White Paper

Five Steps to Ensure Collaborative VMI Success

What you need to know about the new collaborative VMI

Executive Summary

The last few years have been challenging. The silver lining is that companies have been forced to re-evaluate how they operate, inspect every process and identify what and how to improve. The global economic downturn and the need for improved inventory visibility and efficiency has led to a recent resurgence in vendor managed inventory [VMI] programs.[1] As a result, many companies have turned to closer collaboration with key partners as a way to improve efficiency, reduce costs and drive a more profitable supply chain.

VMI today is quite simply not the same as it was just a few years ago. It is no longer a one-sided process that burdens the seller and benefits only the buyer. In its early days, VMI was widely hyped to dramatically reduce inventories, cut costs and improve efficiency across the supply chain. It did accomplish its goal to reduce supply chain costs; however, its key hurdle and reason for the lack of continued support was the absence of true collaboration.

Today, we see the traditional data intensive VMI process merging with the best of Collaborative Planning, Forecasting and Replenishment [CPFR] to form Collaborative VMI, a new process which shares more of the benefits across trading partners. This white paper examines how traditional VMI and CPFR have come together to form a more encompassing process, ensuring that service levels remain high while inventory levels remain lean.

[1]"The Resurgence of Vendor-Managed Inventory: A Landscape" AMR Research, October 2009

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Collaborative VMI helps trading partners get on board to proactively share information and work with each other.

A Look Back: VMI & CPFR

Vendor Managed Inventory is a means of optimizing supply chain performance in which the seller is responsible for maintaining the buyer's inventory levels. The seller has access to key buyer information including inventory and point of sale [POS] data. Here, the seller's task is to ensure that the buyer's [customer's] inventory levels do not go lower than what is agreed upon. Sounds clear except the conversations tend to be one-sided, push-based interactions. For example, "How much inventory does my buyer have? What is the threshold before I need to manufacture/ship new stock?"

According to an AMR Research [now Gartner] survey, companies that employed a traditional VMI relationship felt a "nagging sense of unfulfilled expectations." The fanfare, as the report calls it, did not meet with the reality of VMI.[2] However, the report goes on to say top-performing organizations "have used their VMI-driven collaborative relationships to increase presence in their partner's [retail] operations." Others have seen a reduction in customer returns due to improved operational execution and the ability to collectively build a "stronger analytical understanding of customer behavior."

[2]"The Resurgence of Vendor-Managed Inventory: A Landscape" AMR Research, October 2009

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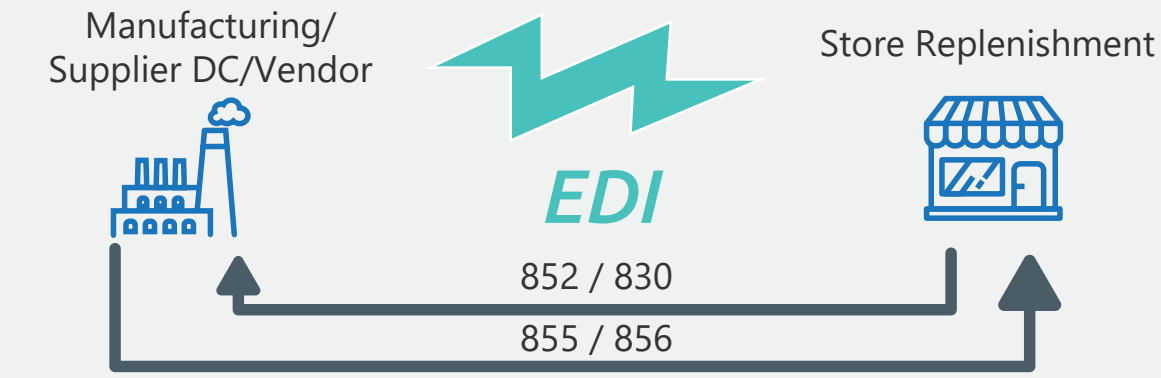
A typical store replenishment VMI relationship



Supply Chain Processes:
- Customer Forecast and Replenishment
- 852/830 customer inventory and forecast
- 855/856 PO Acknowledgement/ASN

Supply Chain Benefits:
- Customer level forecast
- Improved planning
- Reduced cycle time

Alternatively, CPFR allows trading partners to collaboratively review sales and order forecasts, and share data to the benefit of both the buyer and seller. The CPFR model outlines the basic framework for the flow of information, goods and services between two trading partners [buyer/seller]. Under this process, trading partners develop a joint business plan to identify the terms of their relationship including areas of responsibility, jointly developed calendars, guaranteed customer service levels, timing of replenishment orders, etc. In many CPFR arrangements these plans are defined in a formal agreement. The key addition to CPFR is the ability to allow for exceptions to be a part of the process, which delivered improved visibility and process scalability.

