

INFORMATION CONNECTS

JD Edwards EnterpriseOne Vendor-Managed Inventory



Take control of inventory.
Reduce costs and waste.
Differentiate your company.

INFORMATION CONNECTS

Building a real-time enterprise begins with digitization of business processes for consistent results based on best practices. You connect customers, suppliers, partners, and employees. You integrate across locations, functions, and departments. You break down silos of information to create a single system of record. And when people, processes, and data run in real time, you improve your bottom line.

Leaders evaluate business processes first—then consider technology and software. They make deep process improvements to cut manual steps, redundant data entry, and multiple interfaces. They focus on competitive advantage and customer service. And they bring these business processes online in real time.

Viewing Vendor-Managed Inventory as a Strategic Imperative

These days, inventory is seen as tantamount to waste. According to the U.S. Department of Commerce, the total business inventory to sales ratio is around 1.36, compared to highs above 1.5 in the mid-1990s. Although overall inventories have gradually dwindled, many mid-sized businesses still struggle with uncompetitive levels of stocked parts or work in progress.

More worrying is what *CIO Magazine* identifies as a game of hot potato. “Rather than being eliminated, inventory has been pushed down into the lower reaches of the supply chain—from manufacturers to top-tier suppliers to lower-tier suppliers.” (January 15, 2003)

The practice of vendor-managed inventory (VMI) offers a solution for many manufacturing businesses. VMI is a technique for optimizing supply chain performance in which the supplier is responsible for replenishing the customer’s parts inventory levels based on inventory and sales data shared by the customer. VMI has seen increased use by industrial distributors for at least a decade, but with the availability of sophisticated new software to facilitate collaboration, the technique is proving its value in many other situations.

VMI is pivotal to lean procurement strategies. The goal is never to have to produce goods to fill a forecast or a warehouse—only to fill actual customer orders. Essentially, VMI is a “pull” process. It improves service even with substandard forecasts. In general, it is best suited to high-value “A” parts and subassemblies.

The technique has strong benefits for both sides. At the customer level, inventory is reduced and, at the same time, stockouts are minimized. The costs of planning and ordering go down. For the supplier, visibility into the customer’s sales pipeline makes forecasting easier and more accurate. And the relationship between the two is strengthened, encouraging deeper collaboration in the future.

The basic principles of VMI are fairly well understood. In most cases, it is adopted because customers dictate it. That is the case for 70 percent of the electronics-industry suppliers polled recently by the Electronics Supply Chain Association. What is less understood is that VMI can also become a strategic capability, conferring advantage on companies that elect to use the technique to differentiate themselves from competitors.

In this document, we draw on typical real-world situations to tell the story of a fictitious company whose leading customer requires compliance with a rigorous VMI process. Here’s how the company—Freinage Systems Corp., a fictitious supplier of hydraulic disk brake assemblies for bicycles—turns the compliance mandate to its strategic advantage.

The JD Edwards EnterpriseOne Vendor-Managed Inventory Story

Oracle's JD Edwards EnterpriseOne software fully supports the steps necessary for effective vendor-managed inventory. By using software applications such as JD Edwards Production and Distribution Planning and JD Edwards Demand Consensus, businesses can quickly master the core principles of VMI without needing to alter existing business processes. The applications integrate well with other supply chain management software—including JD Edwards Supply Management (SM), which enables manufacturers to manage VMI initiatives with their suppliers.

Customer's Ultimatum

Bill Crocker had known it was coming, but he'd thought he had another six months before he really had to start worrying about it. The Freinage Systems' sales chief has just returned from a prickly meeting with Red Rocket, Inc., a maker of high-end mountain bikes and his largest customer for the last three years. Red Rocket's purchasing director, Marie Escobar, had laid down new terms: Freinage must launch a VMI program to cut inventory costs and enhance delivery capability.

The rationale is no surprise. Red Rocket, under pressure from its own customers and shareholders, has begun adopting lean manufacturing practices to help cut production costs by seven percent and improve its return on assets in the next nine months. As part of the bike maker's lean procurement initiative, suppliers such as Freinage must now comply with VMI requirements.

Escobar revealed that Red Rocket has been running VMI with its four largest retail customers for six months now. She freely admitted that she wants to reduce her number of suppliers, even hinting that she might consider a single-supplier relationship.

