Demand-driven companies have five best practices in common:

1. Collaborate internally and externally.
2. Use every source of data.
3. Use intelligence, not algorithms (in your supply chain applications).
4. Create a real sales and operations planning process.
5. Focus on process excellence, then technology.

EXECUTIVE OVERVIEW

Most supply chain projects to date have focused on reducing operating costs through inventory reductions, better transportation planning, lower transaction costs, and improved supplier management. Industry-leading companies are transforming their supply chains to be demand driven, however, with the key objectives to grow revenue and profits.

This white paper discusses the five best practices these demand-driven companies have in common. These best practices make it possible to increase demand visibility, make better decisions with this information, and ensure that the new collaborative processes are scalable and repeatable to sustain revenue and profitability gains. This white paper looks at each of these best practices in detail and then lays out the technology building blocks to achieve them.

INTRODUCTION

In the report “The Handbook for Becoming Demand Driven,” the authors state: “Becoming demand driven is a fundamental shift in how to do business and can improve revenue by 10 percent and profitability by 5 percent to 7 percent.”

They define the demand-driven supply chain in a framework, which they call the Demand-Driven Supply Network (DDSN), as a “system of technologies and processes that sense and respond to real-time demand across a network of customers, suppliers, employees.”

AMR Research notes that demand-driven industry leaders are “more demand sensing, have more efforts for demand shaping, and focus on a profitable demand response.” Supporting DDSN are processes that can improve your company’s ability to sense and react to demand signals from your customers. More importantly, AMR Research found a direct correlation between companies with demand-driven supply chain best practices and key performance indicators (KPIs).

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2. Ibid.
3. Ibid.
Companies with improved demand visibility and the ability to use this insight to produce better forecasts had

- 15 percent less inventory
- 17 percent stronger order fulfillment (with the associated revenue increase)
- 35 percent shorter cash-to-cash cycles

These companies pulled all of these improvements together to achieve perfect-order performance in excess of 99 percent on a continual basis.

Not surprisingly, these improved KPIs had a significant impact on shareholder value. A recent AMR Research benchmark study found the following correlations:

- Earnings per share (EPS)—10 percent improvement in perfect orders resulted in a gain in EPS of 50 cents
- Return on assets (ROA)—10 percent improvement in perfect orders resulted in a 5 percent increase in ROA
- Profit margin—10 percent improvement in perfect orders yielded about a 2.5 percent gain in profits

The key factor behind these improvements—demand visibility—had a 2-to-1 impact on perfect orders. To measure operational progress toward these types of gains, best practice companies typically use four key metrics:

- Forecast accuracy
- Perfect orders
- Supply chain costs
- Cash-to-cash cycle time

DEMAND-DRIVEN SUPPLY CHAIN BEST PRACTICES

Shouldn’t all supply chains be demand driven? Absolutely. Unfortunately, much of the supply chain technology and process improvement projects to date have been focused internally on manufacturing and distribution operations. This is why the idea of building demand-driven processes that increase demand visibility across multiple levels of the supply chain are top priority for many executives. Leading the charge, category leaders such as Wal-Mart, Dell, and Best Buy are taking aggressive steps to increase demand visibility to their suppliers by providing access to point-of-sale (POS) data and encouraging the deployment of radio-frequency identification (RFID). With the increased visibility, they will be able to reduce costs and improve delivery performance.

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It is not by accident that many of the best suppliers to top retailers are leading the transformation into a demand-driven industry. AMR Research found that these demand-driven companies have five best practices in common:  

1. Collaborate internally and externally.  
2. Use every source of data.  
3. Use intelligence, not algorithms (in your supply chain applications).  
4. Create a real sales and operations planning process.  
5. Focus on process excellence, then technology.  

Essentially, these best practices make it possible to increase demand visibility, make better decisions with this information, and ensure that the new collaborative processes are scalable and repeatable to sustain revenue and profitability gains. It is critical that all three of these criteria be met. Increasing demand visibility will not produce sustainable long-term gains. Many early supply chain and just-in-time initiatives came up short because they tried to make manufacturing plants and distribution centers flexible enough to respond to real-time demand signals without any intelligent demand management to learn from this visibility. This leads to collaborative planning, forecasting, and replenishment (CPFR) programs and vendor managed inventory (VMI) programs that simply shift costs from customers to suppliers without taking any real costs out of the supply chain. Let’s first look at each of these best practices and then lay out the technology building blocks to achieve them.  

