

Case Study

Complexity Reduction Meets Real Cost Savings for an Auto OEM

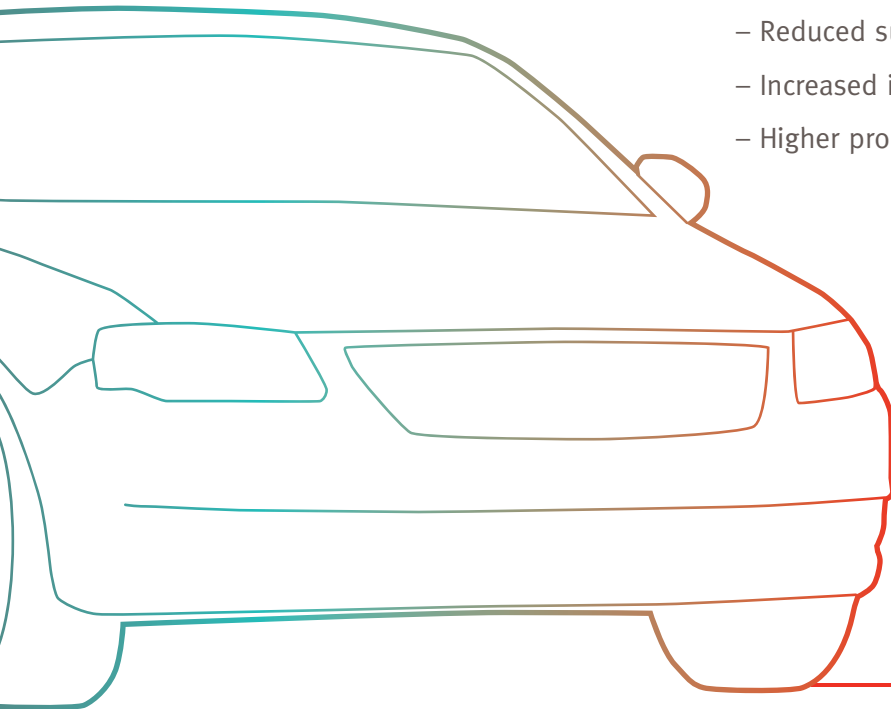
“We knew product complexity was a big problem. We just didn’t know how to manage it to improve our bottom line.”

Challenge

In an era of tight credit, escalating gas prices and looming recession, this automotive OEM had to fight to remain profitable by reducing costs while meeting the demand of ever more discriminating consumers.

Benefits with EmcienMix™

- Reduced build combinations and higher volume per build combination
- Reduced part numbers and higher usage per part number
- Improved forecasting accuracy, which improved supplier stability
- Reduced supplier and material costs
- Increased inventory turns and reduced days on lot
- Higher profits



Situation

It's a hard time to be in the car business. The McGraw Hill Cos. predict U.S. auto sales will total just 13 million vehicles in 2009, a million fewer than first projected and down 3.1 million from 2007. That leaves the auto industry with a combined manufacturing capacity that far outstrips demand. Meanwhile, commodity prices are steeply on the rise. In such a volatile market, auto OEMs have to plan their product portfolios and contain their costs more rigorously than ever.



Meet Dave

Dave Boyer was director of program management for an automotive OEM with approximately two dozen product lines. Even before the latest economic challenges, his was a tough job. To keep up with customer demand for more choices, the automaker offered nearly endless combinations of features—seat warmers, chrome trim and sunroofs, to name a few. This meant lower volumes per build combination, reduced forecasting accuracy, higher supply volatility, higher costs and a struggle to remain profitable.

With so many features, the company couldn't accurately predict and build what customers would buy. Dealers ended up with "lot rocks"—cars that didn't sell—and had to offer rebates to move the inventory. Accurate forecasting was nearly impossible, and capital was tied up in slow-moving inventory—a one-two punch the company couldn't afford.

