A Tale of Two Business Systems &
The Future of Quebec Industry

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Fifteen Years Ago…

Dan Jones and I described two contrasting business systems:

Mass vs. Lean

Our “ideal type” organizations were, respectively, General Motors and Toyota.

We predicted dire trouble for the former and bright prospects for the latter.

And…we were right!

Toyota is now set to pass General Motors in 2006 as the world’s largest and most successful manufacturing firm, after a fifty-five year chase.
What Can We Learn From This Event?

The wrong lesson: GM lost because of high wages and legacy costs in North America.

The right lesson: Toyota won because it has a superior business system.

Let’s explore this assertion by comparing the “mass” and “lean” business systems.

Each consists of five elements:

✓ Management focus
✓ Product development process
✓ Supplier management process
✓ Production and logistics process
✓ Customer management process
Management Focus

What do the senior leaders of an organization focus on?

At GM, the focus has always been on “the numbers”, financial performance metrics for divisions and functions as established by Alfred Sloan in the 1920s.

At Toyota, the focus has always been on the core value-creating processes & how to improve them.

At GM, managers have areas of authority where they make their numbers to succeed.

At Toyota, successful managers take responsibility for solving problems with processes.
Product Development

At GM, senior engineers with large numbers of direct reports seek to determine quickly the best design and prove it through sophisticated prototypes.

At Toyota:

Chief Engineer -- with no direct reports, who links customers to the development process.

Set-based concurrent design -- assumes that starting design concepts are usually wrong.

Sophisticated knowledge management -- avoids rediscovering what is already known.

Rapid prototyping -- but only of significant features.
Product Development

Results:

Toyota in North America has a $2,500 per car transaction price advantage over GM, a larger number than the production cost gap.

Toyota has just announced a plan to go from design freeze to launch in one year, leaving GM far behind!
Supplier Management

Now, equally outsourced but...

At GM, a large number of suppliers for each product category competes for short-term contracts. Objective of purchasing leaders is to reduce prices while meeting quality, delivery, and technology targets.

At Toyota, a small number of suppliers for each product category participates in joint cost reduction and quality improvement exercises. Objective of purchasing leaders is to reduce shared costs while meeting quality, delivery, technology, and supplier margin targets by improving design and production processes.
Supplier Management

Results:

• GM suppliers give the company the lowest rating on desirable companies to work for & provide new technology only reluctantly.

• Toyota suppliers rate Toyota as the best company to work for & provide new technology eagerly.

The irony: Every day working for Toyota is hard, but in the long run the experience is much better.
Production

Toyota’s objective (as in every element of its business system) is to create a perfect process in which every step in production is:

- Valuable (as defined by the customer)
- Capable (Six sigma)
- Available (Total Productive Maintenance)
- Adequate (Theory of Constraints and TPS)
- Flexible (Toyota Production System)

And the steps are linked by:

- Flow (TPS)
- Pull (TPS)
- Leveling (TPS)
Production

The sad irony:

GM now knows all of this and can design and run plants at the “Toyota” level. (Plus the firm has done impressive work with “production” processes in the office.)

But…GM’s inability to defend its employees, when dramatic productivity gains are needed at a time of steadily falling market share, has produced a political stalemate in making the lean leap.

The cautionary tale for any company: Don’t wait until it’s too late!
An Allied Issue: Production Location

Mass production firms (including retailers) have tended to do some very simple thinking about location logic, particularly for suppliers:

• Evaluate the labor intensity of the process.
• Relocate labor-intensive processes to lowest-wage locations.

Because of the steep wage gradients across the world, this has led to dramatic relocations in production in the past decade.
Lean Location Logic

Lean firms, including Toyota, have tended to take a different approach:

• They believe that it is desirable to make products in the market of sale as close to the customer as possible.

• This permits the total time from order to cash to be minimized and also minimizes the need for forecasting.

• The first step in location analysis, therefore, is to calculate the “lean cost” in the market of sale.
Lean Location Logic

If this cost is competitive, then locate or retain production in the market of sale.

Note: Toyota has recently concluded that lean production costs are competitive in Canada despite high Canadian wages.

