Putting Marketing Back in S&OP
## Table of Contents

- Introduction ............................................................................................................. 1
- Synchronizing forecast push and demand pull ......................................................... 2
- An optimized S&OP process ..................................................................................... 7
- Case study: a large chemical manufacturer ............................................................... 11
- Conclusion .............................................................................................................. 12
### Introduction

Given the current economy, we’d all be shocked if cost savings and cost containment were not the top priorities for supply-chain organizations; but smart organizations don’t just strive to cut costs, they figure out how to make changes that are sustainable, strategic advantages. This requires a nimble organization with common goals, objectives and performance metrics, where collaboration occurs not only with operations and finance, but also with sales and marketing. It’s unfortunate that from its inception the supply chain equation has been based on an unbalanced concept:

\[
\text{Supply Chain} = \text{S&OP}
\]

In the past, the “OP” in sales and operations planning (S&OP) created an imbalance when organizations unintentionally created disparity in their supply chains by focusing on inefficiencies in operations (e.g., focusing on reducing inventory costs by improving inventory replenishment capabilities) with little emphasis on understanding how to integrate market opportunities and customer needs. Most people don’t realize that the “S” in S&OP stands for sales and marketing, not just sales. We need to recalibrate our supply chain equation:

\[
\text{Supply Chain} = \text{SM&OP}
\]

This provides a more balanced approach that looks horizontally across the supply chain rather than virtually – eliminating silos and optimizing the process from market to market and supplier to supplier’s supplier.

The new focus on the value supply chain is how companies can listen to their customers, assess the market and then respond to demand. Companies that achieve market-driven maturity not only have better demand and supply synchronization but also greater agility to match supply to demand. Companies that have implemented market-driven supply chains understand how to respond to customer demand and translate that demand into an optimized supply plan with a focus on balancing (or synchronizing) demand and supply. In fact, those same companies are more inclined to sense market changes five times faster and align their supply three times faster to fluctuations in demand. Rapid alignment enables better customer service with substantially less inventory, waste and working capital. This white paper will outline the first steps that companies need to take to become market-driven.
Synchronizing forecast push and demand pull

Today’s business challenges are numerous – globalization pressures, supply-chain complexity, rising customer demands and the need to increase revenues across global markets while continuing to cut costs. Adding to these challenges is the current economy, in which the last two years of supply outstripped demand. In addition, the increasing pace of innovation and the need to appeal to broader ranges of consumers are making life cycles shorter and product mixes larger – but global sourcing is making supply lead times longer. As companies increase their geographical reach and look to global sourcing, variable lead times are becoming common. All of these factors are impeding companies’ ability to balance ever-increasing demand with supply.

As a result, organizations must have a heightened awareness for better alignment and visibility and improve their ability to sense and translate demand patterns into viable, profitable operations plans. Research on 2011 business priorities shows that demand management is the No. 1 priority for organizations in every sector. But despite technological advances, we still run our most important supply-chain processes with spreadsheets. Fifty-one percent of companies said the only technology they use for S&OP is Microsoft Excel. The time for spreadsheets is past.

Twenty years ago, a typical product company’s supply chain function reported to manufacturing and was primarily responsible for inbound materials management and outbound shipping. This traditional view of supply chain is too focused on delivering or matching demand to supply with a strong dependency on reporting results. This is a supply-centric view that puts emphasis on process and supply efficiency with little emphasis on the science of demand. This traditional supply-chain approach was defined as having the right product at the right time in the right place. What’s wrong with this picture? In their scramble to match demand with supply, companies were blind to profitability – focused only on supply replenishment.

Many companies are beginning to experience what is referred to as “ERP hangover.” Companies that have invested heavily during the last decade in ERP solutions are becoming increasingly frustrated due to the cost/value relationship and the lack of supply-chain innovation by ERP technology providers, particularly regarding the lack of focus on sensing, shaping and translating demand and supply to optimize inventory across complex supply chain networks. Many companies are backing away from continued investments into ERP visions and opening the door to new, innovative approaches to solving their supply chain problems.

