

4 LEAN MANUFACTURING FUNDAMENTALS YOU CAN COUNT ON

Originally imported from Japan in the 1980s, lean manufacturing continues to play a key role in every successful U.S. manufacturer. Lean companies make their products as efficiently as possible, using the least possible staff time, equipment and working capital.

Take just-in-time (JIT) inventory management. This efficient supply chain strategy reduces inventory costs — such as storage, insurance, pilferage and obsolescence — through inexpensive, reliable overnight shipping and online order fulfillment. When implementing JIT, however, plant managers need to understand the trade-off between reducing inventory carrying costs and meeting customers' imminent needs.

Increased global competition and declining operating margins make these four lean manufacturing fundamentals especially important in today's marketplace:

1. Waste not, want not. Lean manufacturing limits the amount of time, materials and other resources that are required to produce a finished product. Are your dumpsters full each week? If so, there may be an opportunity to reduce the amount of materials necessary to produce your goods. Waste also involves underutilized labor and inventory, defective products, and disorganized assembly line layout.

Lean manufacturers organize work spaces to expedite workflow, which limits unnecessary movements or steps employees must make to complete repetitive tasks. For example, suppose an employee spends an hour of each eight-hour day walking back and forth to an outside storage facility to obtain parts.

This unnecessary transport time results in a 12.5% reduction in productivity.

2. Commit to quality. Poor or inconsistent quality can destroy your business. Yet, ensuring the highest possible quality for every product shipped out the door is easier said than done, especially if your operations are streamlined.

Quality is everyone's job, but it starts with your top executives. Management must share customer feedback with subordinates and provide frontline workers with effective quality control (QC) tools. Effective QC procedures are necessary to ensure product defects are caught and corrected before products ship to customers. Train employees how to use equipment properly, spot defects and errors, fix today's mistakes — and prevent the same mistakes from occurring tomorrow.

For example, suppose a small aftermarket automobile manufacturer installs a sophisticated computerized system for detecting defects in its precision milled products. This QC tool will help catch problems early in the manufacturing process. However, you must prevent employees from becoming complacent. They still need training on how to spot packaging errors, with the aid of the computerized QC system, as parts roll down the assembly line. Such standardization will improve workflow and increase efficiency in the workplace.

3. Create a consistent workflow. Lean manufacturing principles discourage dramatic production fluctuations because such fluctuations can lead to overtime pay, sloppy workmanship and stressed-out workers. Instead, management should forecast

demand and produce consistent output each period. Ideally, inventory on hand, not additional output, should be used to shore up gaps when large customer orders arrive.

Accurate forecasts require close contact with your customers. Some customers grant suppliers access to their enterprise resource systems to monitor inventory levels and anticipate demand. Salespeople can also forewarn plant managers of large orders in the pipeline, so the factory can gradually ramp up production, as well as the loss of a major customer that will significantly lower demand.

4. Put people first. Successful lean endeavors encourage happier workforces. A happy worker is typically a productive worker, who is likely to show up on time and take pride in his or her work.

Lean manufacturing is a continuous improvement process that relies on everyone in the organization to identify opportunities to enhance efficiency. Successful lean initiatives hinge on people who are armed with common sense and accountability.

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WORKPLACE SAFETY - 7 KEY STEPS EVERY ORGANIZATION CAN TAKE

by Greg Sinko, MBA, CFE

For an effective internal control environment, one often hears about the importance of preventative measures compared to reactive procedures. A proactive approach is also important when it comes to workplace safety.

Preventative measures are relatively cheap, versus reacting to workplace accidents or OSHA fines, which are much more costly.

This article will discuss key procedures that an organization can utilize to help ensure employee safety.

1. Evaluate Building Safety. Workplace safety starts with the working conditions. Organizations can have a group of extremely safety-minded employees, but if the actual working conditions are negligently unsafe, there is still a big risk of workplace accidents.

