



How Should We Manage Our Inventory?

(JIT Versus Min/Max Approaches to Inventory Management)

The Monday morning quarterback is always around to second guess decisions when it comes to managing inventory. Since we need money to purchase inventory, we will always view it as a constant reminder of the cost of money. It forces us to second guess our decisions and drives us to constantly ask what we could have done differently. We might have been able to sell more, and purchase less. We need inventory to sell and ship product, but we simply can't accept the cost that goes along with holding it month after month.

For purchasing, it's a constant reminder of the failure of sales to move product. Every month, every quarter and at the end of every fiscal year, companies everywhere scramble to withhold incoming shipments, while at the same time, try to maximize as many outgoing shipments as possible. The idea is to have low inventory levels resulting in a nice balance sheet. It's a constant struggle to keep inventory levels manageable. Too much, or too little inventory, and somebody is sure to hear about it. In a perfect world, we would sell everything and never order anything.

Inventory is an essential tool for your business.

When you accept that inventory is an essential tool for your business, you are more able to begin to minimize the impact of its costs. In our constant pursuit of finding new and inventive ways to bring

business costs down, we sometimes forget that the one necessary evil we need in order to capture new sales and new markets, is our inventory. However, how we manage inventory should always be correlated to what we do. Far too many companies manage their inventory in a way that is completely contradictory to their business model. Rather than matching their approach to the needs of their customers, they pursue the newest and latest trend.

What is JIT?

Those companies with strong economies of scale, and large volumes spread across a small number of product lines, are more inclined to be users of "Just In Time", or JIT.

What is JIT? It's minimizing the cost of inventory on a daily, weekly and monthly basis. You are trying to only bring into your inventory what you plan to use or sell. The idea is that at the end of a given period, be it a day, week or month, everything you brought into your inventory was used to make product and shipped out to your customer.

This approach originated from the Japanese. After the Second World War, they devised a plan to minimize the cost and impact of inventory. They simply could not afford to carry high levels of inventory. Therefore, they developed a strategy to take in only what they were guaranteed to use or sell. Doing so would ensure that they never had money

tied up in inventory month after month, and always had money coming in to pay for any parts and material they purchased. This helped to free up cash, and allowed them to avoid the burden, and carrying charges, of having the same material month after month.

When the Japanese industrial machine burst onto the scene, and people started to see the benefits of the methodology, it seemed like everyone everywhere wanted to emulate the approach. Some tried and were successful, while others failed miserably.

JIT requires large purchasing power and a disciplined workforce.

The problem is that only those companies that have large purchasing power, large volume spread across a small and flexible product line, and linear demand for their products, can truly benefit from using JIT. The term “*linear demand*” simply means that the demand for the products is consistent, day after day, month after month, quarter after quarter. You are able to ship product daily, weekly and monthly with consistent volumes. The key is to have a small number of product lines, and large volume across those lines.

Another extremely important aspect is to have a committed and disciplined workforce who understands the importance of continuous improvement. There is no room for error. Every mistake must be immediately addressed.

An example of those who use JIT would be the automotive industry. The Japanese auto makers concentrated on a small number of product lines and maximized their volume across those lines. They had a fixed bill of materials for less than ten models of cars, and were able to maximize their purchasing power for all the materials.

To clarify this, if you only had five or six models of something, but sold extremely large volumes of all of them, then the parts and materials you would purchase for these models, would have even larger volumes themselves. This is different from a company that may have hundreds of different products with small or medium volume across all of them. While they would still be purchasing a lot of parts and materials, their volumes would be varied and smaller across their larger product line.

Companies have since modified this approach to a “push/pull” inventory and purchasing system, where their suppliers are all in close proximity to the manufacturing plant. They can easily provide parts and materials the same day it’s ordered.

What is a min/max inventory approach?

The opposite of the JIT approach, is the min/max system. Like the name implies, the system is run on a minimum inventory level, and a maximum inventory level. The system advises purchasing when to order once stock levels are coming close to the minimum level, and will also advise them to hold off on ordering additional parts when stock levels are approaching the maximum level. The goal is to keep inventory levels within a manageable range, thereby helping them not to purchase too little or too much inventory.

The min/max system is mainly for those companies who have cyclical demand. While they may not know exactly when an order will be placed, they have some idea that it will take place within a given period of time. Perhaps they know that an order happens every quarter, but on which month it falls, is anyone’s guess.

Because the demand is cyclical or infrequent, the inventory must be available when needed. The problem with this system is that inventory costs are carried over month to month. However, the flexibility it offers is an advantage. At any time, should a customer place an order, they should be able to ship without any delays. This helps to avoid any additional freight costs for incoming parts that aren’t available, and the subsequent rush shipments out to your customer because you did not have the inventory.

With the min/max system, this problem is removed. You have the inventory so you don’t pay a high freight bill to rush parts in, and then pay someone overtime to receive them. You also don’t pay another high freight bill to your customer for being late. With the min/max system, you forego the problems of additional freight costs, and expedite or rush fees from your supplier. You have the inventory ready to go.

So what’s the problem?

Unfortunately, far too many companies decide to pursue the wrong inventory management approach. They don’t take the time to properly assess whether the inventory system is a match for their business model and the needs of their customers. They tend to pursue the hottest and newest idea. If it works for the big guys, surely it can work for the smaller ones.

The problem is that unless you have the economies of scale, and the small product line with huge volumes across those lines, you have no business running a JIT system. If all of your suppliers were in close proximity to your plant, and you produced large

volumes across a small product line, you may be able to benefit from JIT. An example of this might be wireless applications like cellular phones or computer integrators like Dell Computer. However, if you are a smaller manufacturer and pride yourself on being able to offer a large product offering, immediate turn around times, and the inventory to support any demand, then you go with min/max.

While there are benefits to both systems, it's important to remember that they both have their own drawbacks. While JIT certainly sounds like the best system, any delays or defective product can be catastrophic. You simply don't have the time to adjust when something you've ordered is going be late. The costs to regroup from this are enormous. This then forces you to ship to your customer on your own expense if you are late.

With min/max, there is a comfort knowing that you have the inventory available and ready should a customer need it. However, you can also have too much inventory, and the cost to support the inventory is quite high. You also have to carry this inventory month to month. It's a constant reminder of the cost of money. There is also the issue of damage to inventory and parts becoming obsolete.

In the end, no one system is ever guaranteed to be foolproof. It's important to remember that your inventory cost is made up of a number of different things. It's not simply the cost of the item on the shelf. The freight you pay to get product in, and the freight you pay to ship to your customer if you are late, are both direct costs to the inventory.

Late deliveries or bad product is also a huge cost. Consequently, the inventory that is carried over month to month, and the dead stock or obsolete inventory because you purchased too much, is also a cost to inventory.

Never go with a system that is contrary to your business model. It is always best to pursue a method of inventory management that best suits your product offering and your customer requirements.

We invite you to learn more about our approach and how it can benefit the processes and bottom line for your business. Simply contact us at:

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to get started.