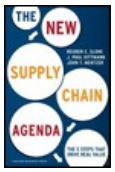


The New Supply Chain Agenda: The Five Steps That Drive Real Value

by Reuben E. Slone, J. Paul Dittmann and John T. Mentzer

Chapter 5: Collaborating Internally

After talent and technology, the third step toward the strategy to drive supply chain excellence is internal collaboration. Successful collaboration occurs when sales, marketing, and operations find a way to align and focus on serving the customer in a way that maximizes economic profit. This chapter presents examples of success as well as dysfunctional behavior. Each function in the firm plays a critical role in a successful supply chain, and this chapter will help you see how they can work together to achieve supply chain excellence. In addition, at the end of the chapter, there is an assessment test for you to complete so you can honestly evaluate your company's process for aligning the demand and supply sides—the sales and operations planning (S&OP) process.

The Curse of Functional Silos

Functional silos exist in every firm. They are not necessarily bad, because they serve as a foundation to build deep process expertise and as a vehicle for firm accountability. The problem occurs when they become barriers to supply chain excellence. In building a strategy for excellence, the important point is to understand how impermeable the functional silos can be to a smoothly operating supply chain. At the University of Tennessee, we offer a supply chain audit service that involves extensive analysis of company data, followed by many interviews inside the firm and interviews with customers and suppliers. Then the audit compares the findings to a database of best practices consisting of over 500 companies. The eight most recent supply chain audits in our database include:

- A major automotive manufacturer
- A major defense contractor
- A leading cosmetics firm
- An automotive parts manufacturer
- A pet supplies maker
- An apparel maker
- A large tire producer
- An industrial pump supplier

Company size in the sample ranges from $100 million in annual sales to over $30 billion. Although the firms audited are tremendously diverse and profitable, they all suffer from functional silo problems ranging from moderate to severe. As one frustrated executive said, "How can you manage horizontally when you are organized vertically?" The supply chain process is the ultimate horizontal process, with links stretching from suppliers across the firm to customers. Even within the firm, the interfaces require a daunting degree of coordination from product design to marketing, procurement, manufacturing, logistics, and sales, enabled by finance and IT.

The CEO at the Eye of the Storm

Only the CEO can make sure all functions in the company are on the same page. The supply chain leader must help the CEO and the executive team understand that if they want to move toward a world-class supply chain capability, all areas of the company need to be rowing in the same direction with the same cadence. This takes an intense dedicated effort to bridge the inevitable gulf between the operations and the revenue-generation sides of the company. The CEO must take on the burden of cross-functional alignment to avoid the curse of functional silos and the crippling impact on the supply chain.

In a consumer products firm we audited, the CEO made a valiant attempt to overcome entrenched functional silos by eliminating all offices. He set up his own work area as a desk in the middle of a large, open bay. He could stand up and see his vice presidents scattered around the room. But still the problem persisted. As long as misaligned objectives drove his vice presidents' compensation, the location of their desks really didn't matter.

At a hard-goods company, the senior executive team tried to address the functional silo problem by creating a cross-functional business team, called the operations management team (ops team). The team consisted of director-level members from each function. They met weekly to make the tactical supply-and-demand management decisions required to guide the firm throughout the year. Each member of the team held a big stake in its successful performance. Forty percent of their individual rating on an overall evaluation depended on the performance of the ops team in delivering cost reduction, inventory reduction, and product availability improvement. In our work with many firms, we rarely see this much motivation to align across functions. In spite of that, the underlying disease persisted. As one team member observed, "When the going got tough, the tough got functional." In other words, any conflict inevitably drove the players back to their functional sanctuaries.

This chapter is a road map for attacking the problem of disconnects that can cripple a firm's supply chain and is a key component of a strategy that delivers supply chain excellence. In our database of best practices, we have identified a number of approaches that are working. In this journey, we find that leading companies start at the beginning, with the initial design of their products.

Begin with Product Design

A world-class supply chain begins with the design of the product, and a world-class design starts with the customer. A well-known axiom in product design holds that once design engineering completes the product design, at least 80 percent of the product quality and cost are set. The suppliers and factory only affect, at most, the remaining 20 percent. It does little good to pressure manufacturing to improve cost or quality

once it loses most of its freedom. In our experience, most manufacturing companies acknowledge this problem, and therefore most involve manufacturing in the product design process to address it. However, very few have taken the next step. Few companies seem to understand that the same principle also applies to supply chain's involvement in the design process.

