Novozymes brings good chemistry to its customers' supply chain processes.

Overview

- ***Challenge***
  The leading producer of enzymes, Novozymes and its customers needed to improve their existing collaborative planning forecasting and replenishment (CPFR) processes, thereby reducing inventory management and ordering burdens for its clients.
- ***Why Become an On Demand Business?***
  By streamlining, automating and more tightly integrating its own and its customers' processes, Novozymes would be better positioned to optimize its own planning, production and logistics processes.
- ***Solution***
  Novozymes engaged IBM Business Consulting Services to create a more integrated and simplified process framework that enables it to take over its customers' inventory management.

Key Benefits

- *20% reduction in administrative costs related to demand planning*
- *Vastly improved ability to optimize production planning and logistics*

>> On Demand Business defined

"An enterprise whose business processes—integrated end-to-end across the company and with key partners, suppliers and customers—can respond with speed to any customer demand, market opportunity or external threat."

Novozymes' 700 products are a key factor in the production of thousands of products used in everyday life. With more than 100 types of enzymes and microorganisms, Novozymes is the number one enzymes producer in the world. Novozymes employs 4,000.

With companies around the world adopting environmentally friendly practices, many have begun to shift from the use of traditional chemicals in their products and manufacturing processes toward biotechnology-based substances. Among the most prominent of these are enzymes and specialized microorganisms, whose key property is an ability to perform or enhance a specialized chemical or biological function. The fact that they do so more cleanly—and often more efficiently than standard chemicals—makes them a "win-win" proposition for

"To succeed, we needed a provider who knew our processes, understood our vision of becoming more customer-centric and—perhaps most importantly—had the resources to bring the two together."

–Jesper Espensen, Director of Supply Chain Support, Novozymes

ON DEMAND BUSINESS™

On Demand Business Benefits

Novozymes

- 20% reduction in administrative costs related to demand planning
- Vastly improved ability to optimize production planning and logistics
- Improved ability to sense and respond to marketplace changes
- Stronger customer relationships through value-added services

Novozymes's Customers

- Major reductions in replenishment-related costs, such as forecasting and inventory management

manufacturers. This is especially true for consumer products, with enzymes playing a critical role in the production of everything from orange juice (increasing fruit yield) to wine (increasing tannin concentrations). Enzymes are also critical product ingredients, enabling—for example—laundry detergents to remove stains in cold water. The list of uses—spanning 40 industries—is long and growing. As the world's leading manufacturer of enzymes and microorganisms, Denmark-based Novozymes (www.novozymes.com) is helping to lead this trend.

To Novozymes's consumer products customers, enzymes represent an absolutely essential—yet largely invisible—part of their products and processes. In the same way, Novozymes as a supplier is an integral part of its customers' value chains. With the average company manufacturing hundreds of products—each with its own set of material requirements from suppliers—the supply chains for consumer products manufacturers are inherently complex. For each "end product" (such as detergent), changes in market forecasts translate into changes in demand for inputs like enzymes "upstream" in the supply chain. For suppliers, the benchmark for performance has been the ability to ensure a steady, uninterrupted flow of materials, thus avoiding costly production disruptions. Driven by constant pressure for cost control and efficiency as well as the need to adapt their operations quickly, consumer products manufacturers have collaborated more closely with suppliers to better align their forecasting, production planning and manufacturing activities. These changes represent an evolution in the supplier-vendor relationship, with suppliers like Novozymes assuming a more central and strategic role.

"Our customers are doing all they can to simplify their supply chains and to make them more responsive. By providing services that are in synch with our customers' strategic priorities, we're now in a stronger position with our customers for the long term."

–Jesper Espensen

Reducing customer pain produces internal gain

Driven by the constant goal of strengthening relationships with customers like Procter & Gamble, Novozymes has long epitomized the strategic supplier. A prime example is the company's work with its customers' in the area of collaborative planning forecasting and replenishment, or CPFR. Under the basics of CPFR, Novozymes works with a customer to agree on the amount of product Novozymes intends to deliver and, by extension, the amount Novozymes will need to manufacture. For the customer, this is a function of both its inventory of enzymes (what it has) and its own production plans (what it will need). While the substance of this process was sound, the process itself was slow, labor intensive and cumbersome. Production requirements were tallied manually in spreadsheets by Novozymes staff and sent to the customer, who would

then verify or modify them and send them back to Novozymes, where a representative would manually enter an order in its SAP ERP system.

