

# Discrete Manufacturers: Gaining Rapid Insights Through Analytics

Analytics helps manufacturers sustain the relentless pace of business on the global landscape.

BY JOE MULLICH

**D**ue to globalization, a weak economy and growing competitive pressures, manufacturers of automobiles, technology, industrial machinery and similar products need to continually gain new insights into market conditions and customer needs. Indeed, delighting customers is considered a high priority for 58 percent of manufacturers, according to a 2012 Bloomberg

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Businessweek Research Services (BBRS) survey. With this motivation driving their quest for insights, they must constantly revise their strategies.

The fast mutating business environment is revealing cracks in manufacturers' decision-making processes. "In our research, only 10 percent of manufacturing companies are satisfied with their 'what-if' capabilities, and only 24 percent of companies can easily determine the profitability of decisions," says Lora Cecere, head of research firm Supply Chain Insights. "They need more real-time monitoring, dashboards, early-warning systems and other imperatives that can only be accomplished through smarter use of analytics."

Cutting-edge manufacturers are seeking new ways to discern patterns in the ever-growing mounds of structured and unstructured data they collect through their supply chains, call centers, sales and other operations—the "big data" phenomenon. Some manufacturers are beginning to deliver analytics-driven insights on mobile devices so they can react in real time to changing business needs.

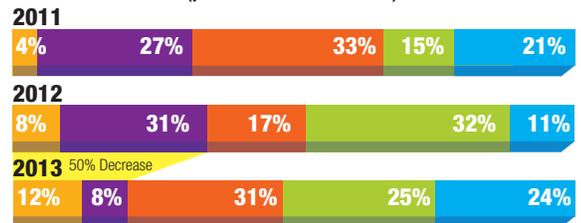
These developments—as well as surveys from BBRS and other organizations—point to a new era of analytics in discrete manufacturing. High-technology, industrial equipment and hard goods manufacturers need to link the data coming into their enterprise applications and extract insights in real time to improve their competitiveness. They are focusing their real-time insights on supply chain efficiencies and customer service improvements that boost their marketing impact and increase revenues.

FIGURE 1

## Investments Shift from Buildings to IT



(percent of investment)



Source: The Hackett Group

David Sievers, a principal at consultancy The Hackett Group, notes that the smartest manufacturers are using analytics to break down the silos between departments to improve service-level agreements and deliver consistent pricing flexibility and personalized customer service. Just as supermarkets use loyalty club information to present tailored offers, manufacturers are using direct data from customers to better understand preferences. More sophisticated manufacturers are using the embryonic field of customer sentiment analysis to scan tweets, Facebook posts and blogs, searching for new market opportunities and reactions to marketing campaigns.

## Supply Chain Analytics on the Rise

A prime area where discrete manufacturers are leveraging analytics is supply chain efficiency. In their search for performance improvement, manufacturers

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plan to boost their supply chain investments by 3 percent in 2013, according to The Hackett Group, and a big focus for that spending is IT, including analytics (see Figure 1, “Investments Shift from Buildings to IT”). Significantly, only 20 percent of the total investment is earmarked for upgrading or building new capacity, a huge decrease from previous years. IT, on the other hand, will represent 31 percent of supply chain investments in 2013.

This shift in spending corresponds with the findings of a recent BBRS survey that also saw increased analytics investments (see Figure 2, “Investing in Supply Chain Analytics”). Of those respondents already using supply chain analytics, nearly three-quarters said they planned to upgrade or replace their supply chain analytics systems within the next two years (see Figure 3, “Supply Chain Analytics Upgrades in the Forecast”).

### GM: Keeping in Touch with the Market

These findings resonate with Clifford Hodges, a General Motors manager who focuses on improving lead times for the global carmaker. An automobile contains hundreds if not thousands of distinct components, with different engines and power trains sourced from numerous regions of the world. As a result, subtle shifts in demand can cause dramatic ripples in material needs around the world.

“When you consider options like cruise control and different types of engines, there are countless permutations. But the average dealer in North America may be able to stock only 25 midsize model vehicles,” Hodges says. “If we are not in touch with the market, we could end up with a lot of unsold cars on our hands.”

GM uses numerous data sources to forecast demand, such as its vast network of dealers and the experience of its executives. Analytics systems, which can derive insights from data in many systems, provide even greater accuracy; Hodges says GM saw a roughly 25 percent boost in forecasting accuracy after implementing an analytics solution. “The more sophisticated systems can capture information down to a greater level of granularity, such as the number of customers arriving at a specific dealership,” he says.

FIGURE 2

### Investing in Supply Chain Analytics

Nearly two-thirds of respondents will invest in supply chain analytics tools by 2014.

#### Have it in 2012



#### Increment adding it by 2014



Base: 318 respondents

Source: Bloomberg Businessweek Research Services, 2012

Armed with these insights, GM can better predict future demand, source more efficiently and reduce lead times for producing vehicles. The insights provided by analytics radiate to other operations, too. By predicting demand more quickly and accurately, GM can gauge which promotions have worked to sell vehicles—and which campaigns will be most effective in moving excess inventory.

General Motors is enjoying even greater benefits from analytics in emerging markets such as India, Brazil and China. An example is GM's relationship with new dealers in developing countries. Dealers may be required to provide information that helps improve forecasting—such as specific models that customers are looking at—that GM then feeds into its analytics systems.

