

**Volume 14, Issue 11 ☐ March 12, 2007**

*Important 2007 Dates to add to your calendar...*

- ☐ **Mar 23<sup>rd</sup>, 9-12pm, Leveraging Tour.** Host: Labelad, Markham. "Order Fulfillment Processes"
- ☐ **Mar 30<sup>th</sup>, 9-12pm, GMT Meeting.** Host: HPM Office. GMT Changes+increasing leveraging among HPM'ers.
- ☐ **April 13<sup>th</sup>, 9-12pm, HPM IT Roundtable.** Host: Hammond Power Solutions, Guelph.
- ☐ **April 19<sup>th</sup> & 20<sup>th</sup>, Lean Accounting for Lean Manufacturing.** Led by Brian Maskell. Location: Pavillion Royale, Miss. Contact Barb at AME directly at 905-681-6039 or [bjacklin@ame.org](mailto:bjacklin@ame.org) for details.
- ☐ **Apr 20<sup>th</sup>, GMT Meeting.** Host: Labelad, Markham
- ☐ **Apr 23<sup>rd</sup>, Lean Practitioners' Exchange.** Host: GE Multilin, Markham
- ☐ **May 7<sup>th</sup>, HPM SIG: Supervisors' Roundtable.** Host: Bird Packaging, Guelph
- ☐ **May 23<sup>rd</sup>, HPM Board Meeting.** Host: Volvo Motor Graders, Goderich
- ☐ **Jun 11<sup>th</sup>, HPM Lean Practitioners' Exchange.** Mancor Industries, Oakville
- ☐ **Jun 18<sup>th</sup>, HPM Leveraging Tour** Host: Nexans, Fergus
- ☐ **June 18<sup>th</sup>-22<sup>nd</sup>, LEAN CDN Regional "MeasureUp for Success Conference".** Location: Edmonton. Call-4-presentations: [www.measureupforsuccess.com](http://www.measureupforsuccess.com)
- ☐ **Sep 5<sup>th</sup>, GMT Meeting.** Host: Willow Manufacturing, Toronto
- ☐ **Sep 10<sup>th</sup>, Leveraging Tour** [New Member - TBA]
- ☐ **Sep 19<sup>th</sup>, HPM Board Meeting.** Host: Tempress
- ☐ **Oct 10<sup>th</sup>, HPM GMT Meeting.** Host: Rockwell Automation, Cambridge
- ☐ **Oct 15<sup>th</sup>, HPM Lean Practitioners' Exchange.** Host: COMDEV Space, Cambridge
- ☐ **Nov 12<sup>th</sup>, HPM SIG: Health & Safety.** Host: Velcro Canada, Brampton
- ☐ **Nov 21<sup>st</sup>, HPM Board Meeting.** Host: GE Multiin
- ☐ **Dec 5<sup>th</sup>, HPM Share Showcase.** Location: TBA
- ☐ **Dec 10<sup>th</sup>, HPM SIG: Supervisors' Roundtable.** Host: Hammond Manufacturing, Guelph
- ☐ **Dec 17<sup>th</sup>, Lean IT Roundtable.** Host: Gerrie Electric.

## Washington Post's – "Alternate meanings" competition winners:

- 1) Coffee (n.), the person upon whom one coughs
- 2) Flabbergasted (adj.), appalled over how much weight gained.
- 3) Abdicate (v.), to give up all hope of ever having a flat stomach
- 4) Willy-nilly (adj.), impotent
- 5) Negligent (adj.), describes a condition in which you absent-mindedly answer the door in your nightgown.
- 6) Circumvent (n.), an opening in the front of boxer shorts worn By Jewish men.



## When Will We Accept That Lean Works?

And the neat thing is we don't have to call it Lean... How about – "Common Sense Thinking – with a process?"

