



March 06, 2006  
Volume 5, Issue 09

# LEAN THOUGHTS

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## A Tale of Two Business Systems

In the fall of 1990, Dan Jones, Dan Roos, and I co-authored *The Machine That Changed the World*, our description of lean enterprise. On page 253 we forecast that 1991 or 1992 would be the moment of crisis as the full power of lean (represented by Toyota) threatened to topple mass production (defended by General Motors). And in 1992 GM nearly did go bankrupt.

However, as usually happens with forecasts, we were off in our timing. The moment of truth was actually delayed 15 years. What now seems certain is that Toyota will pass GM in 2006 to become the world's largest industrial enterprise and that GM and Ford will undergo a profound transformation, whether led by current managers or by someone else.

Recently, as I've listened to industry executives and the media grapple with this momentous event, I've been struck by the manifest irrelevance of most efforts to find the root cause. The crisis is not due to misaligned currencies, subsidies from "Japan, Inc.", or spiking energy prices (although the latter has affected the precise timing). And it is not a simple case of too many retirees for the present workforce at GM and Ford to support. (Indeed, this gets cause and effect backwards: GM and Ford have too many North American retirees for current workers to support because both companies have lost half of their North American market share over the past 25 years and have hired hardly any new workers in a quarter century.) *The root cause of the crisis lies in a clash of two business systems, and the better system is winning.*

As we pointed out in *Machine*—devoting a chapter to each point—a lean enterprise consists of five elements: a product development process, a supplier management process, a customer management process, an overarching enterprise management process, and a production process from order to fulfillment. And each of these processes is superior to the processes employed for the same tasks at a mass producer.

The lean **product development process**, as used at Toyota, permits a company to produce vehicles with fewer hours of engineering and fewer months of development time with fewer defects while investing less capital and making customers happier. The key tools are the chief engineer concept, concurrent set-based design (which is simultaneous as well), and high-speed prototyping with trade off curves so that re-invention is avoided. (It's not an accident that Toyota was able to hear the voice of the customer first with regard to hybrids or that the Prius—with more new technology than any vehicle in a generation—was developed very quickly and was recently reported by *Consumer Reports* to be the most reliable vehicle sold in the U.S. These were predictable outcomes of the lean development process.)

Lean **supplier management** creates a small number of highly capable suppliers in long-term partnership with their customers. Suppliers work to demanding customer targets for cost, quality, delivery reliability, and new technology and achieve these targets *by jointly examining the development and production process they share with their customers*. The lean approach has dramatic and predictable benefits, but if GM and Ford even understand these concepts, their perceived need to save themselves by bleeding their suppliers has made implementation impossible.

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Where “Lean  
Thoughts”  
Become Reality

A lean customer management system builds customers for life while reducing distribution costs by working backwards from the customer’s desired experience and forwards from the production system’s needs. In fact, although Toyota has deployed these concepts brilliantly in Japan, it has stumbled so far in applying them in the U.S. Its Lexus dealing system has created a very high level of customer satisfaction but at substantial cost. Achieving high satisfaction *and* low cost is a key topic in my and Dan Jones’s recently released *Lean Solutions* book and provides a terrific opportunity for GM and Ford to move ahead of Toyota by using its own methods. Or, if they fail, this could be the final act in the tragedy as Toyota finally makes its retailers lean in the next few years, the way it transformed its service parts operations in the 1990s.

Finally, a lean management system involves managers at every level posing the key problems that need to be solved and asking the teams they lead to develop and implement the answers. This practice of asking the correct questions rather than providing the correct answers (which high-level bosses can never know in any case) is perhaps the starkest contrast between lean thinking and orthodox mass production and the hardest to implement.

Putting these four elements together, it’s not surprising that lean exemplar Toyota is steadily advancing, as recovering mass-producers GM and Ford steadily retreat despite adopting parts of the lean system. And note that I have not even mentioned the fifth element of a lean enterprise—**production operations**—because GM and Ford are now nearly competitive on this dimension in terms of labour productivity. The root cause of the current crisis is not in the factory. It is in the rest of the value creation system.

What must happen soon for GM and Ford to resolve this crisis?

**Rewrite the social contract.** As Toyota learned when it went bankrupt in 1950 and fired a quarter of its workforce, no company in a truly competitive industry can make promises to employees (or retirees) that are not sustainable in the market. So Toyota made a deal: Right size the company at one go, tie compensation and benefits to market conditions (with bonuses of all employees geared to profits and with defined-contribution pensions), and try very hard to defend every employee willing to embrace the new value creation system. Over more than

50 years—by carefully following these rules—Toyota has been able to steadily increase its competitiveness while defending its employees. But everyone at Toyota understands that continuing employment with good compensation depends on continually creating more value per employee. That’s why everyone worries so much and thinks so much about continually improving every process. “Life-time employment” is a consequence of creating value, not a pre-condition or an entitlement.

**Introduce all of the elements of lean enterprise.**

This includes product development, supplier management, customer management, and policy management. These practices permit Toyota to get the right products to market first in North America with substantially higher selling prices within each segment and with substantially lower costs. This is even though its employees in North America are being paid wages and benefits comparable to GM and Ford—except for unsustainable early-retirement plans and defined-benefit pensions—and its suppliers make adequate margins as well.