Three things separate best-in-class companies from laggards when it comes to market-driven value chains:

- Demand (demand sensing, shaping and orchestration).
- Supply (sourcing, shaping and optimization).
- Product (innovation).
When all three are implemented successfully, a company can profitably manage its business.

![Figure 1: Illustrates the need for integration between the marketplace and a company's ability to synchronize demand and supply.](image)

The ideal value supply chain has integration across these interlocked areas:

- **Demand**: marketing, sales and services.
- **Supply**: manufacturing, logistics and sourcing.
- **Market**: product development, research and development, and engineering.

This is a system of processes and enabling technologies that sense, shape and respond to real-time demand signals across a value supply chain network of customers, suppliers and employees. When these processes are integrated, companies can respond quickly and effectively to market opportunities arising from customer demand. Supply chains built on this framework can manage demand rather than respond to demand (proactive versus reactive). This creates a network, instead of a linear, approach to global supply with the ability to embed innovation in operations rather than keeping it isolated in the laboratory.

Historically, many companies used supply to push products through channels. Today, companies are moving to market-driven networks where they sell through the channel, pulling inventory through their supply chain network. All of this makes matching supply with demand a dynamic process requiring robust statistical capabilities to sense and shape demand and supply-shaping capabilities to ensure that the appropriate levels of inventory are in place to address uncertainty.

Despite the evolution in supply-chain technology, none are yet able to capitalize on responding to customer demand and translating demand into an optimized supply plan. This gap is leading to a greater emphasis on demand-driven networks (or supply chains) because demand-driven supply chains allow companies to better balance growth and efficiency, cost and customer service, and demand fluctuations. When companies achieve demand-driven maturity there is better synchronization and greater agility to match supply to demand versus demand to supply. According to recent surveys, market-driven companies sense market changes five times faster and align to fluctuations in demand three times faster. This rapid alignment enables better customer service with substantially less inventory, waste and working capital.
In the past, many companies focused on supply selling into the market channel to obtain operational excellence by matching demand to supply, while others focused on selling through the market channel, sensing demand signals to obtain customer excellence. In both cases, new product commercialization suffered due to fragmented processes and lack of synchronization between demand and supply.

Companies that operated with the traditional supply-driven perspective (and put more emphasis on commercialization) suffered due to fragmented processes and lack of synchronization between demand and supply.

Market channels were fairly stable with only a few competitors. It made sense to focus on operational excellence and flush out all the supply chain inefficiencies (i.e., reducing inventories, shortening supplier lead times and implementing more agile manufacturing capabilities).

However, as companies became more global and stretched their lead times, they found themselves unable to react to the economic downturn, which created high inventory carrying costs as inventory rose due to lower demand for products. It required months of product discounting to sell those inventories through the market channels and reduced profit margins, resulting in lost revenues. This shift put more emphasis on sensing demand signals and then shaping and responding to demand.

Figure 2: Supply-driven companies focus on obtaining operational excellence.
Once companies achieve operational excellence and begin to move from being supply-driven to demand-driven, there will be a need to transform existing processes to maximize market potential while reducing risk. This transformation focuses on sensing demand, shaping demand and driving the most profitable demand response based on domain knowledge and analytics. Companies like Dell, Cisco, Intel and Samsung have invested in supply-chain excellence as a core competency and understand the value of demand-driven concepts (demand sensing, demand shaping and demand translation). The economics of these companies’ markets has made it necessary to synchronize supply with demand. Demand-driven companies are defined by five characteristics:

1. **Demand sensing**: The ability to sense and respond to demand fluctuations in near-real time. A good example is Wal-Mart Retail Link®. Weekly, store-level sales detail provides the same kind of visibility into Wal-Mart’s price and promotion demand response that companies used to get only from trade channels reporting POS to Nielsen and IRI. They can measure the effect of advertising and consumer promotions on their products in Wal-Mart, decompose the volume (demand) and source it directly to their customer-facing warehouses.