For example, if a company manufactures products in a poorly maintained building or uses old, unsafe equipment, the associated risks are difficult to mitigate without having different working conditions altogether. Safety gear and accessories such as hard hats, safety glasses, steel toe boots, and yellow vests should be provided where appropriate. With this said, it may be necessary for management to speak with their wallet and tackle safety issues such as lack of safety accessories, old equipment or unsafe facilities. If management speaks about the importance of employee safety, but then forces employees to work in an unsafe environment, the employees are less likely to take safety seriously.

A specific building feature that improves safety is door locks. Certain sensitive areas such as the server room and dangerous areas should be locked and restricted to authorized personnel only. Locking the entire premises may also provide safety by mitigating external threats such as intruders.

2. Maintain a Company Safety Policy. An organizational safety policy can help reinforce upper management's attitude towards safety and project its attitude towards safety on the rest of the organization. Without a written policy, employees may be unaware of the guidelines they should be following.

It may also be helpful to have safety policies at the department level, which may provide more specific safety procedures for appropriate employees.

Another level of safety reinforcement may be added by requiring employees to certify annually that they have read and understand the safety policy and procedures.

3. Conduct Safety Training. Training is another important aspect of workplace safety.

Part of the workforce, especially newer employees, may not be aware that they are performing their work in an unsafe way. Safety training will teach people to perform their jobs in a way that is in line with the organization's safety standards. Training will also reinforce the importance of safety for employees who are already aware of the standards.

4. Designate a Safety Representative. "Tone at the top" is important in many aspects of an organization's culture, including employee safety.

It is a good practice to designate a member of upper management as the safety "czar." This role is typically filled by a Compliance Officer or HR Director.

Not only does this allow safety accountability to go through a centralized channel, it also carries weight by having a high-ranking official in charge of safety. Doing so sends a message to the rest of the organization that safety is a priority.

5. Demonstrate Zero Tolerance for Safety Violations. Management should properly handle safety violations. It is important for employees to see consequences when other members of the organization breach the safety policy. Employees who repeatedly commit serious safety violations should be terminated.

If such employees are allowed to continue working, they put everybody else at risk. This also sends the message that the organization is not that serious about workplace safety.

If an employee is terminated due to safety violations, this will serve as a deterrent to other employees. It can be especially effective to put a clause regarding safety violations in an employee's contract. If it is deemed necessary to terminate an employee due to safety concerns, it can be better justified if there is a contractual clause regarding safety. Such a clause will also catch the attention of new hires and make it immediately known that the organization takes safety seriously.

6. Conduct Safety Audits. Conducting safety audits will serve two purposes: they will catch workplace safety violations which can be remediated, and audits will add a sense of detection which will help prevent others from committing violations.

7. Employ a Hotline. Employing a whistleblower hotline will allow employees to anonymously report safety violations, in a secure channel, to appropriate management representatives.

Since it is not possible for management to see everything that happens in all levels of an organization, employee tips are an important source for reporting violations. If an employee feels someone else's actions are unsafe, it is important for them to have an outlet to be heard. The presence of a hotline alone may be enough to prevent employees from committing safety violations.

This article is not attempting to say that employees want to commit safety violations, but certain steps must be implemented to keep people safe. It is human nature to take shortcuts when there is an easier way to complete a task. In certain cases, employees are not aware they are committing safety violations. In other cases, employees know the rules but think the rules are burdensome and shouldn't apply to them. The truth is that those employees may be jeopardizing the safety of themselves and their coworkers even if they believe they are acting safely.

The steps listed above may help prevent violations from occurring. It is better for organizations to invest the relatively small amount of time and money required for a robust safety environment instead of waiting for costly workplace accidents to occur.

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HOW IS YOUR GLOBAL SUPPLY CHAIN WORKING?

by Bill Virgin

The global supply chain is a marvelous, almost miraculous thing. It can pull together raw materials, components and subassemblies from all over the world, arriving at the right place at the right time to be pulled together as a finished good, to be sent on to a customer at the right place and the right time.

Marvelous, that is, when it's working. Lately, it hasn't been functioning so miraculously.

