



Aberdeen *Group*

The Technology Strategies for Integrated Business Planning Benchmark Report

*How companies need to revise their Sales and Operations Planning
Processes and Technologies to Improve Corporate Performance*

July 2006



Executive Summary

Based on a survey of nearly 140 enterprises between June and July 2006, Aberdeen research finds that the top 5 pressures for improving S&OP processes are rising customer order fill rate expectations, better return on net assets, shrinking profit margins, customer retention pressures and extended lead-times due to global sourcing.

However, current S&OP processes are failing to alleviate many of these pressures. While a majority of companies report that S&OP has helped improve forecast accuracy and improved cross-departmental communication, most companies have failed to see improvements in profit-related metrics like gross margin and customer retention.

Aberdeen research finds that traditional sales and operations planning (S&OP) processes and supporting technologies are no longer sufficient in today's high-pressured business environment. Sales and Operations Planning has evolved to become Integrated Business Planning. It is a truly cross-functional, multi-dimensional process that includes all elements of demand, supply and financial analysis in relation to the business goals and strategy.

Opportunities for Improving on Current S&OP Technology and Processes

- **S&OP frequency:** Companies with more frequent S&OP processes are experiencing better order fill results.
- **Siloed S&OP:** S&OP processes continue to be driven by individual organizations in the majority of companies (83% of companies) and only 17% of companies have cross functional teams.
- **S&OP technology adoption:** 41% of the companies surveyed reported that they are using spreadsheets for their S&OP solution. Nearly 30% of these companies have ERP solutions that are capable of doing S&OP demand and supply planning, but these companies have chosen to supplement with spreadsheets for their S&OP process.
- **Executive reporting:** 74% of companies are reporting that they don't have adequate executive level reporting for the key performance indicators of the S&OP process.

Characteristics of Integrated Business Planning

The key differences of an Integrated Business Planning process compared with a traditional S&OP process are shown in Table i.

**Table i: Integrated Business Planning Process vs. Traditional S&OP**

Area	Traditional S&OP	Integrated Business Planning
Business Objective	Supply/demand balancing	Not simply about matching demand and meeting customer needs. Considers several plan alternatives and chooses one that best represents the business drivers. Objective is revenue and profit
Process	Rigid and prescriptive	Process is more rules and exception based
Technology	Weak and non-integrated	Technology enables the processes through workflows
Frequency	Monthly or quarterly	Still monthly in lot of cases but with ability to rapidly handle exception situations
Focus	Inward focused	Collaborative and outward focused

Source: AberdeenGroup, July 2006

Role of Technology in Supporting Integrated Business Planning

78% of companies say that technology is either critical or very important for their S&OP process. Data management., multi-dimensional goals and views, more dynamic business processes, more decision parameters are the key reasons why technologies are essential to support Integrated Business Planning processes.

Technology Spending Plans

40% of companies indicate that they plan to spend more on S&OP technology in 2006 versus 2005, while only 13% say they plan to spend less. Tellingly, companies with best in class order fill rates plan to spend more on S&OP technology than their peers (an average of \$250,000). This indicates that the best in class companies see S&OP technology as critical to improving on their already strong corporate performance.

Recommendations for Evolving Towards Integrated Business Planning

- Move towards a single plan and process with laser focus on margin and revenue. Set up systematic “what if” Integrated Business Planning process to move to proactively identify key opportunities and risks.
- Put in place an inter-disciplinary marketing, sales, finance and operations team to manage the process and support it with the right metrics. Increase collaboration with key customers to drive to a collaborative single demand forecast. Finance teams need play a more important role in Integrated Business Planning processes.



- Move towards supply and demand shaping. Look into incentives, promotions and other causal events to shape demand. Look into profit optimized sourcing of supply and optimal inventory allocation to shape the supply.
- Invest in technology enablers that allow institutionalizing the S&OP process with application infrastructure, security, user roles, workflows in an enterprise environment. ERP systems and best of breed supply chain vendors should be considered by these companies.
- Explore pure play S&OP players which bring years of domain expertise, low cost and ability to come out with quick ROI. These tools often work on top of excel spreadsheets and help change the mindset of users from reactive ‘planning’ to an Integrated Business Planning mindset.
- Look into technology solution providers who have deep domain expertise, as the progress towards S&OP excellence can be bumpy and will require some level of hand holding. While choosing consulting partners, look for the ability to work with technology in addition to process re-engineering as technology plays an important role to move towards the next level of corporate performance.
- Integrate the sales revenue planning process with the demand planning process – integrate the customer, supplier and internal systems into the process.
- Set up financial metrics like working capital, gross margin in addition to the operational metrics. Set up closed loop analytics and performance management systems for the top management.
- Move towards automated data transfer and planning processes that are automated and event driven. Move towards an enterprise system of record.



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Chapter One: Issue at Hand

Key Takeaways

- Current enterprise Sales and Operations planning processes need to evolve towards an Integrated Business Planning process because of changing business pressures.
- Today's S&OP technology adoption is insufficient to achieve the corporate performance that customers desire from their S&OP processes.
- An Integrated Business Planning process focuses on profit-based supply/demand balancing and more collaborative and outward focused processes.

The last few years have seen a sharp acceleration in a set of marketplace trends that are putting growing pressure on traditional methods used to align enterprise demand and supply:

- Increased customer (end consumer as well as B2B) demand for customized and configured solutions are rapidly increasing market volatility and decreasing predictability.
- Erosion of brand loyalty and growing global competition are causing a slowdown in traditional price increases, leading to shrinking gross profit margins.
- A rapid increase in global sourcing is adding uncertainty to lead-times and adding complexity to the supply chain thus making it more challenging to effectively balance supply and demand.

This situation has caused significant pressure on enterprises to focus their scarce resources on the best customers, markets, products, and channels while continuously monitoring and adjusting to this volatile environment. The traditional method for doing this is through the sales and operations planning (S&OP) process, which helps determine the best alignment of demand and supply, over a typical planning period of four weeks to as long as two years.

Aberdeen research, however, finds that traditional sales and operations planning (S&OP) processes and supporting technologies are no longer sufficient in today's high-pressured business environment. Sales and Operations Planning has evolved to become Integrated Business Planning. It is a truly cross-functional, multi-dimensional process that includes all elements of demand, supply and financial analysis in relation to the business goals and strategy.