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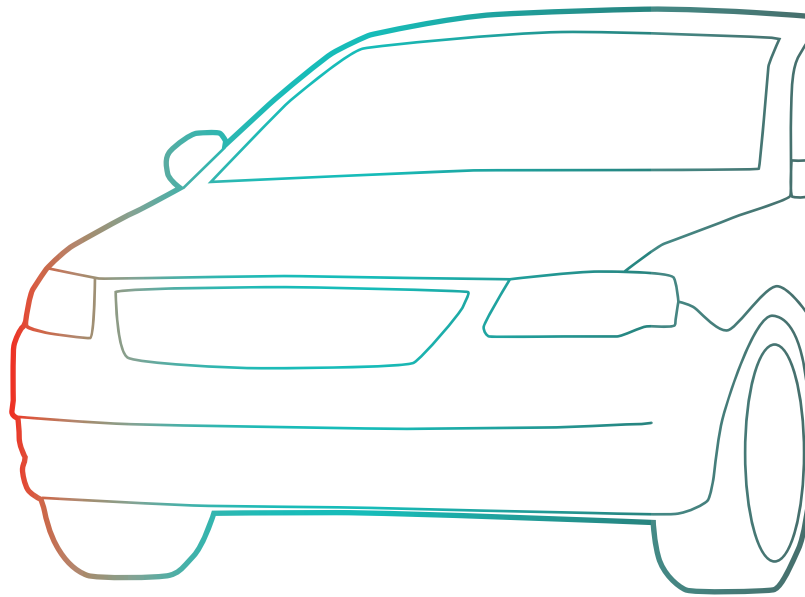
Meet the ST3i

Dave was responsible for the ST3i line, which had a production volume of about 80,000 units per year and MSRPs from \$15,000 to \$25,000. The ST3i had 25 features, such as transmission and seat type, each with multiple options to choose from: eight colors, four sound systems, three engine choices and so on.

These added up to 78,000 possible customer-orderable combinations. Last year the manufacturing plant built 1,700, of which over 35% had a production volume of one or two units for the entire year. These low-volume build combinations were almost never stocked on the right lot, so they built up in inventory or racked up transportation costs traveling to buyers at other dealerships.

But the problem of too many build combos went much deeper: parts proliferation and inaccurate forecasting. Too many parts, plus the sheer complexity of so many different parts, tied up vital capital and incurred extra costs. Inaccurate forecasting ensured the auto OEM made cars that sold slowly or not at all. Neither was acceptable in the current tough automotive market.

“We knew product complexity was a big problem, so we eliminated some of our build combinations,” Dave explained. “But we didn’t see any real decrease in part numbers. We still couldn’t provide suppliers with accurate forecasts. And we were in no position to negotiate prices or delivery times.”



Dave and his company needed to:

- Identify which feature choices customers were buying
- Bundle desired features into standard packages
- Help dealers order the right product mix for their lots
- Streamline build combinations to reduce manufacturing costs
- Reduce part numbers and improve forecasting to reduce supplier costs

Solution

This auto OEM made a breakthrough when it brought Emcien into the complexity equation. Previous efforts at reducing complexity failed to deliver financial benefits because they were done in a silo. For example, reducing build combinations in one product line resulted in elimination of several part numbers, but other product lines continued to use those same parts. In the end, there was no cost savings and complexity crept back in.

Emcien's on-demand software solution, EmcienMix,[™] analyzed product mix in terms of historical customer buying data. This analysis revealed very strong feature choices by market segment and model, suggesting which features could be bundled together to better fill customer demand while substantially reducing the number of build combinations.

EmcienMix then identified parts to eliminate across the enterprise, not just from one product line. Reducing total part numbers increased usage per part number for those remaining. With fewer part numbers to manage and a dramatic reduction in build combinations, volatility decreased and forecasting was much more accurate. In return, suppliers were willing to negotiate on price and timing.



EmcienMix enabled the company to:

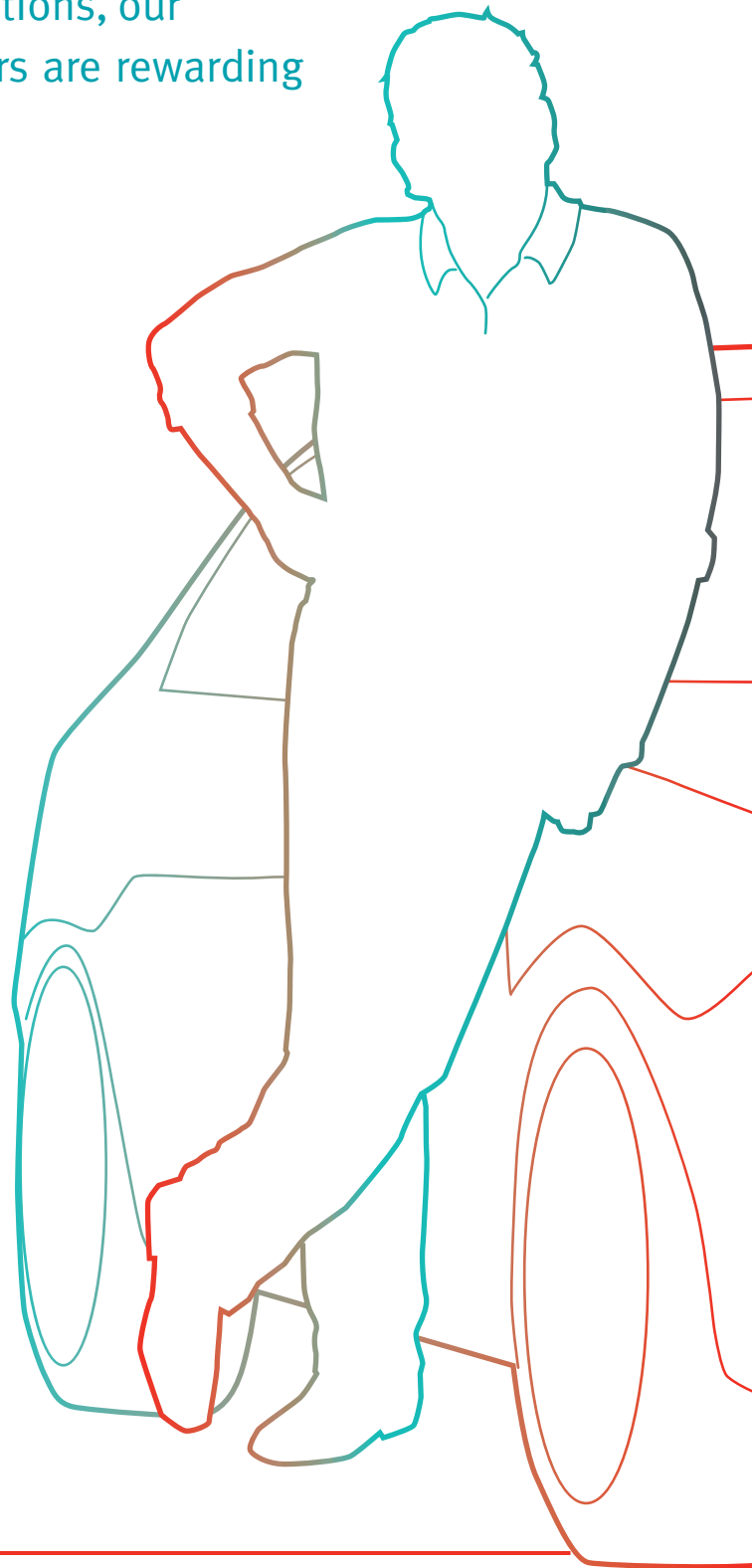
- Determine best-selling features based on sales data and identify feature bundles
- See which feature bundles sold fast by market segment and model, and leverage those differences
- Forecast feature mix accurately based on what customers were buying
- Quickly adjust product mix as markets changed
- Pinpoint unprofitable build combinations and eliminate them
- Reduce parts, increase forecast accuracy, improve supplier stability and, ultimately, reduce supplier costs

“With fewer, more focused build combinations, our forecasts are more accurate. Our suppliers are rewarding us with price and delivery incentives.”

Since products change continuously, EmcienMix is designed to help manufacturers manage complexity going forward. On the solution’s information-rich dashboard, key stats for each product line—including inventory levels, fastest-selling models and much more—are displayed in easy-to-read charts. Users follow logical steps to view product trends, create feature packages and produce accurate forecasts. Context-specific help guides them through every activity.

Because EmcienMix is software delivered as a service, it’s easy to deploy across the enterprise and available to designated users anywhere through a familiar browser interface. Dave was up and running with the software quickly.

“EmcienMix drives the process that drives our business,” said Dave. “With fewer but more focused build combinations, we’re seeing substantial bottom-line savings. We’re able to forecast more accurately which models will sell on dealer lots and therefore which parts we’ll need—and our suppliers are rewarding us with price and delivery incentives. We’re at a great advantage over the carmaker down the street.”



Results

- ST3i build combinations were reduced by 80%
- Part numbers were reduced by 17%
- Freight charges for part shortages at the plant were reduced by 80%
- Increased bargaining power was achieved with suppliers for cost reductions and time guarantees
- Customer needs were met more successfully through significantly improved product availability
- Aging inventory was reduced by 90%
- Dealer costs dropped over 50% due to reduced inventory and dealer exchanges
- Margins improved by 1.5%

To find out how Emcien can help you gain control of complexity to reduce costs and improve margins, visit www.emcien.com or call 404-961-6360, ext. 1801.



About Emcien, Inc.

Emcien is an Atlanta, GA-based software firm that solves complexity problems for discrete manufacturing companies. EmcienMix™ is a unique software solution that optimizes product mix to maximize profits by aligning closely with customer demand. Clients include Fortune 500 companies in the electronics, automotive and industrial sectors. Emcien was named a 2008 Cool Vendor in SCM and ERP by Gartner, Inc.