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Business Results of Vendor Managed Inventory

More Connected.
More Supported.
More Prepared for What's Next.

MANAGEMENT SUMMARY

To analyze the business benefits of VMI, we looked at key business indicators before and after VMI for locations that had been using VMI for 1-2 years. Our sample set contained 156 location relationships spread across 21 distributors and 10 suppliers. The average distributor had a little more than 5 locations and was doing about $150,000 per year with each supplier.

SUMMARY RESULTS FOR THESE LOCATIONS ARE AS FOLLOWS:

- 24% average increase in sales
- 25% average increase in inventory turns
- 31% average reduction in stock outs
- 54% of the locations improved both inventory turns and customer service

Vendor Managed Inventory (VMI) is a process in which a supplier generates orders for its distributor based on demand information sent by the distributor. VMI was first applied to the grocery industry, between companies like Procter & Gamble (supplier) and Wal-Mart (distributor). VMI is now providing the benefits of smoother demand, increased sales, lower inventories and reduced costs to many other industries. To help quantify the business benefits of VMI, we gathered and analyzed data from over 500 distributor's sites.

RESEARCH AND SAMPLE METHODOLOGY

We looked at key business indicators before and after VMI for locations that had been using VMI for 1-2 years. The primary business indicators analyzed to determine the overall impact of VMI were overall sales, inventory turns and service.

To obtain a sample set, we reviewed locations to ensure a minimum of six weeks of quality before data. Some locations were eliminated, because VMI started up quickly or where the initial data received was not completely accurate. We then selected the same number of weeks one year after the first VMI order was created. These locations represented our VMI sample set.

To further validate the results of the sample data, we looked at the data for 100 locations where we were receiving data, but not yet managing their inventory. These locations represented our non-VMI sample set and are also compared to the results of the VMI users.

Our final sample set contained 156 location relationships. These 156 locations were spread across 21 distributors and 10 suppliers. The average distributor had a little more than 5 locations and was doing about $150,000 per year with each supplier. The sample covered 5 different industry segments: heavy vehicle aftermarket, electrical products, aviation products, automotive and general industrial distribution.

PRIMARY BUSINESS RESULTS OF VMI

Increased Sales

The data shows a 24% increase in sales at the average location. Seventy percent of the locations increased sales. Of that 70%, 62% realized an increase of more than the expected 5% industry growth. These numbers indicate that only a few locations experienced any sales decrease, while most locations improved substantially.

Why the increase in sales? Given an 8% increase in items available to sell, we can explain some of this growth as improved end customer service. But, that probably doesn't account for all the sales growth.

Suppliers and customers tell us that their customers are switching business to the suppliers providing VMI. Customers are looking at the benefit of carrying less inventory and better customer service

and using these benefits to justify purchasing more from the suppliers offering VMI. This shift to suppliers using VMI also helps account for the increase in the number of items available to sell.

Improved Inventory Turns

During the before sample, the average location was turning their inventory about 4.82 times per year. For those locations where we could determine an average inventory turn rate, this rate was already faster than the industry average. For instance, in the heavy vehicle aftermarket, distributors typically average about 3.5 turns. One year later, these same locations were averaging 6 turns, a **25% increase in turns** over the year. To see if this was really indicative, we looked across all locations and found that **69% of the locations saw turns increase**.

We also looked at inventory turns by location size, the supplier, and industry. Although the numbers did change slightly, overall the trend stayed the same. Turns increased substantially for most locations. The net of the inventory turn analysis was that inventories were down, year over year, with VMI.

ENHANCED CUSTOMER SERVICE

Customer service is the most difficult area to measure. Distributors can't really know if they would have sold a product they didn't have. The actual cost of a stock out is highly debated. If a distributor doesn't have a product and nobody wants to buy it during that out of stock period, then being out of stock and avoiding carrying costs is good. But if the distributor is out of stock on one item an end customer needs and the end customer goes down the street to buy it, then the distributor risks losing the end customer's business. The truth is probably somewhere in between these two scenarios. Given our information, all we can really look at is if service improved or deteriorated once VMI was implemented.

In our analysis, we measured items the distributor intended to stock and looked at if they were out of stock on those items. Frankly, we don't want to see zero out of stocks in this environment, since some of the distributor customers are stocking items that only sell a few times per year and the normal replenishment cycle is only a few days. The risk of losing a sale is very low given that sales and replenishment cycle.

Before VMI, the average location was out of stock on 3.5 % of the items they intended to stock. For the industries in our sample, this really wasn't bad. Most of the out of stock situations tended to be on slower selling inventory items. However, in the after VMI situation, the in stocks rose to almost 98%. That means the total number of out of stocks in the supply chain dropped by almost a third. To see if this data was an anomaly, we looked across all locations and saw that 71% of the locations we measured did improve customer service. Keep in mind that some of the locations had NO stock outs in the period of time before we started VMI. We also saw that we were stocking about 7% more items after VMI was implemented.

So, this one percent drop in stock outs coupled with the 7% increase in the number of items stocked actually represent an 8% increase in the number of items available to sell by the distributors. That is a significant increase in service levels to the end user, as well as in potential sales for the suppliers in the study.

We also went back and analyzed these numbers in several different ways. Again, we found that customer service improvement was not effected by the demographic data about the location. But we did see that the drop (improvement) in stock outs tended to be where we would like it. The faster selling items saw stock outs stay the same or improve and there were a few more stock outs in the slower selling items.

