Vendor Managed Inventory in Retail Industry

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Introduction
Vendor Managed Inventory popularly known as VMI is gaining great momentum in retail business processes. In this era of tough competition retailers are implementing every supply chain optimization process that will reduce their costs, reduce inventory levels and increase profits. Efficient supply chain management requires the rapid and accurate transfer of information throughout a supply system. Vendor Managed Inventory (VMI) is designed to facilitate that transfer and to provide major cost saving benefits to both suppliers and retailers customers. Vendor Managed Inventory is a continuous replenishment program that uses the exchange of information between the retailer and the supplier to allow the supplier to manage and replenish merchandise at the store or warehouse level. In this program, the retailer supplies the vendor with the information necessary to maintain just enough merchandise to meet customer demand. This enable the supplier to better project and anticipate the amount of product it needs to produce or supply.

Definition and Concept
Vendor managed inventory process can be defined as “A mechanism where the supplier creates the purchase orders based on the demand information exchanged by the retailer/customer”. To say this in simple terms, VMI is a backward replenishment model where the supplier does the demand creation and demand fulfillment. In this model, instead of the customer managing his inventory and deciding how much to fulfill and when, the supplier does.

The VMI concept provides improved visibility across the supply-chain pipeline that helps manufacturers, suppliers and retailers improve production planning, reduce inventory, improve inventory turnover and improve stock availability. With information available at a more detailed level, it allows the manufacturer to be more customer-specific in it’s planning. The VMI concept is being widely used in many packaged consumer goods processes where the end-user’s demand for products is relatively stable with short-term fluctuations in supply chain. With the ability of supply-chain applications to manage inventories at retailer locations, VMI concepts are being applied at both the distribution center-level and the store-level.
Conventional Fulfillment Process from Retailer Perspective

In the conventional fulfillment process, sales are typically forecasted in their replenishment systems using the historical sales data. Then, the retailer/customer tracks the sales information and inventory information (usually on-hand and available quantities) and forecasts the orders. The corporate buyers keep watch on the ordered data and perform order pushes for the items they are responsible for. The created purchase orders will be communicated to the vendor using the EDI 850 document. The vendor looks at the available inventory and determines whether or not the order can be fulfilled. If the inventory is available at the vendor, the product will be shipped to the retailer’s warehouse or store and an ”Advance Shipment Notice” (EDI 856 document, ASN) will be communicated to the retailer. Soon after this, the vendor sends the invoice to the retailer using the EDI 810 document. Upon receiving the product, the retailer does the invoice matching and handles payment through their account payable systems. The flow of the conventional fulfillment process is depicted in the following picture.
VMI Fulfillment Process from Retailer Perspective

In the fulfillment process using VMI, typically the activities of forecasting and creating the purchase orders are performed by the vendor/supplier and not by the retailer. Electronic data interchange (EDI) is an integral part of VMI process and takes a vital role in the process of data communication. The retailer sends the sales and inventory data to the vendor via EDI or other B2B Collaboration facilities and the supplier creates the purchase orders based on the established inventory levels and fill rates. In VMI process, the retailer is free of forecasting and creating the orders as the vendor generates the orders. The vendor is responsible for creating and maintaining the stock plan for the retailer. The vendor sends the shipment notices before shipping the product to the retailer’s store/warehouse. Soon after this, the vendor sends the invoice to the retailer. Upon receiving the product, the retailer does the invoice matching and handles payment through their account payable systems.

The flow of fulfillment process using VMI is depicted in the following picture.

Activities Involved in Establishing VMI Process

Vendor managed inventory process impacts the many different replenishment practices on the retailer side. The retailer and the supplier must establish clear guidelines on
inventory levels and fill rates. The VMI process involves exchange of critical and sensitive information between retailer and supplier. If this data is not shared or not accurate as per the established guidelines, it will have severe impact on the overall success of the VMI process. High-level descriptions of the various activities involved in establishing the VMI process are described below.

**Management Commitment and Buy-in from Inventory Staff**

If a retailer is establishing the VMI process, it should be treated as a strategic initiative and the objectives of this process should be communicated to the organization especially for the inventory and replenishment planners. The strategic management team should understand the concept of VMI and be ready to accept the concept of inventory management by a third party. Employees should be given a complete overview of VMI and the benefits the organization receives from the VMI process. The support of inventory analysts, e-business analysts and replenishment planners are very essential for the success of this program.

**Data Synchronization and EDI Set Up**

The product data like UPC and other catalog information should match between retailer and vendor. Prior to start up, product data should be audited and differences with respect to product data should be resolved. Also, a process for communicating the product data changes should be established.

Ensure that the vendors are setup in EDI system. Verify and validate that the inbound and outbound transmission occurs as intended and in accurate manner. EDI testing is an iterative process and should be done covering all possible documents exchanged and for all types of products.