Design for Flexible Turnaround and Changeover

Once the product design is set, not only manufacturing but the entire supply chain loses most of its flexibility. Product design dimensions and weight clearly have an impact on transportation and warehousing costs. Design also affects product availability. Just as engineers need to design for cost and quality, they also need to design for fast response to customer demand. If the design supports flexible turnaround and changeovers in both the factory and its suppliers, the company can respond much faster to unexpected changes in demand, and the supply chain can provide better availability. Unfortunately, few engineering organizations have that objective, perhaps because the concept is so nebulous on the surface. How can a product be designed for "fast response to customer demand"? One design concept that truly represents a breakthrough in product availability and inventory management is that of postponement, often supported by an easily assembled modular design. With a product design that supports postponement, firms delay the unique differentiation of an SKU until just before it is shipped.

Postponement means that the design of the product allows the final, unique identification of an SKU to be delayed and then customized once the demand is known. Dell is the classic example. Before Dell started selling to retailers, it built computers for most consumers after the order was placed. The order generated a bar code specifying the unique characteristics of the computer. The bar code triggered a picking system in which lights indicated the bins where parts needed to be picked (pick-to-light system) to allow the proper components to be selected and placed in a bin. Then a team assembled the specific computer in a small manufacturing cell.

Delaying SKU differentiation until late in the manufacturing process improves manufacturing flexibility tremendously. One manufacturing manager in a refrigerator factory lamented, "We differentiate SKUs from the first hit on the raw steel in the press room." Generic designs that can be differentiated late are the key to more flexible manufacturing and better ability to respond to consumers. The idea is to keep the different product variations as uniform as possible for as long as possible. Hewlett-Packard waits until it is time to ship printers in Europe before it customizes the language and the electrical plug connection. Engineers have always known that they need to design for cost and quality, but to support a world-class supply chain, they also need to design for fast response to demand.

Include Supply Chain in New Product Planning

Most firms have a stage-gate process to guide the introduction of new products. The stage-gate process consists of a series of gates, with each one consisting of a number of required deliverables before the project can proceed to the next stage. One durable goods company calls its stage-gate process C2C (consumer to consumer) to capture the idea that new products both start with the consumer and end with the consumer. Cummins Inc. calls its stage-gate process VPI (value package introduction). Honeywell uses the term VPD (velocity product development). Cooper Tire & Rubber Company's process is NPD (new product development). All firms have their own jargon, but the concept is the same.

Marketing and engineering dominated the early stage-gate processes. The first versions of the process completely overlooked supply chain issues. Unfortunately, the majority of firms in our database have made disappointingly little progress beyond that. However, a small but growing number now include supply chain considerations as required deliverables of the various gates. What supply chain issues should be considered in the new product introduction process? At a minimum, five questions that are critical to an efficient and effective supply chain must be addressed:

1. How can we design the product for ease of manufacturing?
2. How can we design the product to reduce warehousing and transportation costs?
3. Have we done everything we can to reduce component and finished-product complexity?
4. Can we design for postponement (i.e., delaying the commitment to a specific SKU until as late as possible in the supply chain)?
5. Do we have a plan to phase out old products and phase in the new in order to maintain excellent customer service and minimize obsolete inventory?

Crippling Cross-Functional Problems

Once new products are designed and introduced, four chronic cross-functional problems that can cripple a supply chain often emerge. They are (1) too much obsolete inventory, (2) excessive product complexity, (3) poor forecasts, and (4) ineffective demand management. Misaligned functional silos often hinder the ability of firms to deal with these problems.

Too Much Slow-Moving, Obsolete Inventory

Most companies struggle with the problem of disposing of obsolete products in a timely manner. The sales function is often measured on both revenue and margin generated and naturally resists wasting price reductions on slow-moving, obsolete merchandise. Unfortunately, obsolete products never become more valuable. They sit there month after month consuming cash and incurring inventory holding costs until the firm finally scraps them or sells them at a steep discount, sometimes literally years after, in a classic example of "pay me now . . . or pay me later."

When the senior executives at a major consumer durables manufacturer reviewed their inventory records with us during an audit, we found millions of dollars of products over three years old still sitting in their warehouses. Even worse, this inventory clogged up the warehouse operations of the company and consumed working capital dollars that could have been invested in the current models customers wanted. In this company, the sales function had no incentive to reduce obsolete inventory. This contrasts with a rare retailer whose CEO told us that he

decided to put inventory carrying costs on the financial statements of the sales function. To manage margins, the sales organization now has to worry about the level of inventory and, especially, slow-moving, obsolete inventory.