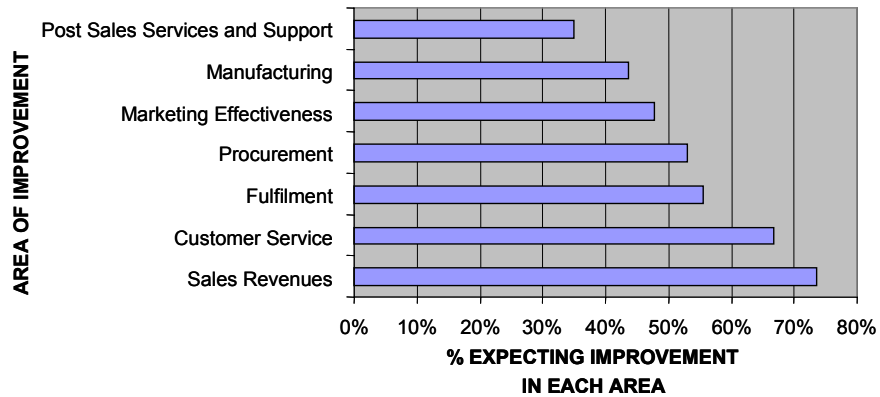
S&OP: A Primary Weapon for Enterprise Profitability but Not Living Up to Expectations

The continuing compression in product life cycles has increased the need to quickly target and reinforce marketplaces with the greatest initial uptake of new or enhanced products. This requires a much more refined segmentation of the customer, channel and geographical marketplace, and the increased ability to be able to determine profit-optimized



demand and supply trade-offs. More than 70% of respondents in Aberdeen’s 2004 S&OP benchmark indicated that they are or will shortly be improving their S&OP processes and technologies to better arm the enterprise competitively. As indicated in Figure 1, the majority of respondents indicated that they expect an enhanced S&OP program to materially improve operational performance across the value chain, from sales to procurement.

Figure 1: Expected Areas of Improvement from S&OP

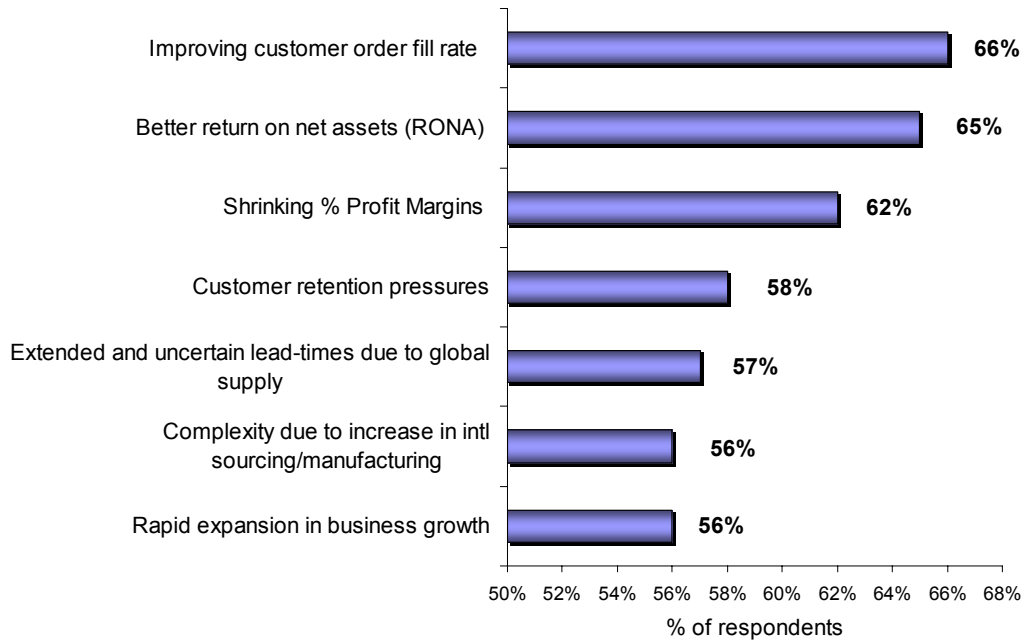


Source: AberdeenGroup, July 2006

Based on a survey of nearly 140 enterprises between June and July 2006, Aberdeen research finds that the top 5 pressures for improving S&OP processes are rising customer order fill rate expectations, better return on net assets, shrinking profit margins, customer retention pressures and extended lead-times due to global sourcing (Figure 2).



Figure 2: Top Pressures Driving Companies to Improve S&OP Processes

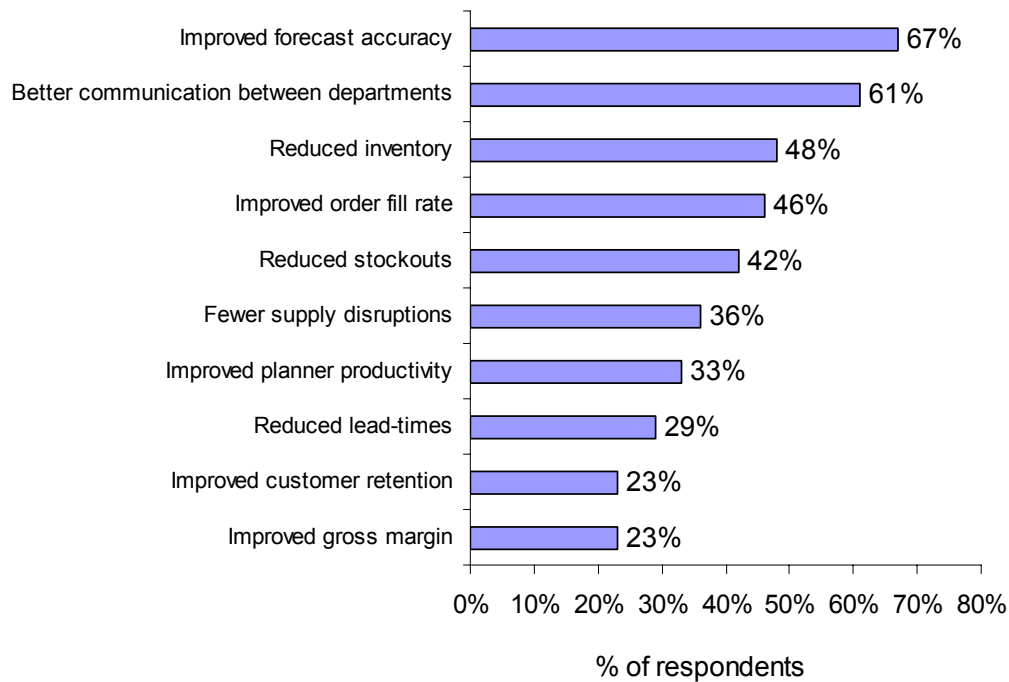


Source: [AberdeenGroup](#), July 2006

However, current S&OP processes are failing to alleviate many of these pressures. While a majority of companies report that S&OP has helped improve forecast accuracy and improved cross-departmental communication, most companies have failed to see improvements in profit-related metrics like gross margin and customer retention (Figure 3). Interviews with executives in both industrial- and consumer-oriented business have also confirmed this observation that the companies that have invested in S&OP technologies have made progress in supply/demand matching but inadequate progress towards a profitable S&OP process.



