



## PULLING THE ANDON CORD: TOYOTA RESPONDS TO CHALLENGE AND CHANGE

BY MICHAEL BALLÉ

**T**oyota's recent—and highly visible—troubles have generated a lot of buzz, mostly on the general theme that Toyota has lost its way and become just another large car company because it tried to grow too fast. This might well turn out to be the truth. On the other hand, the case can be made that Toyota has just suffered an unusual event, and that it is in fact responding appropriately and consistent with its own Toyota Way.

Certainly, the 2010 recalls and factory shutdowns are spectacular in scope and thoroughness. In an odd way, Toyota is still showing leadership by demonstrating that when it has to fix a problem, acknowledging that it might have been slow to react, it does so with a vengeance. Expect to see larger recalls from all automakers in the future now that Toyota has set the bar higher (which it has the cash to support, while the others don't necessarily).

### Toyota's Unique Feature

Many lament that Toyota has lost its magic and will never regain it. But did it ever have any magic to start with? Alternatively, Toyota can be seen as a company like any other, with one particular feature: a unique system of training of its employees, from hourly workers to top executives. Early Toyota documents produced when the firm was working at codifying its fabled

Toyota Production System (TPS) explicitly say that the *primary objective of training is to develop the workers' ability to respond to change.*

This is an intriguing statement, all the more so since the basic training tool on the shop floor is "standardized work": following an exact sequence of steps to realize any job. So, in order to train people to respond to change, Toyota first trains them to follow set working patterns with as little deviation as possible. How on earth can that make sense?

If you stand by a workstation in any Toyota plant, you'll see an environment developed with the sole purpose of highlighting whether operators—team members, in Toyota parlance—follow standard work instructions. The standardized work sheet details the duration of the cycle, the sequence of steps to follow during the cycle, and the number of parts to hold during the cycle. There are step markers on the side of the moving conveyor belt so that operators can see whether they achieve the sequence in the allotted time. Whenever they take a few seconds too long, or whenever they have a doubt on any part of their operation, they can pull on a cord over their heads. The "andon" cord lights up a panel, telling the team leader to rush to the operator's side and check whether all standards are being adhered to (parts, assembly, movements, etc.). If the team leader cannot correct the situation within a minute or so, the line then stops, and a process of escalation begins that could eventually bring the plant manager to the spot.

Each andon call is an opportunity for a "five why?" root-cause analysis and on-the-job training for frontline management. Not surprising, Toyota has a standard about how to solve problems

in a set sequence of steps: clarify the problem, grasp the situation and break down the problem, set a target, think deeply to the root cause, develop countermeasures, check the results and the process, confirm that the countermeasures takes hold and the results remain.

Toyota has created practical tools aimed at learning from mistakes. Indeed, when the company's president responded to the current safety crisis, he expressed it exactly in this way: "Two weeks ago," Mr. Toyoda wrote in the *Washington Post*, "I pulled the andon cord for our company. I ordered production of eight models in five plants across North America temporarily stopped so that we could focus on fixing our customers' vehicles that might be affected by sticking accelerator pedals. Today, Toyota team members and dealers across North America are working around the clock to repair all recalled vehicles. But to regain the trust of American drivers and their families, more is needed. We are taking responsibility for our mistakes, learning from them, and acting immediately to address the concerns of consumers and independent government regulators."

To be able to know when to pull the andon cord, one has to know the exact process steps and realize something is off. And, indeed, Mr. Toyoda acknowledged there must be something unclear in the process to explain why Toyota was so slow to react to customer complaints. "We failed to connect the dots," he recognized. The virtue of standardized work is not in getting people to rigidly apply the established procedure but, on the contrary, as a basis for discovery and investigation of changing circumstances.

