

Where Does Manufacturing Stand Today?

Products really have gotten better, with:

- ✓ fewer defects
- ✓ ever more features
- ✓ lower cost/price for given performance

Partly due to better processes for:

- ✓ design
- ✓ production
- ✓ logistics &
- ✓ supplier management.

What we call lean production.

Principles of Lean Production

- Specify value from the standpoint of the customer.
- Identify the value stream (the process) creating the value and remove the waste.
- Place value creating steps in continuous flow.
- So the customer can pull products from the manufacturer as needed.
- As management pursues perfection for every value creating process.

Many of you have been making steady progress in adopting the last four of these principles!

Where Does Manufacturing Stand Today?

- **Brilliant products at low prices are also being offered due to low wages and cheap money.**
- **The developing-world labor rush combined with free trade has created a one-of-a-kind opportunity for reducing wage costs, helped by cheap credit.**

Sum Up: Manufacturing Today

- **Customers are getting a great deal on products!**
- **Yet most manufacturers aren't making much money!**
- **And most customers aren't happy!**

Why?

- **Because we are at the end of the age of brilliant, low-cost products *offered in isolation*.**
- **The end of *mass consumption & mass production*.**

What Does The Consumer Really Want?

- Low cost for given product performance.
- Performance sufficient to get the job done.
- Perfect quality.

These are a given, achievable with lean development and production processes & low factor costs.

But...most of you are steadily moving toward providing these and not making much money.

What else is needed? Let's return to value.

Lean Consumption

- We now understand that production (including design and supplier management) is a process.
A series of actions manufacturers must perform properly in the proper sequence to create value for a customer.
- Consumption is also a process.
A series of actions consumers must perform properly in the proper sequence to obtain the value they seek.
- Provision is a third process.
The actions that someone must perform between the factory and the customer to achieve the objectives of both parties.

A Simple Hypothesis

- **Manufacturers aren't making the money they want.**
- **Customers aren't receiving the value they want.**
- **Because the consumption and matching provision processes are broken.**
- **There is a gap between the factory & the consumer.**
- **To fix this, manufacturers, providers & consumers need to transition to lean consumption enabled by lean provision.**

Principles of Lean Consumption

- **Solve each of my problems completely.**
- **Don't waste my time.**
- **Provide exactly *what* I want.**
- **Exactly *where* I want.**
- **Exactly *when* I want.**
- **Reduce my effort to solve all my problems.**

Lean Consumption: Beyond Products

- These consumer desires can't be solved just by brilliant products at low cost.
- Most customers aren't really interested in your products as products. *They only want to use your products to solve their consumption problems:*
 - ✓ Mobility
 - ✓ Information management and communication
 - ✓ Shelter
 - ✓ Health
 - ✓ Financial management
 - ✓ Personal logistics

Lean Consumption: Solving Problems

- **Doing this requires brilliant, matching consumption and provision processes:**
 - ✓ **Searching for all the products needed**
 - ✓ **Buying and receiving**
 - ✓ **Installing**
 - ✓ **Integrating**
 - ✓ **Maintaining & repairing**
 - ✓ **Upgrading**
 - ✓ **Recycling & replacing**

Lean Consumption Principle #1: Solve Consumer Problems Completely

- **Products need to work for customers in their environment, usually connected with many other goods & services.**
- **Frequently the products are individually o.k., but don't work in their operating context.**
- **Most firms tackle this problem with help lines.**
- **Help lines “solve” customer problems at lowest cost per customer, out-sourcing & off-shoring to reduce cost per call.**
- **Customers are frustrated; direct contact is lost.**

Lean Solution #1: Implement Intelligent Feedback

- **Every customer contact is a kaizen opportunity!**
- **Deploy highly trained employees to explore root causes with customers.**
- **Work quickly to eliminate root causes so customers stop calling.**
- **Exceed customer expectations by passing on additional information and asking about customer needs for new goods and services.**
- **Expect total provider costs of completely solving problems to fall substantially even as customer consumption costs fall!**

Example of Intelligent Feedback

Fujitsu Services:

