

Six Keys for Lean Managers

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In the Toyota Production System, also known as Lean, managers are the keystones for improvement success. They are the developers of the organization's most valuable resource, its employees. But what does that mean? What concrete steps can managers take to gain the benefits of Lean manufacturing? Here are six to consider:

Key 1. Understand What Is Meant by Improvement

The printing industry has been focused on technology and mechanized production since the days of the Gutenberg Bible. This long legacy has created a tendency to seek competitive advantage through operational improvement—not a bad thing, but not where we want employees to look for *Lean* improvement. For example, a new press may double the impressions per hour, cutting operational time in half, but what if jobs are then queued for days afterward because they were produced too soon or because a downstream operation is unavailable? Lean addresses the causes of the queuing, which in Toyota language might be referred to as “inventory stagnation,” one of Lean's seven wastes. Lean improvement is not about the work, but the things that get in the way of the work. The following wastes all add only time and cost to the process—no customer value—but have become so much a part of the landscape that they are considered *normal*, and therefore often hide in plain sight:

- The first waste, already mentioned, is **inventory** (also called storage). It adds no value to the customer, but frequently consumes more than half of the production floor.
- Inventory waste is caused by another, **overproduction**, meaning producing too soon or producing too much. In any shop with long setup or makeready times, overproduction is normal, but is nonetheless a waste.
- **Defects** (also referred to as waste of *correction*) are a third waste. This refers not only to scrapped or reworked product, but also to incomplete or incorrect information from sales or prepress operations. When these defects are considered “normal,” the word “yield” is used to euphemistically



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authorize overproduction (noted previously). Inventory then hides problems rather than solving them.

- Referring again to the high-speed press, if it is **waiting** to run, this also increases the elapsed time to the customer. Once heard on the production floor: “This new press is twice as fast as the older one, but it breaks down a lot.”
- A fifth waste, **transportation** (also called *conveyance*), refers to the movement of product as it is converted from raw material to the customer order. Consider the costs associated with moving and storing material on your production floor, for example, carts, racks, conveyors, elevators, forklifts, and aisleways. It's not uncommon for a job to spend more than half of its life on the floor either being moved or stored.
- **Motion** waste is often mistaken for work because it may cause a person to break a sweat. A common example is searching through pallet queues to find a job for its next operation. Some shops actually hire additional resources just to find missing jobs! Better not to overproduce and also

to organize queues for easy retrieval, than to spend time after the fact searching through them. The variety of motion waste is endless, including walking, bending, reaching, backtracking, and many others. These are common activities in a pressroom, but they are not “work.” They’re just getting in the way of the actual valuable function that the employee is trying to perform.

- Finally, there is waste that arises from **processing** itself. This might be unnecessary processing, for example, maintaining both manual and electronic filing. Or it might be caused by over or under processing: Bob may take twenty minutes for a washup, while Mary takes only ten minutes. Which is correct?

Every time any one of these wastes is reduced, time to market and cost are also reduced while operational availability is increased. And the opportunity is so huge as to create disbelief among managers who are just beginning to implement: **More than 95% of the elapsed time between paying and getting paid is attributable to the industrial engineering wastes noted above.** Wastes are everywhere in the process. They can be reduced through many small improvements—referred to by Toyota as “kaizen.” But they are usually invisible at the start, because they’re mistakenly seen either as insignificant problems or even as part of the work. Your first responsibility as a manager is to visit your own floor with an open mind to identify the kaizen opportunity for yourself. Also visit a couple organizations outside of yours that are a little farther along in the process. Speak to your peers there to learn from their experience. These companies don’t need to be Toyota, and they don’t even need to be in the printing business. The concept of waste is the same regardless of venue. The ideal of perfect quality and perfect delivery becomes far less esoteric when you’ve had the chance to observe other organizations approaching that ideal, often closer than you ever thought possible.

Key 2. Demonstrate Passionate Commitment

For managers who see and understand the opportunity of kaizen, it’s easy to be passionate. For those who haven’t seen and don’t understand, however, there can’t really be a commitment. Employees will figure this out pretty quickly. Many years ago when I was in marketing, we developed a product our salespeople would not sell. When we asked them why, one salesman replied, “Because I don’t believe in it myself.” If you don’t believe in the power of kaizen, you’ll be a bad salesperson and the process will soon stall. Also,

please remember—your passion can’t be delegated. If you are a no-show on the floor, don’t expect a commitment from employees.

