How To Successfully Implement Just-In-Time Inventory Management

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Introduction

Good logistics is all about eliminating waste and promoting efficiency. The point isn't to save money at the expense of operational quality, but rather to find exactly how much is required to smoothly run your business. You don't want your operations to suffer, but you also don't want your operations to carve chunks from your revenue. This is why strategies like JIT are popular, because they cut out unnecessary costs while keeping your business running smoothly.

For the uninitiated: JIT means receiving goods only as they are needed in the production process. It's a strategy that depends on accurate demand forecasting in order to simultaneously meet demand while minimizing carrying costs. A good example is an apparel brand like Zara employing their “fast fashion” strategy by manufacturing in small runs, keeping small stocks to ensure that they can get the latest looks and styles to their customers before most of their competitors can.

If good logistics is all about increasing efficiency and decreasing waste, JIT achieves t hat by aiming to eliminate inventory costs without losing potential revenue from stockouts. The first adopter of JIT was Toyota (which is why JIT is also known as the Toyota Production System or TPS), and its credited as the secret sauce to Toyota’s current dominance in the automotive industry. Companies that implement JIT see a huge reduction in labor costs, space and storage costs, inventory flow times, and an increase in inventory turnover.

Of course, implementing JIT comes with substantial risks. If one part of your supply chain goes down, it could potentially disrupt your entire production line. By refusing to carry safety stock as a contingency, you’re placing a lot of faith on the reliability of your manufacturers, shippers, and fulfillers. This doesn’t necessarily make JIT any better or worse than other inventory management strategies, but it does mean that you have to be careful in how you implement JIT.

In order to implement JIT to maximize its benefits while minimizing its risk, you’ll need to do three things: have contingencies along your entire supply chain, ensure your fulfillment is reliable and fast, and maintain solid demand forecasting.

Have A Plan B For Everything

The beauty of JIT is that it naturally leans out your entire supply chain, from production to inventory management. But there are two major risks involved in implementing such a lean strategy - one hiccup along your supply chain can stop the entire operation, and you won't have any backup stock on hand to meet unexpected spikes in demand.

Because JIT makes one supply chain failure radiate throughout your entire production process, you'll need to have backups in place for every step of your supply chain. If you have one manufacturer for your products or parts, try to establish relationships with another and split the production 80/20 between your main manufacturer and your backup one. It would also be beneficial if your backup manufacturer has the ability to scale quickly in case your main manufacturer goes down for any reason.

For example, manufacturing mishaps cost Toyota billions of dollars in 1997. A manufacturer for Toyota's P-valves unexpectedly shut down due to fires at the plant. The fire shut down the plant for weeks, and the plant was the only source for P-valves. Toyota was able to reach out to one of the plant's suppliers to retool and start manufacturing P-valves in lieu of the downed plant, but the fire itself cost Toyota nearly $15 billion in revenue and 70,000 cars. Not only that, the ripple effect of the downed plant forced other suppliers to shut down since Toyota no longer needed any parts to complete any cars in the stalled assembly line.

You'd think after a catastrophic failure like that, Toyota would consider shifting away from their JIT strategy. Instead, Toyota retooled and continued to maintain lean manufacturing practices with contingencies installed all throughout their supply line. The benefits of JIT outweighed the risk for Toyota, but they learned that they needed a plan B in case anything along their supply chain went down.

The takeaway here is that JIT can be a boon for your operations if you implement it, but mitigating risk by having backup manufacturers or carriers would be a prudent move, since you never know what will happen.

Ensure Your Fulfillment is Reliable and Fast

One of the biggest benefits of JIT is speed. Instead of waiting weeks and months on end for large shipments to restock your inventory, you simply push out products as needed. But fulfillment can still become a source of headaches if your fulfillment partners aren't up to speed with your operational strategy.

Inventory shrinkage is definitely something to address if you plan on implementing JIT. Since JIT magnifies the impact of inventory loss or disruption, inventory shrinkage becomes much more costly. Packages that get lost in the shuffle represent deeper losses because of the lack of safety stock to cover such incidents. Customers already air their grievances about businesses that deliver their orders late, so how would they react when their orders get cancelled because of inventory shrinkage?

3PLs and fulfillment centers that base most of their processes through automation actually experience less shrinkage than their traditional counterparts. By removing human touchpoints throughout the fulfillment process, there's much less chance of theft or breakage, which lowers the chance for shrinkage to occur.

Another thing to consider is the speed of your fulfillment. Cost savings are only found in JIT when inventory isn't held for a long period of time. Any kind of delays or holds on the outflow of packages will add up to storage costs that JIT doesn't account for. Not only that, but the quick inventory turnover is what makes JIT work in the first place. By delaying the outflow of orders, you effectively nullify all the benefits of implementing JIT in the first place.

When you look for a fulfillment partner to help implement your JIT strategy, focus on their shrinkage and order fill rate numbers, as well as their average turnaround time for orders. When it comes to implementing JIT, the margin for error gets substantially smaller, so you'll need to find a partner that has a proven track record of reliability and speed.

Of course, as a callback to the first rule, it's good to think of some fulfillment contingencies in case your fulfillment partners go down for any reason - particularly inclement weather during the holidays.