Many firms behave like an apparel manufacturer we know of where only the planning function was held accountable for inventory levels and customer availability, even though it controlled neither the physical input to nor the output from inventory stocks. The firm saw lead times triple as product was outsourced to Asia. SKUs increased dramatically, and sales provided zero input to the ongoing forecasts. In spite of that, the planning function was in the extremely lonely position of being the only function on the line that had products available to fill customer orders. One day, the director of planning found himself in a meeting with the CEO and all functional heads. The CEO asked who was accountable for ensuring that there was adequate supply of products for the customer. Only the production planning director held up his hand. The CEO took the opportunity to educate his staff on their shared responsibility in terms they couldn't misunderstand. But he knew he had to go further. The next quarter, he required everyone around the table to include customer-order fill rates in their individual performance metrics.

Some firms engage in creative approaches to rid themselves of obsolete inventory. We have observed a wide array of programs. Some find ways to donate the products and take a major tax reduction. Even large firms sometimes use eBay to dispose of obsolete products. Whatever the approach, the best practice is an automated process, which rids the firm *each month* of products that don't sell. This avoids the periodic panic that hits many companies when they realize how much junk is clogging their supply chains.

Too Many SKUs

Few factors cripple the supply chain more than excessive product complexity. It is almost impossible to find a firm without an SKU problem. Virtually all admit that they carry too many SKUs and further concede that they lack a good process to eliminate under-performing products. As one executive noted, "Controlling SKUs is like eating liver. At some point, you have to stop moving it around on your plate and just dive in." The problem exists at the beginning *and* at the end of life. Once new products are introduced and excessive complexity is unleashed, it takes on a life of its own. Like a snowball gathering mass as it barrels downhill, the problem grows rapidly worse.

Why does product complexity gather momentum and get progressively worse in many firms? Amazingly, most companies do not have an end-of-life process for old SKUs. One executive made the comment we have heard echoed over and over, "We have no problem introducing new products, but we totally lack any hint of a process for killing them off." Fortunately, this problem can be solved with some cross-functional discipline. A few world-class companies have an end-of-life process, constantly flushing unproductive SKUs from the system. Some firms have implemented hard and fast rules such as, "If we add an SKU, we have to eliminate an SKU." Others force marketing to seek approval from the CEO and executive committee for an expansion of the model lines, requiring them to present a rigorous justification before SKUs are added. These processes, although rare, are quite effective.

A company in the health-care industry faced a severe problem of SKUs growing rapidly with no end in sight. Market forces and competition drove some of this increase. But executives in all functions admitted to us in interviews that a significant portion was unnecessary, fostered by undisciplined processes at both the beginning and end of product life. They eventually came to realize that rapidly growing SKUs would have a devastating impact on the supply chain. When an unbelievable twenty thousand more SKUs materialized in just three months, they told us that they reached a complexity tipping point as rapidly expanding product variety literally overwhelmed the operational capabilities of the firm, causing cost and inventory to rise and product availability to deteriorate rapidly. In the past, their supply chain had managed, with heroic effort, to change fast enough to accommodate SKU growth, although at the price of very high inventory levels. However, the warning signs were there. Manufacturing, logistics, and even the finance people inside the company expressed serious concern, predicting that this future environment could make the existing manufacturing process and indeed the entire supply chain obsolete. We heard the following comments from senior executives inside the firm.

- "SKU growth is the scariest part of my job. We are not prepared for it. Our only hope is that customers will push back due to their space constraints. We need an end-of-life process."
- "SKUs are a huge concern. We are choking on SKUs. It is a big disappointment that we have brought no discipline to this. We are pathetic at killing old products."
- "Even our customers are very concerned about SKU growth. They say SKU proliferation is killing them."

As with all problems, facing the demon is half the battle. The supply chain leader was able to convince management all the way up to the CEO that SKU growth was the root of the crisis in inventory and product availability. They launched processes at both the beginning and end of SKU life. Given the CEO's commitment, cross-functional misalignment became less of a barrier, especially when the vice president of marketing took over the leadership of managing SKUs. Logic demands that the function making the decision to add or delete SKUs should lead any SKU-reduction effort. Marketing, not supply chain, is generally that function. But supply chain people can help marketing in collaboratively supporting the effort, providing realistic facts and honest analysis. The CEO in this example now includes SKU reviews in his monthly staff meetings. The number of SKUs has leveled off and declined slightly, and all staff members understand the need for a disciplined SKU-management process.

