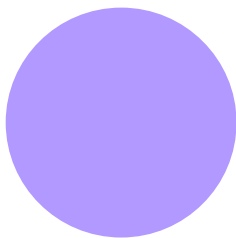
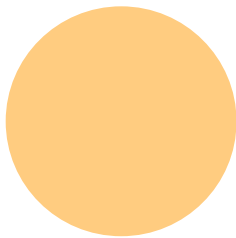
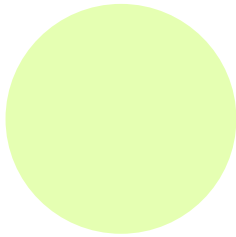




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LEAN THOUGHTS

Richard Kunst
Tel: 519 590 9944
E-mail: Richard.Kunst@La-Z-Boy.com



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Looking more closely at **Little and Often**

Dan Jones' 'myth-busting' insights for February

Dear Richard;

I still encounter a degree of confusion about one of the key mental models that gets in the way of lean thinking. Making products in batches and accumulating a full load before dispatching a truck are fundamental to mass production thinking. It also intuitively fits with our distant memory of harvesting crops and storing them to last through the winter. But you can find it everywhere, from seeing and treating patients in batches to flying as many passengers as possible in ever larger aircraft.

We have through the years seen regular accusations that smaller deliveries just-in-time make producers more vulnerable to disruptions in supply. We have also seen the assertion that little and often is worse for the environment, with many half-empty smaller trucks replacing fewer fully-loaded larger trucks. *Unfortunately life is not as simple as this and to really understand what is going on you need to look at real facts in real situations, not at simulation models.* It is also necessary to shift our focus beyond our own activities in order to look at the supply chain as a whole.

One flaw in this argument is the experience that focusing on asset utilization and keeping equipment as busy as possible does not actually achieve the desired result! Otherwise why would we typically find equipment in a mass production system only producing good products 30% of the time? And why is it that by focusing on improving capability, availability and flexibility lean producers can regularly increase this to 85% and above?

Exactly the same applies to truck utilization. A few years ago, when supermarkets waited for suppliers to deliver full truck loads to them, truck utilization was no more than 50%. Now that most supermarkets are picking up products from their suppliers more frequently, truck utilization is also much higher.

Here is a common myth that congestion in Toyota City is because they send lots of little trucks to their suppliers to pick up parts very frequently. In fact Toyota works with fewer direct suppliers, each of whom supplies five times more part numbers than western suppliers. It sends the largest trucks allowed on Japanese roads on regular milk rounds to these suppliers, arriving back at the assembly plant completely full. The congestion comes from trying to produce so many cars in one town. Indeed the congestion would be much worse if truck utilization was as poor as in most mass production systems.

This kind of thinking also overlooks the costs incurred elsewhere in the supply chain from making and shipping in big batches. It is often associated with a belief that demand is chaotic and unpredictable, rather than self-inflicted volatility from the way our planning systems work. Forecast driven batch production inevitably leads to continuous short term plan changes to respond to spikes and shortages despite warehouses full of stock and to overtime and expedited shipments. The costs of all this is in someone else's budget or in overheads. but they are not in the plan.



Where "Lean Thoughts" Become Reality

This is however the tip of the iceberg, when you factor in lost sales, discounted or obsolete stock, rework, inspection and the extra capacity and stocks to meet demand spikes and supply failures. The ideal supply chain is one in which lead times are as short as possible, production is driven by actual demand and production is capable of making every product as frequently as possible in line with demand.

But how can you justify more frequent deliveries from your suppliers? Probably only when you learn how to level your production and make every product frequently. Then you will begin to see the savings through your supply chain. It might then make sense to cooperate with other firms to pull products from your suppliers on more frequent and predictable shared deliveries.

On the other hand as on-line shopping grows, regular deliveries to homes will replace the most environmentally damaging trip of all - consumers driving to pick up products from the store.

Lean thinking is not about zero inventories or the smallest trucks. It is about developing a common steady rhythm across the supply chain in line with demand, guarded from supply disruptions and real fluctuations in demand by just the right amount of standard inventories, possibly held off-line. Little and often is right thinking despite being counter-intuitive.

Yours sincerely
Daniel T Jones
 Chairman, Lean Enterprise Academy



"Coffee" SMED Exercise

The following is from NWLEAN's Yahoogroups' Lean thread. This site allows readers to ask and respond to other's questions.

<http://groups.yahoo.com/group/NWLEAN/>

Justin asked, "Can anyone share details of a practical set-up reduction/SMED exercise that can be used to teach set up reduction in a classroom environment?"