Of course, the other dimension to standardized work is *kaizen*: continuous

### TEAM TIP

Discuss with your group, In our organization, how do we develop people's ability to respond to change?

improvement. In Toyota's frame of reference, standardization and kaizen are as indistinguishable as the front and back side of a sheet of paper, or the palm and the back of your hand. Kaizen is about pushing the process beyond its current performance by solving problems and by looking for breakthrough opportunities to do things differently without investment. Again, the only way to do so smartly is by perfectly understanding how the process currently functions and what problems it generates ("waste" in Toyota terms). A typical TPS analysis focuses on looking at how operators work, breaking down the cycle into work elements, seeing the specific wastes generated at each element, and understanding the underlying physics of how the technical part of the process works. To improve—and thus learn—we first need to know better what we currently do.

Standardized work is, in the current state of knowledge, the best work sequence to avoid unnecessary motion and wasted effort. To avoid overburdening team members with unnecessary work, they must be constantly trained to follow the standardized process. When changes occur in production volume, product mix, work processes, or equipment, workers receive additional training. Learning at Toyota is therefore the outcome of a delicate balance of following a set sequence of steps *as well as* changing this sequence to adapt to new products (start of production), market changes (volume and mix), improvements (worker-driven kaizen), and technological change (equipment upgrade).

### **A Different Understanding of Change**

In many western companies, the TPS interpretations I've seen focus on one or the other element. Companies either embark in full-speed kaizen, with "rapid improvement events" and little concern for the follow-up standardization, or they implement a "system" to standardize processes and use it to narrow operations to the point that there is no kaizen spirit left beyond fixing day-to-day issues. In both cases, these approaches falter, because the psychological reality is that people are willing to keep to detailed standards if they're

interested in what they're doing—and to keep them interested, you've got to engage them in continuous improvement and change.

**Learning at Toyota is the outcome of a delicate balance of following a set sequence of steps as well as changing this sequence to adapt to new products, market changes, improvements, and technological change.**

This dialectic can be found at all levels. Senior executives are expected to both keep operations running as smoothly as possible as well as conduct significant changes on specific points. They are usually coached by a TPS master who will push them both to standardize in greater detail and to question their existing processes and go for radical changes point by point. In the factory, frontline managers are similarly coached by a "coordinator," who constantly teaches them to react to "out of normal" situations, analyze root causes, and lead kaizen on the lines they manage.

A different understanding of change emerges out of this practice. This is no longer the catch-all "change" phrase often heard in management, but a very specific understanding of change in terms of new product introduction, market conditions and volume variation, process improvement, and technical change. And, yes, everyone from top to bottom needs to be trained to cope with such changes, step by step, every day.

### **The Right Balance**

Did Toyota grow too fast? Probably. But how fast is fast? As long as people are willing to buy, in what way is it a mistake to try to sell? Overreaching is part of pushing yourself to the limit. Learning from mistakes is what it is all about. Of course, one mistake too many might be a bridge too far, and you might not be able to get back on your feet. Nothing is written in stone, which keeps life interesting.

There is no other way to conclude the "grow too fast and lose your way" debate other than wait to see how events unfold. However, there is a deeper lesson for learning organizations behind the surface events. It's a given fact that learning organizations must change. More often than not, this change is driven from the top with large-scale strategic initiatives that rarely involve the rank and file. What TPS teaches us is that every employee must be trained to respond to change. And doing so involves finding, at every level, the right balance between kaizen breakthroughs and standardized work. Practice shows that both must be driven forcefully and simultaneously.

There is no magic pill, no secret ingredient. Toyota has demonstrated a unique and specific way of creating a learning organization—one that stretches itself by going for great challenges. It constantly trains its people to deal with consequences and learn from mistakes by both standardizing processes in greater detail than any other company and by pushing continuous improvement more relentlessly than any other firm. What we're seeing today is this dynamic at work: Stretch, make mistakes, work hard at correcting them, and learn. We're used to seeing it on the shop floor at a very detailed, everyday level; it's rather more daunting to see it play out at a global level, but it is the same mechanism at work.

Will it succeed? Well, just as any change at the workstation level sometimes succeeds and sometimes doesn't, it all depends on the courage and creativity of Toyota employees to respond to today's changing circumstances. To my mind, the company has become interesting again. ■

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