The CEO, once convinced, supported the effort, and that made all the difference. Senior management support is critical for dealing with such cross-functional problems. This story plays out in company after company. For example, when a major tire company eliminated 25 percent of its SKUs, the CEO said, in our supply chain forum, that its major customers told him that they felt no impact. CEO support is clearly required to resolve cross-functional problems like SKU management.

Some firms have built-in advantages that they should leverage when managing SKUs. For example, automotive companies can manage SKU elimination through routine model-year changeovers. Pharmaceuticals and cosmetics firms are able to manage shelf life with pull dates on their products. Such opportunities should not be squandered.

Forecasting Problems

Forecasting problems can be mitigated in many ways, such as by reducing cycle time, by holding inventory back in the chain, or, of course, by improving forecast accuracy. In many companies, absolutely no process exists to integrate sales input into the forecasting process. Perhaps even worse, the inputs are "gamed." Sometimes gaming leads to unrealistically high forecasts in order to push operations to make more products. Sometimes the guidance follows the low road, perhaps to sandbag the goals. Either way, the lack of a good demand signal creates havoc in the supply chain.

At a consumer packaged-goods manufacturer, no forecast input came from sales or merchandising, forcing production planning to rely almost solely on a statistical forecast. The director of production planning said he had made repeated attempts, and finally got some guidance, grudgingly provided by the product-line sales directors. Unfortunately, the input led to forecasts even more inaccurate than before. As product availability continued to deteriorate, the CEO realized something had to be done. After a number of discussions with the director of supply chain, he realized that he had to put teeth in the process and required that a forecast accuracy measure be included in the performance metrics of the sales organization. Although achieving revenue targets was still the primary goal of sales, this concentration on the forecast turned around the downward trend and resulted in a marginal improvement in the accuracy of the forecast. More importantly, it forced sales to get serious about a demand plan that aligned with the forecast.

World-class firms measure forecast accuracy by calculating the average percentage error regardless of whether the error is high or low (mean absolute percent error or MAPE). They also measure forecast bias to indicate whether the forecast is consistently high or low. They hold sales, marketing, and planning accountable for forecast accuracy.

One supply chain chief in a technology company surprised us when she resisted our recommendation to measure forecast accuracy. Her view was that forecast accuracy is affected by many factors beyond anyone's control. She thought it simply not fair to hold people accountable for something so clearly outside their control. Yet, in over forty forecasting audits we have done, the data shows that companies that rigorously measure the accuracy of the forecast and hold a range of people accountable for it have much better forecast accuracy and better supply chain performance.

A supply chain director for a hard-goods manufacturer told us that he abandoned the idea of getting specific numerical input from sales. The sales representatives simply did not appreciate the importance of time spent in the forecasting process when they were overwhelmed with other responsibilities. The reps believed that their job was to sell and that manufacturing should just "make what we sell." The director next tried to obtain sales input via an "unusual event form." The form served as a vehicle to gather input for the forecasting team any time a sales representative became aware of something that might affect the sales forecast (e.g., a retail promotion). However, some salespeople submitted the form for insignifi-cant items or rumors, while others did not send it in at all, causing this process to slowly fade into oblivion.

The director told us that he could not get any traction for the real solution of assigning accountability to the salesforce for the accuracy of its forecasts. Finally, he found the right approach for the culture. He was successful in organizing a quarterly meeting at which sales directors provided directional input on the state of the marketplace. Rather than provide specific forecast quantities, they passed along vitally important information obtained from their work with the retailers regarding the health of the business as well as competitors' status. They discussed their logic for upcoming promotion programs. The meeting helped all parties better understand the general trends in the marketplace and with competition, as well as future promotion.

Demand Mismanagement

Providing input to a forecast is one thing; managing demand is quite another. Unfortunately, in most firms, the sales organization makes little effort to shift customer demand to comparable SKUs when products are unavailable. A supply chain executive in a durable goods firm related a particularly egregious event. Overnight, sales developed an aggressive promotion plan to counter a recent fall in market share, given the serious discussion the sales vice president had with the CEO regarding that market share loss. The sales vice president announced the promotion with great fanfare and scheduled it to start in a couple of weeks and run during the month of July. Unfortunately, the factory had scheduled a two-week shutdown for the first half of July.

In most companies, few promotional campaigns are initiated by the salesforce in order to shape demand and better match current supply constraints. Of course, the glaring exception is Dell. As Dell executives say, "We sell what we make—price is the only variable." Pricing varies hour to hour on the Dell Web site to align supply with demand in real time. Of course, as Dell sells more and more through retailers, it is struggling to maintain the purity of this concept.

