Ways of Optimizing Inventory

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Inventory optimization (IO) is a strategy for balancing the amount of working capital that's tied up in inventory with service-level goals across multiple stock-keeping units (SKUs). One may also define it as, maintaining minimum cost of average on-hand inventory (no or very little end of the month reduction for financial reporting) while, achieving the highest desired fill rates for the items being optimized (Factory Physics.com).

Keys to inventory optimization according Bursa (2013);

1. Air Cover

'Air cover' for a supply chain professional means solid support at the executive level. Even a senior staffer needs the backing of peers in supply-side procurement, manufacturing, distribution, sales and marketing, finance, and even strategic planning. Stakeholders in the supply chain come from diverse, often isolated, functions, ranging from purchasing to 3PL's, from sales to inventory planners, and so on. The organization that succeeds is the one that realizes it has much more to gain by generating a shared understanding (vision) of the shared supply chain. Making inventory-related key performance indicators (KPIs) visible, comparable and available amongst all business units will create a sense of internal competition and achievement.

2. Inventory Optimization Must Match Your Organization's Planning Process

Your organization has a planning process which dictates how you'll go about the job of gaining support and successfully implementing your inventory optimization initiative. As Gartner notes, it operates on three levels: strategic, tactical and executional. Supply chain strategy (inventory plans and policies), tactics (individual inventory target setting down to the SKU level), and execution (ERP) are like separate gears that mesh together to perform the work of managing your inventory wisely. They should be thought of as three facets of a single entity—strategic course setters take the long view, while those who care about day-to-day decisions need a dedicated, easily adopted mechanism for maintaining inventory and service at optimal levels.

3. Avoid the Black Box

Most inventory target planners will not use a solution unless and until they believe in it. It's simply not possible to put a 'black box' into the supply chain organization and expect everyone to follow its lead. There is no substitute for—or shortcut around—using the knowledge of planners who are 'in the trenches' on a day–to-day basis. These planners must have at least a basic understanding of the data that goes into the process and accept the results that come out.

The ongoing optimization takes into account transaction data as well as uncertainty in demand, volatile supply, costs and delivery timetables, inaccurate or inconsistent forecasts, replenishment cycles, manufacturing considerations, and more. Even though the algorithms and analytics have been extensively validated by academics and practitioners across industries and around the world over years of successful use, it is still crucial that your users have a chance to validate results, not only during the initial launch, but on an ongoing basis. When planners are comfortable with the results of optimization recommendations—if they take ownership of the numbers—they become confident and will not revert back to old static and simplistic methods.

4. Move Fast!

Every supply chain is characterized by an 'efficient frontier' curve, which represents the trade-off between inventory cost and service level performance. You are in the process of moving your entire supply chain from one frontier curve to a new 'efficient frontier' that achieves higher performance at lower cost.

The most important factor in reaching this new level is to organize and mobilize your key resources quickly. Long, multi-year rollouts are vulnerable to shifts in focus and budget. You may lose key resources. And of course, there is always the impact of stakeholders changing jobs. So 'optimize your optimization initiative'.

Effects of inventory optimization

According to Industrytoday.com (2014), Increases in inventory turns affect many facets of the distribution center operations, making it important to anticipate the impacts before customers feel them. If you have plans or initiatives in place to optimize inventory, consider these potential side effects:

1. Congestion on the calendar

Unless you procure goods through wholesalers or distributors, your appointment requests may increase as more independent suppliers begin delivering goods to your facility. More deliveries mean increased trailer traffic and congestion, especially if you don't have extra dock space available. And failing to unload shipments fast enough increases the risk of demurrage charges or having to postpone appointments.

2. Increases in receiving time

A good percentage of receiving time is spent collecting documentation, organizing products, and coordinating purchase orders and packing slips; therefore, the overall processing time for receiving orders will grow as the number of deliveries increases. In addition, more frequent receipts may require more tracking, which also will increase receiving time. You may not see an immediate decline in productivity when a trailer reaches your facility, but unless you have prepared for extra deliveries; your workforce will struggle under the increased workload.

3. Increased effort to manage inventory

Counting less-than-full pallets will require more time and care. Moreover, inventory clerks may have to spend more time tracking additional lot numbers and expiration dates. The same is true in a manufacturing environment that chooses to decrease work in process and produce smaller batches.

Inventory optimization has its benefits. But before undertaking an optimization project, make sure you understand the hidden and potentially adverse effects it may have on your operations. With foresight and proper planning, it is possible to address these effectively up front and save time, money, and stress down the road says Jeff Primeau (2014).

What is Excess and Obsolescence E&O

This is the accounting value assigned to the cost associated with inventory that is disposed of as being excess or obsolete. Excess and obsolete inventory is a supply chain management problem for manufacturers, distributors and retailers. Inventory represents a large investment for these companies, and if it isn't sold for some reason, it takes up space in warehouses and increases a firm's liability. An E&O reserve is the cost of the inventory, less its probable disposition value. It is carried on the financials of the company as an expense and can affect your company's borrowing ability. Duff (n.d).

How to prevent E&O

Know Your Reorder Point

Using an accurate reorder point formula will help you predict the right time to order more inventories and how much you'll need to order. It will also help you understand your current rate of inventory turnover and give you insight into how to increase it.

Forecast Demand

Accurately forecasting demand is a major factor in whether you'll have obsolete inventory or not. It might be the biggest factor. Best practices are to pay attention to sales trends from past years, mostly buy products that have a proven track record for selling consistently well, and pay attention to what your competitors are selling and how well they're selling it.

Track Inventory Levels in Real-Time

If you want granular insight into your inventory levels, then you should use something like a cloud-based inventory management system that allows you to know how much inventory you have at all times. This tool will show you whether you're carrying excess stock and need to ramp up your sales efforts, or if you're getting low on certain products and need to reorder Dearsystems.com (2017).

Benefits of optimizing inventory

Focusing on these new and more targeted inventory optimization strategies can result in a variety of operational and financial benefits including;

- Reduction in on-hand stock level
- Reduction in out of stock instances
- Elimination in write offs for obsolete or expired inventory items
- Reduction in inventory holding costs
- Increased focus on other business critical functions due to automation

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