RELATED BENEFITS OF VMI

Lower Inventory

Beyond the carrying costs savings, there are several other benefits that accrue to both the supplier and distributor by lowering the inventory levels at the distributor level. Maybe first and foremost, is the reduction in returns.

TYPICAL VMI PROCESS

With VMI, suppliers generate orders based on mutually agreed upon objectives for inventory levels, fill rates and transaction costs, and demand information sent by their distributor customers. In this process, the buying function moves from the distributor back to the supplier, who takes over responsibility for placing orders.

The distributor sends sales and inventory data to the supplier on a pre-arranged schedule---typically, daily---and the VMI system determines what should be ordered based on the criteria the supplier and distributor established. The supplier monitors the inventory status information to make sure that the distributor always has the appropriate amount of stock on hand when needed . The distributor can override the system when necessary, for example, if they anticipate an increased demand in the market.

TYPICAL BENEFITS OF VMI

Why is it better for the supplier to place the orders rather than the distributors ordering themselves? The benefits of VMI result from better information flow. Both distributor and supplier are better able to monitor demand as a result of the distributor's inventory activity. Lower inventories, better in-stock positions and increased sales are the three biggest benefits associated with VMI. Suppliers benefit from smoother demand and consistent orders. Distributors benefit from reduced administration costs, with the elimination of any need to place, manage or follow-up on orders.

One company compared their annual return for VMI customers year over year and saw close to a 30% reduction in the number and value of the items being returned. VMI also reduces the costs associated with old, obsolete product out in the market.

Another company identified an interesting benefit -- new and replacement products made it to the end customers faster, because there wasn't as much old product in the pipeline to burn off before the new product hit the streets. They referred to this as having fresher product available to the end user, in a shorter amount of time. Even though this supplier sold very shelf stable items (electrical parts) they found fresher product availability helped in several ways. The packaging looked better, the product was perceived as more up to date, and the distributor didn't have to discount it as often. The result was that new and replacement items were available sooner to the end customer.

Reduced Administrative Expenses

The effect on people costs is difficult to quantify. From conversations with both suppliers and distributors there are some things that substantially reduce the amount of time that is spent processing and managing orders and inventory. First, with VMI the suppliers catalog and the distributors parts file are compared daily. Any mismatches are reported daily to both parties. This results in substantial savings because the items on orders match shipments and invoices, which then match payments, shortening the whole payables process as well as the order processing cycle.

Also, VMI ensures that the order quantities match the carton or case quantities, where appropriate, resulting in cleaner orders that are easier and faster to receive and stock. Finally, perhaps the most obvious benefit is that it takes the distributor substantially less time to place orders since the supplier is responsible for the normal replenishment orders. VMI users tell us that this is at least a 50% reduction in time for the buyers.

Enhanced Supply Chain Visibility

VMI users are also realizing great benefits from the visibility into the supply chain that is inherent in VMI. For instance, suppliers are able to aggregate actual end user demand across multiple distributors to build more effective forecasts of sales. They can see if the orders they are filling today are being used to satisfy actual market demand or simply building distributor inventory. With this information, the supplier can work with the distributor to react accordingly and make the necessary adjustments.

Suppliers can also use this visibility to determine the best time to introduce a replacement product or initiate a marketing program. They can even use VMI to drive down inventory quantities on parts that are about to be replaced by new products. Suppliers, and in some cases distributors, can use VMI to help locate hard to find parts or short supply products across multiple locations and distributors.

VISIBILITY TO HELP:

- Introduce new products
- Initiate marketing programs
- Locate hard to find products

Most of the users in the sample set markets are just getting started with VMI functionality. They are using it first to help the distributor identify products within their own organization that should be sourced from other locations rather than being ordered from the supplier. In short, the improved visibility can substantially improve the collaboration between suppliers and distributors, which lowers the costs and improves operations for both parties.

A final Comparison - VMI Locations vs. Non-VMI Locations

In addition to comparing the before and after data of the VMI sample sites, we compared the VMI results to 100 non-VMI sites. The results point in the same direction and are reasonably close to the same outcomes. Inventory turns are 34% better and customer service is 31% better for those organizations using VMI.

Sales didn't line up very well. VMI sites had significantly higher sales. There was almost an 80% difference between the sales of the VMI sites and non-VMI sites. This difference is likely a sample problem given that the 100 locations not using VMI may tend to be smaller and therefore getting less emphasis than locations that have already been brought onto VMI.

VMI RESEARCH RESULTS SUMMARY

In summary, we looked at 156 different locations and supplier combinations.

- 70% of locations increased sales
- 24% average increase in sales
- 69% of locations increased inventory turns
- 25% average increase in inventory turns
- 71% of locations reduced stock outs (improved customer service)
- 31% average reduction in stock outs
- 54% of the locations improved both inventory turns and customer service

Sales, customer service and inventory turns all improved with VMI.

Only 6 locations of the 156 got worse on both service and in-stock. The locations that did not improve on either of these measures were probably at the high side of the measure in the before sample. For instance, there was one location that had zero stock outs during our before sample and in the after sample, they fell to 99.6% in stock in the after sample. This change in stock outs was accompanied by a 50% increase in turns during the six week after period.

IN STOCK IS ALWAYS IN STYLE