Another executive said that his firm had a "sell what's available today" plan for moving inventory. He pointed out, "Anyone can take orders without regard for product availability. But it takes some talent and discipline to focus on selling what's available today." When demand is aligned with real capacity constraints, the company optimizes economic profit by achieving the maximum level of product availability with the minimum level of cost and inventory. Matching supply with demand is perhaps the greatest of all cross-functional opportunities.

Matching Supply with Demand

Many cross-functional problems prevent supply chain excellence, but the greatest of all is the inability to match supply with demand. Some call it sales, inventory, and operations planning (SIOP) or demand-supply integration (DSI). Sales and operations planning (S&OP) is the most common term that firms use to describe a wide range of activities employed to match supply with demand. Many argue that the holy grail of cross-functional alignment is the *ability to match supply with demand*. Most but not all of the firms we work with seem to be trying to implement or improve the internal process to align supply with demand.

Whatever the name, the concept of matching supply with demand requires that all key functions in the firm reach consensus, a daunting task indeed. One executive told us in obvious frustration, "This is the process where sales and operations get along . . . right? . . . Yeah, right." An operations executive said, "Can't they see that running promotions when we don't have capacity is basically advertising for competition?"

Firms travel a hard road in integrating supply with demand, but the internal collaboration journey is well worth the effort.

Why Is Matching Supply with Demand So Difficult?

This activity carries such a high degree of difficulty due to its cross-functional nature as it attempts to align sales, marketing, operations, logistics, procurement, and finance in a plan that balances supply with demand. A supply chain executive in a building supplies company once told us, "We used to invite sales to the S&OP meetings, but stopped because it just slowed down the process." Clearly such behavior misses the point. It's hard to do S&OP without the *S*.

During another recent supply chain audit, we interviewed a supply chain director in a consumer packaged-goods firm who said its S&OP process was not working. When asked what caused the problem, he ticked off several reasons, with some emotion. He believed it began with the fact that objectives and metrics were not aligned and in fact drove behavior in opposite directions. Each function followed its own agenda. The alignment meetings then became long agonizing affairs, and eventually key players stopped attending because nothing was really decided anyway. Furthermore, the meetings failed to have a clear agenda and instead dissolved into expediting meetings dealing with the crisis of the day, rather than the plan for the next month.

When we asked the supply chain executive what he would like to change if he had the power to change it, he listed five essential items:

1. Common metrics—"The sales and marketing people need to worry about cost and inventory, just as we operations people need to be concerned about revenue generation."
2. Disciplined meetings with tight agendas focused on strategic issues—"These sessions are not the place for managing a problem that occurred an hour ago. Furthermore, the meetings should begin and end on time, and be only an hour long."
3. Credible, understandable data.
4. Mandatory participation of key players.
5. Support from the top, and that means the CEO.

We think he nailed it. Our experience with hundreds of firms reinforces that these five conditions are necessary, and when in place, they can result in many benefits, some of which are low cost and quick to implement. For example, a consumer packaged-goods firm saw an improvement in its forecast accuracy by almost 50 percent by implementing a very simple process change that had zero cost and was proposed in an S&OP meeting. Sales simply started communicating its promotion plans to the people doing the forecasting. Amazingly, this simple change would have never occurred were it not for a discussion in an S&OP meeting.

The CEO of one consumer durables company understood the power of S&OP and said that he asked the following questions of his S&OP group:

1. Who attends S&OP meetings? Do they know their responsibilities, and do they consider attendance mandatory?
2. Do at least director-level personnel from sales, marketing, production, logistics, and finance attend the meetings, or have they delegated it lower in the organization?
3. Are sales, marketing, production, logistics, and finance able to agree on supply and demand plans?
4. Is our S&OP process about balancing supply and demand, and on reaching a consensus, not finger-pointing?
5. Do we use the latest technology in forecasting systems to support the process?
6. Have we aligned the performance metrics of the S&OP process to the individual functional metrics of all of the participants?
7. Do you rotate senior leadership of the S&OP process periodically so all parts of the organization gain a perspective on how their individual input to the S&OP process contributes to the success of the company as a whole?

With the CEO asking questions like these, the organization became deeply committed to the S&OP process.