**Collaborate Internally and Externally**  
Collaboration is the most critical step in any effort to improve demand visibility and the ability to use this increased visibility constructively. Collaboration allows suppliers and customers to communicate insights on planned promotions, extraordinary events, capacity constraints, new product introductions, operational problems, and other issues that are not covered by electronic data interchange (EDI) transmitted orders, and shipping notices. These insights enhance raw demand signals and add richness to the historical data used to forecast future demand.  

While it is somewhat obvious that demand visibility will be improved by external collaboration, the importance of improving internal collaboration is often overlooked. Eventually, all successful CPFR practitioners find that the real monetary value is derived from improved internal collaboration. Improving internal collaboration is not always easy. It means putting systems and processes in place to ensure that the organization is presenting one face to the customer. As a stopgap measure, many suppliers establish cross-functional account teams that include sales, marketing, supply chain, and finance personnel to get around the departmental silos.

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that impede internal collaboration. Many Wal-Mart suppliers have adopted this model.

Best practice companies integrate external collaboration programs into their sales and operations planning (S&OP) processes and support it with accurate one-number forecasts. Inherently collaborative, the S&OP process is improved by increased demand visibility. More importantly, integrating customer demand data and S&OP processes improves overall forecast accuracy as it provides insight into why past forecasts might have missed the mark, such as high out-of-stocks because of shelf space limitations, an end-cap display that didn't happen, promotion event timing differences, or more aggressive pricing than anticipated. Better forecasting software can go a long way to improving forecast accuracy, but collaboration makes good forecasts great by improving both forward visibility and historical accuracy.

Use Every Source of Data

The internet and today’s powerful network computers have made it possible to acquire and analyze the huge volumes of demand data including POS data, sales history, consumer demographics, syndicated data, National Weather Service, RFID, and other sources. POS data-based forecasts have the potential to generate significant improvements in perfect-order performance because

- Forecasts are more responsive to changes in demand, especially those driven by promotions
- Localized demand patterns and demographics can be accounted for more precisely
- Inherent latency, dampening, and selling tactic effects that result from the use of other demand streams such as order or shipment history are reduced

In addition to supporting forecasts that are more responsive to demand changes, using the POS demand streams provides the best foundation for another best practice: the one-number plan. POS data provides the richest source of information for sales and marketing to determine the effectiveness of their programs. Basing plans on multiple demand streams often leads to different plans by each functional area and incurs additional costs to scrub and maintain the data. POS data provides a definitive view of what is really happening at the point in the supply chain where it matters most: the retailer’s shelf.

CPFR and VMI are the best ways to get visibility to this data. This sounds great in theory, but scaling this up across millions of combinations of SKUs, locations, and time periods is an impossible task to handle with spreadsheets. Fortunately, today’s exception-based event-messaging applications provide a practical way to compare changes in POS-based forecasts with other demand inputs, including distribution center stock status, to predict potential out-of-stock situations before they affect revenue.
Use Intelligence, Not Algorithms

For those not steeped in the evolution of supply chain planning technology, this refers to early attempts to create automated programs that attempted to optimize algorithms to solve complex supply chain problems based on huge models. The models often cost millions of dollars to build and ultimately, didn’t work. Using increased demand visibility, precise forecasting technology, and collaboration, industry-leading companies are empowering their planners, not attempting to replace them with automated software.

Sounds good, but how does this work? Let’s use a VMI example to illustrate how more intelligent applications are designed. Many long-standing VMI programs use relatively simple rules for replenishment—usually a reorder point trigger with some minimum and maximum inventory thresholds to prevent understocking or overstocking. To apply intelligence to VMI

- Use weekly POS data to create more accurate weekly forecasts and monitor demand patterns
- Integrate the volume forecasts for promoted items into the weekly demand forecast
- Monitor days-of-supply at the distribution center level to gauge potential out-of-stocks at store level
- Adjust replenishment orders for demand shifts that affect stores served by that distribution center
- Consider the cannibalization effects from promotions on other SKUs
- Constrain replenishment orders based on truckload requirements
- Route exceptions discovered at any step of this process through collaboration to whomever can resolve the problem

By using intelligent processes such as those described above, best practice companies have improved forecast accuracy to better than 98 percent, reduced days-of-supply required to meet customer service levels, reduced out-of-stocks, and increased revenue.