Following my brush with a hospital this week the following article is suddenly much much more relevant to your Weekly Update editor. On Wednesday I went under the knife for some very basic day surgery to remove a small cyst that had been happily living with me for a decade or two on the back of my head. After I had signed all the waivers etc. a nurse trotted me off to a special room for the procedure. She sat me down and began to tell me how my lower bowel surgery was going to go - which certainly caused me to wince in more than one location.

"But I am not here for this," I blurted. "Oh yes you are," she said pleasantly, "You signed the form."

When I asked her to show me the form, I pointed (quite intensely) to the description of the procedure that was written in words only a doctor could decipher. "Oh," she said cheerfully, "Follow me," and led me to another area of the hospital out-patient department. After a quick confirmation with the doctor and a re-write of the waiver – now written in words I could understand – the day unfolded.

As I think back, I am very glad I was not incapacitated in any way otherwise I might have awakened with a funny sensation at one end of my body and my little friend still with me on the back of my head.

Read on... there is hope, but the solution may have to come from outside the sector. And perhaps the same may be said about the manufacturing sector. We previously reported the media accounts that over 100,000 preventable deaths occur in North America – and that statistically, your chances of dying in a Canadian hospital are greater than in a US hospital... so, like any sector with data that is not desirable, there is salvation ahead if there is a will.

## Nissan's Lean 'shot in the arm' for the UK healthcare sector

Kristin Goff, Ottawa Citizen - 12 February 2007

Car maker Nissan has provided an unlikely 'shot in the arm' to the healthcare sector by sharing its lean manufacturing techniques with a Sunderland hospital.

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Manufacturing know-how, normally used to produce over 7,000 cars a week at Nissan's Sunderland plant, is now benefiting patients at Sunderland Royal's new £11 million day care unit.

So far, the project has **halved the time patients spend in the unit from six, to three hours**, by giving them specific appointment times. And the number of steps used in patient treatment has been **reduced from 29 to 11** after Nissan suggested unnecessary, duplicated checks could be removed.

Now, the hospital is looking to extend the partnership, and its ward managers are undergoing training that Nissan usually reserves for its manufacturing apprentices.

David Hambleton, divisional director for surgery at the hospital, said: **"We've got the most productive car plant in Europe on our doorstep. We thought: "Why shouldn't we work with the people at Nissan?"**

"The thing that was difficult for us is that Nissan produces cars, so at the end of the line is a Micra or a Note. We have a patient and they are all different, but we thought there must be something to learn.

**"Now, a six hour patient journey, with lots of waiting time, has been cut to a three-hour journey."**

Brent Kilmurray, executive director of strategy and service development for Sunderland City Hospitals saw the potential for a tie-up during a visit to the Nissan plant.

He explained: "There are similarities in that we are dealing with a number of different processes, it's a flow.

"The principle is around quality. We are building the process around the patients, making sure it is as slick as possible for their needs."

As well as reducing waiting times, the day care unit has implemented Nissan's 'just in time' delivery to improve stock control, and boosted the efficiency of its operating theatre, which is **now productive for 73% of the time – an all-time high.**

Also, the hospital is studying how Nissan lays out workshops at the plant and car dealerships, to determine the ideal layout for its ward bays.

Dominic Lydon, Training senior controller at Nissan, said: "It has been a great experience working with the hospital staff.

"We took them on a tour of our plant, showing them a variety of lean processes in action, and let

them decide which ones could be applied back at the hospital. They also attended a number of our training courses, and we helped run process improvement workshops.

**"The project has been very successful. The way we build cars is quality-driven and waste-free, and clearly there are benefits to be gained by incorporating some of these lean manufacturing principles into the healthcare sector – both in terms of patient experience and efficiency savings."**

## Culture Culture Culture

**Have we not tried just about everything else? New books? New buzz-word? What the other guys are doing? Culture has been talked about more in the last 3 years than in the previous 30. And with good reason because culture can be one's biggest barrier - or one's most explosive accelerant in a globally competitive world. But it does mean – having to roll up one's sleeves and seriously listen to and work with people... and unfortunately that's not for everyone**

### Five Cultural Key Elements

If adoption of the culture and the visible processes of the emerging world's best production systems is not supported by the necessary management infrastructure, style, and cultural underpinnings, most attempts at achieving a "lean transformation" will probably fail.

