogy can be made between the above and the concept of lean supply chain performance. In this case, instead of isolated functional areas or worked centers, picture isolated suppliers, with the sum of their lean-ness not delivering lean supply chain performance. The point here is that most OEM and supplier lean initiatives stop at their own factory walls. This leaves out a main element of supply chain lean-ness, namely transportation lead-times, all through the various supplier tiers. This is usually the overriding barrier to lean supply chain performance. And because of this, even if you may source only with lean suppliers, you are not sourcing for lean supply chain performance.

Any approach to increasing overall manufacturing efficiency and effectiveness must be tied to the end-use customers of the product being produced. Most large corporations are lean within their own factory walls, yet maintain a significant amount of pre-built, finished goods inventory to support customer fill rates. This inventory represents waste. These companies deny themselves and their customers much of the positive impact lean can deliver, namely reduced internal waste and responsive order fulfillment. To address excessive transportation time and give the appearance of a lean supply chain, OEMs have significantly expanded their internal logistics departments. I see this as more of an expensive Band-Aid than a fix. In other words, you don't need a multi-million dollar budget for managing incoming shipments if parts are coming from local sources through reliable transportation.

Very few OEMs truly understand the true lead-times of their suppliers. In other words, they usually only know what they are told by their supplier's marketing personnel which, as many have experienced, have little relationship to internal factory physics. Similarly, very few suppliers understand their own true lead-times. I've been involved in dozens (hundreds?) of “true” lead-time mapping sessions, so please believe me when I say that true lead-time is not what your scheduling system tells you it is.

Consequently, the first step in establishing a lean performing supply chain is to quantify the true lead-times of strategic suppliers; i.e., those that cannot be quickly or inexpensively replaced. And this needs to be done on part-family basis rather than for just the parts you buy from a specific supplier.

There is a process for this—true lead-time mapping—but a pretty good estimate can be quantified by knowing supplier inventory turns. In a general sense, a factory's inventory turns approximates the inverse of their internal true lead-time. Consequently, the required amount of pre-built finished goods inventory—at both an OEM and their suppliers—is a good indicator of the amount of waste (which is dependent on transportation times) in their overall order fulfillment supply chain.

So true lead-time is not really a new metric; rather, it is

a different form of a commonly used way to quantify factory efficiency and effectiveness. As such, it shouldn't be a hard sell for adoption within an organization. True lead-time maps are needed to understand the lean-ness of all strategic suppliers. They can be developed through facilitating supplier training on how to construct them; having your own internal lean practitioners and/or supplier development engineers do the mapping themselves; or a combination of both approaches. Based on my experience, I am pretty confident that the results of the true lead-time mapping will surprise both you and your supplier—and not in a good way.

It is important to note that there may be some raw materials that also need to have their true lead-times mapped. An example of such a commodity where this may be required is steel—especially when capacity is limited or a specific steel chemistry is needed, since runs of lower demand compositions are usually infrequent. So look at commodities on an individual basis to determine the need for true lead-time mapping.

Once an OEM has supplier true lead-time data, its supply chain management function needs to focus on working with their longest true lead-time suppliers to reduce their negative impact on overall order fulfillment responsiveness. In other words, OEMs need to work on lean outside of their own factory walls, essentially treating strategic suppliers as off-site departments of their own operations.

Subsequent interventions should always be prioritized with those supplier(s) most preventing responsive order fulfillment. Once the true lead-times of these suppliers are reduced, the next tier of suppliers standing in the way of responsive order fulfillment will come to the forefront and should be the next to be addressed.

OEM facilitation of a supplier's internal lean efforts will both speed up the lead-time reduction process and assure product can be produced closer to market demand. Manufacturers that can adjust production in a flexible way to support short true lead-times begin to approach build-to-demand capability; i.e., require minimum pre-built finished product to maintain or increase customer fill rates.

A comment here. Suppliers can take responsibility for their own lean implementations using either internal or outside resources but, in this scenario, the OEM should be involved in the planning and require periodic updates to ensure that an appropriate lean implementation strategy is being followed.

Back in the day when I was responsible for overseeing my employer's supplier development process—their supplier development process owner—it seemed like the company wanted supplier development to focus on quick-hit piece-price reductions. For instance, my minimum annual savings goal was to offset the cost of my department. If I couldn't hit that level of savings, I was told the function would be eliminated! My “meeting expectations” goal was to have annual savings that were three times my department's budget. And it is true; price reductions will likely be a result of developing a lean performing supply chain, since doing so will reduce supplier cost. Note: It is my experience, however that collaborative partnerships can be either developed or strengthened when the savings is shared—at least to some extent—with the involved suppliers, with the result that both customer and supplier financials are improved.

However, the primary focus of supplier development shouldn't be price reduction. After startup of an internal supplier development function—usually takes a year or so to reach a steady state of performance—I see no problem putting a price-reduction goal in front of the function; for instance, to offset department costs. But there needs to be an understanding that the main financial benefits will be delivered when a critical mass of suppliers in the supply chain can support lean supply chain performance. And it will likely take a multi-year initiative to accomplish this. In my first experience in developing a lean performing supply chain, it took a coordinated and focused effort over five years to reach that critical mass. At that point, the overall savings it produced became apparent and quantifiable. And, I might add, it completely overshadowed what the company had historically gotten through its annual price reduction efforts.

I realize the above vision of lean supply chain performance may not align with today's lean practitioners, as I pointed out at the beginning of this article. All I have to say about this is something I was told early on about change agents, which also aligns with the religion analogy I used earlier:

- If you're one step ahead of a current practice, you're seen as an innovator.
- If you're two steps ahead of current practice, you are seen as a lunatic.
- If you are three steps ahead of current practice, you are seen as a heretic.

I guess that means that according to the current lean religion, I have sinned. Mea culpa. But it's difficult to argue with a business case. And I can cite several.