**Setting up the Agreements**

As discussed earlier, in the VMI process, the vendor creates the order and maintains the stocking plan for the retailer. To avoid situations where retailers question suppliers regarding the creating of orders for a product that they did not require and to prevent over and under allocations scenarios, agreements on inventory turns, fill rates, frequency of replenishment and SLAs should be predetermined.
Data Exchange

Two types of data exchange occur between retailer and supplier. One is a one-time exchange of retailer’s sales history that allows the supplier to base the inventory. The second type of data exchange is ongoing product activity data exchange. Product activity data exchange primarily contains quantity on-hand, sales volumes, back orders and returns. Product activity data exchange can be daily/weekly depending on the need. EDI-852 is the EDI document that is used for product activity data exchange.

Ordering

Upon receiving the EDI-852 data, the vendor calculates the reorder point (ROP) for each item based on the movement of data and any overriding guidelines established. The quantity available with retailer is then compared to the calculated reorder quantity at the item/location level and order quantities are determined. The created orders will be communicated to the retailer using the EDI-850 document. Some partners use EDI-855 (PO acknowledgement document) in addition to EDI-856. The 856 is sent before the shipment has been made. When it comes to fulfillment, the VMI customers generally receive priority service for replenishment. Since vendors control the forecasting and fulfillment, even package quantities can be modified to reduce processing at customer receiving facilities.

Invoice Matching

Once the retailer receives the product, invoices are matched and payments will be made to the supplier accordingly. The important point in VMI is the ownership of the inventory. VMI does not change the ownership of the inventory.

Measurement

An effective measurement process should be agreed upon and implemented to monitor the success of VMI. This should include improvements in inventory turnover, stock availability, inventory reduction and distribution.
EDI Documents used in VMI
EDI is an integral part of VMI process. Some of the EDI transactions used in VMI are listed below:

- 850 Purchase Orders
- 852 Product Activity
- 855 Purchase Order Acknowledgement
- 856 Advance Ship Notice
- 810 Invoice

Benefits of VMI Process
The VMI process brings benefits for both retailers and suppliers. Some of those benefits are listed below.

Retailer Benefits
Reduced inventory: This is the most obvious benefit of VMI. Using the VMI process, the supplier is able to control the lead-time component of order point better than a customer with thousands of suppliers they have to deal with. Additionally, the supplier takes on a greater responsibility to have the product available when needed, thereby lowering the need for safety stock. Also, the supplier reviews the information on a more frequent basis, lowering the safety stock component. These factors contribute to significantly lower inventories.

Reduced stock-outs: The supplier keeps track of inventory movement and takes over responsibility of product availability resulting in a reduction of stock outs, thereby increasing end-customer satisfaction.

Reduced forecasting and purchasing activities: As the supplier does the forecasting and creating orders based on the demand information sent by the retailer, the retailer can reduce the costs on forecasting and purchasing activities.

Increase in sales: Due to less stock out situations, customers will find the right product at right time. Customers will come to the store again and again, thereby reflecting an increase in sales.
**Supplier Benefits**

**Improved visibility results in better forecasting:** Without the VMI process, suppliers do not exactly know how their customers are going to place orders. To satisfy the demand, suppliers usually have to maintain large amounts of safety stocks. With the VMI process, the retailer sends the POS data directly to the vendor, which improves the visibility and results in better forecasting.

**Reduces PO errors and potential returns:** As the supplier forecasts and creates the orders, mistakes, which could otherwise lead to a return, will come down.

**Improvement in SLA:** Vendor can see the potential need for the item before it is actually ordered and right product is supplied to retailer at right time improving service level agreements between retailer and supplier.

**Encourages supply chain cooperation:** Partnerships and collaborations are formed that smooth the supply chain pipeline.

**Challenges and Limitations of VMI**

The VMI approach has its own set of challenges and limitations:

- Some companies continue to manufacture to stock without leveraging customer-specific data effectively for production planning
- In order to provide priority service to VMI partners, some vendors reserve inventory resulting in shortages to other customers
- Insufficient level of system integration results in incomplete visibility
- High expectations from retailers
- Resistance from sales forces due to concerns of losing control, effecting sales based incentive programs
- Lack of trust and skepticism from employees

**Overcoming the Limitations**

Effective implementation of VMI depends on smoothly overcoming the limitations and addressing the concerns of various stake holders. Some of the concerns can be addressed as explained below:

- Redefine incentive programs based on partnership building instead of sales volume
• Build strong partnerships with management commitment to effective communication, active sharing of information, commitments to problem solving and continued support
• Conduct simulations and pilots before actual implementation
• Organize training sessions before launching VMI program
• Set reasonable targets for benefits of VMI
• Establish agreements on service levels and process to handle exceptions

**Conclusion**

Supply chain optimization requires efficient and accurate transfer of information with in all the members of the chain. VMI facilitates that transfer of information and provides cost saving opportunities to both vendors and retailers.

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