The following five distinctive elements can be identified in all Toyota plants. According to McKinsey's David Jacquemont, they are elements that set Toyota apart from most other automotive companies (1)

1. **Long-term Philosophy:** A long-term commitment to achieving the highest quality at reasonable costs – with the shortest lead times and with a focus on building mutual respect for the company and its workforce. Contribution to society at large and care for the environment are core aspirations of Toyota's founders and current leaders.
2. **Management Engagement:** Problems are best solved when a manager goes to the scene (i.e., gembu, the shop floor) and studies the problem personally (genchi genbutsu). When managers "go and study" for themselves, they help to build a learning organization.
3. **Manager's Role:** Managers should be teachers, coaches, role models, and challengers.

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4. **Performance Management:** Management should set very challenging targets and challenge the front line to meet specific business needs. These challenging targets are cascaded from the top of the organization down, ***while support for meeting the challenges comes from the bottom up and is based upon frontline proposals.***
5. **Standardized Work:** Standardization makes future improvement easier. Management relies upon very detailed standard operating procedures and the improvement decision-making process is built on consensus around an "A3 report."

Taken together, these five cultural elements can perhaps be best characterized as the "Toyota Way." It is adherence to the Toyota Way – not the many tools and techniques the company employs on a daily basis – that has propelled Toyota into second place in worldwide vehicle sales. In fact, **Toyota does not consider any of the many tools or practices it employs to be fundamental to the Toyota Production System.** Instead, they are seen as temporary responses to specific problems and as such, are considered to be countermeasures rather than solutions, because they do not constitute permanent resolutions to problems.

## Expanding on the 5 Elements

Each of the above five foundation elements from David Jacquemont, are examined in more detail below. Ref: [david\\_jacquemont@mckinsey.com](mailto:david_jacquemont@mckinsey.com)

### 1. Long-term Philosophy – Contribution to Society & Commitment to Quality

This long-term philosophy and core principle is the sounding board against which all important management decisions are played. Toyota contributes to society by offering high-quality products and services at reasonable prices. For example, the company's North American operations aspire to contribute to the economic growth of the United States, the stability and well-being of team members (including suppliers), and to the overall growth of Toyota by adding value for customers.

While many multinational corporations tout similar language in their corporate vision statements, Toyota "walks the talk" to a degree that most others do not. Examples abound: When designing its flagship Lexus sedan, the company mandated that the vehicle not incur a "gas



guzzler" tax in the American market, even though many competing products did (and do). The company has also led the industry in the introduction of clean-running and fuel-conserving hybrid-electric vehicles, and has invested heavily into other "green car" technologies including fuel cell-powered vehicles, high-speed diesels, and highly efficient direct injection gasoline engines.

Toyota's near-fanatical devotion to producing reliable, durable, and efficient products also finds root in the company's strong sense of corporate responsibility – since safe, reliable, clean, and fuel-efficient vehicles serve both buyers (e.g., low operating costs, high resale values) and society at large (e.g., the company resolves "externalities" associated with clean air, energy reserves, etc.).

This commitment is also reflected in Toyota's dealings with suppliers. In one instance, a Toyota plant under cost-reduction pressure proposed bringing two major outsourced components in-house. Payback would be rapid and additional inventory and quality benefits made the opportunity attractive. The in-sourcing projects were nonetheless vetoed and instead, Toyota shared its internal engineering cost-reduction analysis with the supplier, enabling it to reduce costs and keep the business. Furthermore, Toyota soon offered the supplier a sourcing opportunity for a second model.