While VMI has been thought of as a static, legacy process, the CPFR model was perceived as a highly structured and time-intensive process that some trading partners were unable to adopt. Some companies started CPFR initiatives but failed to achieve a comprehensive rollout. In an October 2010 Gartner report, a manufacturer stated that "CPFR was originally intended to achieve this objective [real-time demand sensing], but it fell short for a confluence of factors, including lack of trust, siloed organizations and inflexible planning systems."[3]

The demand plan can become distorted as information is handed off from one siloed group to the next.

Tangible results from VMI and CPFR have been documented. The issue is the number of roadblocks the legacy processes created. According to Logility's polling, results from VMI and CPFR are significant [see Table 1].

[3]Demand Sensing and Shaping Narrow the Chasm Between Commercial and Supply Chain Strategies and Goals" Noha Tohamy, Allen Johnson, Matthew Davis, Gartner, October 2010

CPFR and VMI benefits

CPFR and VMI Drive Tangible Results	
Customer/ Buyer Benefits	• Increased fill rates • Decreased stock outs • Reduced inventory levels • Reduced planning and ordering costs • Improved service level
Supplier/Seller Benefits	• Improved forecast accuracy with visibility into POS data • More strategic planning, incorporated promotion planning • Reduced customer order errors • Improved customer service levels • Became a strategic partner to the customer's business, relationship is harder to replace

Table 1

An Evolution to Collaborative VMI

With documented benefits of both VMI and CPFR, and the growing need for increased inventory visibility, improved forecast accuracy and better customer service, a more strategic form of VMI evolved. Enter Collaborative VMI. The goals for Collaborative VMI are to 1] develop a process that partners want to get on board with, and 2] provide a tangible benefit to both parties without the distraction of too many steps.

Suppliers should not blindly react to a retailer's inventory level and a retailer must not be caught off-guard due to a slippage in lead times resulting in empty shelves.

The premise behind Collaborative VMI is to make sure all trading partners proactively talk and work with each other to share information. Suppliers should not blindly react to a retailer's inventory level and a retailer must not be caught off-guard due to a slippage in lead times resulting in empty shelves. Nor should partners need to worry about a laborious process to ensure information is shared in a timely fashion. Instead, a Collaborative VMI process should entail:

- Engagement in proactive meetings to discuss the process and on-going relationship
- Shared visibility of promotion plans
- Visibility of New Product Introductions [NPIs] to the supply chains of both trading partners
- Joint development and validation of the baseline forecasts
- Creation of an environment of trust where each partner shares pertinent information including manufacturing plans and downstream data to alert trading partners of any potential problems

A typical store replenishment VMI relationship

An Environment of Trust			
Post VMI results on the web Exception-based mngmt Customer/Ship-to forecasts	Automatically calculate	Visibility	Collaborate with trading partners on setting inventory targets
• Receive customer forecasts • Generate statistical forecasts • Customer-managed forecasts	• Planned orders • Projected WIP quantity, date • Shipment profiles • Exception messages	• Customer forecasts • Work in progress • Actual shipments • Finished goods inventory • Safety stock	• Multi-echelon inventory optimization • Service level goals • Inventory turns

Get the Basics Right

As with any process where sharing information with external partners is key to success, having strong internal planning processes in place is paramount. Two of the critical supply chain processes that need to function properly before starting down the Collaborative VMI journey are 1] Demand Planning and, 2] Inventory Optimization.

Demand Planning

An accurate customer-level forecast is the foundation for achieving your Collaborative VMI goals. But how do you create an accurate forecast? And at what level of detail do you generate and manage the forecast? Does the same apply to New Product Introductions? Have you synchronized the promotional plans of your trading partners?

As with any process where sharing information with external partners is key to success, having strong internal planning processes in place is paramount.

Here are some critical points you should consider to ensure your demand planning can support a successful Collaborative VMI partnership.

1. **The ability to automatically generate an accurate forecast.** Forecasting algorithms that automatically detect product seasonality or irregular demand patterns will get the forecasting process off to a great start.
2. **Scalability** is a critical capability as you typically need to generate forecasts at the customer/ship-to level of detail for your VMI partnerships.
3. **Managing New Product Introductions** introduces a number of unique challenges that most statistical forecasting solutions cannot solve. Solutions that offer attribute-based forecasting models will greatly improve your ability to predict future demand for products that have little to no demand history.
4. **A key improvement of Collaborative VMI** is the ability to model your trading partner's planned promotional activity. Sellers need the ability to model changes their customer's changes to the baseline forecast. The ability to model multiple promotional activities such as price changes, advertisements, or special packaging will assist sellers in understanding the lift, or anticipated increase sales volume.
5. **Having visibility into the impact of additional sales** due to trade promotions allows the supply chain team to automatically model multiple replenishment and supply strategies.

    a. Pre-build product—If you are in a constrained manufacturing environment, do you start pre-building product in anticipation of demand? How early do you start to build product?

    b. Alternate Sources—Can you source the product from another manufacturing site?

    c. Make vs. Buy—Typically you may manufacture this product but with the increase in demand you may look to outside co-packers to provide additional capacity and/or assist with production.