2. **Active demand shaping**: As companies mature and learn demand-driven concepts, they quickly learn that it is not enough to sense demand, but that it is critical to also actively shape demand to take advantage of market opportunities. This requires a collaborative process that spans functional silos (sell, deliver, make and source) to enable market-to-market corrections to stimulate and drive demand. There are several demand-shaping levers:
   a. Price.
   b. Sales promotions.
   c. Sales/channel incentives.
   d. Market programs (events).
   e. New product launches.
   f. Sale of slow and obsolete products (commonly known as SLOB).
These levers can speed or slow demand. The secret to being demand-driven is to actively shape demand to maximize profitability and to ensure alignment to deliver against the market opportunities. An example of demand sensing and shaping is Dreyer’s Grand Ice Cream division of Nestle USA. Dreyer’s senses demand signals associated with sales promotions of its products and uses promotional calendars to shape future demand.

3. Design of value supply chain for demand: A characteristic of demand-driven supply chains is that they are purpose-built, not adapted, and the goal of the supply chain shifts with demand variability. Supply chains with low-demand variability (e.g., low MAPE) can be push-based, focusing on the efficiency of the lowest cost per unit, while supply chains with high-demand variability (seasonal products that are highly promoted) need to be designed for agility. An example is Intel’s supply-chain mastery program, which allowed the company to redesign the value network to quickly launch the Atom chip.

4. Agility to translate demand: In the management of demand-driven supply chains, demand response (sensed and actively shaped to maximize profit) is handled through an agile supply network. The response to demand (sensed, shaped and translated to maximize revenue and profit) is usually coordinated via a series of horizontal processes (designed from market-facing processes) to supplier S&OP processes and new product commercialization.

5. Focus on selling through the channel: As companies implement demand-driven supply chains, the focus shifts from selling into the channel to selling through the channel. It also shifts from a product-based focus to a value-based focus that combines products and services. An example of sell-through is in the health care industry, where it was no longer enough to sell insulin to diabetes patients because they also wanted monitoring devices and direct access to their physicians. Another example is in the carbonated soft drink industry, where Coca-Cola realized that young consumers were looking for an alternative to coffee for breakfast. This realization drove new package platforms and demand for Coca-Cola Classic and Diet Coke.

The bottom line is that demand-driven processes are designed from the market backward and are aimed at sensing and shaping demand.

Almost all companies in advanced stages of becoming demand-driven have strong executive sponsorship to help navigate through the complexities of the political environment. These companies also focus continuous improvement efforts on sensing and shaping demand, and maximizing profit. Those demand-driven companies that are leaders in demand synchronization (matching supply to demand) tend to see significant improvements in:

- Inventory reduction.
- Order fulfillment rates.
• Forecast accuracy at the product level (accuracy greater than 70 percent).

• Forecast accuracy at the SKU level.

• Market share.

• Gross profit margin.

• New product launch commercialization.

**An optimized S&OP process**

S&OP has been around since 1987 – nearly 25 years. Companies at that time – whether they focused on being supply-driven or demand-driven – were all implementing S&OP processes. However, those S&OP processes were not optimized across their supply chains horizontally, but rather vertically, with emphasis on either supply or demand. In most cases, companies were more focused on supply and replenishment.

S&OP is critical to supply-chain success. Every company needs a navigation system to help determine where it is going, where it has been, when it is off course and how to get back on course. Successful S&OP provides that navigation and a set of instruments for piloting through turbulence.

Imagine a pilot flying from New York to Los Angeles at night without any navigation systems or instruments to measure his or her location, wind speed or altitude. What are the chances of that pilot actually getting to LA? Can the plane arrive on any predictable timetable? You’ll likely agree the chances are slim to none. A modern pilot embarks with a general flight plan, but then monitors a continuous readout of key metrics and makes numerous small course corrections to help arrive at the proper destination on schedule. It’s the same for business. If the forecasts are low, the organization experiences stock-outs and loses sales (and profits). If the forecasts are high, the organization gets stuck with excess inventory that soon becomes obsolete (and sold at a loss just to move it). Supply chain success comes from accurate forecasts, which requires effective S&OP flight planning.

But S&OP is more than getting product line managers in a room to agree on a forecast, and it’s more than using good modeling and simulation software (which is a must). Proper S&OP planning requires sales, marketing and operations (and product line management) working collaboratively toward a realistic and trustworthy forecast.