As global supply chains grow longer and more complex, their vulnerabilities and the opportunities for malfunctions also grow. So do the potential consequences from those malfunctions. If the truck from your supplier across town gets stuck in traffic – and in the Puget Sound region, that's an almost daily occurrence – that's annoying and frustration, maybe even expensive to work around, but it's not fatal.

If, however, the raw materials or parts you're dependent upon can't get to you because they're parked in a container across the country, or halfway around the world and are weeks late, that's the sort of thing that

leads to line shutdowns, layoffs and worse. Same deal with the products you're hoping to sell if they can't get to market. No sales to customers, no revenue; no revenue, no business.

Supply chain disruptions are going to happen. Bad snowstorms may shut down interstates and rail lines. A volcano's ash plume may ground air freighters. Containers go overboard, trains derail, trucks crash.

Those are calamitous events, but again the system can be built with some resiliency and flexibility.

But even the most robust global supply chain has its limits when hit by a widespread, sustained disruption, something Northwest businesses have had demonstrated all too vividly in recent months.

The supply chains linking our corner of the map to the rest of the continent were already under strain due to capacity constraints, congestion and resulting delays. The problem was concentrated on rail lines, especially on BNSF's Northern Corridor from Seattle to the Upper Midwest. Choke points on the line, such as a single-track bridge in Idaho, combined with

increased volumes of crude oil from North Dakota's Bakken field headed to West Coast refineries and of other cargos (containers, coal and grain) to snarl the rails. In some cases, the consequences were severe; the Port of Quincy, in central Washington, canceled expedited service for moving fresh and frozen fruits and vegetables to the Midwest and East Coast when schedule reliability fell apart.

Then a bad situation got worse with the West Coast port slowdown.

The Pacific Maritime Association, representing terminal operators and shipping lines, and the International Longshore & Warehouse Union, representing workers at 29 ports, had been negotiating for months on a new contract to replace one that expired last July. Along about autumn, PMA began reporting long delays in getting containers on and off vessels. Shippers noticed lengthening delays in getting product in and out of the ports. Trucks backed up on highways leading to port gates waiting to deliver and fetch containers; ships rode at anchor in Elliott and Commencement bays, waiting for openings.

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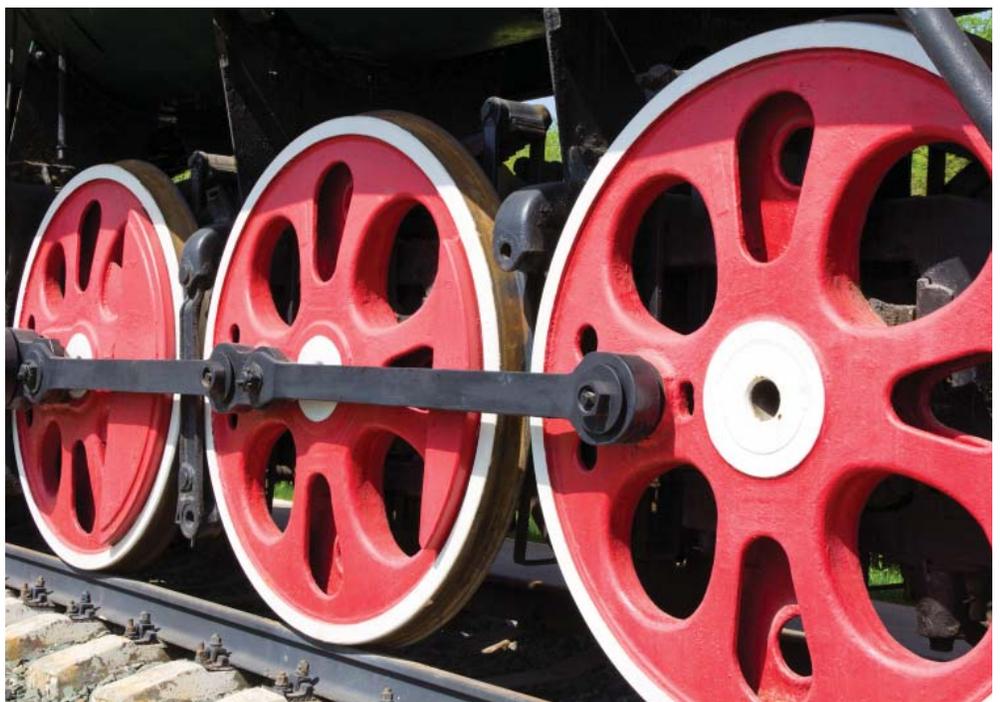
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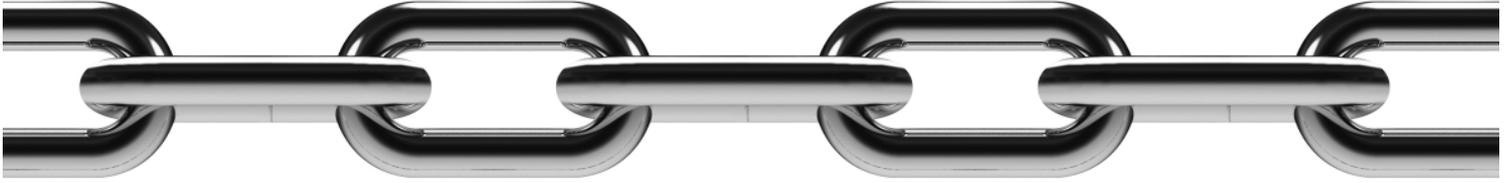