If this cost is not competitive, evaluate lower-wage production sites using lean math.
Lean Math

Pick candidate locations.

Logical choices are:

A. Lowest-wage point within the region of sale (i.e., Mexico for customers in the North American region.)

B. Lowest-wage point in the world (i.e., China, India, Vietnam, etc.)
Lean Math

For each location (including the high-wage market-of-sale location) calculate:

• Factory costs (“lean” and “mass”).
• Supplied materials costs.
• Logistics costs – inventories and expensive freight needed to meet a given level-of-service.
• Remaindering costs of overstocks.
• Quality costs.

Then add the costs of:

• Currency risk.
• Country risk.
• Company (supplier) risk.
Conclusion of Lean Math

The total cost of much low-wage production is higher than it appears.

Currency, country & company risks are acknowledged but, in practice, are often written as zero.

The lowest-cost site for custom products & products with rapid technology changes is still in high-wage markets of sale provided lean methods are used.

The lowest-cost site for many commodity items is at the lowest-wage point within the region of sale. (Remember: Lean thinkers love trucks but don’t like planes and boats!)

When currency, country & company risks are real but incalculable, a portfolio of production locations and suppliers is critical to long-term success.
Customer Management

In Japan, Toyota plans ahead with its customer partners and makes most vehicles to order. In the rest of the world, Toyota has adopted traditional “mass consumption” (e.g., GM-style) customer relations, with products made to forecast and dealers assigned the task of convincing customers that they want what has already been produced rather than what they really want. In addition, sales & service process outside Japan is traditional, based on mass production methods. Final element of the lean business system is missing! This is a major opportunity for manufacturers. It is an even larger opportunity for a region such as Quebec that is predominantly a service economy.
Lean Solutions

In today’s economy, most consumers want their problems solved more than they want products for the sake of having products.

Consumers have a few simple problems:

✓ Mobility
✓ Communication, information management, and entertainment
✓ Healthcare
✓ Shelter
✓ Financial management
✓ Personal logistics (to get the kazillion items we need)
Lean Solutions

By applying process (lean) thinking to the consumption and provision processes, it is easily possible to:

✓ Reduce customer time and hassle
✓ Increase level-of-service
✓ Reduce provider costs
✓ Create a win-win for customers and providers in economies where the bulk of economy activity is services, not manufacturing.
Lean Solutions: A Simple Example

GFS’s Lean Car Repair Service

By pre-diagnosing work, pre-ordering parts, separating jobs into value streams, and using standardized work and material supply:

• Increases first-time, on-time the same day from 60 to 80%.

• Reduces consumer and provider time expenditure by 65%.

• Reduces the cost of a typical service by 30%.

• Increases demand (at constant prices) by building repeat business and capturing life-of-the-vehicle repair revenue.
The Prospect for Quebec Industry

The question: What is the future of manufacturing in Quebec?

Can only be answered with another question:
What business system will you use?
Lean or mass?
Toyota or GM?

And can you implement the final element in a lean business system to solve customer problems across the service economy?
The Prospect for Quebec Industry

If Quebec companies stick with traditional mass methods:

• Drift of manufacturing abroad is likely to be pronounced until stopped by currency shifts or political barriers.

• Standards of living, driven by mass production approaches to service provision as well as manufacturing, are likely to be stagnant or worse.
The Prospect for Quebec Industry

If Quebec companies embrace a lean business system:

• Some drift of production of commodity items to Mexico and elsewhere is inevitable, but…

• New products – with new technologies or for custom order -- will emerge to offset the losses.

• Service activities – which are the great bulk of economic activity – can be transformed as well.

• Standards of living and quality of life will rise no matter what the rest of the world does.

• And best of all: The choice is yours!
Final Point of Information

• Anyone wanting the English language version of these slides should go to www.lean.org and click on “Community”, then “Archives”, then “Lean Presentations Library”.

• Anyone wanting to hear from me once a month with an e-letter describing my latest, lean thoughts should also go to www.lean.org and join the Lean Community by clicking on the “Home” tab to create a Member Profile.