

**“Lean supply chain configurations work, but only in appropriate market conditions”**

**An article by Dr John Gattorna, Author of *Living Supply Chains\**,  
for Logistik Horisont, #4, April, 2007**

**Are *lean* supply chains the answer to everything? In a word, quite definitely “no”! But judging by the way the lean concept is being pursued in many enterprises you would think the opposite. Indeed, lean ideas are at best confused, and misleading at worst, which has led to unreasonable and unfulfilled expectations. We have seen it all before. People in hot pursuit of the ‘Silver Bullet’ often missing the subtleties.**

**There is no doubt that the application of lean principles brings the elimination of waste in materials, processes, time and information. But sometimes this is achieved at the expense of agility and flexibility. Taken to extremes, lean can make a logistics network brittle and prone to failure because of the lack of embedded redundancy.**

**The problem is that the original lean manufacturing principles as espoused by Japanese automotive manufacturers does not translate well into the wider supply chain operating environment, where volatility in markets often requires quite the opposite- more rather than less capacity, some of which is redundant some of the time, and therefore costly.**

**The original lean concept as applied in the relatively controlled manufacturing space implied a relatively predictable marketplace on the demand side, and a high level of collaboration with suppliers on the supply side, in a joint effort to reduce waste and take cost out. Unfortunately, these conditions, while they still exist today to a lesser extent, are far less prevalent than in the 1980s.**

**What we now know about customers on the demand side is that they display a range of dominant buying behaviors, and this has to be matched by a corresponding set of responses from the immediate suppliers; this is my proprietary concept of ‘*dynamic alignment*’. In brief, this concept, which applies on a whole-of-enterprise basis, requires that supplying companies must hard wire at least three or four different responses into their business if they are to have a chance of aligning with the majority of their customers. Lean is just one of a number of possible responses.**

**On the demand side, my work in many different markets with a myriad of product categories has revealed that not all customers are, or even want to be, collaborative in their dealings with suppliers. Some customers are straight out adversarial; others are demanding and require quick response; and still others throw caution to the wind in desperate situations and expect their suppliers to come up with innovative solutions to their particular problem of the day. And customers can change their preferred behaviors for short periods from time to time. So a 1-dimensional response such as *lean* is not going to suffice; multiple responses have to be prepared and delivered side-by-side as the market demands. Much the same situation applies on the supply side, where suppliers are now customers of processors further upstream in the supply chain.**

So the *lean* supply chain variant of the original *lean* manufacturing concept is more about seeking a low cost-to-serve by ensuring that their customers downstream are not over-serviced and resources are not wasted in the process. Remember, *most if not all enterprises are over-servicing some of their customers, and under-servicing others, and the problem is they don't know which is which!*

In *lean* supply chains as I define them, low cost is achieved, often in quite adversarial circumstances, by doing the basics well, no more, no less. The more 'collaborative style of supply chain (which I have termed the *Continuous Replenishment* supply chain) is something different again. Here, customers (on the demand side) freely and willingly share information, get involved in joint initiatives, and generally seek a long-term stable relationship with a few key suppliers.

But in the classic *lean* supply chain customers are not so willing to share, so suppliers have to produce their own forecasts based on historical experience- which works okay in predictable market conditions, but is a disaster in volatile markets! And yet we see many enterprises pursuing ever more accurate products forecasts in these volatile markets when what they should be doing is focusing on forecasting future capacity requirements. Classic *lean* supply chains are all about 'push' based on forecasts, whereas more collaborative practices allow Continuous Replenishment supply chains to be a combination of 'push' and 'pull'. On the supply side, it is more likely there will be collaboration, especially if the power balance is in favor of the customer; look at the situation that suppliers to Wal-Mart face. They hardly have a choice, but is this genuine collaboration based on their values, or a type of forced collaboration?

For genuine *lean* supply chains, the value proposition to customers on the demand side is one of providing a standard, consistently reliable low-cost service, one which customers can bank on. They KNOW what they can expect, and plan accordingly. The primary focus of suppliers facing this situation is on efficient operations, producing products and services in high volume, low variety, to forecast. The key is scale if synergies in production and logistics are to be realized. That is all the good news. Now for the complications.

The parameters involved in designing and operating *lean* supply chains as I have defined them, come at the cost of reduced agility. *Agile* supply chains, which are necessary in more unpredictable market conditions, require excess capacity on standby in order to be in a position to respond quickly. This is the world of make-to-order (MTO) compared to the make-to-forecast (MTF) world where *lean* supply chains flourish. See the two diagrams below which describe the differing internal and external conditions for *lean* versus *agile* supply chain configurations.

(Insert Figures 1 and 2 here)

So what have we learnt? *Lean* supply chains are more complex than their more conventional manufacturing variant. And taken alone, *lean* supply chains are unlikely to be sufficient to service your disparate range of customers who between them may exhibit up to 3 or 4 dominant buying behaviors- only one of which will be adequately served by a lean configuration. Hence the concept of multiple supply chain alignment, where supply chains of different configurations operate either in

parallel or in various combinations to cover the range of customer buying behaviors evident in a given market.

So how far do you go with implementing lean principles? Only the market can answer this question. Look at how the market is structured in terms of the relative sizes of behavioral segments present, and this will inform you how much emphasis you need to put on lean principles inside the enterprise. Go lean where it is appropriate, but recognize that other pathways to customers are likely to be required, in parallel or in series, and above all, in synch.

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\* *Living Supply Chains: how to mobilize the enterprise around delivering what your customers want*, Prentice Hall, Harlow, 2006 (1158 words+diagrams)