Figure 3: Benefits of Existing S&OP processes



Source: [AberdeenGroup](#), July 2006

This indicates that for most companies traditional S&OP processes do not perform as effectively as they should. In-depth analysis by Aberdeen in 2006 of organizations’ S&OP processes finds that companies need to strive towards an Integrated Business Planning process and deploy the supporting technology infrastructure to improve their profit-related metrics.

The key differences of an Integrated Business Planning process compared with a traditional S&OP process are shown in Table 1.

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Source: AberdeenGroup, July 2006

Companies moving to integrated business planning are creating more outward focused processes.

“Our company is looking beyond the four walls and extending collaboration to our partners and incorporating requirements of the entire value chain within our S&OP process,” says the project manager of a leading networking solutions provider. “Our S&OP process is based on a strong foundation of sound business process as well as a robust enterprise planning platform technology solution.”

This company had problems matching supply with demand, resulting in inventory surpluses in some instances and order delays in others. To help address these and other problems, the company implemented Collaborative Forecasting and Demand Planning solutions.

Good forecast quality is fundamental to the quality of the S&OP plan but not enough, as inventory serves as the hedging factor to protect against uncertainty. Some companies are taking planning for inventory to the next level by factoring VMI strategies and planning around it in their S&OP process. This allows the consumption of inventory that is not on the balance sheet (e.g. suppliers, manufacturers, partner inventory) with reliable lead-times.

Technology clearly is a vital enabler of integrated business planning. However, according to Aberdeen’s 2006 S&OP benchmark results, 61% of companies lack enterprise automation for their S&OP processes. Only 16% of firms are using best of breed S&OP solutions for enabling their S&OP process. This lack of technology enablement is making companies rely on traditional spreadsheet based approaches for their S&OP process, which results in reduced corporate performance and being unable to reach the potential of the benefits that S&OP can offer.



Chapter Two: Key Business Value Findings

Key Takeaways

- Companies with more frequent S&OP processes are achieving better corporate performance than those that have less frequent processes.
- Companies are frustrated by the lack of visibility to more accurate customer demand for their S&OP processes.
- Executive level visibility is critical to moving towards a best in class Integrated Business Planning Processes – however, it should be supported by robust underlying technology that can solve problems of supply/demand balancing with industry-specific capabilities.

Aberdeen’s 2006 S&OP study of nearly 140 enterprises finds that companies have made considerable progress in their S&OP processes but more process changes and an improved technology platform is needed to enable S&OP to go beyond forecast accuracy improvement and truly impact financial performance. This chapter assesses the S&OP areas where the most dramatic improvement opportunities exist.

Table 2 outlines the progress of companies that are moving from disjointed S&OP processes towards a Best in Class integrated business planning process. Use this table to assess your company’s current stage of maturity and identify your opportunities for improvement.

Table 2: Sales and Operations Planning Competitive Framework

	Laggards	Industry Average	Best in Class
Process	S&OP process is ad-hoc, with disparate data sources and there is not a single demand number based on which the company performs. Top-down forecast is not tied to plan and there is no formal process.	S&OP process is more refined with some level of data synchronization and organizational mandates to arrive at a single demand number off of which the company executes.	Is a true integrated business planning process where all the organizations involved work collaboratively to arrive at a single demand number off of which the company executes. Margin and revenue focus exists.
Organization	S&OP process is non-standardized across different departments – no clear ownership of S&OP process.	S&OP process is standardized across different departments with one of the departments taking ownership of S&OP process.	Collaborative balanced cross-functional team takes ownership of the integrated business planning process. Finance organization is playing a more leadership role in the process.



	Laggards	Industry Average	Best in Class
Knowledge	Pockets of information known at different departments. No sharing of information across departments.	Some level of sharing of information across departments; however there are still internal barriers to overcome like corporate politics and lack of cross-functional focus.	Information available instantaneously to all parties with cross-functional inter-departmental focus.
Technology	Usage of spreadsheets for enabling S&OP process or non-integrated technology tools.	Individual demand and supply planning modules not integrated to each other.	Executive-level what-if analysis capability along with integrated supply and demand planning modules with ability to optimize on financial metrics.
Measurement	Basic measurements like forecast accuracy, capacity utilization owned by individual departments.	More advanced measurements like forecast accuracy at individual SKU level, family level, lead-times measured and owned by individual departments but shared with organization.	Cross functional metrics like order fill rate, supply/demand match, gross margin measured and monitored as part of S&OP process.

Source: AberdeenGroup, July 2006

Opportunities for Improving on Current S&OP Technology and Processes

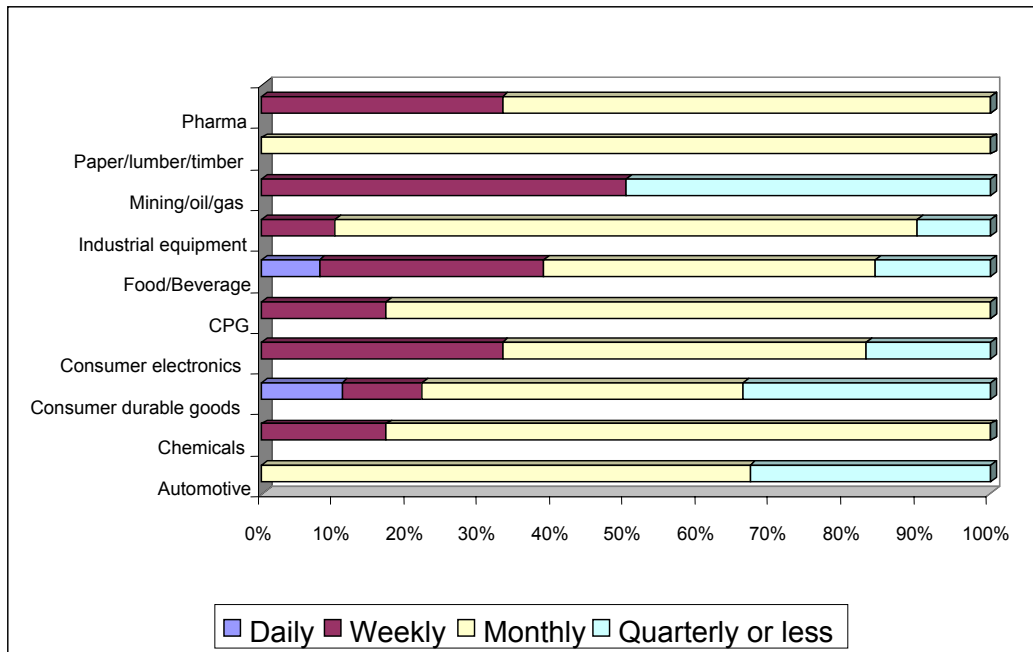
Companies that have obtained significantly improved corporate performance are those that have either eliminated or worked around the limitations imposed by their existing process or technology. They have realized that process and technology are both important to enabling a Best in Class S&OP process and achieving integrated business planning. “Technology is about 40% of an S&OP project and the rest (60%) is process but both are indispensable for improved corporate performance,” says the director of a global process consultancy.

