

Understanding Buyer-Vendor Inventory Options

Traditional Models Include Buyer Managed, Vendor Managed, and Vendor Owned Inventories; New 3PL-based Adaptations Coming?

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There are several models for how customers and suppliers can manage inventories. Which models are used and how the programs are executed can have a significant impact on cash flow, inventory risk, supply chain planning and execution resources required and more.

Below, we look at the three predominant models, and then consider some emerging alternatives.

Traditional/Buyer Managed Inventories: In this traditional model, the buyer/manufacturer is totally responsible for managing purchase orders and inventory levels for components and materials.

Lately, some have been applying the term "Buyer Managed Inventory" (BMI) to clearly classify this traditional strategy.

With this model, the buyer/manufacturer assumes all responsibility for what parts/components/materials are to be delivered and where. That also means the buyer takes the responsibility for the cost (carrying costs/working capital) and risks (obsolescence and pricing) associated with that inventory.

The pros of this traditional approach are that the buyer maintains control and can perhaps leverage its procurement expertise. It also allows the most flexibility in changing suppliers. Since this is the predominant/traditional model, it requires no change in systems, processes, supplier relationships, and other dynamics.

The cons from a buyer perspective are that the company carries the inventory costs and risks, as well as

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incurs substantial procurement overhead costs. It can also lead to sub-optimization of the supply chain due to lack of visibility and communication between buyer and seller.

Vendor Managed Inventories: While there are many nuances of Vendor Managed Inventory (VMI), in general it means that the supplier is responsible for replenishing component/material inventories based on demand signals (inventory draw downs, production schedules, etc.) from the manufacturer, generally based on some parameters in terms of min/max levels or other constraints to keep the supplier "honest."

For chemicals and related products, for example, many suppliers have monitors in the tank that signal inventory levels and trigger replenishment.

Often, but not always, the seller creates a purchase order for the replenishment for the buying company to approve.

In this model, the buyer takes control/ownership of the inventory upon receipt from the vendor.

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Inventory Process	Inventory Management Model		
	Buyer Managed Inventory	Vendor Management Inventory	Consignment/ Vendor Owned Inventory
Inventory Forecast & Planning	Buyer	Buyer	Buyer
Inventory Management	Buyer	Buyer	Vendor
Inventory Ownership	Buyer	Vendor	Vendor

VMI not only largely removes the administrative burden and cost from the manufacturer for planning component/material orders, it also in theory might reduce total supply chain cost by allowing the supplier to better optimize planning and replenishment processes through improved visibility and control of the total order planning and execution steps.

However, execution issues have often led VMI programs to be less than successful.

Pros of the VMI model from the manufacturer's perspective are that procurement overhead costs are dramatically reduced. It can also lead to lower component/material costs if the vendor is able to gain increased supply chain efficiencies from having more end-to-end control of replenishment and its own production planning and passes those savings on to the buyer.

Cons of VMI include the fact that sometimes, vendors looking at their own self-interest "games" the order flow in a way that the manufacturer would not otherwise have agreed to. The buyer gives up control while maintaining most of the same inventory cost and risk associated with the Buyer Managed Inventory model.

Consignment/Vendor Owned Inventory: This model is something of a hybrid, and the one that at a high level is least favorable to suppliers. With "buyer managed" but "vendor owned" programs, the manufacturer controls

the order flow, but the transfer of ownership does not occur until very near to the actual use of the component/material in production.

This model is most used in high tech industries, where, for example, a disk drive manufacturer may own the inventory in the manufacturing plant until a drive is removed from a bin at a work cell, the bar code is scanned, and the component placed into the PC. That scan is what transfers ownership from supplier to manufacturer, and triggers a payable transaction to the supplier.

In many cases, the suppliers may maintain a distinct work/inventory area within the manufacturer's production facility that makes inventory available or delivers components to the manufacturer's work cells based on demand signals.

Use of this model was a key factor in Dell's ability to drive negative "cash to cash cycles," as it was often was paid by customers ordering on-line before it paid its component vendors, since the payable was created so late in the supply chain cycle.

Pros of the consignment/vendor owned inventory model from the manufacturer's perspective are that ownership and working capital cost and risk is transferred from the manufacturer to its supplier.

Cons include the fact that this ultimately raises supplier costs that in the end must be reflected in unit costs, and that a more sophisticated IT system is required to manage this ownership complexity.

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In the high tech and an increasing number of other manufacturing sectors, some companies are using a combination of all three models, with the decision drivers being:

- **Component/material attributes:** Product lifecycle speed, inventory risk, number of suppliers in the market, potential advantages of forward buys, etc.
- **Supplier attributes:** Sophistication of individual suppliers, which side has more relative power, lead times and distance, etc.)
- **Opportunities for leverage:** How much

can be gained by allowing suppliers to have more total supply chain control.

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As a result, many companies are looking to third-party logistic providers to play a role, resulting in new inventory