

Bursting the Inventory Bubble

Managing Excess, Obsolete, and Slow Moving Inventory in the Customer-Driven Marketplace

For the past several years manufacturers have been under pressure from large volume customers to improve inventory velocity for them through supply chain partnerships and supply chain management improvements. Velocity means keeping inventory turns up by moving product through the pipeline as needed from beginning to end rather than making it and holding it until it is needed. Product is moved through each step of the downstream supply chain, i.e., the manufacturer's distribution network and the customer's distribution and sales network, as quickly as possible. The ideal in terms of movement would be production and shipment on demand from the supplier directly to the point of use or sale. Freight costs for the many LTL and small package shipments that involves and other manufacturing and distribution issues usually make that economically impractical. The second best situation is where the customer operates distribution centers that are really cross-dock facilities. The material is delivered from suppliers by dock appointment, possibly already palletized by final destination, and cross-docked into waiting trucks that will deliver to the outlets. Some volume retailers already have programs of this type underway, and it may eventually get to the point where they are fairly common. In most situations today things don't happen quite that quickly; there is some holding of inventory at various points in the supply chain. However, there has been a lot of acceleration where serious efforts have been made to make it happen.

Managing the fast movers in today's marketplace

Supply chain programs today range from fairly simple, and usually unsatisfactory, procedures to reserve inventory and expedite order processing and shipping to selected customers to close partnerships such as Vendor Managed Inventory (VMI) and key account programs. Here the vendor and customer share large amounts of sensitive data concerning sales, forecasts and inventory balances in order to keep the customer well supplied with a minimum of inventory on hand. In some cases the supplier actually generates replenishment purchase orders on the customer's behalf.

A sale, firmly anticipated or forecasted sale, or replacement of sold merchandise should be the basis for scheduling, production, and shipment, rather than producing ahead and waiting for sales to occur. The product is made or at least assembled, finished or packaged as close to the time of shipment as possible. From the supplier's viewpoint there are two major elements to operating supply chain partnerships successfully. One is that the customer partner provide reliable and timely information about the actual product flow on the



downstream side. The other is that the manufacturer make significant business process changes to integrate an emphasis on improved supply chain management and velocity into the manufacturing process and to use customer-supplied demand data as far back in the process as possible. The supplier doesn't want to hold inventory either. He wants to produce it as close as possible to when it will be shipped.

Successful supply chain partnership programs that work for both sides usually embody at least some movement by the manufacturer toward a short-cycle, make-to-order or package-to-order production and inventory management policy. Producing and reserving inventory for customers is one of the worst ways to try to guarantee customer service. Invariably the wrong quantity or mix of product is in place resulting in poor service, obsolete product, trans-shipments within the distribution network, low turns and high inventory carrying costs for the supplier. Manufacturers that have embraced VMI as part of their operating method by making, or at least finishing, the product to a short term forecast or to order are turning inventories of their products in their customers' distribution networks in the high teens and low twenties without increasing their own inventories of those products. So let's grant that suppliers doing Quick Response/VMI/supply chain management well are experiencing increases in turns on their own inventory at least on the part of their inventory servicing those programs.

Another phenomenon that has appeared fairly recently in consumer products industries is very large short leadtime orders for unique products. A warehouse club, say, will order ten or fifteen thousand units of a non-standard item, different in color, markings, accessories or packaging. This allows them to offer something unique in their markets that cannot be compared directly with competitor's offerings of similar items. The leadtime may be two or three weeks at the most, providing surprise in the market. Often a stock rotation agreement granting the right to return unsold special merchandise is required. Sales people maintain that despite supply chain partnerships that are supposed to help provide notice of such demand, the orders are completely unpredictable and unanticipated until received. The orders are so large that no one wants to turn them down despite the difficulty of filling them and the impact that servicing them may have on service to other customers. Some manufacturers are flexible enough in manufacturing to be able to service them fairly well. Others will make superhuman efforts to do so. Let's disregard the issue of whether the orders could have been forecasted, and whether the practice is fair or reasonable, or seemingly impossible to execute, and grant that some suppliers in one way or another can and will do what is necessary to serve this kind of market. If it can be done here is a situation where the manufacturer's turns are very high on part of the business. In this case they could easily be around fifteen to twenty or more on those large quick turnaround orders.



Now we have two scenarios where inventory turns on a significant part of a manufacturer's business should be at least in the mid-teens. Usually the partners for whom these high turns programs are undertaken are a significant part of a suppliers business, say twenty percent or more. Often there is more than one supply chain partner being serviced with high velocity. So, maybe as much as 60% of the manufacturer's business should be turning in the low to mid-teens or higher. It would seem that if a supplier is increasing turns in his customers' facilities and doing it by increasing turns in his own facilities with a short cycle production or packaging program or flexible manufacturing on a significant part of the business, there should be at least some increase in his own overall turns. Turns of five or six or less should go to at least seven or eight or more. Often this doesn't seem to happen. What does that mean?