S&OP frequency

The traditional S&OP cycle consists of an annual and quarterly planning process and a periodic — monthly and quarterly — review and performance report. Fully 58% of the firms surveyed have a monthly S&OP process. Nearly 26% had quarterly or less frequent process, while the rest maintain weekly or higher frequency. Figure 4 displays the frequency per industry vertical. The food and beverage industry, for instance, is more likely to have a high-frequency S&OP process, even daily for some companies. This is due to the perishable nature of the goods resulting in the need to perform daily demand/supply re-planning.



Figure 4: Frequency of S&OP Process by Industry Vertical



Source: [AberdeenGroup](#), July 2006

Netting demand and supply more frequently (going to weekly and even on-demand from monthly or quarterly) allows the incorporation of market changes. The result can be very fruitful in terms of working capital reductions, customer service improvements, supplier relationship improvement along with growth and market share gains.

For example, a company that contracts the manufacturing of broadband internet access products, including digital subscriber line (DSL) equipment, modems, routers, and wireless home networking systems went from quarterly and monthly sharing of demand with their suppliers and reconciliation with the supply to a weekly netting S&OP process.. The quarterly/monthly process was simply inadequate to meet the market demands because of the nature of industry in which they are located – high price pressures from competition, low product life-cycles, and declining margins with increasing sales volume. This company moved towards a weekly process with help from a solutions provider that specialized in S&OP technology solution provider that was able to provide advanced optimization capabilities on top of a distributed check in checkout data architecture. By utilizing a spreadsheet user interface for planners the solution was easily accepted by the users and the combination of the distributed nature and spreadsheet based user interface made it easy to share with suppliers and other extended enterprise supply chain partners.



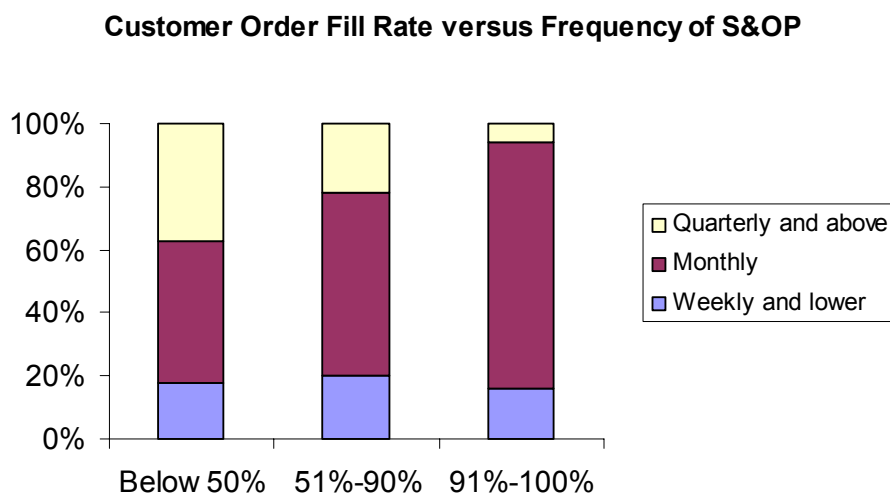
The end result provided a dramatic turn around in financial performance of a the business by eliminating inventory buffers and by identifying over 20% of order that could be shipped from the supplier to the customer directly and over 50% of the orders that could be addressed through a postponed assembly process in the US. This resulted in reduction of obsolete inventory, improvements in customer service and reduction in working capital (45 million \$ reduction). Inventory turns increased from 5 to 50 turns and order fulfillment levels to key telco buyers from worst in class customer fill rates to best in class fill rates & supplier of the year.

Best in Class Results

Companies with more frequent S&OP processes are experiencing better order fill results. As Figure 5 shows, the order fill rate of companies doing quarterly S&OP is worse than those companies with more frequent S&OP processes. Laggard companies were the companies that have order fill rate of 50% or lower. Industry average companies have order fill rate of 51%-90% and the Best in Class have fill rates greater than 90%.

Going from a monthly frequency to a weekly or lower frequency does not seem to result in better order fill rates. Interviews have revealed the following insights regarding this phenomenon. One main reason for the order fill rates not getting impacted is probably the safety stocks that are being kept to cover short term variability in demand. However by moving into a weekly frequency S&OP process does result in improved production resource utilization, better leveling of resources and lowered obsolescence. So moving towards a weekly frequency is recommended in cases where companies have limited production capacities and are looking to level the production and labor resources based on demand.

Figure 5: Frequency of S&OP Process vs. Customer Order Fill Rate



Source: AberdeenGroup, July 2006



Siloed S&OP processes

S&OP processes continue to be driven by individual organizations in the majority of companies (83%) while only 17% of companies have cross functional teams. Supply Chain Operations is the single largest organization (43%) that runs S&OP processes. There is significant opportunity for change management programs to move towards cross-functional teams.

Table 3: S&OP Driver Organizations by Industry

Organization	Automotive	Chemicals	Consumer durable goods	Consumer electronics	Consumer packaged goods	Food/ beverage
Sales	-	-	11%	17%	-	8%
Marketing	50%	-	-	17%	8%	15%
Supply Chain Operations	17%	71%	56%	17%	62%	54%
Manufacturing	-	29%	11%	17%	-	-
Procurement	-	-	-	-	8%	-
Finance	17%	-	11%	-	-	-
Collaborative team	17%	-	11%	33%	23%	23%