“In more mature markets, it can be a challenge to get this kind of information, because the dealers have to rewrite their systems,” Hodges says. “In the past, we always thought the emerging countries had a lot to learn from North America. Now, we see North America can learn a lot from the emerging countries, because they are using the latest IT techniques and processes.”

### Multiple Ways to Optimize Costs

Analytics are also at the heart of many manufacturers' efforts to lower costs, says Sievers of The Hackett Group, which expects a fairly dramatic 1.7 percent decrease in internal manufacturing costs this year, in addition to a 2 percent drop in logistics and warehousing costs. “As demand stabilizes, discrete manufacturers want to source more strategically and manage their operations more efficiently,” he says. “For

BBRS survey respondents said analytics tools were the second most important capability companies could provide for sales support.

example, they are relying on analytics to optimize product flow and determine things like whether it makes better sense to put more shipments on smaller trucks.”

The ability to deliver this information via easy-to-grasp graphics on mobile devices is moving analytics outside the executive suite and into the hands of plant foremen and on-the-move sales executives. In the BBRS survey, respondents said analytics tools were the second most important capability companies could provide for sales support, next to integration of existing data and systems. A majority of manufacturing respondents (54 percent) said it is extremely important for sales to have analytics tools to analyze customer, production and market information.

As with any evolving technology, it will take time for companies to figure out how to make the best use of analytics. A majority of respondents in the BBRS study, for example, said that today’s tools exhibit limited predictive capabilities (73 percent) and are unable to deal with unstructured data such as social media and sentiment analysis (70 percent). Additionally, nearly three-quarters of respondents said they need to broaden analytics to a wider group of decision-makers, managers and professionals.

Consider Freescale Semiconductor, a global leader in the design and production of embedded processors for the automotive, consumer, industrial and networking markets. The company works to “identify and resolve [supply chain] issues before they create a problem,” says Bill Gilmour, director of business systems. To this end, capacity planners review the supply chain across the entire product line, searching for disconnects and underlying issues, and identifying solutions. In the past, this process could require six days of manual work. Once Freescale put an analytics solution in place, the process was reduced to one day—a huge improvement that made a big impact on supply chain operating efficiency.

### Improving Risk Management

Risk management is another supply chain area that can be improved through analytics. Analytics can help evaluate production capacity, geopolitical risk, power grid reliability and the price of goods, all of which help

FIGURE 3

### Supply Chain Analytics Upgrades in the Forecast

Respondents were asked about the status of their supply chain solutions in 2014.

#### Will upgrade existing tool

63%

#### Will replace existing tool

30%

Base: 318 respondents

Source: Bloomberg Businessweek Research Services, 2012

manufacturers determine whether using a particular supplier falls within an acceptable level of risk.

The technology can also help manufacturers react more quickly and effectively to problems that arise. Gilmour refers to the tsunami in Japan, which crippled the supply chains of numerous technology companies when they were unable to quickly source key components from their primary suppliers. “We have to understand very quickly how to redirect the supply chain within a range of possibilities,” he says. “We have to understand, at a component level, where our materials are coming from and where they are going. Our analytics capabilities allow us to do that.”

At Freescale, some departments credit analytics with adding five to six extra hours of productivity to the average employee’s 40-hour workweek, due to increased visibility and insights. “The biggest challenge of analytics is less about the expense of the technology than in having the imagination to leverage it,” Gilmour says. “The trick is to make it easy to use by really understanding how people do their jobs and embedding the technology into how they do their work.”

Embedding analytics into processes is a key step for discrete manufacturers to compete and sustain the relentless pace of business on the global landscape. •

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### SAP Recipe for Success

- ▶ Applied Analytics
- ▶ Predictive Analytics
- ▶ Business Intelligence
- ▶ Enterprise Performance Management
- ▶ Governance, Risk and Compliance
- ▶ Mobility
- ▶ Database and Technology
- ▶ Information Management

# Leverage Analytics from SAP to Gain First-Mover Advantage Amid Cutting-Edge Competition

The increasingly complex supply chain, regulatory and environmental landscapes are driving the need for constant innovation in the high-tech manufacturing industry. For long-term sustainable and profitable growth, high-tech companies must adapt their business models to take advantage of new market opportunities. They must fully understand the opportunities and challenges of global supply and demand to avoid inventory shortages, manage highly complex supply networks and rapidly respond to changing market conditions.

To increase performance, manufacturers today have to deal with massive amounts of data from many different sources. Because competitive advantage can only be achieved if all relevant data gets analyzed in real time and in detail, high-tech companies need a comprehensive set of analytics tools.

With analytics solutions from SAP, manufacturers can exploit the opportunity of big data by accessing information anywhere, driving greater strategic alignment, adapting to changing markets and more accurately predicting business outcomes.

SAP analytics visualizations can be rendered on mobile devices, complete with actionable insights. Every individual business user can analyze, explore and discover insights with self-service access to visualize, simulate, model, predict, decide and act based on business needs.

Additionally, SAP brings to market its unique industry expertise and the ability to support industry-specific and business-specific analytics solutions.

Analytics solutions from SAP can enable high-tech companies to do the following:

- ▶ Analyze customer behavior and needs in-depth to improve customer service.
- ▶ Simulate the opportunities and costs of planned new market entries.
- ▶ Identify the most profitable product lines and customer groups.
- ▶ Efficiently manage complex procurement networks and continuously track supplier performance.
- ▶ Check the effectiveness of distribution channels.
- ▶ Monitor, analyze and maintain quality standards throughout product lifecycles.

For more information about analytics solutions from SAP, please visit this Web site:

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