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Make Your Forecasts Trustworthy

Because JIT requires precision at every level of your supply chain, your demand forecasts become much more important. Other inventory management strategies usually suggest that you keep safety stock just in case of demand spikes, but JIT is built on the idea of purchasing and holding only what you can sell. Figuring out how much to purchase is a keystone to making JIT work.

It's already complicated enough to create accurate forecasts on a quarterly basis, but when you're forecasting inventory with JIT, you have to account for the fact that you'll be purchasing or manufacturing inventory more frequently. Since JIT tries to remove holding costs by minimizing the need to hold inventory for any long period of time, inventory has to be restocked at a faster cadence.

Forecasting is half art and half science. The numbers will always shift depending on what products you're selling, but there are three key factors that you can base your forecasts around to keep them in the right direction.

1. Determine Market Demand

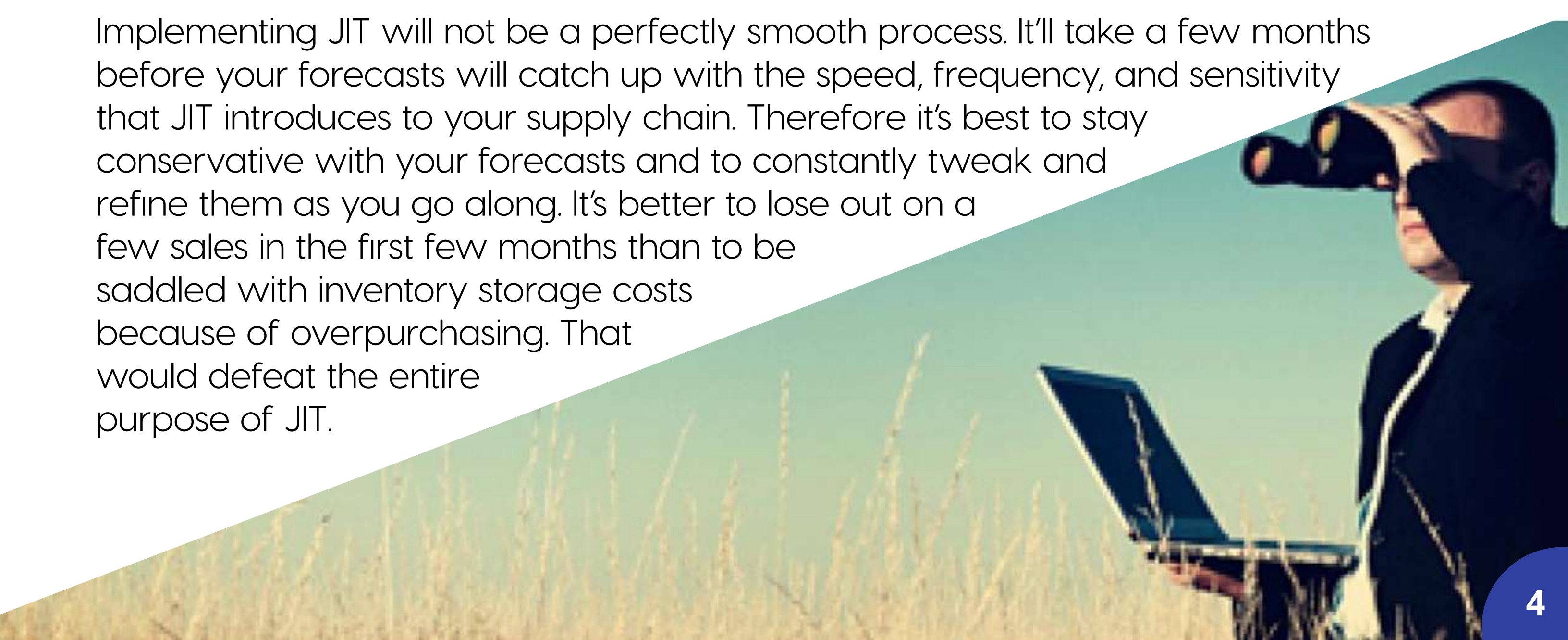
When you make demand forecasts, you have to start with the market. At this point in your business, you should already have a good idea of what your demographics are, what your geographical reach is, and what effect seasonality has on your sales. From there, you can use past data, published data, and incoming data to make an educated forecast on the market demand for your kind of product. Keep in mind, however, that market demand should not be the sole or deciding factor for your inventory purchases.

2. Consider Promotional Demand

This is where internal communication is key. Your marketing and sales departments have to keep your operations departments abreast of their one-off or seasonal promotions. It's imperative that your marketing and sales department keep your operations abreast of any promotions that are used to drum up demand. The last thing you want is to make a promise to a customer via promotion, then have to go back on it because there isn't enough inventory to cover the order.

3. Stay Conservative and Refine With Time

Implementing JIT will not be a perfectly smooth process. It'll take a few months before your forecasts will catch up with the speed, frequency, and sensitivity that JIT introduces to your supply chain. Therefore it's best to stay conservative with your forecasts and to constantly tweak and refine them as you go along. It's better to lose out on a few sales in the first few months than to be saddled with inventory storage costs because of overpurchasing. That would defeat the entire purpose of JIT.



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