Source: [AberdeenGroup](#), July 2006

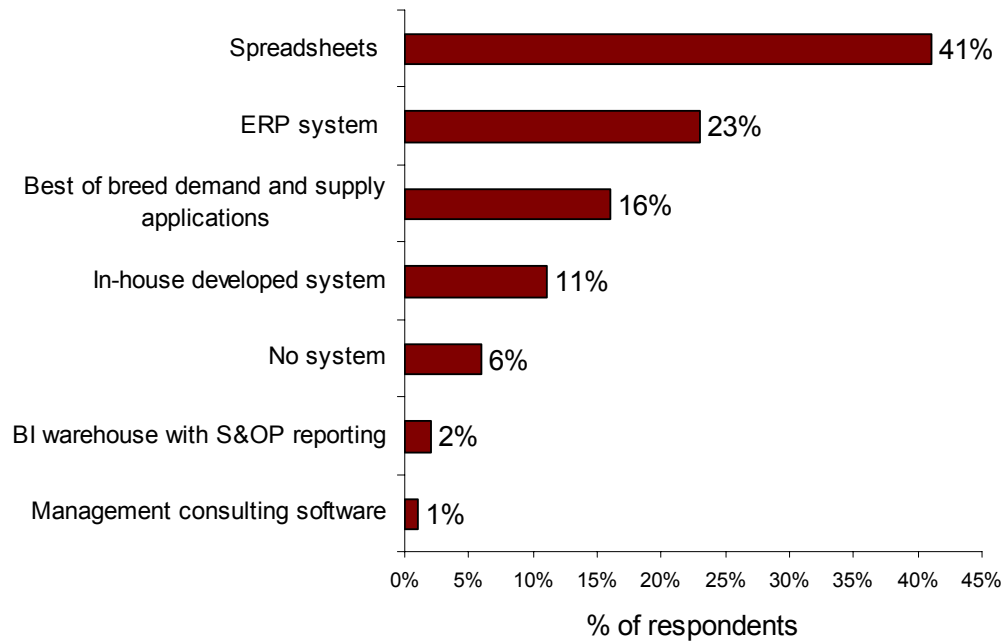
S&OP technology adoption

As shown in Figure 6, 41% of the companies surveyed reported that they are using spreadsheets for their S&OP solution. Nearly 30% of these companies have ERP solutions that are capable of doing S&OP demand and supply planning, but these companies have chosen to supplement with spreadsheets for their S&OP process. The main reasons cited by these companies are that their users are more comfortable using spreadsheets and that the ERP technology solution was too complex for them or does not provide adequate capabilities.

Although it is convenient to use spreadsheets, this strategy lends itself to multiple versions of the data and is rarely accurate or effective over the long term. This approach also does not lend itself to executive level inputs.



Figure 6: Technology Solutions Used by Companies for Enabling S&OP



Source: [AberdeenGroup](#), July 2006

The vice president of strategic business processes at a leading food processing company talks about their technology architecture prior to implementing a leading S&OP specialist solution. “Our company is 88 years old and we ran our operations for 20 years using spreadsheets. Obviously we were able to sustain our business that way. Key issues that we faced with spreadsheets were:

- *The amount of variables being able to take into consideration in the spreadsheet. We could only model a limited number of decision points within our spreadsheet solution. When changes of sales forecast happened, we paid the price on the inventory stock levels, increased production costs, and increased expediting costs.*
- *Also as global market became more complicated, we could not sustain the spreadsheet based process.*
- *Another issue was that there were a few gurus who knew how to handle the very complex spreadsheets and knowledge sharing was a problem.*

Once technology solutions were put in place these problems got resolved. For e.g. over-time reduced from 23% to 10%”



Executive reporting

Fully 74% of companies are reporting that they don't have adequate executive level reporting for the key performance indicators of the S&OP process. Companies either report no reporting (29%) or the fact that data gets outdated very fast (20%) or that the reports are not at the right level of detail (25%). This is an alarming statistic as the key to an effective S&OP process is being able to provide timely business pulse information to the executives.

Data Input Gaps

Another impact of using fragmented technologies and spreadsheets for the S&OP process is that it is challenging to incorporate the data inputs needed. Table 4 shows companies' current data inputs to their S&OP process as well as their desired data inputs. The biggest gap in companies' existing S&OP process is the lack of visibility to true customer demand. While 48% of companies use this data today in their S&OP process, 38% more would like to do so but don't have the process or technology capability. Companies also report a significant gap in data inputs for distribution, transportation, and material constraints, as well as inadequate costing and event data.

Table 4: Current Data Inputs vs. Desired Inputs

Data Category	Current Inputs	Ideal Inputs	Data Gap
True customer demand (e.g., point of sale data)	48%	86%	38%
Distribution capacity constraints	21%	57%	36%
Transportation constraints	22%	56%	34%
Causal events	22%	47%	25%
Costs	46%	69%	23%
Material constraints	46%	67%	21%
Syndicated data for industry sales	17%	38%	21%
Manufacturing capacity constraints	56%	77%	21%
Promotions targets	31%	51%	20%
Safety stock targets	50%	57%	7%
Sales targets	77%	77%	0%
Demand history	80%	79%	-1%
Shipment history	63%	48%	-15%

Source: AberdeenGroup, July 2006



Chapter Three: Implications and Analysis

Key Takeaways

- **78%** of companies say that technology is either critical or very important for their S&OP process.
- **40%** of companies indicate that they plan to spend more on S&OP technology in 2006 versus 2005.
- **68%** of companies indicate that they do not have the capability to do profit-based supply/demand balancing.

The opportunities within current S&OP processes for improvement that are outlined in Chapter 2 – more frequent S&OP processes, cross-functional participation, better executive reporting, and more complete data inputs – are all areas in which technology plays a vital supporting role. In this chapter, we will focus on the technology enablers that are critical for companies to evolve towards an Integrated Business Planning process and best in class examples of how companies are currently doing Integrated Business Planning.

Why is Technology Important for Enabling Integrated Business Planning?

Aberdeen research finds that 78% of companies say that technology is either critical or very important for their S&OP process. There are several reasons why technology plays a critical role in helping companies achieve better S&OP results and move toward an integrated business planning process.

- **Data management.** Today's organizations often have myriad sources of data colored by many different perspectives – sales, customers, marketing, suppliers, manufacturing, logistics, and finance. Because this data tends to be present within disparate systems and are complex in nature, data management and integration capabilities are needed to ensure that data inputs are timely, complete, and are incorporated into the S&OP plan in an accurate manner (e.g., adjustments are made for differing units of measure, customer and item master inconsistencies, variable time horizons, and so on).
- **Multi-dimensional goals and views.** S&OP places the spotlight on different goals – revenues, margins, working capital, forecast accuracy, supply/demand match. Organizations need to look at the data in different ways in terms of aggregation as well as units. For instance, finance and sales typically look at the product family level and in dollar unit sales and manufacturing looks at unit level and end item SKU level. Creating multi-dimensional views of the plan that also support what-if analysis is something beyond the capacity of a spreadsheet process.
- **More dynamic business processes.** Faster and more frequent S&OP cycles are required to keep pace with shorter product life cycles, compressed order lead time requirements, and more dynamic demand. Technology enables automating these proc-



esses as well as decreases the times that S&OP planners spend on manual operations versus doing more productive work. More importantly technology enables the ability to rapidly react when real-life scenarios unfold in real-time like supply shortages, plant breakdowns, etc.