Integrated S&OP requires horizontal integration, bringing together demand and supply planning, and vertical integration, bringing together finance and operations functions.
Figure 4: Illustrates the need to integrate demand and supply through the S&OP process.

According to recent research, many companies that have implemented an S&OP process still have limited technology capabilities. In fact, more than 46 percent of those companies are still using Excel spreadsheets and other relatively unsophisticated technology to manage their S&OP processes. The lack of technology sophistication and integration creates inconsistencies and an inability to truly optimize demand and supply.

Although research suggests that navigating a successful S&OP journey is 60 percent change management, 30 percent process and 10 percent technology, without the technology component, you will have limited success.

An example of successful integration is a leading consumer electronics company that successfully balanced technology with process and was able to develop one of the world’s best S&OP processes. The company discovered that an executive-led team was able to fine-tune the demand and supply balance of all its major businesses using downstream data, forecasting and S&OP, using technology to conduct scenario planning (demand and supply shaping). This is optimized S&OP.

According to a recent survey conducted by CGT magazine, more than 50 percent of companies intended to make investments in their S&OP processes and enabling technologies within the next 12-24 months. Roughly 25 percent surveyed cited technology-related issues (lack of integration and data quality) and demand sensing, shaping and process adoption as major impediments that were stifling their ability to successfully implement S&OP.
Companies that have successfully implemented an S&OP process understand it is a journey of several years. Those companies have combined process, analytics and technology to support and enable the change management activities to evolve their business, market and products.

The final stage in the supply-chain excellence journey is to become market-driven. To truly become a market-driven company requires complete integration between demand and supply, with a focus on selling through (also known as pull-through) the channel based on “the customer’s” needs. This requires a robust S&OP process enabled by technology to synchronize demand and supply.

Companies often make the mistake of thinking of S&OP as a thing. It’s not a thing – it’s a discipline, a culture and a state of mind. If you could solve S&OP by writing a check, everyone would have done that already. You need leadership, supply-driven and demand-driven optimization, collaboration, governance and pretty darn smart people to make S&OP a guiding principle in your organization. It’s an important point because the value that can be realized from S&OP far outweighs the costs involved.
Figure 6: Market-driven companies focus on complete demand orchestration to synchronize demand and supply.

Companies like Cisco that are truly market-driven understand the factors that influence demand, and they use demand orchestration to grow their market share and maximize revenue and profit. They also tend to shape demand projections through collaborative fulfillment responsiveness, which is focused on visibility and control throughout the supply chain to coordinate activities with actual demand. Cisco learned that lesson through experience, and it does it best. Burned in the dot-com downturn in the late 1990s with inventory write-offs of $2.5 billion, Cisco had taken action to redesign its supply chain to better sense and translate demand. Cisco recognized the current economic downturn in the first month and aligned its extended supply chain within six weeks. However, for most companies it was a very different story. During the last five years, Cisco has been using SAS’ award-winning, large-scale, automatic forecasting capabilities to sense demand signals and shape future demand.

Companies that are market-driven understand the factors that influence demand, and they use demand orchestration to increase their market share and maximize revenue and profit. They also tend to shape those demand projections through collaborative fulfillment responsiveness, which uses visibility and control throughout the supply chain to align activities to actual demand. Those companies have implemented a collaborative S&OP process that allows them to match supply to demand and provides supply planners with the ability to shape supply using multi-echelon inventory optimization. S&OP is vital because it’s the time when constrained supply must be considered along with plans and expectations of sales and marketing (whose job is to create demand). An effective S&OP process does a lot more than reconcile mismatched supply and demand. It allows the business to make conscious tradeoffs among customers, financial plans and market realities.
The first step in an effective S&OP process is to sense and shape demand (demand determination), which is matched with supply. A dialogue then follows to address constraints and tradeoffs, resulting in an optimized operational plan to meet demand. Leaders recognize S&OP is really a process that attempts to achieve business goals and objectives through the organization, rather than a supply-chain-driven set of sequential steps to reach consensus. They orchestrate demand sensing and make conscious tradeoffs for demand shaping to drive an optimized demand response. These leaders in S&OP have confirmed the benefits of financial growth, forecast accuracy and the better ability to translate demand into profitable supply plans. A good example is Cisco, which understands the value of balancing demand for its products with supply through the use of a strong S&OP process supported by analytics.

