Roll up your pants legs, here it comes again. Management has found another tool to save the world.

Was that the reaction on your shop floor when everyone first heard about Just-In-Time (JIT) manufacturing? Were people shaking their heads again about something they weren’t sure would deliver what it promised?

There’s good reason for skepticism about JIT. It may prove to be a savior for some companies, but probably not for industry in general. At least 50 percent of the companies that try to implement just-in-time will fail miserably. They couldn’t implement work simplification; how are they going to implement JIT? Many other panaceas became popular from 1950 to 1985, and most of them faded from sight, too. Whatever happened to the great “productivity” crusade of the late ’70s? Maybe JIT is just biding its time before giving way to a new panacea in the 1990s — say, artificial intelligence?

No doubt, many companies will treat JIT as another fad. They’ll talk about it a lot, pay a lot of lip service to it, and go through the motions. But will top management provide the leadership, commitment, planning, action, and follow-up to make it work?

The saving grace is that some companies will succeed magnificently with JIT. Their example will give their competitors plenty to think about. The Japanese will also be around to remind us. Some industries, such as the auto industry, will have to adopt JIT to survive.

Indeed, history has already proved that JIT can be a winner in America. You only have to visit Harley Davidson, the auto companies, and a handful of other companies that have been successful with JIT, to see what it can accomplish.

The problem is, we have too few actual success stories to point to, and too much profusion of JIT theory, not all of which is accurate. Theoretical JIT seminars should be outlawed from this point on. We’ve already heard it all. What’s needed is more hands-on education, including things like kanban workshops, fast die-change workshops, plant layout exercises, and instructions in the manufacturing technology of JIT. This beats turning loose a bunch of amateurs armed with theory only.

The various inventory societies haven’t been a great help, either. Their inventory “crusade” hasn’t even got the fervor of a good prayer meeting.

So let’s see if we can’t take a fresh look at JIT, concentrating on practical, “real world” explanations of what it is — and isn’t:

Rocky Start
First just-in-time was associated with inventory reduction, or waste reduction. Ultimately, zero inventory became the popular definition.

Everyone was given a chart that supposedly explained what JIT would do. The chart showed a boat on a lake, with rocks under the water. The water represented the level of inventory. The common wisdom was that if you lowered the water level (inventories) you exposed the rocks (problems). The more you reduced inventories, the more problems you exposed. All you then had to do was solve the exposed problems, and you were home free.

But guess what? The chart was baloney. It turns out people already knew where the problems were, no matter what the inventory level was. They weren’t solved before, and they weren’t going to be solved under JIT. What really had happened is that the boat had crashed, run aground on the rocks, and sunk.

Most companies aren’t willing to shut down a production line for five minutes to solve a problem. For those companies, a funny thing happened on the way to perfection. Six months after instituting what they thought was a just-in-time effort, they found they didn’t have zero inventory, zero waste, and perfect quality. Because the results weren’t instant, their programs stalled, and stayed stalled. Everyone asked, “What’s next?”

What should be next is a new style of management, comprised of the following elements:

A long-term commitment to productivity improvement.
A commitment to productivity through people, and a commitment to hire, train, develop and retain good people.
An intolerance of complacency.
A change in corporate culture to make the elements of JIT part of the vocabulary and decision-making process.
And here's how JIT should be defined in that corporate vocabulary:

"JIT is the constant improvement of the production process until (fill in the blank)."

Then, fill in the blank with all of the following:
- exceptional product and service quality is realized;
- production schedules have been stabilized;
- production is made in small lots;
- all set-up time is in single digits (minutes);
- inventory becomes wasteful and harmful;
- all waste is reduced;
- you reach nirvana.

The key is that a company's inventory, productivity and quality levels should be the result of management and worker decision. They should not be determined by production inefficiencies, management failures, or heavy-handed management. This is not an excuse for nonaction. JIT is not business as usual.

Another advantage to this definition of JIT is that the frustration level is reduced. You don't have to announce JIT and expect zero inventories six months later. You do have to get everyone involved, show and recognize results, brag about them, try pilot projects, experiment, commit, spread the results, develop "JIT" managers, and do what makes good business sense.

**Going Into Production**

JIT is very process-oriented. It starts with the production process and plant layout. Your customers may drive your company, but manufacturing engineers drive the JIT process.

JIT does not mean you have to have all of your vendors clustered around your manufacturing plants, though. Many companies moving plants overseas, or to the Sunbelt, still subscribe to the JIT philosophy. After all, only the largest companies will be able to get their vendors to relocate. For example, there are eight companies building cars in North America, and only 17 out of their 49 assembly plants are in the Michigan or Ontario vendor belt.

Many of the rest are in the Midwest. Only 17 of 31 stamping plants are in Michigan or Ontario. This hardly creates a picture of a JIT industry with all of its vendors across the street.

In fact, you have to be very careful about the price you may pay by switching vendors or locations as a result of a switch to JIT. One manufacturer has estimated that the price of purchased parts need only increase 2.8 percent to offset any savings that might come from carrying less inventory.

There are other cost tradeoffs, too. JIT may or may not mean daily deliveries. Each company has to decide what its breakeven point is when weighing small lot sizes vs. smaller, more frequent shipments.

Some solutions to this dilemma have been flow-through warehouses, reducing the number of suppliers, sourcing closer to the plant, truck vs. rail, inbound consolidation points, or local trucking "milk runs." Whatever is done, it is imperative that production efficiency follows. Merely pushing the inventory back to the suppliers, or warehousing parts, isn't the answer.

From a packaging standpoint, JIT doesn't mean throwing out all of your packaging overnight and running out to spend millions for new packaging. Do it where it makes sense. Remember, JIT starts in the factory. To support JIT, there must be a marriage in the plant between material handling and packaging.

Keeping JIT properly focused at the production level will help maximize its impact. After all, the main benefits from JIT often come from improvements in the production process. If a firm purchases a high percentage of its production parts from outside vendors, through JIT it can use those parts long before they're paid for. This is especially true when inventory turn rates improve to 24 per year, or more.

But once JIT's established on the production floor, companies have to learn to link their control over work-in-process inventories with control of finished goods inventories. A large percentage of on-hand inventories are usually finished goods, and many companies face seasonal demands for their products. Yet JIT requires level, stable production. A balance has to be struck somewhere between the two ends, to avoid simply shifting inventory from one end to the other.

This has been an especially tough challenge for the retail industry, which recently decided it had to drastically slash its levels of finished goods inventories. After each season, the industry was finding it was still left with massive amounts of inventory, which then had to be fired below cost. It was getting to the point where the only time anyone would buy anything would be during these inevitable sales.

Inventories have now been slashed enough to create a significant fall in inbound ocean volumes from the Far East. Rate levels have also fallen. It's all led to an improvement of profits for the industry without significant increases in sales volume.

**More to Come**

In the second part of our "straight talk on just-in-time," we'll take a look at the distinctions between JIT, kanban and materials requirements planning (MRP). We'll also explore the causes of JIT breakdowns, and look at both the primary and support roles logistics must play if JIT is to be successfully implemented.

After all, none of this discussion will mean much to you as a logistics manager if you don't know how these issues directly affect your duties. For now, the one thing to retain is that where JIT is concerned, logistics is a vital support function of manufacturing. And as such, it's not immune to performance failure.

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