Inventory Optimization

The ability to optimize inventory across multiple echelons, with global visibility of customer service commitments, costs, and demand and supply variability, is an inherent need in every complex supply chain and for every successful VMI project.

There are many competitive benefits to right-sizing inventory in a collaborative VMI relationship. Here are five examples of how multi-echelon inventory optimization [MEIO] can positively impact the VMI partnership:

1. **Inventory reduction**—cut the amount of excess inventory, such as safety stock held throughout all stages of the supply chain, without harming service levels.
2. **Reduce working capital**—reduce excess inventory to release a proportional amount of working capital that has been trapped in unnecessary inventory investment.
3. **Logistics cost savings**—reduced inventory saves associated costs, such as labor, warehousing, expediting, and more.
4. **Lower obsolescence cost**—improved obsolescence rates reduce write-offs of obsolete finished goods inventory.
5. **Revenue uplift**—better inventory alignment translates into the ability to satisfy more sales orders which increases top-line sales revenue.

The setting of inventory targets and how to fulfill those targets is a top objective of a VMI relationship.

5 Steps to Ensure Collaborative VMI Success

So, you are ready to dive into Collaborative VMI. Before you do, make sure you follow these five steps to ensure your success.

1

Select the Right Trading Partner

While it may seem obvious it is absolutely the most important step to get right. You need to select the partner[s] that shares similar business values. You will be sharing sensitive information with someone outside your organization and the ability to trust them is paramount. As part of this, evaluate yourself as well as potential partners—do not rush through this step.

2

Be Flexible

As with any defined process it is important you remain flexible. Goals and objectives may vary with each trading partner. In some cases inventory fill rate may be the top objective, in others inventory turn rates and yet in others forecast accuracy. Remember, the Achilles heel of the original CPFR was its rigidity. You need to maintain flexibility throughout to keep the balance and drive mutual benefit with your partners. Once you have a proven process successfully established, use it as the template for working with other trading partners.

Take the time to understand your strengths and weaknesses as a supply chain organization. This will help determine the optimal collaborative framework.

3

Document the Expectations

It is critical to document in detail the goals and objectives for the VMI program. For the customer it may be increased fill rates and better visibility of supply-side information. For the seller, the focus may be on inventory turns or visibility into promotional plans.

It is critical to document a clear and concise definition of goals and how these goals will be measured. This way each party understands and works towards the same goals in true collaborative form.

4

Understand the Data

Defining the data requirements and the sources of the data are the key technical tasks in the deployment of Collaborative VMI. Key required data includes:

- Point of Sale
- New Product Introductions
- Inventory transactions
- Baseline forecasts
- Planned promotional activity
- Planned replenishment orders to the buyer

As you can imagine there are many challenges when integrating data from two or more disparate systems. What item number do we use? The buyers? The sellers? Does our VMI system support item cross reference so that each party can use their own item number? Are both trading partners planning in the same time periods? Are the time periods aligned? For example, both parties may plan in weekly time intervals, but does the week start and end at the same time?

This can quickly turn into a complicated matter without the right supply chain planning tools. For example, inventory optimization [IO] is a key function that many companies strive for and in a Collaborative VMI relationship, understanding the optimal locations for inventory in a multi-echelon environment and IO's impact on partners can dramatically change the effectiveness of a program.

5

Automate Where Possible

Collaborative VMI is based on the blending of the traditional VMI process with the more collaborative approach of CPFR.

There were two key issues with the original VMI process. First, it was a data-driven process that did not easily allow for manual intervention. Data was transformed and transmitted via EDI from one trading partner to another. Systems made decisions based on that data and rightly, or not, replenishment orders were generated. The second issue was a lack of exception management. There were few, if any, process alerts built into the original framework. While alerts were present on the seller side, such as "the seller is planning item 'A' but the buyer doesn't have item 'A' in their plans," there was no alert in their planning process that told them "the seller's forecast for item 'A' changed by 'n' percent since the planning cycle." These anomalies could greatly impact both parties' ability to satisfy demand.

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The main concern with CPFR was that it was seen as too rigid and time consuming because many companies managed it in spreadsheets. While this was partially corrected in future releases, the perception still remains to this day. Collaborative VMI, however, takes a better approach—automating where possible and alerting key parties when needed.

Case Study: VMI in Food Manufacturing

A manufacturer which supplies one of the world's largest food manufacturers with plastic containers historically worked off of the buyer's min/max thresholds to determine how much product to produce and ship. This approach required a balancing act on the seller's part to ensure they always held the right amount of inventory without over/under producing.