**Case study: a large chemical manufacturer**

Through the adoption of demand-driven principles and the execution of best-in-class work processes and tools, a large chemical manufacturer’s vision was to enable its businesses and value streams to more profitably balance demand and supply while reducing inventory and improving product availability.

The company was experiencing:

- Business performance mismatches with corporate expectations.
- Poor operational execution that wasn’t matching corporate strategic intent.
- Large cash investments in inventories.
- Frequent schedule changes driven by unexpected customer demand.
- Unbalanced asset usage.

The manufacturer decided to transition from a supply-driven organization to become more demand driven by:

- Enhancing cross-functional participation in, and management of, demand and supply.
- Balancing forecast push and demand pull.
- Increasing the flexibility and speed of its operations.
- Highlighting the need for increased cash flow management at all points in the economic cycle.
- Eliminating waste in work processes and material flow.
Upon completion of its supply-chain journey to become more demand-driven with the help of SAS® Analytics, the company was able to create a more realistic and feasible plan, monitor progress against that plan, align its strategy with operational mix while reducing inventories and improving product availability, and, finally, maintain consistent production plans and asset usage while meeting overall inventory objectives.

Upon completion of its demand-driven reshaping, the company is becoming a market-driven organization that could now identify marketing opportunities, sense demand signals and shape demand while optimizing supply to demand. By selling through its market channels with less inventory, waste and working capital, it was able to reduce supply costs while increasing revenue and profit margins.

**Conclusion**

The supply chain journey has clearly demonstrated a strong correlation between demand visibility and supply chain performance. Demand orchestration requires becoming market-driven – integrating operational and customer excellence with a focus on synchronizing demand and supply through the S&OP process. Yet for most companies, there’s still a wide gap between the commercial side, with its understanding of the market and plans for demand sensing and shaping, and the supply chain group, with its ability to support these efforts.

Demand sensing as a core capability isn’t new. Syndicated data, customer insights and focus groups have guided marketing and promotional efforts for the past several decades. The challenge is how to translate these demand insights into actions that drive a profitable supply response. S&OP offers a vehicle to bridge the gap between the conflicting objectives of the commercial and supply-chain forecasts and plans. When working with the supply chain group, the sales and marketing functions should discuss the feasibility and profitability of traditional shaping activities, such as product discontinuation, introduction or promotion.

But for many, the S&OP process has evolved into an operational activity where the supply chain is scrambling to fulfill already-planned commercial commitments. To facilitate better demand sensing and shaping, this process must look beyond the operational timeline. Many companies are still stuck in an S&OP process that focuses on business in the current quarter. Often, the supply response for major demand-sensing and demand-shaping activities requires a longer lead time to align supplies and manufacturing capacity. The greatest value comes when S&OP discussions focus not only on the short-term horizon, but also on the mid- and long-term horizons.
Aligning the business closely with business financial goals is also important. Integration between S&OP and financial planning is often redundant and superficial. Rather than planning activities to map to capabilities, the exercise more often focuses around the financial plan and delivery concerns are secondary. It’s still a top-down process, where financial plans are converted to unit forecasts that the supply chain seeks to reach. Subsequently, those financial forecasts give little guidance to the supply chain on mix requirements. The problem is compounded the farther you move into the supply chain. To close the commercial and supply chain gap, integration between the financial plan and unit forecasts must be an iterative process through repeated what-if analysis (demand shaping) driven by sales and marketing that synchronizes unconstrained demand, constrained capacity and initial financial plans to drive revenue and profitability.

Finally, in order for the S&OP process to properly synchronize demand and supply, there needs to be jointly owned key performance metrics. Locally optimized siloed metrics serve only to sustain the gap between sales and marketing, finance and the supply chain teams. For this reason, formulating KPIs (key performance indicators) that define team success in serving a market or channel is critical to closing the gap and creating shared success.

So the question you need to ask yourself is: Where do you want to be when the next whatever happens?