Scott Roy, collaboration planning manager at Blue Bunny, the frozen dessert maker, told us the following story about implementing S&OP:

> In our company, demand planning is housed in the marketing department and supply planning is in logistics, but we have worked over the last eighteen months in building an environment of integration and cooperation. I don't think that we could be where we are today without a strong S&OP process led by a key member of senior management. We had S&OP for six years before this and were just going through the motions and not making any true integration advancements. Eighteen months ago we got a new sheriff in town and things began to change. He had the vision of what S&OP was all about. We then took steps of truly identifying our business execution strategy, driven by service-level expectations, operations policies. We also took aggressive steps in developing customer-service-driven inventory strategies. We moved from a one size fits all inventory–safety stock strategy to item-level settings based on the unique nature of the items and the markets that they go into. The settings are reviewed every two months.
>
> We address tactical supply and demand issues each Monday in a cross-functional inventory planning and supply meeting. We also review key performance metrics each week as well as changes in the plans from supply or demand are reviewed and acted upon.
>
> To make this all work, there needs to be constant communication and integration between supply and demand supported by senior

management tied back into a functioning S&OP Process. For years, S&OP was purely communication based. It was not until it became action oriented and accountability driven did we get over the hump.

We haven't perfected this thing, but we have created a performance-tracing and an improvement-driven environment. S&OP is no longer the place you go to make the other guy look bad, but the place you go to make the company succeed.[1]

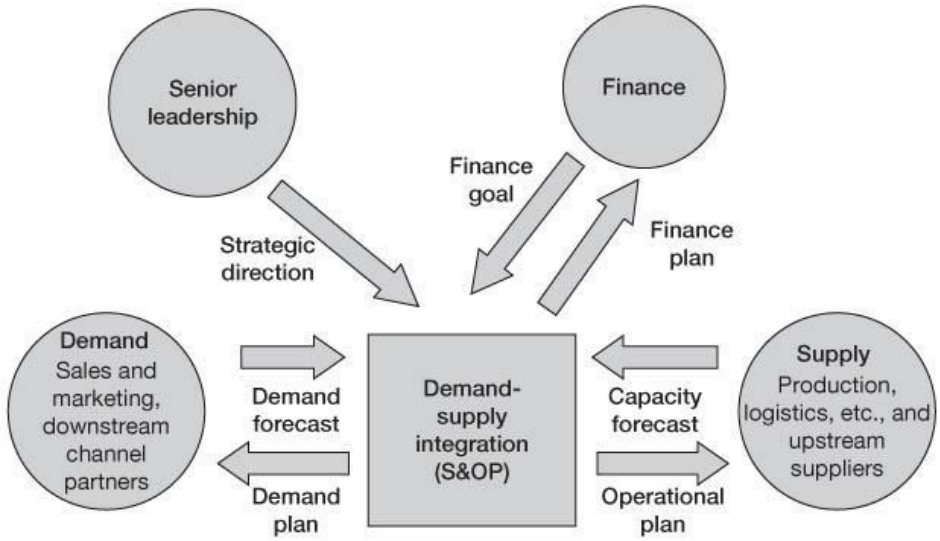
[1]Interview with Scott Roy. Knoxville, Tennessee, March 30, 2009.

Best Practices for Demand and Supply Integration

Almost all firms we work with are implementing S&OP, or reimplementing S&OP after an earlier, less than successful effort. Consequently, we have built a rich database consisting of best and worst practices as firms continue to try to align functions around a common supply and demand plan.

Mark Moon, a professor at the University of Tennessee and a consultant for many firms that are striving to integrate supply with demand, has created a process of best practices for S&OP (see figure 5-1).

This process consists of major prework involving in-depth analysis of demand and supply as well as input from finance and senior leadership. The work eventually comes together at an executive S&OP meeting. Although the executive S&OP meeting makes key final decisions, our studies have shown that at least 75 percent of the operating decisions are made in advance at pre-meetings involving personnel lower in the organization.



Source: Mark Moon, PhD, University of Tennessee. January 2008. Used with permission.

FIGURE 5-1: Demand-supply integration (DSI)

Many firms use the S&OP process to address myriad cross-functional issues, such as those discussed earlier in the chapter. The meeting may be the only place where all key functions assemble to address issues that transcend individual functions. The S&OP group is a decision-making body, not just a discussion group.

At the tactical level, decisions can be made about how to enhance demand when supply exceeds demand or when financial targets are at risk. These actions might include increased advertising expenditures, pricing adjustments, or new promotional activity. Or the decisions might focus instead on how to dampen demand when demand exceeds supply, such as reducing advertising, raising prices, discontinuing promotional activity, and giving customers incentives to switch to other products and services. The S&OP process can also involve discussions about strategic issues. For example, when capacity exceeds demand, the forum could discuss opening new markets or expanding distribution outlets.