Key 3. Learn the Tools

Understanding—by both managers and employees—is what is meant by *improvement*. There is now an opportunity to apply the “how-to” to the tools of Lean. These are the means to improvement, a well-developed arsenal of countermeasures that will work in any organization. Before attempting the know-how, be sure you know and can articulate *why* these tools are needed (Keys 1 and 2). Like any technique, Lean tools are not automatically learned and practiced. In fact, some employees may feel downright uncomfortable at first. An employee may initially respond to a tool like 5S (workplace organization) with objections like “We don’t have time for that” or “I’m already organized.” Yet, ask the same person how much time they spend each day searching for things, and a typical answer is “about one hour each day.” Most objection is just cautionary—that is, employees need to know more before accepting a new idea.

Management’s role in learning the tools is to create a favorable environment for learning and practice, and to keep everyone practiced. Provide training at the point of need and allocate time as part of the training for practice on the floor with a real, if small, project. Expect a few mistakes. This is how learning occurs. Don’t penalize employees for trying. On the other hand, praise small victories. Employees will initially resist the new improvement role, fearing mistakes and ridicule, but a few victories from early adopters will eventually overcome this fear. Lean is learned by doing—tacit learning as Toyota calls it. As we say at GBMP, “If you want to learn to ride a bike, you have to get on the bike and ride.” And the best learning occurs in small increments—twenty minutes per day is better than a day once per month. This is true for two reasons. First, natural learning occurs through daily practice, not in batches. Second, adding improvement to every work day makes kaizen a part of (rather than apart from) everyone’s work. GBMP’s slogan “Everybody, Everyday” connotes the target for employee participation in kaizen.

Key 4. Make the Job Easier, Better, Faster, and Then Cheaper

This is the *order* for improvement as specified by Shigeo Shingo, one of the co-creators of Lean. Shingo wisely chose to first address job strain because it showed respect for employees while generating initial buy-in. Toyota refers to this strain as “*Muri*” (overburden). The most important tacit learning for employees in the early going of kaizen should be: “This is a good thing. It made my job easier. I’ll keep an open mind.” Unfortunately most organizations imple-

ment in reverse order, aiming first for cost reduction. Of course, cost reduction is an important objective in a price-competitive industry, but priming the pump first to develop employee engagement will pay off in year-on-year cost savings. So look for Muri first.

Key 5. Start Small and Expand from a Solid Core

The technical part of Lean—the tools—are not complex or hard to understand conceptually, but they are oh so difficult to implement without careful nurturing. This is because for everyone in the organization there is as much *un-learning* as learning. Ask a golfer with a bad golf swing about improving his swing and he'll tell you it would have been much easier to have learned it right in the first place. Don't take on more than can be supported. Organizations that attempt a blanket implementation soon find themselves spread too thin—a mile wide and a quarter inch deep—trying to balance improvement and daily management. Better to focus improvement in a small, manageable area and learn from that. If you do, there will be early adopters to join your improvement army for expanded efforts. Get the direction right first and the pace of improvement will follow. Celebrate successes, reflect on problems, and then expand the breadth of participation.

Key 6. Banish the Eighth Waste

Toyota refers to the eighth waste, the worst waste of all, as “Loss of Human Creativity.” Conventional managers treat most employees as “eyes and hands,” squandering their potential contributions. Lean managers unlock employee creativity by developing a corps of Lean learners, experimenters, and problem-solvers. For Lean managers, learning and practice of the tools, the *know-how*, is the means not only to higher productivity but also to developing the *know-why*: an enduring culture of continuous improvement.

Bruce will be speaking at the Continuous Improvement Conference April 10–13 in Kansas City, Missouri. For more information visit www.printing.org/ciconference. Bruce is the creator of Toast Kaizen, a short, entertaining introduction to Lean. He is also co-author of e2 Everybody Everyday Continuous Improvement System a comprehensive learn-by-doing manual for Lean practitioners. Before joining GBMP, Bruce led a successful challenge for the 1990 Shingo Prize for Operation Excellence, an internationally recognized standard for Lean manufacturing. Bruce has helped some of America's largest as well as its smallest organizations realize the benefits of Lean philosophy and practice. His Lean blog, www.oldleandude.com, is published twice per week. GBMP is a not-for-profit provider of Lean assistance with a mission to keep good jobs in the U.S. Headquartered in Boston, Massachusetts, the organization provides direct shop floor assistance for Lean implementation as well as public workshops and an award-winning library of Lean training materials.



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