The trading partners moved towards a collaborative vendor managed inventory relationship. The seller now receives 18 months of information every day including on-hand inventory, daily production requirements and safety stock. This information is provided to its demand planning system, Logility, to drive a comprehensive time-phased supply plan. With this increased visibility, the seller is able to replenish inventory based on daily stocking levels and ship at its discretion.

The information received by Logility allows the seller to generate a customer-level forecast and then compare that with its customer's. It also provides the seller with a customer-level plan that can be analyzed in the context of its broader business. The ability to collaborate back and forth and analyze each forecast has allowed the seller to gain better control of its own inventory, and keep it at minimal levels while ensuring top customer service. The customer is now able to share promotion information and provide the lead time the seller needs to ensure the availability of new artwork for packaging as well as increased volumes during peak selling times.

The ability to collaborate back and forth and analyze each forecast has allowed the seller to gain better control of its own inventory, and keep it at minimal levels while ensuring top customer service.

The two partners have established regular, proactive strategy discussion to collaborate on how to improve the process and help each company ultimately achieve its goal of more efficient operations that reduce costs and improve service levels. This collaborative approach has led to:

- Inventory reduction of 15%
- Sales increase of 6%
- Annual inventory turns improvement of nearly 25%
- Removal of 7 full days of inventory from the network
- Improvement in on-time service delivery from 94 to 98.5 percent, with less inventory

Case Study: Getting Dressed with VMI

One of the world's most recognizable apparel brands had the perfect storm of high inventory and low fill rates. Its use of spreadsheets was not a long-term strategic plan and focused the supply chain team on tactical activities. The company realized the focus on short-term planning would not enable them to achieve goals of shorter lead times, improved inventory management, reduced working capital requirements, or improved fill rates. In addition, this tactical approach made it very difficult to increase collaboration with customers, obtain better visibility into demand patterns and develop long-term supply chain plans.

To reach its goals, the company implemented Logility. After improving its in-house supply chain systems, the company decided the next step in improving customer service levels combined with lower inventory levels was to deploy a VMI strategy with key retailers.

By managing its balance sheet conservatively and maintaining the right inventory levels, the company reached $1 billion more in sales on the same level of inventory as four years ago.

The apparel company's sales team was able to use VMI as an additional lever to increase shelf space and improve placement of their products at retail. Why? With better planning the supply chain team felt confident it could deliver on the promised metrics such as guaranteed service levels, improved perfect order delivery, correct mix of product, etc. After deploying to a select group of retailers, the apparel company quickly grew into deploying VMI relationships with more than 25 of its key partners. Moving forward, the apparel company wants to deploy VMI relationships with its key finished goods and fabric suppliers in a continuing effort to improve supply chain efficiency.

With this aggressive approach to supply chain excellence, the CEO stated in the company's annual report that "We manage our balance sheet conservatively, maintaining the right inventory levels, and we are doing $1 billion more in sales on the same level of inventory we had four years ago."

Other benefits realized include:

- More effective and objective decision making as a result of quicker access to fact-based data
- Higher confidence in data integrity and accuracy significantly reduced time required for reconciliation
- Stronger trust based partnerships to support true collaboration
- Greater visibility to current and future issues, constraints, and opportunities
- Reduced weeks of supply 67%
- Increased customer fill rates from 97 to 100%
- Reduced forecast error rate by 50%
- Decreased manufacturing lead times by more than half, accelerating its cash-to-cash cycle

Looking Ahead

Traditional VMI and CPFR, in their own ways, set the foundation for partners to work together. As with any process, there is an evolution towards a more efficient and effective practice. Collaborative VMI is this evolution. It brings together the best of VMI and CPFR without the hurdles traditionally associated with each.

The success of any program is to make sure everyone is on board. To do this, users have to trust the process, understand the benefit to them personally, automate where possible, and establish a smooth transition/migration path. Collaborative VMI's success lies in the ability for technology to simplify, automate and scale the process.

As companies around the world refine their collaborative VMI processes and begin to request other partners participate, will you be ready? Will you know how it will impact your business, operations and people? Take the steps now and leap ahead of your competitors.

About Logility

Accelerating the sustainable digital supply chain, Logility helps companies seize new opportunities, sense and respond to changing market dynamics and more profitably manage their complex global businesses. The Logility® Digital Supply Chain Platform leverages an innovative blend of artificial intelligence [AI] and advanced analytics to automate planning, accelerate cycle times, increase precision, improve operating performance, break down business silos and deliver greater visibility. Logility is a wholly owned subsidiary of American Software, Inc. [NASDAQ: AMSWA].

To learn how Logility can help you make smarter decisions faster, visit www.logility.com.

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