- **Assigns more knowledgeable people to help lines.**
- **Locates these people close to the source of the problems (i.e., to engineers at firms designing & making the products failing to solve problems.)**
- **Steadily reduces the number of problems reported.**
- **Gets paid by the potential number of callers rather than the number of calls fielded.**
- **Reduces total costs to the manufacturer, help-line turnover & customer time and frustration.**

Lean Consumption Principle # 2

Don't Waste Consumer Time

Most companies:

- **Treat consumer time as if it is free.**
- **Create queues of many sorts.**
- **Prominent examples are:**
 - ✓ **Healthcare**
 - ✓ **Travel**
 - ✓ **Repairs and service**

Lean Solution #2: Eliminate Queues and Wait Time

- **Analyze the consumption stream and the provision stream, looking for wasted time (for consumer and providers.)**
- **Hint: Draw consumption and provision maps!**
- **Rethink these streams by:**
 - ✓ **Making customers partners, to level demand and pre-diagnose problems.**
 - ✓ **Making assets flexible, to deal with unavoidable variations in demand.**
 - ✓ **Standardizing work and materials supply.**

Example of Time (And Cost) Savings

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.**

Lean Consumption Principles #3: Get Consumers Exactly *What* They Want

- Shoppers want to find the exact products they desire (the what) every time they shop.
- But...currently they rarely do.
 - ✓ In shoe retailing there is only an 80% chance that you will find the right style in the right size, even as the manufacturers sell 40% of the shoes made at deep discounts.
 - ✓ In grocery, there is only a 4% chance of finding all 40 items in a typical weekly shop, even though retailers and manufacturers have months of finished units in the pipeline.

Lean Solution #3: Implement Lean Logistics

- **Let the consumer be the single order-entry point in the logistics stream.**
- **Replenish every item very frequently in the exact amount just sold, at every step up the provision stream.**
- **Compress the provision stream by means of right-sized technologies and right-located facilities to increase responsiveness further.**

Permits drastic reductions in inventory & costs for manufacturers with a higher level-of-service for customers. (The proverbial win-win.)

Example of Lean Logistics

Tesco (with the cola stream as an example):

Before lean solution (1996):

- ✓ Five storage locations between bottler and customer.
- ✓ Six order-entry points.
- ✓ 20 day throughput time.
- ✓ 98.5% level of service (compared with 92.0 in grocery industry.)
- ✓ Demand amplification 4:1.

After lean solution (2005):

- ✓ Two storage locations.
- ✓ One order-entry point.
- ✓ 5 day throughput time (= 75% reduction in total inventory.)
- ✓ 99.5% level-of-service (best in the world.)
- ✓ Demand amplification 2:1.

Lean Consumption Principle #4: Provide Value *Where* Consumers Want

Where's the best place to get a wide selection at the lowest possible cost/price?

The “big box” retailer!

Logical end point of mass consumption/production.

But what about the consumer's total cost, including time, travel, and hassle?

And don't our preferences change with our circumstances?

Sometimes we think time is more valuable than money, at other times it's the reverse.

Why would one shopping format always be best?

Lean Solution #4: Offer a Range of Low Cost Formats

With lean logistics, retailers and manufacturers can offer lower and comparable costs in a wide range of formats.

For fast-moving consumer goods:

- **Big box.**
- **Standard-sized store.**
- **Convenience store.**
- **Web-based home shopping.**

Consumers can change formats with changing circumstances (e.g., need for speed & variety.)

Is the age of the big box drawing to a close?

Example of Lean Format Strategy

Tesco again:

Now offers comparable pricing & wider variety in:

- **Tesco Extra (big box)**
- **Tesco (standard-sized stores)**
- **Tesco Metro (size of Trader Joe's/Whole Foods)**
- **Tesco Express (7-Eleven)**
- **tesco.com (web based home shopping.)**

Because most customers now do all their shopping at Tesco formats, customers aren't strangers. (Comprehensive loyalty card data.)

The lean answer to Wal-Mart!

Lean Consumption Principle #5: Provide Value *When* Consumers Want

Do you make sudden decisions about major consumption items (e.g., cars, computers, homes)?

Or...

Do you plan ahead?

But why is there no retailer or manufacturer to talk to about your plans?

Why can't consumers, providers, and manufacturers create win-win-win situations by sharing knowledge about timing and specs?