In doing so, Toyota adhered to its policy of mutual benefit for all stakeholders. In fact, the company has pioneered the sharing of internal expertise to improve supplier productivity and reduce costs. For example, in the U.S., Toyota has established a technical support organization that goes into the supply base in order to help it achieve much higher levels of performance. Toyota thus reinforces the trust-based cooperative attitude that it has built up over the past several decades, which is reflected in the company's being routinely rated by suppliers to be among the best OEMs with which to do business.

### 2. Genchi Genbutsu: Putting Managers "On the Spot"

Toyota's managing concept genchi genbutsu roughly means going to the place where the problem is occurring in order to deal with the real situation. Instead of the more typical practice of making decisions from a distance, Toyota managers go directly to the scene of a problem to get a first-hand impression of the challenge (Exhibit 3). They also do this to engage the people working directly in the area in order to build teamwork, coach, and to act as role models. This process – while vital in and of



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***"We can't start to improve until we know who we are. Self-Knowledge is the beginning of self improvement"***

**Spanish Proverb**

itself – also plays a major role in reinforcing Toyota's learning organization, since it mandates that teams deal directly with verifiable facts and ensures that the frontline workers are actively involved in resolving the problem and that they buy in to the chosen solution.

An example of genchi genbutsu in action reveals the power of being "on the spot." At one European assembly plant, the threads on a locking screw of a vehicle steering column yoke were cut during tightening. The first "fix" attempted was to simply replace the screw, with the defect being attributed to poor handling procedures. However, the problem resurfaced on the same line when similar defective screws were found on several cars. This problem was not being experienced at the Japanese plant that made the same vehicles, leading to the belief that it was assembly related.

But despite many counter-measures being taken, the problem continued. Employing genchi genbutsu, the line manager spent hours at the work station, tightening screws and making observations. He discovered that the problem was the result of "tolerance stack-up"(2), which was being caused by the use of different stamping dies and steel plates in Europe compared to those used in Japan. Thus, instead of being an assembly problem, it turned out to be design related. Initially, because they only relied upon second-hand information, managers focused the team's attention in the wrong direction – toward the "assembly line issue."

By going to the actual location where the problem was occurring to assess the facts, the line manager linked with the reality of the situation, realized the misleading orientation being taken, and pulled his team in new directions, ultimately resolving the issue. The entire management team learned to first "go and study" whenever a defect occurred on the line, before making any assumptions about how to fix the problem.



### **3. Managers as Teachers, Coaches, Role Models, and Challengers**

Typically, a manager may delegate training to the human resources department, neglect

to engage in any coaching or mentoring activities, be (at best) a "role model from afar" with a focus on short-term gains, and engage in a fairly directive, "top-down" approach to challenging staff and line personnel. Conversely, Toyota managers tend to be experts, capable of performing on-the-job training on all of the detailed tasks that their direct subordinates perform. As coaches, each leader is in charge of the personal development of direct subordinates – and extensive coaching is given to new hires.

Toyota managers (i.e., Group Leaders and above) tend to be highly visible role models, immersed in day-to-day operations and working alongside staff in order to solve problems. An additional, important management role is to challenge the status quo with ideas that stretch and develop people. Furthermore, the pursuit puts managers in the position to be role models and teachers as they solve problems with their Groups and teams.

Toyota managers naturally expect great things from their team members and accordingly, have the skills they need to support their people in achieving the set goals. This elevated level of expectation results from a clear difference between Toyota and other OEMs involving the high regard in which frontline workers are held within the company. Workers are intensely respected for manning the assembly lines – which is why managers are mandated to be teachers, coaches, role models, and challengers.

This has been a difficult lesson for many Western companies to emulate, but it is genuine and thus, one of the core drivers of Toyota's consistent success over the years. Importantly, Toyota workers realize that with high levels of respect comes high expectations – and that they must be proactive in solving problems on their own. Instead of simply "running for help" or even "running to hide" every time a problem occurs, workers have the confidence to develop their own solutions to problems and present them to management.

