

# Supplier Managed Availability

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**Supplier Managed Availability** is an extension of an earlier and still very powerful concept called Vendor Managed Inventory, or VMI. Under VMI (sometimes called Supplier Managed Inventory, or SMI), a supplier monitors inventory levels and order data at a customer site and takes control of the inventory replenishment responsibility for that customer. Barilla, one of the world's largest pasta manufacturers, provides an example of an early (and successful) implementation of VMI. Their implementation of VMI with their customers enabled a triple-win: inventory reduction near 50% at the customer site, substantial increases in customer service (i.e., product availability), and revenue increases due to reduced stockouts.

## A Change in Mindset: From Inventory to Availability

The extension of VMI to Supplier Managed Availability (SMA) is an important change in mindset. *Inventory* at the downstream site isn't a goal in itself (for example, if the downstream node is a retailer, inventory is just an enabler of sales); the true goal is *availability* of product when *and only when* a particular site needs it. Can you think of different ways of providing increased supplier flexibility so that less inventory can be held at the customer site while still maintaining availability? Here are several examples:

- Use of faster (expedited) transportation
- Excess “surge” capacity available at the supplier
- Faster production time at the supplier
- Holding some uncommitted inventory at the supplier’s site

The mindset change from “inventory” to “availability” enables the supplier to take into account these additional ways of dealing with demand variability; the result is even lower inventories than with "standard" VMI. For example, it may be more economical for the supplier to invest in supplemental capacity, to be used only when needed, instead of maintaining large

quantities of inventory at a customer site; or the supplier may decide to pay for faster transportation on an as-needed basis.

J.C. Penney has recently partnered with a key overseas supplier of men's shirts in what we would call an SMA agreement.<sup>1</sup> The supplier uses point-of-sale (POS) and inventory information at Penney's stores to determine when to replenish the stores. The supplier replenishes each store directly and independently; product does not flow through J.C. Penney's traditional warehousing structure. Moreover, there are no minimum or maximum inventory level requirements placed on the supplier that are often used with VMI; the supplier is evaluated solely on availability of product in the store when the product is needed. Depending on the urgency of need at a particular store, the supplier may choose to ship the product much more rapidly by air (express) instead of using less-expensive but slower shipping by ground or sea. Penney's managers call the results "phenomenal."<sup>2</sup>

Examine Figure 1 below. Without VMI/SMA, the supplier will see batched orders from the distributor that may not represent "true" end-customer demand. Also, there is no look-ahead; the timing of each order is unknown until it occurs. False demand signals and lack of information sharing lead to the "Bullwhip Effect", which can ripple upwards in the supply chain, raising costs and creating disruptions.

With VMI, the supplier sees the actual inventory levels at the customer's site in real time as well as daily consumption data. The supplier can use this information to *anticipate* the need for inventory replenishment, and optimize its production and distribution to match that anticipated need. But typical VMI agreements specify min-max levels of inventory, as shown, hence limiting the actions of the supplier. For many customers in a VMI scenario, these min-max levels provide reassurance that inventory will never drop below their comfort level, nor will it skyrocket out of control.

With SMA, we go a step beyond focusing on inventory and focus on *availability*; we also remove the min-max inventory requirements.<sup>3</sup> Now the supplier has additional options to choose from: he may choose to use a faster transport mode (as in the J.C. Penney case), or have surge

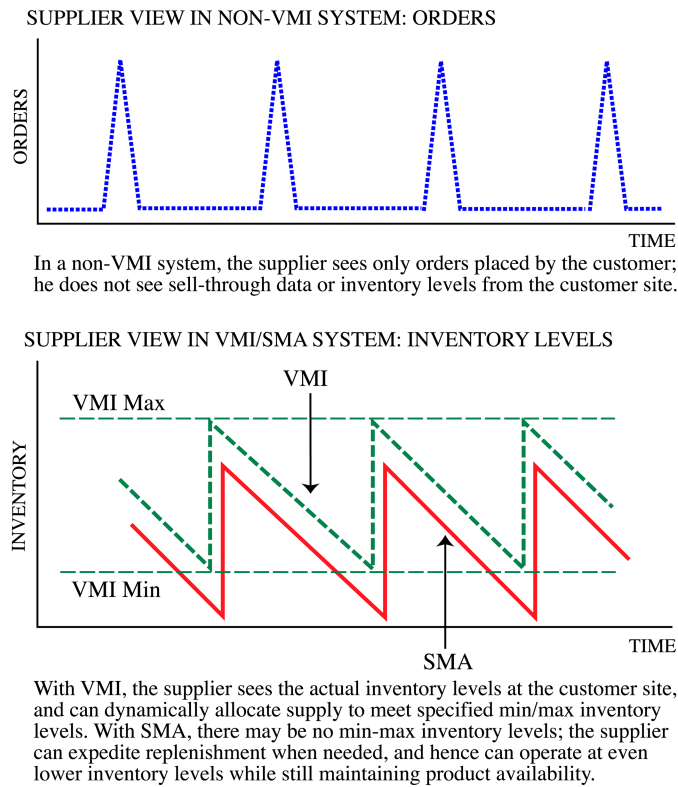
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<sup>1</sup> Wall Street Journal, September 11, 2003, p. 1.

<sup>2</sup> Ibid, p. 9.

<sup>3</sup> Alternatively, there could still be min-max levels under SMA, but they would be less restrictive than under VMI.

capacity available at a moment's notice to ramp up when unexpected demand occurs. Note that in the figure, the inventory levels under SMA are lower than in the VMI case, since the supplier now has additional ways of providing availability without necessarily pushing more inventory on the customer.



**Figure 1:** Supplier Views in Non-VMI and VMI/SMA Systems

SMA could be called “VMI+” since it extends the supplier’s options considerably. SMA works so well because the supplier has an incentive to provide availability downstream (in order to sell their product to customers, as with VMI), but the supplier also recognizes that there is a tradeoff between inventory held there (e.g., holding cost and obsolescence risk) and premium transportation and/or surge capacity at the factory.

For SMA to work in practice, just as with VMI, both parties must have information systems linked to one another so that the supplier can indeed view downstream inventory and consumption data at the customer's site. Then the supplier monitors that information and determines the most cost-effective way to meet projected availability requirements, rather than simply staying within predetermined min-max inventory targets. Under SMA, the supplier makes the economic tradeoff

between meeting those availability needs via inventory, via surge capacity and/or expedited transportation, or (most likely) some combination.

Standards-setting organizations, including RosettaNet<sup>4</sup> in high technology and Open Applications Group<sup>5</sup> in technology, automotive, and industrial sectors, are facilitating XML standards and templates so that SMA information, including demand forecasts, inventory levels and daily consumption amounts, can be automatically exchanged between computers running different application software. In order to have SMA (or VMI) work, the downstream partner must develop sufficient trust in the process so that it is willing to relinquish its traditional ordering/replenishment decisions. Establishing this trust is typically the most difficult part of implementing VMI and SMA, but as more companies explore this area, a growing number of success stories are paving the way for greater adoption of these exciting new strategies.

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<sup>4</sup> See [www.rosettanel.org](http://www.rosettanel.org)

<sup>5</sup> See [www.openapplications.org](http://www.openapplications.org)