

# Manufacturing Business Technology

IT FOR MANUFACTURING EXECUTIVES

## Cover Story

# Suddenly spin control

Mastering demand management in the supply chain can require sophisticated forecasting, inventory tools

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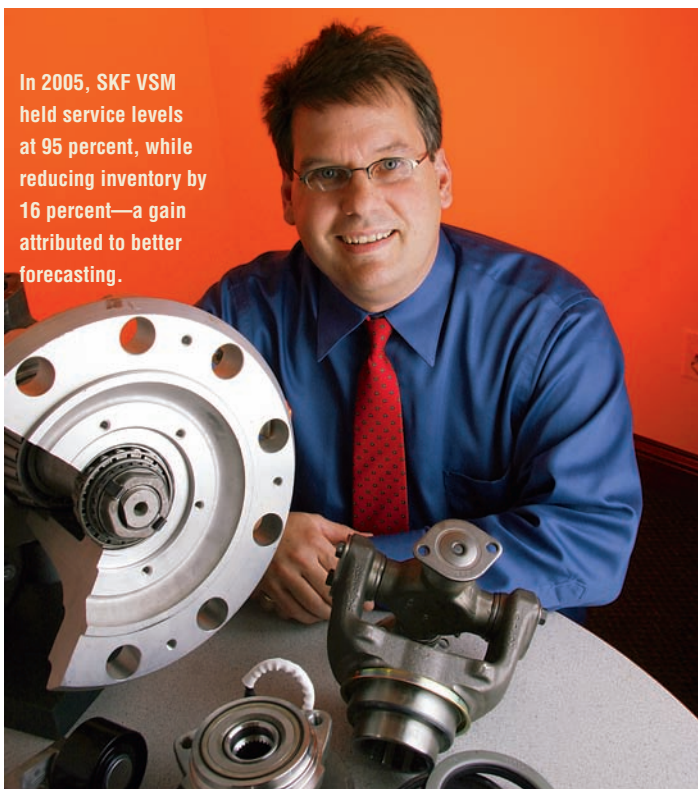
In the spring, a young man's fancy turns to—well, fixing his pickup truck. And as the nation's driveways and sidewalks get warmer, do-it-yourselfers of all kinds decide it's time to tackle those little maintenance chores they put off all winter.

For Elgin, Ill.-based **SKF Vehicle Service Market** (SKF VSM), the aftermarket parts division of Swedish mul-

tinational SKF, all this activity means a sudden uptick in demand for the bearings, seals, U-joints, and other automotive products it sells.

The challenge, explains Matthew Schiele, vehicle service market supply chain manager at SKF VSM, lies in meeting demand both cost-effectively and reliably—and in the face of difficulties imposed by upstream and downstream supply chains. Approximately 70 percent of the 60,000 unique parts SKF VSM sells to distributors and retailers move downstream through its six North American distribution centers (DC), which exhibit either intermittent or 'slow-moving' demand—or both. Worse, not only do stock-outs at centers frequently lead to lost sales, but certain DCs experience what Schiele describes as "will-call" demand: If the product's in stock, a customer will call to collect it.

Life is complex upstream, too. SKF VSM's central operations facility in Hebron, Ky., receives bulk dispatches of products from manufacturing facilities around the world. Each shipment must be broken down, repackaged, and placed in inventory awaiting dispatch to a DC. Supplier lead times, though, can be as long as 26 weeks for some product lines—leaving the business critically dependent upon accurate forecasts to meet demand.



In 2005, SKF VSM held service levels at 95 percent, while reducing inventory by 16 percent—a gain attributed to better forecasting.

Photo by Marc Berlow

Accurate forecasts were exactly what were missing, claims Schiele, when he took over the aftermarket supply chain role in 2003. A homegrown forecasting system struggled to accurately reflect seasonal demand variations.

“The reaction time was very poor,” Schiele recalls. “With an upturn or downturn, it took the system some time to recognize that demand had changed.” What’s more, he adds, the exponential smoothing algorithms on which the system was based were inappropriate for items with intermittent demand.



Photo courtesy SKF

**SKF Vehicle Service Market (SKF VSM), an automotive aftermarket products supplier, used Smart Software-generated forecasts to improve communications with its major suppliers.**

numbers of products based on incorrect forecasts. Packaging operations that were idle during the slow winter months had to scramble through the summer to meet demand and fill the back orders.

connect the software to SKF VSM’s distributed requirements planning (DRP) application taking just two weeks. Raw data from which to calculate forecasts in batch mode is downloaded, with the resulting forecasts uploaded back to the DRP system to initiate order replenishment and inventory management.

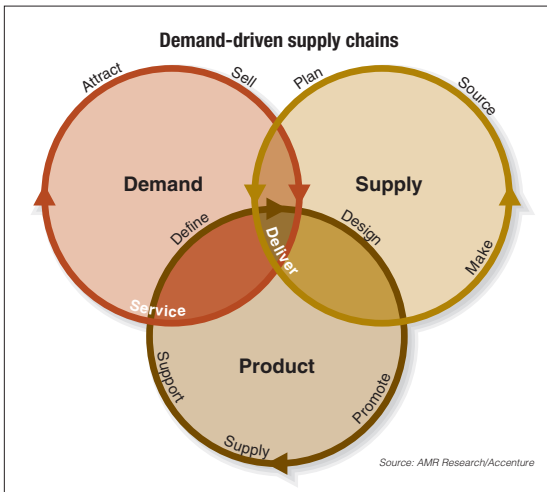
The impact of the new software was immediate. To maintain a target service level of 95 percent, inventory levels had been rising in lockstep with sales, explains Schiele. For example, during the year-to-date prior to implementing the system, inventories had risen 6 percent. SmartForecasts effectively broke the linkage: during 2004, inventory levels fell 3 percent.

“During 2004, we were using the Smart system to ‘run lean,’ reordering less, and running down inventory levels,” says Schiele.

The full benefit was seen in 2005. With service levels still being maintained at a consistent 95 percent, SKF VSM reduced inventory holdings by 16 percent. What’s more, use of the Smart Software-generated forecasts improved communications with SKF VSM’s major suppliers.

“We’re able to give them a better picture of our requirements, and they are able to plan their production accordingly,” reports Schiele. “As a result, we’re seeing improved delivery performance.”

Internal efficiencies have improved, too. “There’s been a big change in warehouse operations,” he adds. “In the past, we were never ready for the spring rush. Now, instead of being 200,000 units behind sales in our packaging operations, we’re 200,000 units ahead.” ■



**AMR Research defines demand management as the processes required to shape, sense, and respond to demand—including functions in marketing, sales, service, price management, and demand forecasting/planning.**

Recognizing these limitations, manual workarounds by Schiele’s team had become the order of the day, with demand planners spending a lot of time adjusting the forecasts that drove target inventory levels. Yet it was impossible to do this for all 60,000 SKUs every month, leaving the stocking decisions on huge

the discussions brought to light the fact that SKF VSM was already a Smart Software customer. It had licensed—but ceased using—an early version of the software more than a decade prior.

Once implemented, SmartForecasts proved straightforward to integrate, says Schiele, with the programming work to

### Smart tooling

The solution lay in the SmartForecasts package from **Smart Software**. In addition to improved techniques for dealing with products with regular demand, the system has patented algorithms for forecasting intermittent demand.

After talking to a Smart Software customer using SmartForecasts to tackle similar problems, Schiele arranged an online demonstration using some of SKF VSM’s actual data.

“I had my managers sitting in, and we were very impressed,” he recalls. Yet

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