- More decision parameters.** Involved in coming with the Integrated Business Plan which cannot be tackled by manual technology. Some critical decision parameters are overall margin, product family level margins, budget (financial plan), inventory, supply capacity, demand accuracy, service level requirements, etc. These decision parameters are often multi-dimensional and often involve attributes that may be different at different levels of aggregation, for example, demand accuracy at a product family level may be measured differently than the demand accuracy at a SKU level. These require support from technology to not only model but also to manage and monitor.

Today’s S&OP Technology Deployments Are Insufficient

Despite more than three-quarters of respondents saying that technology is highly important to S&OP success, the level of technology support for S&OP processes remains dismal. Companies view their current S&OP functionality as immature as exemplified by the results in Table 5. For instance, only 14% of companies say that their current S&OP technology fully meets their needs for sales and revenue planning, and only 15% say it fully supports demand collaboration.

While commercial technology solutions are available today to address individual areas, there is no comprehensive solution that solves all these problems. In addition companies have either not adopted these solutions, or not have activated their S&OP related functionality, or have been challenged to create workflow and data integration that bridges the multiple application solutions they have for the different functionality areas.

Table 5: S&OP Technology Maturity Gaps

Technology Enabler	Does not Support	Needs Improvement	Fully Meets Our Requirements
Sales and Revenue Planning	29%	57%	14%
Demand Collaboration (internal/external)	28%	57%	15%
Demand Forecasting	20%	44%	36%
Demand Shaping (for e.g. promotions, events)	40%	48%	11%
Supply Constrained Plan	34%	51%	16%
Demand Supply Matching	34%	53%	13%



Inventory Optimization	29%	60%	11%
Profit Based Supply Demand Balancing	54%	34%	12%
What If Analysis	49%	40%	10%
S&OP Plan Quality and Metrics	47%	46%	6%
Master Data Management	47%	44%	9%
Role Based Functionality	56%	33%	11%
Alerts and Exceptions	51%	41%	9%

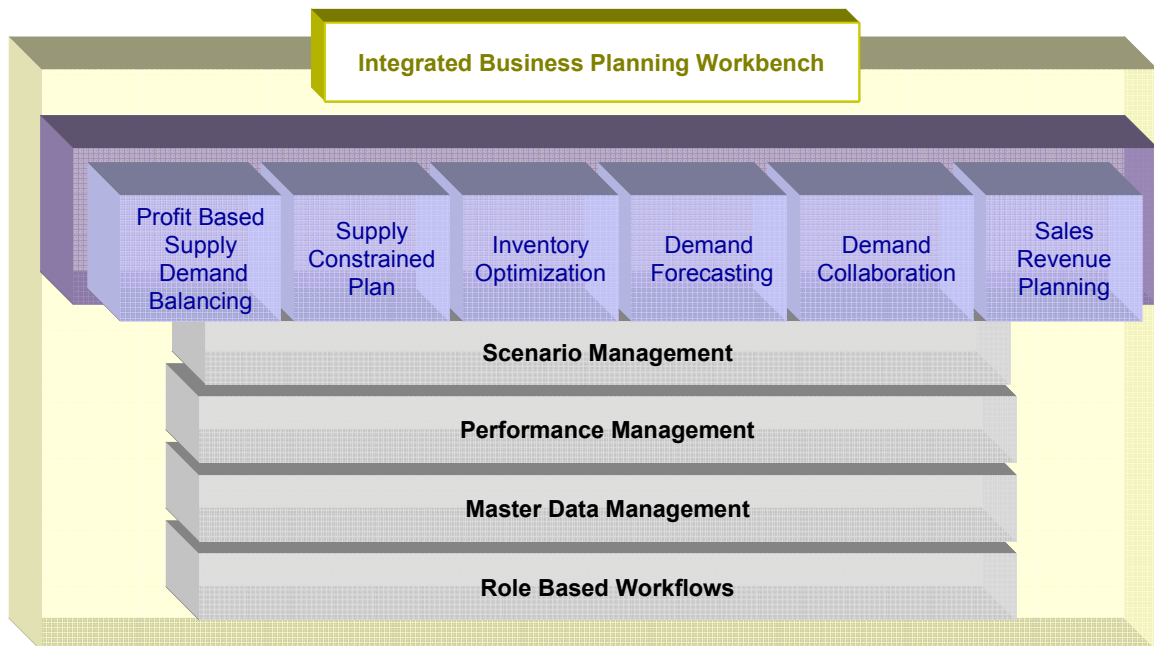
Source: *AberdeenGroup*, July 2006

Technology Spending Plans

Approximately 40% of companies indicate that they plan to spend more on S&OP technology in 2006 versus 2005, while only 13% say they plan to spend less. Tellingly, companies with best in class order fill rates plan to spend more on S&OP technology than their peers (an average of \$250,000). This indicates that the best in class companies see S&OP technology as critical to improving on their already strong corporate performance.

Creating a Roadmap for Integrated Business Planning Technology

Figure 7: Technology Requirements for an Integrated Business Planning Process



Source: *AberdeenGroup*, July 2006



Figure 7 shows key technology components for an Integrated Business Planning process.

Most companies have many of the Integrated Business Planning components today, but discover that certain components need to be upgraded to produce better plans and performance (e.g., extended forecasting to enable collaboration). However, it is common for organizations to also identify areas in which the current technology support is missing or requires so much manual effort that brand-new implementations are required. In addition to the individual supporting components, it is critical that the overlying Integrated Business Planning Workbench or S&OP-specific technology contain the data management, role-based support, and what-if analysis capabilities necessary to create an easy to use solution.

Companies should view the path to Integrated Business Planning as an evolution and not something they deploy wholesale. Chapter 4 provides specific recommendations on how to approach this technology enhancement process. Following are the key aspects to look for in each of these technology components, as well as insights into how companies are implementing these technologies to fit into the framework of Integrated Business Planning.

Sales and Revenue Planning

Only 14% of companies indicate that their sales and revenue planning process is adequate. Companies are overcoming this gap by investing in advanced sales and revenue planning technologies. Here are the key characteristics needed for effective sales and revenue planning technology:

- Help to systematically manage on a real-time basis the sales forecast and build the sales plan while capturing assumptions, events, and exceptions.
- Support analysis of the overall corporate objectives of profit margins and revenue.
- Are simple, “no training” tools for sales and visibly increase the forecast accuracy. They heavily leverage Microsoft Excel-based interfaces and email-based workflows to ensure participation by sales. Direct participation by sales in traditional S&OP is dismal and often Supply Chain Operations personnel ‘guess’ what the sales reps really want.
- Fit into the sales pipeline process and bring meaningful market intelligence to the demand collaboration process.
- Provide proactive visibility to sales opportunity mismatches with operational plans. They improve the demand shaping (promotions process) and reduce investment in last-minute incentives and last-minute rush or overtime production to accommodate sales target increases.