The perils of the inventory bubble

It probably means that there is a bubble of poorly managed inventory that is holding firm, or more likely growing, under the high visibility fast turning items. Because of the attention given to supporting the supply chain partnerships and servicing the big orders the rest of the business may be getting less attention than formerly. The conventional part of the business is not being managed as well as the high velocity part. There also may be elements of the supply chain partnership programs that are building elements of dead inventory. The real danger of this expanding bubble is that with things moving as fast as they do today is that it can quickly become so large that it become almost impossible to reduce it without a serious adverse impact on the company's financial statements. If excess and obsolete inventories are continually carried from one year to the next the balance sheet will start to look bad. Eventually, large write-offs may be required to bring it back into line with a devastating impact on the P & L in the period in which it is done. Better to expend the effort (and staffing) to manage the inventory effectively in the first place and to take smaller write-offs against current revenue as required.

The following paraphrase of comments from a financial officer in a fast growing manufacturing company illustrates one kind of potential problem:

When we did our LBO our supporting financial institution in their own interests did a good job of requiring us to manage our balance sheet well. The debt was secured by assets, primarily accounts receivable and inventory. Whenever it appeared that we had questionable receivables or excessive inventory they lowered their lending ratio. To say the least that increased our interest in managing those assets very carefully and we did.



When we first went public cash was no longer an issue and the emphasis was on the P&L, keeping profits up to maintain the stock price. We were reluctant to take the annual write-offs necessary to keep excess and obsolete inventory low, and we weren't borrowing, so inventory increased. Now we are borrowing again to finance growth by acquisition and the financial institutions are back in the picture. They don't like our inventory numbers. We have a large lump of what may be unsalable finished goods and some other obsolete materials. In addition to getting better at managing current inventory and receivables again, we may have to take an inventory write-off to get the balance sheet back in line. That, of course will affect the bottom line and possibly the stock price.

Pay me now or pay me later. There's no such thing as a free lunch. What are the components of the inventory bubble likely to be?

- leftovers from promotions and deals, and items that have been taken back by agreement on special stock rotation programs but intended to be resold

Leftover amounts from successful promotions, overproduction of items for less successful promotions and items returned by agreement that have not been dispositioned.

- leftover private branded product
 - Private brand product left in inventory as a result of over production, product or packaging changes, or loss of the business.
- superseded items that have not been run out,
 - Items that have been replaced by new products leaving a residual quantity that is probably no longer even listed as available for sale
- obsolete and slow moving inventory
 - Items that have become obsolete because of changes in technology, the marketplace, or other factors, or are inherently slow moving such as specialty items carried to fill out the line, low volume replacement parts, etc.
- returns





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Items returned by customers that have not been promptly dispositioned by reconditioning and return to stock for sale, or scrapped.

- Excess from poorly managed lot sizes, leadtimes, and reorder points

Excess quantities resulting from lot sizes that do not properly reflect production and shipping patterns, failure to adjust lot sizes as product demand volume changes, and failure to adjust lot sizes, manufacturing and purchasing leadtimes, and reorder points seasonally in seasonal businesses.

- Excess production quantities resulting from lot size and EOQ parameters that conflict between inventory and production planning systems.

Excess inventory resulting from lot sizes in one planning system that overstate requirements when interfaced to a downstream system. E.g., a DRP lot size that is slightly larger than one MRP lot generates two MRP lots thereby doubling the quantity produced.

- Traditional stock items sold to smaller customers or in smaller quantities, that are just not being forecast and managed as rigorously as the hot items.

Traditional products that are still significant in total but are now overshadowed by large volume special items, private brands and promotional items that are not being given enough attention to be managed properly.

The first five items are traditional inventory management problems that have been with us for years. The first three of those have recently become more common and more critical as product proliferation and therefore more SKUs to be managed has resulted from increasing pressure in the marketplace for more promotions and deals, private branded product, packaging variations, and annual, or more frequent, product changes. On the whole they were not well managed in the past because they never got to be that big. Now they are large but often not being well managed because their impact is not well recognized and because staff has not been allocated to manage them.

The next two are technical issues arising from the use of computerized information systems for production and inventory planning and management, and inadequate understanding and maintenance of those systems. All of these first seven issues have been exacerbated by staff reductions that limit the amount of manpower available to maintain the systems and to perform the detailed tasks of good inventory planning and management. In many cases the staff available to do these seemingly minor and routine tasks has virtually



been reduced to zero. The systems and procedures are still being executed, but on autopilot. The results may sometimes be worse than having no system at all.

