

Supply Chain: Under the Wire

Is just-in-time a way to increase efficiency, or a waste of time?

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Among Henry Ford's numerous contributions to the manufacturing industry was the concept of just-in-time (JIT) inventory, which was later adapted to much greater success by Toyota. JIT now serves as one of the pillars of Toyota's manufacturing process.

As with all great business concepts, other companies have scrambled to try to make JIT work for their manufacturing processes. Based on the idea that keeping inventory sitting in warehouses is wasteful, the philosophy creates a system in which each component is manufactured only as needed. But that doesn't mean that beating the stop watch should be the only concern a company has if it switches to JIT, according to forbes.com Logistics Editor Bob Malone.

"For me, it means not just delivering to a site or sites at a specific time," Malone says. "It really means delivering the right goods at the right level of quality with all the necessary papers to the site. It's a standard that goes back deep into the manufacturing process and deep into the distribution process. It's not just someone sitting with a stopwatch and saying you made it on time."

Implementing JIT for your own manufacturing operation requires the precision of a Swiss timepiece, and keeping it ticking requires more than just waiting for the kanban signals and rushing components into production.

Malone says companies putting JIT to work for them need to make sure all the various aspects of their production fit together perfectly and are transparent to everyone at every stage. On the other hand, manufacturers should be careful to avoid viewing JIT as a silver bullet. David Fields, managing director of Ascendant Consulting, says that although the approach has paid off big for Toyota and others, it still contains enough flaws to keep a lot of businesses from succeeding with it. Converting to JIT can result in companies paying more attention to their own process than their customers, he says. With your eyes always on your watch, you could miss customers.

"Just-in-time isn't necessarily bad," Fields says. "[But] I think JIT has the potential to be an absolute nightmare, and for that reason it should be approached with caution."

Crucial Elements

The key advantage to JIT is that warehousing costs are reduced dramatically, something that Malone says cuts away one of the major areas of risk for a manufacturer. "By storing them, you're not creating a value-added situation; you're creating a value-minus situation," he says.

JIT converts the traditional warehouse model into a distribution setup that cross-stocks parts and components in multiple locations and keeps them moving freely throughout the production line. "You're not storing them, you're sorting them," Malone says. "The goods have to be treated as an entity as to themselves."

What is most important to the process, Malone asserts, is that companies have strict documentation over which components are needed, where they are and where they are going. "JIT involves having a very high level of visibility of where the product is at, what stage it is at and what papers have moved with it," he says.

Information has to flow in lock step with the parts to make JIT beneficial, and this is where Malone says having control over your company's IT system is critical. "This is what separates the sheep from the goats," he says. "Unless you can integrate your physical distribution with your online distribution control, you're in trouble."

Henry Ford was the first to tie information so closely to deliveries, Malone points out. He says Ford employees rode the rails with components to ensure that they arrived at the factory at the right time.

Although it might sound intimidating for a small company to establish such an all-encompassing information platform, Malone says options do exist to take the burden of responsibility off them. "Many smaller companies would do best to make use of a [third-party logistics company] who has those tools in place ... or you can have some other company manage that," he says.

Fitting Together

Before deciding to implement JIT, Malone suggests that manufacturers do their homework. "First thing they should do is review where they are now," he says. This means understanding what the company's goals are and making sure JIT would be the best solution for them.

"Unless you know what you do now, you don't want to start monkeying around," Malone says.

Next, companies should solicit advice from either a consultant or a third-party logistics company. After that, a strategic plan should follow. "You model what you're going to do before you do it," Malone says.

Even though a JIT model should be a model of efficiency and integration, Malone says flexibility must also be incorporated into your plan. This is especially true when dealing with overseas suppliers or manufacturing facilities. "There are all kinds of unknowns in dealing with China or India or Zimbabwe," he says. "[JIT] is not a set thing; it's not a dyed-in-the-wool thing."

"A JIT system can lock [manufacturers] into the right-now, or worse yet, lock them into the demand at the time when they were building that system," Fields says.

Tread Carefully

Even though JIT has the potential to reduce waste and improve efficiency, it's not for everyone. Malone says stable or all-season products that are consistently in demand or not time-sensitive benefit much less from JIT than products with less-consistent demand. Toyota's JIT allowed the company to build

cars to order, which reduced the risk that cars would go unsold. Other products don't have this worry attached to them, Malone says.

Fields says one of the dangers of JIT is that it pulls the focus away from where it's supposed to be. "A JIT system can be the tail wagging the dog," he says. "The purpose of a company is not to produce things efficiently, the purpose of a company is to sell to customers in a way that's profitable, and if you focus myopically on operations ... you disconnect it, the greater risk you put your company in.

"With JIT [systems] in particular, that risk is exacerbated because they're very difficult to put in place," Fields continues. "They take a lot of time and effort to put into place and as a result the company is reluctant to make changes. That's fine as long as your marketplace is totally steady and not going to change."

As an alternative, Fields proposes manufacturers focus not on meeting internal deadlines, but meeting demand. Customers, not efficiency, should be the main driver, he says.

"Rather than [having] a system where each point in the manufacturing process is triggered by the material in front of it ... you want the whole thing connected by logic; you want a logic chain," he says.

"Anytime you can meet the customers' needs in a way that's superior to your competition and at a lower cost to you, that's a good thing, and JIT is just one way to do that in a manufacturing environment," Fields says. "JIT is a step toward the right kind of thinking."

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