A leading data networking and bandwidth management solution company is using such a tool to enable their Sales Revenue Planning process. The company has independent planning processes through various departments: sales created revenue forecasts, finance cre-



ated revenue targets, and operations performed product forecasts – all different processes usually with different measurements that did not tie together.

Using their S&OP plug-in application solution that enables sales revenue planning, the company creates a consensus forecast that incorporates direct feeds from its sales opportunity pipeline system and balances the bias of operational systems with quantitative and qualitative input from cross-functional teams. According to its director of supply chain, “[The company] gained greater visibility and predictability in their business and a less costly, more effective way of planning”.

The tool has been extended to the company portal, giving users and executives access to current and historical pipeline numbers and forecasting analysis. This has resulted in improved executive visibility and driven efficiencies through the organization.

Demand Collaboration

Companies indicate that their consensus forecasting processes are broken.

- Only 15% of companies report that their consensus forecast is arrived at after input by all departments, converted into end item level details, and actually adjusted based on near-term changes.
- 14% of companies indicate that their consensus forecast is arrived at after input by all departments and then allocated to customer sku-level for execution
- 22% of companies indicate that their consensus forecasting process involves little or no top management involvement and supply chain operations forces a plan with some sales input.

Table 6 shows how companies are currently communicating with trading partners as part of their S&OP process. It shows that phone/fax/email is still the primary mechanisms for getting market intelligence into the S&OP process.

Table 6: How Companies Communicate with Partners in the S&OP process

Partners	No inputs	Phone/Fax/Email	EDI/XML	Web based input into S&OP system
Distributors/Dealers/Key customers	23%	53%	14%	10%
Field sales organizations	14%	65%	5%	16%
Vendors/Suppliers	27%	51%	13%	9%
3PL/Logistics Service Providers	52%	36%	10%	2%

Source: AberdeenGroup, July 2006



The key characteristics for demand collaboration technology are:

- Need to be web-based to allow disparate internal organizations distributed across multiple sites as well as external trading partners to provide their inputs.
- Need to support offline, bi-directional Excel integration
- Need to be integrated with the upstream sales revenue planning process as well as the downstream supply planning process. Companies have indicated that their demand collaboration process have failed due to lack of application integration. Composite application technologies are a great solution to resolve this issue.
- For large companies, scalability and performance are important requirements due to the presence of hundreds of users as well as the large amount of data that exists in the system.
- Role-based functionality is an important requirement because of the need to look at the data in different units based on the organization.

Demand Forecasting

Only 36% of companies say that their current demand forecasting tools satisfy their S&OP requirements. Among these, 50% of the companies that have deployed ERP systems say that their demand forecasting tools satisfy their requirements. By comparison, 82% of the companies that have deployed best of breed vendors indicate that their forecasting tools are satisfactory.

Despite demand forecasting being perceived as a mature technology, innovation is still to be found in this area. One example is intermittent demand forecasting. In the capital goods manufacturing industries, irregular or sporadic demand is a common problem. Unlike most product sales and demand data, intermittent demand contains a large percentage of 0 values (often 30% or more of the periods will have zero demand), with non-zero values mixed in at random. Conventional forecasting algorithms rely on smooth demand and use techniques such as exponential smoothing and moving averages that ignore the special role of zero values.

In such environments, there are special technologies that are available to resolve this problem including the new Smart-Willemain method which is a patented solution combining statistical "bootstrapping" and Monte Carlo simulation techniques. This technology does not assume that the probability distribution of demand over time is a "normal" bell shaped curve but develops this curve as part of the forecasting process.

If you have a particular challenge with demand forecasting, such as troubles with intermittent demand or poor forecast accuracy on short-term demand (often found in CPG companies), be sure to look for add-on capabilities to help address these specific needs. Some vendors are now also offering new managed services in which their forecast experts will take care of forecasting problematic or challenging product lines for their enterprise customers.

Demand Shaping

Only 11% of companies indicate that their current capabilities to perform demand shaping fully satisfy their requirements. Demand shaping based on promotions and causal



events is more prevalent in consumer packaged goods, distribution, food/beverage and retail industries.

The industries mentioned above have some similarities:

- They usually over-spend on trade funds/incentives.
- They face out of stock situations on products.
- They face heavy margin and price pressures.

These industries can gain the most from using improved demand shaping technology. Look for these characteristics in a solution:

- Allow the management of trade funds and promotions in a centralized system and provide visibility to performance of promotion events as compared to sales targets.
- Support post-event analysis of promotion funds based on manufacturer margin, retailer margin etc.
- Can accurately predict promotion lifts to demand based on price elasticity.

Inventory Optimization Process

Only 11% of companies indicate that their inventory optimization solution fits their requirements. Balancing supply and demand is the key element of traditional S&OP. Often that has been accomplished by increases in inventory. This, of course, erodes profit margins. Companies that are evolving to Integrated Business Planning process are expecting sustainable inventory reductions in their distribution channels. They are motivated to improve return on assets to free up cash for innovation and financial stability by investing in decision-support systems that optimize inventory.

To implement integrated business planning, companies are moving beyond the traditional definitions of S&OP and incorporating new technologies to address critical business performance needs. For instance, a leading lubricant manufacturer in Europe implemented an inventory optimization solution from a best of breed solution provider as part of their overall S&OP process to address their critical need of arriving at accurate safety stock targets based on demand profiles and service level information. Their supply chain director says: *“We have seen dramatic increase in our service level with significant reductions in inventory across Europe.”*

In discrete manufacturing environments and distribution intensive environments, customer service results in pressure to reduce lead-times as well as out of stocks. Yet, many companies are still using weak approaches for planning customer service levels and deriving inventory targets, and are getting equally weak results. Good forecast quality is fundamental to the quality of the S&OP plan--but is not intrinsically sufficient, as inventory serves as the hedging factor to protect against uncertainty. Reduction of this hedge inventory results in reduction of working capital. Some companies are taking planning for inventory to the next level by factoring VMI strategies and planning around it in their S&OP process. This allows the consumption of inventory that is not on the balance sheet (e.g. suppliers, manufacturers, partner inventory) with reliable lead-times.



The world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, and industrial gas turbines uses an inventory optimization solution to optimize its dealer and factory inventory using a multi-echelon inventory optimization solution. This tool satisfies different service levels at different nodes in the supply chain with the lowest total investment in inventory. The algorithms employed find the optimal target inventory positions, by item and location, for every period that minimizes the total inventory investment across items, locations, and time. The modeling framework allows the flexibility to include service times, lead-time variability, time-varying inputs such as capacities, forecasts, and forecast errors, different review periods, and lot-size constraints (among other capabilities). This has resulted in 16% reduction in total inventory and 20% reduction in customer lead-times. Please refer to Aberdeen Group's research titled "[*Are Your Inventory Management Practices Outdated?*](#), March 2005" for more details on Inventory Management best practices.