Create a Real Sales and Operations Planning Process

A “real” S&OP process is one that allows all departments to contribute to developing and executing the annual and monthly plans. In many companies, the S&OP process in place is one in which the demand planning group does all the preparation work to determine the gaps in the plan, to satisfy current customer demand. The monthly S&OP meeting focuses on resolving these gaps or warning other departments that all demand might not be met. Generally, what’s missing is the ability to

- Enable sales, marketing, and finance to actively participate in the process
- Monitor progress toward the goals set forth in the annual operating plan

A real S&OP planning process creates a collaborative, continuous planning environment that makes the organization much more responsive to changes in demand and new business opportunities.
• Initiate demand-creation activities when the current forecast is falling short of the operating plan
• Incorporate inputs from customers through collaboration
• Increase demand data sources to ensure that right quantities of the right products are in the right place—this means CPFR and VMI programs become inputs to the S&OP process
• Include exception-based alerts into the S&OP process to identify problems before they become revenue shortfalls

Essentially, creating a real S&OP process as AMR Research suggests means adding the capabilities listed above to the traditional S&OP process. Putting all of these together creates a collaborative, continuous planning environment that makes the organization much more responsive to changes in demand and new business opportunities.

Focus on Process First, Then Technology
Collectively, most of the recommendations presented in this white paper are process improvements. CPFR and VMI are both excellent programs to improve demand visibility, but processes must be put in place to take advantage of the increased visibility. These changes in processes will often highlight weaknesses in current systems. Common weaknesses include the inability to
• Develop accurate forecasts at a more granular customer or location level
• Integrate promotion lift factors into VMI and CPFR program forecasts
• Make systems more responsive to increased demand visibility
• Handle more granular data, such as that generated by store level VMI or daily forecasting

Fortunately, these capabilities can now be added to existing enterprise resource planning systems with less difficulty than in years past. Better software platforms, common messaging protocols, and user interfaces mean that the weaknesses listed above can be addressed in months, not years.

Better Demand Management Is Critical to the Demand-Driven Company
AMR Research points out that the most critical step to becoming demand driven starts with effective demand management. With the demand management capabilities of Oracle’s Demantra Real-Time Sales & Operations Planning solution it is possible to cover the following:

• Demand sensing
  • Consider the most granular sources of demand data, such as POS data from individual stores
• Incorporate an unlimited number of causal factors and product attributes, and develop mixed-model forecasts (using Bayesian-Markov algorithms) which reflect real-world conditions—blue products sell better in the South, extra-large sizes sell better in Milwaukee, and mint-flavored products seem to sell better than lemon in winter in the Northeast

• Demand shaping
  • Optimize promotion effectiveness to align demand with production capacity, revenue goals, and customer expectations
  • Continuously monitor actual sales against promoted and baseline sales targets to revise plans as required

• Demand response
  • Validate business plans against bottom-up forecasts to ensure that quarterly and annual revenue goals will be met
  • Use sales and operations planning to synchronize the company around a one-number plan

CONCLUSION
The most critical step to becoming demand driven starts with effective demand management. With the demand management capabilities of Oracle’s Demantra Real-Time Sales and Operations Planning, it is possible to sense demand, shape demand, and respond to demand.

The good news is that much of the technology required to transform your company to be demand driven is already in place at many clients. By adding a relatively light layer of additional planning software, your company can be on its way to becoming demand driven. Oracle’s Demantra Demand Management and Real-Time Sales and Operations Planning provide the essential capabilities that you need:

• Precision demand management capabilities to profit from the increased demand visibility
• Web-based collaboration workbenches to support virtual, global collaboration—both internal and external
• Workflow systems to ensure responsiveness
• Rules engines and exception-driven alerts to ensure that these programs are not labor intensive
• Internet connectivity to reduce the cost of EDI and data communication

Ultimately, the combination of increased demand visibility and precise demand management yields a return on investment faster than many other information technology projects.