Demand plans and operational plans are the key outputs of the S&OP process. Demand plans deal with imbalances that occur between the forecast of future demand and the forecast of future production capacity by actively managing demand. Operational plans are also set in motion. These include production scheduling, procurement plans, transportation plans, and all other plans that must be implemented to operate the supply side of the enterprise.

We emphasize three key elements of S&OP forums. First, *decision makers must attend, with visible encouragement by the senior executive*. Without decision makers, the S&OP meetings deteriorate into a review rather than a process for resolving issues. Second, the *senior operating, sales, marketing, and finance executives should participate*. Without their involvement, the process breaks down. The financial perspective must be a key element of the decisions reached. Often, various alternatives are available for resolving demand-supply imbalances, and the financial people must participate to offer their perspective. Third, *the process must focus on strategic issues with disciplined agendas*. In the absence of disciplined agendas, the meeting devolves into firefighting. As one executive observed, "Our S&OP

meetings quickly dissolve into expediting meetings, focused only on the crisis of the day. We keep solving the same problems because we never get at the root causes."

Enterprises are often faced with an imbalance between demand for products and services in the marketplace and the ability to supply those products and services. In fact, those two numbers (demand for a product and ability to supply the product) are almost never in balance. When demand exceeds supply, shortages result, expediting costs escalate, customers are often left unhappy, and revenue is left unrealized. When supply exceeds demand, production assets are underutilized, inventories grow, and costs escalate. In addition, enterprises are often faced with demand and supply forecasts that may be more or less in balance, but which do not result in achieving financial goals. All this destroys economic profit. Thus, effective S&OP processes are important decision-making forums to help drive economic profit and shareholder value.

Demand and Supply Integration Industry Survey

We completed a survey of a hundred twenty-two company representatives in 2008 (see table 5-1; the information in the table focuses specifically on the topic of demand and supply integration or S&OP).

In the survey, only 19 percent are extremely or quite satisfied with their S&OP process and 38 percent are somewhat or extremely dissatisfied with it. The source of this dissatisfaction seems to be reflected in the data via four key shortcomings:

Table 5-1: Results of University of Tennessee survey on S&OP processes

Which function takes the lead in the S&OP process?	Sales	11%
	Marketing	13%
	Operations	22%
	Finance	1%
	Supply chain	38%
	Forecasting	3%
	Other	12%
Who is the highest-level executive involved in the S&OP process on a regular basis?	CEO	16%
	COO	5%
	Vice president, sales	8%
	Vice president, marketing	13%
	Vice president, supply chain	20%
	Vice president, operations	7%
	Vice president, finance	NA
	Director	17%
	Other	14%
Describe the level of accountability for the success of the S&OP process	Little accountability	6%
	Some accountability, but not shared across functions	42%
	Some accountability shared across functions	28%
	Good accountability shared across functions	24%
Is the S&OP process a global process?	No effort to make global	29%
	Each region has a unique and separate process	22%
	Some regions share some processes	29%
	S&OP process is global	20%
What is the output of the S&OP?	Demand plan	81%
	Manufacturing plan	60%
	Financial plan	53%
	Inventory plan	53%
	Marketing plan	32%
	Sales plan	45%
	Promotion plan	19%
How strategic is the S&OP process?	Strategic	20%
	Tactical	35%
	Operational	45%
What is the dominant tool used in the S&OP process?	Forecasting software	21%
	Supply chain planning software	11%

	MRP	4%
	ERP	11%
	Financial planning software	4%
	Excel/Access	43%
Is there access to good data in the S&OP process?	Terrible	5%
	OK	44%
	Pretty good	47%
	Excellent	4%

Table 5-1: Results of University of Tennessee survey on S&OP processes

What metrics are used to measure the performance of the S&OP process?	Forecast accuracy	74%
	Inventory turns	63%
	Customer service	73%
	Cost	49%
	Other	50%
How often does the S&OP process take place?	Weekly	18%
	Monthly	60%
	Quarterly	11%
	Semi-annual or annual	4%
What is the planning period for the S&OP process?	Daily	10%
	Weekly	15%
	Monthly	55%
	Quarterly	10%
	Annual	7%
Which functions have heavy involvement in the process?	Sales	48%
	Marketing	41%
	Operations	67%
	Supply chain	69%
	Finance	23%
	Forecasting	75%
Has S&OP led to business improvements?	Customer service	91%
	Inventory	74%
	Cost	65%
Are S&OP metrics tied to compensation?	Not at all	6%
	For some people	37%
	For quite a few people	30%
	For most people	28%
How satisfied with your S&OP process are you?	Extremely satisfied	3%
	Quite satisfied	16%
	Satisfied	43%
	Somewhat dissatisfied	34%
	Extremely dissatisfied	4%
What is the most important area to improve the S&OP?	Culture	51%
	Process	29%
	Tools	20%