Lean Solution #5: Turn Customers into Partners

Turn customers into planning partners.

Distinguish between those who truly need a good or service right now and those who would be happy to wait, in return for a better price and better ability to specify their product.

Run slot-based production systems with a few slots held open for “got to have it now” customers (at high cost/price).

Level remaining demand by planning ahead with customers at lower cost/price.

Planning Ahead Together Versus Current-day Guessing

The Problem with Dell and with Toyota outside Japan:

- **The overnight computer and the 3-day car are impossible without vast inventories.**
- **Vast inventories of finished units and parts still can't provide a high level-of-service at acceptable costs. (So providers steer customers.)**
- **But plan-ahead customers – as most of us are most of the time – can be rewarded for sharing their plans, even as companies save money.**

What companies will make the breakthrough?!

Lean Consumption Principle #6: Reduce My Number of Problems

What are your major consumption problems?

How about:

- ✓ **Mobility**
- ✓ **Information management & communication**
- ✓ **Shelter**
- ✓ **Health**
- ✓ **Financial management**
- ✓ **Personal logistics**

Wouldn't it be great to have a single touch point for solving these entire problems, with no hassle, no wasted time, and no mindshare?

Lean Solution #6: Pioneer “Solution Provision”

Most consumers have been obtaining more & more items from more and more vendors, using lots of time and mindshare.

Just the opposite of manufacturers: fewer, more knowledgeable suppliers to handle bigger jobs.

So what about “solution providers” to permanently solve our large problems as continuing partners?

- ✓ **Mobility providers to put vehicles in the driveway?**
- ✓ **IT providers to get equipment when you need it?**
- ✓ **Shelter providers to take the hassle (and cost) out of your home?**

Example of Solution Provision

Builder Homesite Inc.:

- **Consortium of the major US homebuilders and building material & equipment providers.**
- **Creating a web page for every new home with the “as built” plans, the bill of material, and the specifications and serial number of every major device (e.g., dish washer, furnace, skylight.)**
- **Offering a life-of-the-home data base & action plan.**
- **Sharing this with potential shelter providers (only with owner agreement) to cut the cost of maintaining, repairing, and upgrading homes for owners and providers.**

Final Thought on Solution Provision

Solving customer problems is a lot easier if your factories are in the right location.

What is the logic of “lean location” in an age of lean consumption?

If you want to completely solve consumer problems, without wasting their (or your) time, while providing exactly what is wanted where it's wanted when it's wanted...

You need to be as close to customers as possible.

How do you decide where to locate?

Do Some Lean Math

- **Calculate your current factory costs versus “lean” factory costs.**
- **Assess your current location in relation to customer needs:**

Are you competitive and able to solve customer problems?

Can you get competitive where you are?

Or...

Do you need to move?

Do More Lean Math Before Moving

Where should you locate production of a given product for a given customer?

- Calculate “factory gate” costs at different locations (e.g., current U.S. location, Mexico, and China.)
- Calculate freight costs to supply the factory and reach given customers from different locations.
- Add costs of quality, inventories, responsiveness, out-of-stocks, remaindering, currency risk & country risk by location.
- Do the right thing! (Emotion isn’t helpful in business, for customers or manufacturers.)

Two Examples of Right Location

- **Nusewco**
 - ✓ **Changed the provision stream to take out costs, achieved ultra responsiveness, and stayed in US near its customers.**
- **High-tech manufacturer X Corp.:**
 - ✓ **Got as lean as possible in existing operations, but still faced price pressure.**
 - ✓ **Looked at the world for the best location.**
 - ✓ **Found factory gate costs 40% lower than US costs in China, 30% lower in Mexico.**
 - ✓ **Concluded that total costs were lowest in Mexico.**

Lean Solutions

- A combination of lean consumption, lean provision, and lean production to:
 - ✓ Solve our (consumer, provider and manufacturer) problems completely.
 - ✓ Stop wasting our time.
 - ✓ Provide exactly what we want.
 - ✓ Exactly where we want.
 - ✓ Exactly when we want.
 - ✓ And – eventually – permanently solve our major problems.

All we need is a pioneer in each industry.

How about you?!