Escobar also gave Crocker an important incentive. She told him that Red Rocket would share both demand forecasts and inventory data—a move that acknowledged Freinage's often-voiced concerns about Red Rocket's forecast variability, now running as high as 28 percent from month to month. Escobar assured Crocker she had no intention of playing hot potato, a practice, she knew, that simply shifts the cost burden for inventory management to suppliers without sharing forecast data.

Crocker's report to the rest of the executive team draws mixed responses. They've been grappling with what to do about their product line. Considered highly innovative when introduced more than 18 months ago—and priced accordingly—it is now under assault from low-priced rivals. One senior manager claims that Crocker's news from Red Rocket validates his argument that Freinage should start moving to a high-volume, low-price strategy. He points to the manufacturing efficiencies Freinage has achieved since it installed the JD Edwards Manufacturing software two years earlier. But most of the executives see more value in slowing the margin decline by forging tighter relationships with high-end customers like Red Rocket.

There's sparring over VMI's benefits and drawbacks. One proponent argues that a VMI initiative offers an opportunity to avoid the forecast variability the brake maker has endured up to that point. Counterpoints fly: VMI is a significant disruption that requires management attention. It's a whole new program to have to monitor. And it will invoke rounds of negotiations with Freinage's own key suppliers as the effort to reduce waste goes further.

Committing to the VMI Program

The executive staff meeting is over quickly. New research shows that Freinage will not only dilute its high-end brand but is likely to lose money if it launches a line of mass-market brakes. The CEO reports back on a conversation with a board member who is adamant that Freinage should not move away from its market segment. The marketing chief opens intriguing views of new markets that Freinage could pursue if it can offer proven VMI capabilities.

Freinage will comply with Red Rocket's requirements. Discussion turns to who will spearhead the VMI task force. One name comes up several times: Peter McCoy, the new materials manager, whose recent experience with consumption-based replenishment programs in the consumer packaged goods industry makes him the ideal candidate.

McCoy wastes no time. Although the team has signed off, he knows that the program is new and untested, so it will run into internal resistance from some employees—including mid-level managers. Two days after he and Crocker call Red Rocket to confirm their company's intended compliance, McCoy begins mapping a communications plan.

First, he runs a 90-minute workshop for Freinage's senior production staff and for the heads of purchasing, MIS, and strategic planning. The session goes well: McCoy emphasizes VMI's potential to open new markets as well as to hold onto its largest customer. The hot potato question comes up, and he responds by describing the forecast information that Red Rocket will be sharing.

Next, he moves quickly to a "VMI Primer," which restates the benefits, describes the key differences between consigned and non-consigned inventory, and confirms that VMI calls for no big culture changes or upheaval in core business practices at supplier or customer levels. He gives an overview of the process steps to come—from blanket order through forecast to agreements on min/max levels to performance measurements, then to order commit, adjust, exceptions, and alerts, and finally to shipments. A week later, he gathers his ideas into a lively article for Freinage's employee newsletter.

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Launching the VMI Pilot

The bike maker's purchasing boss, Marie Escobar, is pleased with the progress reports she's been getting from Freinage. But the pilot run she has in mind is a disappointment to McCoy. Instead of brake assemblies, the program is limited to inventory of aftermarket brake shoes, rotors, and pads at Red Rocket's main production plant in Utah. And Escobar wants the program in place in a month—one month earlier than McCoy had expected. "If we can't show price reductions in the next quarter, we start losing shelf space on parts at our biggest retailers in the Northeast," explains Escobar. There is a carrot. If Freinage shows good results with the aftermarket parts, Red Rocket will consider making the company its single supplier for brake assemblies.

McCoy, Crocker, and Escobar agree on the terms for the VMI program, setting definitions of success, project milestones, the resources each can commit, and the location of the VMI hub at Red Rocket's Utah factory. They agree on a blanket order number and finalize a price, packaging specs, and contract information. They also set the business rules for general min/max levels, both Red Rocket's and Freinage's VMI performance, and Red Rocket's access to Freinage's supply chain software. The inventory will be consigned. Freinage will own the parts until they are pulled from the VMI hub by Red Rocket's production crews.