To Novozymes, the need to streamline CPFR processes was clear. While the company's topmost priority was its customers—specifically reducing their inventory management and ordering burdens—Novozymes also saw a strong value proposition for itself in CPFR innovations. Indeed, by streamlining, automating and more tightly integrating these processes, Novozymes would be much better positioned to optimize its own planning, production and logistics processes. How? A more precise and timely window into its customer's replenishment requirements would give Novozymes far more flexibility to optimize its production runs and inventory levels—making it less reactive and more proactive. In the same way, better planning capability would give Novozymes far more latitude to avoid suboptimal logistics arrangements, such as the shipment of less-than-full truckloads. In short, Novozymes saw tighter business process integration as "win-win" proposition that would enable more optimization and responsiveness across the board.

To help map the process changes needed to put this new framework into place, Novozymes engaged IBM Business Consulting Services. Selected for its expertise in demand planning, IBM drew upon best practices in the area of forecasting, collaboration and inventory management to transform Novozymes's vision into a concrete blueprint for process change. For a technology platform, Novozymes selected SAP Advanced Planner & Optimizer (APO), a demand planning adjunct to SAP R/3. Key components of the SAP APO solution included Supply Network Planner (which calculates supply needs at the warehouse level) and Transport Load Builder (which is used to calculate optimal load configurations). The IBM team led the technical implementation of SAP APO, while Novozymes staff provided integration support. Procter & Gamble was the first customer deployed.

Automating replenishment

Developed in six months, the new SAP APO-based solution fully automates Novozymes's demand planning processes, while at the same time extending its functionality to include vendor-managed inventory (VMI). Under the new process framework, Novozymes automatically acquires data from Procter & Gamble's SAP ERP systems on the amount of inventory stock located in some 30 warehouse locations. Combining Procter & Gamble's forecasted requirements (which are stored in the SAP APO system) with prearranged target inventory stocks, Novozymes automatically calculates the product requirements at each warehouse location. The system then takes this information and creates a replenishment order for each warehouse location that ensures a full truck load to maximize transportation cost efficiency. Upon approval, the order is automatically entered into Novozymes's SAP system, where it is integrated with all other orders and joined into a single production plan. By iteratively monitoring the accuracy of the

Key Components

Software

- SAP R/3
- SAP Advanced Planner & Optimizer

Services

- IBM Business Consulting Services

Timeframe

- 4 months (for SAP APO solution)

"Because Novozymes has more insight into what's going on inside Procter & Gamble, it can react faster to changes in the market than it could previously. This makes both parties more flexible and adaptable to market changes."

– *Jesper Espensen*

Procter & Gamble forecasts using advanced statistics and automated alerts—and making adjustments to production plans accordingly—the SAP APO system has a built-in optimization capability.

The solution's key goal—making business simpler and less costly for the customer—has emerged as its biggest benefit for its first user, Procter & Gamble. With Novozymes's automated VMI capability, P&G no longer needed dedicated staff to manage the Novozymes account, reducing administrative costs and increasing the productivity of its procurement operations. For Jesper Espensen, Novozymes's Director of Supply Chain Support, these benefits add up to a major strategic advantage—the ability to cement its role as a preferred supplier. "Our customers are doing all they can to simplify their supply chains and to make them more responsive," says Espensen. "By providing services that are in synch with our customers' strategic priorities, we're now in a stronger position with our customers for the long term."

Becoming more tightly integrated with its customers' processes has also delivered major operational benefits for Novozymes, including a 20 percent reduction in administrative costs related to account management. Moreover, faster access to more accurate forecast information has enabled Novozymes to more proactively plan its production runs and deliveries to warehouses. It has also made Novozymes more plugged into—and therefore responsive toward—changes in marketplace.

While an unqualified success so far, the benefits of the Novozymes' demand planning initiative have provided only a hint of what it can do when deployed on a broad scale—which is the company's ultimate goal. To make this a reality, the company has been the key driver of industry standards for the sharing of information between consumer products manufacturers and suppliers, an initiative known as the Global Upstream Supply Initiative whose participants include Nestlé, Procter & Gamble, Unilever and Kraft. As Novozymes stakes its future on getting closer to its customers, Espensen sees its own relationship with IBM as the kind of provider it needs to get there. "To succeed, we needed a provider who knew our processes, understood our vision of becoming more customer-centric and—perhaps most importantly—had the resources to bring the two together."

For more information

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