1. The CEO and the COO are not involved—in only 21 percent of the cases are the CEO or COO involved in S&OP on a regular basis.
2. Inadequate cross-functional metrics and accountability exist—in nearly half of the cases (48 percent), there are no cross-functional metrics or cross-functional accountability.
3. The process is too tactical, focusing on the problem of the day—the S&OP process is primarily tactical in 35 percent of the cases.

4. Sales and marketing are weak participants in the process—in less than half the cases sales and marketing have heavy involvement in the process. It seems to be most often led by forecasting, supply chain, or operations.

Conclusion

Because the supply chain is a horizontal cross-functional process, it is critical to eliminate the vertical, functional barriers that impede it. Therefore, a strategy to deliver supply chain excellence absolutely depends on cross-functional alignment. Although the cross-functional misalignment malady affects all firms, some are implementing processes, such as S&OP, to better manage the problem. With the support of the supply chain leader, the CEO must be in this game. He or she must set the tone and align objectives to allow his or her company to fight competitors who may already be embracing this challenge aggressively. As one of the five steps toward supply chain excellence, internal collaboration is critical to delivering economic profit. But just as important is collaborating externally with suppliers and customers, which we discuss in the next chapter.

S&OP Assessment Test (Table 5-2)

Scoring

- If you score below three on any item, it is cause for alarm. You must address this in order for the process to survive and be successful.
- A total score of 19 or lower essentially ensures that the S&OP process in your firm will fail. Take aggressive action to improve on all fronts.
- A score of 20–44 indicates that problems exist, but there is hope for salvaging the process if aggressive action is taken. Focus on the problem areas and solicit senior management support to fix them.
- A score above 45 indicates the firm is on the pathway to success. Although there is always room for improvement, this can be core strength for the organization. Build on this strength and leverage the process for an expanding array of cross-functional decisions.

Table 5-2: S&OP assessment

Area	Score of 1–2	Score of 3–8	Score of 9–10	Your score
1. Involvement and support of the senior executive	Senior executive is not involved.	The senior executive is somewhat involved in the S&OP process and checks on its status periodically.	The senior executive is deeply involved, openly and consistently supports the process, and makes sure that there is accountability for success shared by all functions.	
2. Accountability for success	There are no credible metrics that are evaluated for performance measurement or compensation.	Some credible metrics exist, but they need to be more visible and shared more widely.	Metrics are clearly defined, credible, and not gamed. Compensation is tied to performance on those metrics and shared cross-functionally.	
3. Strategic nature of the process	The process and meetings are highly tactical. Sometimes S&OP meetings focus exclusively on the “problem of the day.” There is little agenda discipline.	A mixture of tactical and strategic items are addressed, and the agenda is followed in a disciplined way.	The S&OP agenda is followed with discipline, and that agenda is focused on the strategic, cross-functional issues required to align supply with demand.	
4. S&OP meetings structure	Attendance is sporadic. Meetings are overly detailed. There are no disciplined agendas.	Attendance and meeting discipline are inconsistent.	There are both a pre-S&OP and an executive S&OP. The meetings are relatively brief and follow a disciplined agenda. Attendance is mandatory.	
5. S&OP tools and support	Data is confusing, overly detailed, and no clear graphics are used.	Data clarity and tool use are being implemented.	The data and graphics used are clear and easy to understand. S&OP software is used if appropriate.	
6. Cross-functional involvement	A key function like sales is totally missing from the process.	Sales and marketing are often present in the meetings, along with the other functions.	All functions including sales, marketing, operations, logistics, finance, etc., are involved deeply in the process and are committed to it.	
			Total	

ACTION STEPS

To slay the functional integration dragon, companies should pursue the following action steps:

1. Give the engineering people strong incentives to create product designs that are flexible and ideally have postponement capability.
2. Make sure that supply chain is at the table when new products are designed and planned.
3. Routinely dispose of slow-moving and obsolete SKUs.
4. Minimize product complexity by having as many SKUs as customers need, but no more than needed.
5. Give sales and marketing people strong incentives to get involved in forecasting and demand management.

6. Take the S&OP assessment test and address the problems it exposes.