McCoy outlines some of the software that Freinage will use. He draws Escobar's attention to the JD Edwards Production and Distribution Planning software that will help his company manage the VMI process. It provides critical information on inventory levels, forecast consumption, and alert messages. He describes the visibility that Escobar will have by using a collaborative web portal to check on VMI performance. And he explains how the applications will integrate smoothly with existing order management and manufacturing software.

The plan calls for Freinage to dedicate a full-time employee to manage the VMI hub. The employee will have full visibility into Red Rocket's point-of-sale information at the four retailers with which the bike maker has been running its VMI programs. The employee will have detail on Red Rocket's parts and subassembly inventory, but for the first month, he won't be able to set min/max limits on anything more than the aftermarket components. McCoy gets Escobar to agree that she'll bring forward the whole VMI program—production inventory as well as aftermarket—by six weeks if the early pilot goes well. McCoy assures her the pilot will succeed.

Back at his office, McCoy signals to his top suppliers that he'll be piloting a VMI program with Red Rocket. He says that he expects them to begin planning for their own VMI initiatives with Freinage. He follows his phone calls with an email that includes his "VMI Primer" presentation and the request that they get draft plans to him within six weeks.

Expanding the VMI Pilot

Jim Posner, Freinage's senior planner, gets the job of VMI coordinator. He's the gregarious type. In one visit to Red Rocket's Utah plant (the VMI hub that he'll manage remotely from his office at Freinage), he makes friends in the bike maker's purchasing department and on the production floor. Now, when he logs on to his JD Edwards Demand Consensus software to start reviewing Red Rocket's forecasts, he has some context for what he's seeing.

By using JD Edwards Demand Consensus, he can compare Red Rocket's net forecasts with those of Freinage's own salespeople and with other inputs from his company's strategic planning and marketing departments. He already knows that the JD Edwards Demand Consensus application has a sophisticated feature called the Forecast Competency Index, which weights future "single number" forecasts toward the input of contributors whose forecasts were the most accurate over time. Red Rocket's forecasts have been quite presentable, so Posner can be confident that what the bike company says about upcoming aftermarket demand is fairly close.

For the supplier, visibility into the customer's sales pipeline makes forecasting easier and more accurate.

Red Rocket is providing regular updates on its inventory of brake parts. With that data, and with a good view of the pattern of aftermarket sales over the past six months, Posner fine-tunes the min/max numbers in JD Edwards Production and Distribution Planning that will guide the VMI process. He sets the trigger for replenishment at 1,000 pieces—a drop from the 1,500 that Red Rocket had tried to keep in stock up to now—and lowers the maximum to 2,000 from the bike maker's typical 3,000-part stock ceiling to date.

Posner also looks at the parts stock that Freinage holds at its two plants and checks to gauge the plants' ability to ramp production when needed. The production software comes back in real time with comfortable responses. The Illinois plant has enough unallocated stock to handle Red Rocket's needs—original equipment as well as aftermarket—for two months.

Shoes, rotors, and pads have never been production bottlenecks. Posner commits to Red Rocket's forecast and authorizes 300-piece shipments to be pulled and readied at Freinage's Illinois factory when the VMI stock at Red Rocket drops to 1,000 pieces.

Meanwhile, McCoy's VMI request is getting mixed responses from Freinage's top two suppliers. Although both firms have been whipsawed by Freinage's forecast variability, each responds in completely different ways.

Hermann Friction Products, Inc. takes to the idea at once. Just six weeks after McCoy's inquiry, the brake pad maker has already forwarded a proposal for a VMI hub at Freinage's main plant. The CEO has called McCoy twice, and Freinage has begun to identify the forecast and inventory data that it can start to share with Hermann.

But shoemaker ALR Stamping doesn't seem to get it and seems unwilling to try. McCoy places a call to an ALR rival. As the VMI initiative gathers momentum, he cannot afford to have a key supplier out of sync. McCoy knows that companies that get results from their new VMI initiatives soon realize that they can extend those benefits by requiring their own suppliers to launch VMI programs. That's exactly what Red Rocket had done.

At Red Rocket's headquarters, Escobar monitors Freinage's VMI performance closely in the following weeks, using Oracle Portal with JD Edwards Production and Distribution Planning software. The supplier dips below the min/max level only once, without calamity.