**Simplify market offerings.** GM and Ford do have a special problem, never faced by Toyota, in their plethora of brands. But the solution actually lies in GM’s past. President Alfred Sloan worked miracles in the early 1920s by rationalizing the welter of overlapping and unmemorable companies and products he inherited from founder Billy Durant. But where is the new Alfred Sloan who can either explain what Buick, Pontiac, Saab, Saturn, and GMC are (and Mercury, Mazda and Jaguar at Ford), or get rid of brands only adding costs? Toyota’s North American lineup of Scion—a buzzy, “what’s new?” brand, Toyota—a bread-and-butter brand for people who love great, hassle-free transportation but actually don’t care much about cars, and Lexus—for those needing status or image with their transportation—comprises as many brands as a modern-day car company can support.

What’s the prospect if lean production is uniformly embraced? After a moment of truth—involving employees, retirees, suppliers, and investors—followed by dramatic restructuring at each company, equilibrium could return to this massive industry. GM and Ford could survive as independent companies, although considerably smaller, and Toyota would find that it needs to work even harder to improve every process as competitors embrace lean thinking. And that would be good for the whole world.

But what will actually happen? That’s for the managers, employees, and investors at GM and Ford to decide and decide soon. Dan and I learned in 1990 that lean thinking provides a great way to identify the root cause of the problem but that Lean Thinkers shouldn’t put any confidence in forecasts!





Tour Workshop Conference  
 Consortium Event Schedule

| January   | February   | March   | April   | May  | June  |
|---|--|---|---|--|---|
| <p><b>T</b></p> <p>Wednesday 25<br/> <a href="#">Eaton Electrical</a>,<br/>                     contact Joe Fisher,<br/> <a href="mailto:JoeRFisher@eaton.com">JoeRFisher@eaton.com</a></p> | <p><b>T</b></p> <p>Wednesday 15,<br/> <a href="#">CFN Precision</a>,<br/>                     contact Barry Wood,<br/> <a href="mailto:bwood@cfn-inc.com">bwood@cfn-inc.com</a></p> <p><b>W</b></p> <p>Date &amp; location TBA<br/>                     Your own<br/>                     "STEP Diagnostic" to create Vision, Mission and Direction<br/>                     Contact Richard Kunst<br/> <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p> | <p><b>T</b></p> <p>Wednesday 22,<br/> <a href="#">Nestle Waters</a>,<br/>                     contact Mariela Castano<br/> <a href="mailto:mcastano@perriergroup.com">mcastano@perriergroup.com</a></p> | <p><b>T</b></p> <p>Wednesday 19,<br/> <a href="#">CTS Corp.</a>,<br/>                     contact Bob Garces,<br/> <a href="mailto:Bob.Garces@ac.ctscorp.com">Bob.Garces@ac.ctscorp.com</a></p> <p><b>Consortium Shareshowcase</b><br/>                     Saturday 22<br/> <a href="#">CTS Corp.</a><br/>                     Contact Cindy Grolleman<br/> <a href="mailto:cindy.grolleman@stackpole.com">cindy.grolleman@stackpole.com</a></p> | <p><b>T</b></p> <p>Wednesday 17,<br/> <a href="#">Stackpole CSD</a>,<br/>                     contact Don Barber<br/> <a href="mailto:Don.Barber@stackpole.ca">Don.Barber@stackpole.ca</a></p> <p><b>W</b></p> <p>Date &amp; location TBA<br/>                     "Compartmentalize the Noise"<br/>                     * Daily Report-outs<br/>                     * Standard work for Leaders<br/>                     Contact Richard Kunst<br/> <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p> | <p><b>T</b></p> <p>Wednesday 21,<br/> <a href="#">Morrison LaMothe</a>,<br/>                     contact Tony Vita<br/> <a href="mailto:tvita@morrisonlamthe.com">tvita@morrisonlamthe.com</a></p> <p><b>C</b></p> <p><b>AME Regional Conference</b><br/>                     Mon 12 to Thurs 15<br/>                     K-W Ontario<br/>                     Contact <a href="http://www.ame.org">www.ame.org</a></p> |
| July  | August   | September   | October   | November   | December  |
|   | <p><b>W</b></p> <p>Date &amp; location TBA<br/>                     "Establish Anchors"<br/>                     * VSWI ... Visual Work Instructions<br/>                     * TPM ... Total Productive Maintenance<br/>                     Contact Richard Kunst<br/> <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p>  | <p><b>T</b></p> <p>Wednesday 20,<br/> <a href="#">Kraft Foods</a>,<br/>                     contact Hanif Jivraj<br/> <a href="mailto:hjivraj@Kraft.com">hjivraj@Kraft.com</a></p>                      | <p><b>T</b></p> <p>Wednesday 11,<br/> <a href="#">Stackpole PMC</a>,<br/>                     contact Cindy Grolleman<br/> <a href="mailto:cindy.grolleman@stackpole.com">cindy.grolleman@stackpole.com</a></p> <p><b>C</b></p> <p><b>AME National Conference</b><br/>                     Mon 16 to Friday 20<br/>                     Dallas, Texas<br/>                     Contact <a href="http://www.ame.org">www.ame.org</a></p>           | <p><b>T</b></p> <p>Wednesday 15,<br/> <a href="#">Messier-Dowty</a>,<br/>                     contact Richard Evans<br/> <a href="mailto:Richard.Evans@Messier-dowty.on.ca">Richard.Evans@Messier-dowty.on.ca</a></p> <p><b>W</b></p> <p>Date &amp; location TBA<br/>                     Your own<br/>                     "Get Organized"<br/>                     * 5S+1<br/>                     Contact Richard Kunst<br/> <a href="mailto:Richard.kunst@la-z-boy.com">Richard.kunst@la-z-boy.com</a></p>                       |   |