Bill Kluck replied:

"Here is a training module that you can develop in a couple of hours, and it will resonate with everyone. It will show each stage of SMED implementation, and point out not only the long-term benefits, but it stresses the methodology as well. I've used it many times, and everyone involved took away practical skills that they could immediately use. Also, it uses materials that you will find in ANY facility, building, or office, so you don't have to purchase any specialized kits, or pay for consultants to facilitate it.

I call this module the COFFEE exercise. Nearly everyone drinks coffee. Coffee is made in any number of environments: At home, in the office, in your hotel room, in the lunchroom (either by pot, or in a machine), at the restaurant or coffee shop.

The object of the module is to significantly (by 50% or greater), reduce the time it takes from the last cup of coffee in a pot, to the first cup out of the next pot.

The beauty of this module is that you do it IN THE ENVIRONMENT, just like you'll be doing SMED on the floor. So you'll actually be improving a system!

Begin by timing the changeover, as performed by whoever normally does the task. Digital filming can be useful (especially if there are disputes about the sequence or the timing), so make sure you have a digital camera on hand. If you can gather data on a few cycles, all the better (it will give you some idea about the standard deviation, which is just as important to reduce).

Then list out the sequence, and assign each step the INTERNAL, EXTERNAL, or JPW (just plain waste) label. Next, reorder the steps, eliminating the JPW, and putting the EXTERNAL either up front (prep work) or after (clean up tasks). This alone will show some improvement. Then go to work on process improvements, which have no cost (5S, shortening travel distances, reducing as many other wastes as you can). This will provide another level of improvement. DON'T FORGET THAT 1/2 A POT TAKES HALF THE TIME TO BREW; dwell time isn't necessarily fixed. Finally, brainstorm items that may have some minor costs (avoid the "BUY A COFFEE MACHINE", or "HAVE THE COFFEE CATERED" solutions, although these KAIKAKU methods should be discussed and analyzed, thru the normal capital improvement channels).

Then do some dry runs with the new system. You'll be amazed at how much time you'll have shaved off the original, and how much the team has learned. Follow it up with a similar exercise directly in the operational environment, so your new experts can apply their newly acquired skills."

Consortium Event Schedule



Tour Workshop Conference

January	February	March	April	May	June
<p>T</p> <p>Wednesday 24 Eaton Electrical, contact Joe Fisher, JoeRFisher@eaton.com</p> <p>W</p> <p>La-Z-Boy Corporate Monroe MI February 14 & 15 Enterprise Value Stream Mapping How to use the VSM tools to map admin processes. Contact Richard Kunst for info. Richard.kunst@la-z-boy.com Register at www.ame.org</p>	<p>T</p> <p>Wednesday 14, CFN Precision, contact Paul Kaulback, pkaulback@cfm-inc.com</p>	<p>T</p> <p>Wednesday 21, Nestle Waters, contact Mariela Castano mcastano@perriergroup.com</p>	<p>T</p> <p>Wednesday 18, CTS Corp., contact Bob Garces, Bob.Garces@ac.ctscorp.com</p> <p>C</p> <p>Lean Design & Development Conference Wed 18 to Fri 20 Chicago Contact www.iirusa.com/lean</p>	<p>T</p> <p>Wednesday 16, Stackpole_CSD, contact Don Barber Don_Barber@stackpole.ca</p> <p>Consortium Shareshowcase</p> <p>Saturday 05 CGL Guelph, Contact Cindy Grolleman Grolleman@canada.com or Dave Deskur daved@cglmfg.com</p>	<p>T</p> <p>Wednesday 20, Morrison LaMothe, contact Tony Vita tvita@morrisonlamthe.com</p> <p>C</p> <p>AME Regional Conference Mon 18 to Thur 21 Edmonton, Alberta Contact www.measureupforsuccess.com</p>
July	August	September	October	November	December
		<p>T</p> <p>Wednesday 26, Kraft Foods, contact Hanif Jivraj hjivraj@Kraft.com</p>	<p>T</p> <p>Wednesday 10, CGL Manufacturing contact Dave Deskur daved@cglmfg.com</p> <p>C</p> <p>AME National Conference Mon 29 to Friday Nov 2 Chicago Contact www.ame.org</p>	<p>T</p> <p>Wednesday 14, Messier-Dowty, contact Mike Smith Mike_Smith@Messier-dowty.on.ca</p>	<p>T</p> <p>Wednesday 12, Orenda, contact Brenda McIntosh brendamcintosh@orenda.com</p>