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PMA blamed the union, saying the slowdown resulted from the ILWU deliberately cutting productivity to apply pressure in contract negotiations. The ILWU blamed the PMA, saying the slowdown was the result of heavy volumes of cargo in advance of the holiday season and the employers' own practices.

However, the blame might be apportioned, someone was certainly feeling pressure – manufacturers and agricultural producers who couldn't get commodities and products out or raw materials in. The slowdown had painful consequences. Weyerhaeuser temporarily shut down a unit at its Longview mill that makes packaging material for holding liquids, and laid off workers. So did Northwest Hardwoods, which cut production hours in half at two mills in Washington and one in Oregon because of an inability to get its products shipped to export customers.

Seasonality and spoilage was an issue for some shippers. A Christmas tree delivered in January isn't of much interest to buyers, and that's presuming the tree is still green.

Nor were those issues purely for agricultural shippers. Cascade Designs, a well-known Seattle-based manufacturer of outdoor recreational gear, couldn't get parts from its plant in Ireland for a snowshoe it hoped to

have in stores for this winter. Those sales went to competition from China, a company executive told a legislative hearing earlier this year.

Darigold, the big Northwest dairy processor, calculated the port slowdown had cost it at least \$30 million in lost sales.

Compounding the problem for many shippers was the lack of viable options. Some companies tried to go through Canadian ports, which added costs and hassles. Some tried air freight, although that won't work for companies whose products are too heavy, bulky or thin-margined (air cargo being more expensive than going by water).

Lost sales and layoffs are merely the short-term costs of supply-chain disruption. The long-term costs include lost market share and the reputational hit that companies here can't be relied upon to get goods to their destination in a timely manner.

The West Coast port labor dispute is, for the moment, resolved (although the agreement is just for five years). The big supply-chain issues, however, are not.

Manufacturers, even those whose customer base extends no farther than the next state, might be well advised to use the West Coast port

slowdown as a cautionary tale, a wake-up call and a spur to action. An excellent place to start that action would be to conduct an audit of their own supply chain, in both directions. How diversified is it? Where are the vulnerabilities? What happens if one, or several, of those vulnerabilities turns into a supply-chain failure? How quickly does pain set in if stuff isn't coming in or going out? Are there alternatives? What are they? Are they realistic?

It's one more item on a manager's already too-lengthy to-do list, but as has been recently, vividly and expensively demonstrated, a necessary one. You may have the greatest product in your category. It's of no value, however, if you can't get what you need to make it, and you can't send it to someone who might actually pay you money for it.

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