Lastly, as scarce manpower and other resources are dedicated to managing the new supply chain programs the traditional areas of the business and smaller customers may come out on the short end. The basics may be being neglected. If 60% of your business is with supply chain partners, 40% is still there with the smaller customers. A significant part of the total, and a significant amount of inventory and customer service to be managed. There is a need for intensive competent management across the board, not in just the hot areas of the business.

Managing the laggards

Let's look at each of the eight issues and how they should be managed in some detail:

Promotional items

Managing promotional items has always been difficult, but as customer demand increases the number of promotions and deals per year and they become a larger part of the total business they become more critical. The key is to start with a sound annual business plan that is supported by detailed marketing plans including promotions. There should also be a detailed frequently updated unit forecast based on the history of previous promotions adjusted for current conditions. As the promotions run monitor progress and adjust production of the promotional items to demand as the promotion progresses. The thing not to do is to manufacture the entire inventory before the promotion begins or to establish a fixed schedule to produce the entire amount throughout the promotion regardless of how it goes. This requires daily attention to incoming orders, weekly attention to how a promotion is doing, and weekly adjustment of production up or down to meet demand. If there are leftovers get rid of them quickly. Rework them if possible, job the excess off, scrap it if necessary, but get rid of it quick. This is product that is instantly unsalable. The cost of dealing with the excess should be charged back against the planned profit on the promotion and should be evaluated carefully in future promotional planning. This may seem obvious, but the majority of manufacturers just don't do it.

Private brands

Recently there has been some movement away from private brands to an emphasis on promoting name brands, but private label products still constitute a significant element of business for many manufacturers. Leftover private brand merchandise is even more difficult to dispose of than promotional items because the brand doesn't belong to the manufacturer. It's easy to get caught if the customer has short sales, suddenly changes vendors, changes his own brand identification, or wants some other sudden change in the product or product mix. Obviously, it's desirable to have an agreement that the customer will purchase any leftover product if he leaves the vendor or changes the product specifications, or at the very least that the supplier



have the right to job off any leftovers. The reality is that in the current customer-driven marketplace those kinds of concessions are not likely to be granted. So, what can we do? First, seek a supply chain partner type of arrangement. Get the customer involved in helping you determine how much to make and when and control it closely. Take a close look at the products and exploit commonality where possible. If you have an item that is being sold under the house brand and four or five private brands undertake a program to bring the product to the last common point, hold it in that form and do the final assembly, labeling, and packaging at the last possible moment. Ideally with the customer order in hand. This will require some process changes, possibly some reengineering, tooling, and certainly more management. But stocking the common item and finalizing it at the last moment will reduce inventories, improve service levels, and reduce obsolescence. Aside from this private brand items should be given the same kind of attention as promotions. Plan carefully. Manage intensively. Don't make everything that you hope to sell up front. Forecast and monitor sales, produce only what is selling, and factor in the cost of disposal of unsold goods when you measure the profitability of the private brand business.

New products and supercessions

Supercessions aside from private brands are completely controllable internally and, therefore, should not be a problem. But they are. Establishing firm dates when new products will be available and a plan for stopping production, running out the old product and stopping sales are must items. Often it happens that production doesn't get the word, or customer service is not given instructions on how to accomplish the transition or sales doesn't stop selling the old item. So, we wind up with items produced that are no longer in the catalogue, items in stock that don't get substituted and shipped, or orders for things that are not supposed to be made and sold anymore. These situations result entirely from poor planning, poor communication and poor discipline. We may wind up with product in stock that has disappeared from certain files and databases. Move it one way or the other. Have a fire sale, job it, scrap it, but move it. The worst thing we can do is to start making it again because there are orders in hand. We will have redundant products, one of which, usually the old one but sometimes the new one, is no longer in the mainstream of planning and marketing. You would be surprised at the number of manufacturers that are regularly manufacturing products that have officially been "out of the line" for years. Either take it out or put it back in. Maybe the new product is the one you shouldn't have if the old one is popular enough to continue.

