Lean Manufacturing

Examining Supply Chain Strategies: Just in Time vs. Just in Case

Kip Hanson | Mar 15, 2022

"Just-in-time" inventory management is a central tenet of *lean manufacturing* and an important step toward reducing waste and improving efficiency plantwide. Yet some suggest that for the next year or two, it's a good idea to set aside the practice. Are they right?

Just in time (JIT) encourages manufacturers to eliminate inessential mass production methods and swollen inventories in favor of smaller lot sizes, those produced in response to a specific customer demand—a discrete order, for example—or an empty kanban bin. This leads to additional inventory turns, greater profitability and less chance that a product will become obsolete while sitting in a warehouse. Just in time is good for business.

Is It Time to Jettison Just in Time?

As we've seen over the past two years, however, just in time doesn't work as intended in the face of a global pandemic. When workers stay home due to illness or mandates, factories don't make as much product or, in some cases, any product at all. Nor is JIT a friend during a trade war, where the ***friction caused by tariffs and import quotas*** hurts suppliers, distributors and consumers alike.

For supply chains that are already tight (as most lean practitioners suggest they should be), such disruptions are enough to break crucial links. This leads to additional shortages that stress other parts of the supply chain until shelves become empty, stockrooms are deserted and prices begin to climb.

Part of the solution, it seems, is for manufacturers to temporarily set aside their JIT strategy and do what many consumers did shortly after the first COVID-19 shutdowns: hoard. In a manufacturer's case, this means grabbing up large amounts of metal, plastic, electronics, packaging supplies and other raw materials needed to build and ship products. Unfortunately, this "just-in-case" response to material shortages only worsens ongoing supply chain woes.

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For instance, hoarding—or even generously stocking the warehouse—with key resources makes it harder for others to purchase them. It's understandable to not see this as a problem when manufacturers are simply looking out for their own businesses. But it also creates numerous other problems, ***inflation*** chief among them.

Just in Case: Is It Justified?

Most manufacturers will do whatever is necessary to catch up with ***customer demand***, including expediting shipping, hiring temporary workers and paying overtime and bonuses to employees, thus putting a premium on their products. In addition, some resellers take advantage of these low-supply, high-demand situations with predatory pricing, additional costs that are almost always passed on to consumers.

> **Just-in-case thinking disrupts manufacturing flows that are in many cases optimized for lean practices, thus shifting bottlenecks to unexpected places on the production floor while increasing work-in-progress levels and equipment downtime.**

On the flip side, this type of no-holds-barred manufacturing environment ultimately leads to bloated inventories and product obsolescence when supply chains do get back to normal. It also means a higher than normal spend on metal, electronics and other raw materials, when they're at their highest price point, and then trying to find room in the warehouse for it all.

Perhaps most alarmingly, just-in-case thinking disrupts manufacturing flows that are in many cases optimized for lean practices, thus shifting bottlenecks to unexpected places on the production floor while increasing work-in-progress levels and equipment downtime. Avoiding situations like these is why lean manufacturing and just-in-time inventory management were developed in the first place. Tearing down that paradigm must be done with caution.

Striking a Balance of Inventory Management

Just-in-case manufacturing practices might be less effective now than they were in the days before just in time. The argument can be made that a tighter embrace of lean practices and continually striving for greater efficiency is the best path forward for manufacturers looking to weather the current storm. Fortunately, there is a ***middle ground***, one that retains some measure of lean manufacturing while recognizing that these are troubled times and manufacturers will take whatever steps are needed to avoid stockouts.

For instance, rather than the hoarding of raw materials and haphazard production of excess finished goods, manufacturers must be strategic. Those able to forecast changing customer demands and then produce accordingly will have the greatest success in the near term.

Infographic: 5 Ways to Modernize and Optimize Supplier Inventory Management

Doing so will require operational and management changes, and it may need to wait. Consider procurement. In most organizations, material buyers have target agreements or other financial motivators that reward them for reducing costs. Similarly, warehouse managers are rewarded for the inventory turns they can make each year, just as production managers are tasked with eliminating work in progress wherever possible. Each of these goals is at odds with any just-in-case remedy to the current situation, yet it must be set aside, like just in time, until the manufacturing industry and supply chains return to normal.

Also, companies should prepare for the financial hit. Higher inventory levels negatively affect profitability in several ways. Holding costs skyrocket, further cutting into margins. And manufacturers must also pay for the labor needed to build these products—finished goods that in many cases will sit idle until a customer eventually purchases them.

Rethinking the Future

Some experts argue that the industry has taken JIT too far, and that a serious rethinking of lean (or at least this aspect of it) is in order. They might be right. Aggressively reducing inventory levels increases the risk that a significant hiccup—whether it's a global pandemic, a natural disaster, a human error like what befell the ***Ever Given captain***, or a trade war—will result in more of what we're seeing today.

Q&A: Experts Discuss the Pros and Cons of Vendor Managed Inventory Systems

A couple of very large manufacturers agree. According to ***The Wall Street Journal***, Toyota Motor Corp. (the company that ***spearheaded just in time***) is now stockpiling up to four months of certain parts. Volkswagen Group, struggling to find batteries for a growing electric vehicle offering, decided to produce its own and is ***building six new battery factories in Europe***.

None of this will be easy, and the industry can expect another year or two of high prices and frequent product shortages. Eventually, manufacturing will return to normal, and thanks to ***increased automation***, ***shortened supply chains*** and ***less reliance on unpredictable offshore suppliers***, it could emerge stronger than before.