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Escobar is impressed at how easily the system has been able to adjust min/max levels, depending on demand. The big min/max fluctuations seem to be a thing of the past. She sees that Freinage has already handled the international mountain bike-athon—the big annual event in the California Sierra Mountains—and has come through with flying colors. Sure, her buyers had always anticipated an upsurge in demand just before and during the four days of the event, stocking up on high-margin pads and rotors.

But they'd never gotten it quite right. Mostly there'd been stockouts, and one month, they'd been stuck with four times as many brake pads as they actually sold.

But Freinage's visibility of demand, and the software's ability to analyze historic demand patterns, adjust order forecasts in real time, and pull products through the process, had allowed the stock levels in the new VMI hub to synchronize with demand. Escobar sees that Freinage has had no difficulty shipping replenishment orders. It really looks as though the process is in control. "If they keep this up," Escobar says, "I'll start piloting VMI on our production assemblies next month."

Freinage keeps it up. McCoy gets the call from Escobar. "Now we're getting somewhere," he says.

Gaining Leverage with VMI

It's six months later. By using JD Edwards Demand Consensus and JD Edwards Production and Distribution Planning and with access to Red Rocket's inventory and demand information, Posner had found it easy to keep track of demand cycles. He'd gotten plenty of kudos for his ability to set effective safety-stock levels and smooth out the bumps in demand. He was proud to be able to point to only one dip below the agreed min/max levels. The senior planner has come to rely on the streams of real-time data that are available on his view of JD Edwards Production and Distribution Planning: everything from item numbers and quantities to average daily usage and receipt quantities for the last five shipments.

But today, Posner's window has been flashing an alert for several hours. Something must be wrong at Freinage's plant. By now, the VMI replenishment data would have flowed in real time back into Oracle's JD Edwards Production and Distribution Planning software. It also would have been flowing into the manufacturing management software to initiate the assembly schedule, testing, and shipping and to begin pulling parts from the VMI parts hub that pad maker Hermann has set up.

Posner calls McCoy. "I just found out what happened," replies the VMI project leader. "A truck backed into our transformer box, and the generator hadn't kicked in in time to stop the network from going down. It'll be back up in about 30 minutes."

It's a good thing, too. Posner is about to release a large production order for brake assemblies based on what the software is telling him is happening with overseas demand for bikes. The order is 30 percent larger than any previous monthly release from Red Rocket.

Escobar has been thrilled with how the VMI initiative has been working. Her business intelligence software has been regularly excerpting performance reports from the supply chain software. The incidence of near stockouts has dropped by 35 percent and the ratio of average parts inventory to sales is 22 percent lower than it's ever been.

Escobar calculates that it's been seven months since the last big inventory disaster. In fact, it's been positively orderly since then, she realizes. It may be time to start talking to Freinage about single-supplier status.

Going on the Offense with VMI Capability

Nine months later, CEO Frank Moyer isn't surprised to hear from the outside director. "Your guys have done very well with Red Rocket, Frank. This takes away a lot of the concerns we'd been having about margin sustainability."

Moyer hints at other good news to come and promises to present some early results at the next board meeting in five weeks. He already knows part of what he's got to report: Freinage has just launched a VMI pilot with another customer, a leading maker of tandem bicycles, and the first reports are very encouraging. Sales Chief Bill Crocker is actively prospecting in a new market for Freinage: racing strollers.

Five months into the VMI program, Freinage's management team had actively explored whether a proven VMI capability would boost opportunities with other high-end customers. Market feedback had confirmed it would. As a result, Freinage had assigned marketing funds to a program that highlighted VMI's advantages. Crocker and his sales team had taken to the VMI pitch like ducks to water, finding strong interest in several sectors.

Two days before the board meeting, Moyer gets an excited call from Crocker. His team has just signed the racing stroller deal—a sizeable order in a segment that is growing steadily—and they've gotten a meeting with the purchasing chief at their third largest customer, a maker of specialty hybrid bikes for police work. Normally, Moyer does not look forward to board meetings. But it will actually be a treat to describe a program that started out as a compliance move and has ended up as a strategic advantage.



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