### **4. Challenging the Front Line**

Most firms unwittingly employ a "template of failure" when rolling out their latest companywide improvement programs. For example, a broad "fix everything" program is introduced that typically includes very aggressive top-down targets. A massive training program is rolled



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out, but those so trained have few chances to immediately apply what they learned to actual problems. Workers sense yet another "fad of the month" program and therefore, passively resist taking part, thus exhausting the program champions and largely ignoring the exhortations of top managers – ultimately, the initiative fails. Very different from this scenario, Toyota mobilizes its frontline workers to resolve specific business problems (e.g., "Reduce takt time by 15 percent but add no more than +5 percent in workers"). Teams are directly challenged by top-down objectives and given the abilities to develop potential solutions. Team-specific targets are developed by frontline leaders, and managers work with the teams, coaching and driving them toward consensus regarding targets. Finally, solutions are standardized by the frontline workers. Toyota workers are already highly trained – due to the continual efforts of managers – and also are confident that they will not be participating in a "meaningless exercise" but rather, will be making a vital contribution to the company.

## 5. Standardization Makes Future Improvement Easier

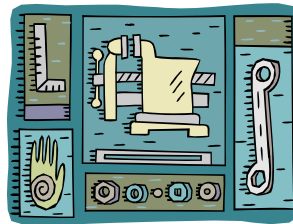


Toyota recognizes that standardized work procedures are central to the management of continuous improvement. Once a work standard is established, any performance deviation is immediately recognized by managers as either an improvement in performance or a challenge to be overcome.

In either case, the outcome will be an improved standard. Toyota managers subscribe to Henry Ford's dictum that today's standardization is the necessary foundation upon which tomorrow's improvement will be based.

The A3 report is the preferred Toyota communication tool, used by all stakeholders to build consensus regarding any proposed decision. The A3 report itself was designed to include the current situation, change proposal, expected benefits, the future situation, implementation steps, controls, and timeline – all on a single, one-sided piece of paper for ease of copying and distribution. The A3 report is used for distributing proposals to all stakeholders, allowing for iterations based upon feedback – and leaders validate the final version. The A3 report replaces the top-down memo that middle managers and frontline workers struggle to implement in

"traditional" firms, with a communication process that enables feedback and ensures quick implementation and high impact. As with many of the tools that Toyota uses to communicate plans, policies, and procedures, the A3 is simplicity itself – one reason it is such a powerful tool.



## Consistency Counts! And Counts! And Counts! And Counts...

Perhaps the surest measure of excellence in the often brutally competitive global automotive industry is **consistency** – and no company today has been as consistently successful as Toyota. Toyota passed Ford in 2003, to gain second place in global car sales without relying upon acquisitions and could challenge General Motors for industry sales leadership as early as 2007. **Such performance over time aligns perfectly with the philosophy of continuous improvement, powered by the five ideas presented here.**

Toyota has successfully transferred the essence of the Toyota Way to its manufacturing operations in North America, Western Europe, and beyond, and has transplanted it into regions and cultures around the world. Furthermore, with the long-term success of its New United Motors Manufacturing Inc. (NUMMI) joint venture plant with GM in the U.S., Toyota has demonstrated that the Toyota Way can gain traction in brown field plants as well. While other auto companies typically see success and good fortune ebb and flow over the years, Toyota has remained continually successful because of its steadfast reliance upon these five powerful ideas.

(1) While most of these ideas are not unique to Toyota (e.g., Honda has historically relied upon a similar set of guidelines), the company has probably been the most vigilant in their widespread application.

(2) Tolerance stack-up occurs when several "in specification" tolerances are added together and cumulatively result in an out-of-specification result.

**"Of all the idiots I have met in my life, And the Lord knows that they have not been few or little, I think that I have been the biggest."**

Isak Dinesen

**"There are no secrets to success. It is the result of preparation, hard work, learning from failure."**

General Colin Powell