Obsolete and slow moving

Obsolete and slow moving is really the catch all term for all of these items we are discussing, but let's treat it as kind of an "all other" classification. This term is comprehensive in that it applies to all categories of



inventory, raw materials, work in process, and finished goods. In raw materials we may have overbuys, raw materials purchased to manufacture discontinued or superseded items, items gone beyond shelf life, tail ends of items purchased in bulk, materials purchased for planned new items that were never made, obsolete labels and other customer or product specific materials, materials left from development programs, rejected materials not returned to vendors, etc. In work in process, components awaiting rework or scrapping, items “lost” on the shop floor, overruns, items held up by production bottlenecks that continue to get expedited around, goods being aged, sequestered QC material, subassemblies that never get drawn, we just keep making new from scratch, and products stored in bright that never get finished. In finished goods, low volume standard products, line fillers, low volume customer specific product, true obsolete, and many others. Much of this results from poor shop floor planning, control and discipline. Some from poor inventory management in general. We need to find it, get rid of it, and manage it more closely in the future.

Returns

Returns are of several types, routine authorized and unauthorized customer returns of unsold, damaged, and defective product, and more frequently now, product returned as a result of marketing agreements that guarantee customers the right to return custom product not sold during a promotional period. This latter product may be generic enough that it can be resold in the general market, but under restrictions as to where and when it can be resold. Again, the key to keeping returned goods inventories under control is intense management. Returns cannot be relegated to a space in the back of a warehouse and worked on when people have time. There should be systems to record the receipt and condition of each return and to track their status. Labor must be made available on a scheduled basis to refurbish, repack, or scrap returns. Sales and marketing must be what is available for sale and made responsible for moving it. The cost of handling, scrapping, or reselling returns that result from marketing and sales policy and concessions should be charged back to the programs and business units involved and managed as marketing and selling expense.

Technical issues

The next two technical issues can be discussed together. Inventory planning and manufacturing systems are highly complex. They are driven by databases containing hundreds or thousands of control parameters. When new systems are installed a major part of the effort is determining how these parameters should be set and loading them to the system. Many of the parameters are, or should be, dynamic. That is, they need to be maintained periodically as business conditions change, products are added and deleted, etc. With the increased dynamics of the customer-driven marketplace and recent downsizing and headcount reductions and limitations many of these databases are in poor condition and are producing invalid plans and requirements, even recommending purchases of materials and production of goods that are not needed. For instance, in seasonal businesses inventory planning and manufacturing lot sizes should be adjusted for volume changes as



we go in and out of the season. Purchasing and manufacturing leadtimes in the system need to be maintained as they change in the real world. We have to be sure that obsolete products are removed and new products added. One of the “easy” ways of adding new products is to assume that the new product is similar to an existing product and clone the data from the old product making a few differentiating changes. That may be OK most of the time, but not always, or we may clone the wrong product by mistake or through lack of understanding.

Unless inventory planning systems and manufacturing planning systems are reviewed together periodically and kept in synch we can have situations where lot sizes, leadtimes and other parameters conflict. This results in plans from the combined actions of the systems that don’t achieve the intended objectives. We may get too much or too little product coming at the wrong times leading to both excess inventory and poor customer service. Through turnover and lack of periodic retraining we may be in a situation where no one in the company now really understands how the systems work, how the parameters are set in the individual systems and what they do, or how the systems interact. We are running on autopilot using a course that was set long ago, and a tool that may have been modified in unknown ways in the interim by people that did not fully understand it. In some cases we need to go through what amounts to a reinstallation of the systems, not necessarily reinstalling the software, but undergoing major re-education and overhaul of the databases. This involves retraining using outside resources, such as the software vendor or others that may have assisted up front, doing an analysis of how parameters are now set and making corrections where necessary, and perhaps a redo of the original system configuration and conference room pilot sessions.

Bread and butter products

In regard to the traditional customer and product base we need to bear in mind that they are still there and still important to us. Servicing them still requires manpower and capital resources. We either need to do it well or expect them to be serviced elsewhere. If we don’t do it, either intentionally or unintentionally, someone else will. Doing it poorly not only short changes the customer, but can add to the inventory bubble through poor management of a significant part of the business.

Taking care of business

Management of all these inventory issues in the new marketplace and business environment come down to taking care of business. Despite downsizing, staff reductions, and investment or lack of investment in planning and management systems, it all comes down to paying attention to what is happening in great detail, possibly more than ever before, and to seriously engaging in tactical planning and execution. This requires good systems and procedures and it requires good people and enough people. Enough to review and analyze incoming business daily, forecast and produce an inventory plan weekly, schedule production to meet the





requirements weekly and deploy the output to the right places daily. This is a very intensive effort and requires resources, but inventory carrying costs run 12 to 25% depending on how you calculate them. Managing company assets well is a primary management responsibility. Poor asset management has direct negative effects on operations. Also, with financial institutions and shareholders more sophisticated than ever in analyzing the balance sheet and P & L and their interaction, it can have a direct effect on share value and on the company's ability to obtain outside financing for growth and working capital. Doing what it takes to burst the inventory bubble is an investment you can't afford not to make.