Supply Planning

Fully 84% of companies state that their current supply planning technologies have inadequacies. The following are some of the characteristics that Best in Class companies have identified as part of their supply planning solution capabilities. These capabilities are especially important in environments that are highly capacity and material constrained, and have complex manufacturing, distribution or transportation processes. Companies that appropriately plan:

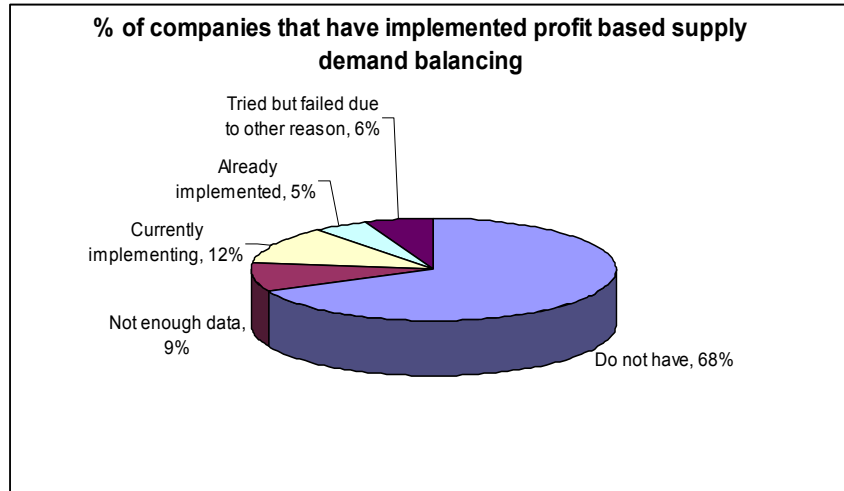
- Consider the cost and profitability of decisions within the entire supply chain
- Identify the supply plan that is most profitable, while considering the factors of production, materials, distribution, inventory, and allocated demand
- Facilitate in-memory/in-database scenario management. Some respondents say their current solution is too complex for finalizing their supply chain constraints due to a long process that involves transferring data to offline databases and reporting tools and processes that are not closed loop
- Provide intuitive user interfaces for end users that are business focused rather than supply chain jargon intensive

Profit-based Supply/Demand Balancing

Fully 88% of companies have indicated that their current technology solutions are unable to fulfill their requirements for profit-based supply/demand balancing. Approximately 68% of the companies surveyed indicated that supply demand balancing based on S&OP was simply not possible with the current technologies and processes that they have in place and indicated that it was a nice vision. And 9% of the companies indicate that they don't have adequate data to support this process.



Figure 8: Percentage of Companies Performing Profit-Based Supply Demand Balancing



Source: AberdeenGroup, July 2006

This is the stage of the S&OP process that is most manual intensive and performed as part of the actual S&OP meetings. Companies are reporting that the biggest challenge that they have is to bring in data from disparate sources for the S&OP meetings and be able to perform the balancing in real-time based on volumes leave alone financial considerations. The next generation of technology in this area is going to be in the area of simulation – being able to adjust demand and supply parameters in addition to risk factors and be able to assess key metrics that are impacted by these parameters.

Performance Management (“What if” analysis & Plan Quality/Metrics)

Companies are reporting the following with respect to their ability to resolve demand shortages (in terms of volume or revenue) as part of their S&OP technology.

Table 7: Resolution Capabilities for Demand Shortage

Resolution Capability	% of respondents
Re-optimize list prices with reduced margin targets	20%
Launch a promotion for the product with reduced prices	23%
Promote alternate product	20%
Suggest to planner to reduce inventory levels for the product	35%



We do not have sophisticated root cause analysis and resolution capabilities.	55%
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Source: *AberdeenGroup*, July 2006

Companies are reporting the following with respect to their ability to meet a supply shortage (part or capacity shortage) as part of their existing S&OP technology.

Table 8: Resolution Capabilities for Supply Shortage

Resolution Capability	% of respondents
Plan overtime	44%
Plan alternate sources of parts	30%
Plan alternate resources	35%
Consume from safety stock	38%
We do not have sophisticated root cause analysis and resolution capabilities.	41%

Source: *AberdeenGroup*, July 2006

The key takeaways from these findings are that 55% of companies lack demand side root cause analysis capabilities and 41% lack supply side root cause analysis capabilities. This is a critical area for companies and their technology vendors to address to achieve the profit-optimized promise of Integrated Business Planning.

Integrated Business Planning Workbench

Given the highly cross-functional nature of Integrated Business Planning processes, there is a need for an overall workbench that has the following technology enablers:

- Scenario Management – the ability to create, save and analyze different versions of the business plans at the different stages of the process.
- Master Data Management – to be able to create and manage data that may not be available within ERP or legacy systems but are critical to the Integrated Business Planning process
- Analytics – to be able to create reports on key areas of the Integrated Business Planning Process like financial performance, demand performance, supply performance, plan versus actuals, etc.
- Role based workflows – Integrated Business Planning Processes are unique to every industry and even every customer. There is a need for a workflow component in this workbench to configure the process for the company. This component also should provide the infrastructure for emails, alerts and exceptions to allow collaborative processes.

Companies should evaluate two categories of solutions for the IBP workbench:



- Business Intelligence vendors are providing horizontal S&OP application framework – including planning, metrics, and reporting -- across the enterprise. These applications provide workflow components that can be used to develop S&OP workbenches.
- Vendors are providing composite S&OP applications that span the individual modules that they have traditionally provided and provide additional best practices workflows with inputs from their key customers.



Chapter Four: Recommendations for Action

Key Takeaways

- Companies realize that their existing S&OP solutions have limitations however; they are not always doing the right things to resolve these limitations.
- Spreadsheets continue to be the primary tool that companies. Instead, companies should explore spreadsheet-like smart tools that build on previous ERP and supply chain planning system investments.
- Focus on data automation and application integration. These are critical barriers for companies today to extract value from their existing S&OP technology implementations.

Companies are Taking the Wrong Actions to Resolve S&OP Technology Barriers

Companies indicate that the top 3 barriers for them to realizing value with their existing S&OP technology are:

I. Non-integrated applications

Most companies have organically grown their S&OP footprint over time, with their ERP solutions providing some parts of the solution, their APS best of breed vendor providing the rest, along with some band-aided business intelligence layer.

II. Users being more comfortable with spreadsheets

What companies are really saying is that current applications do not provide the rich and flexible capabilities that spreadsheets provide. However, spreadsheets' limitations are extensive and directly contribute to the fact that current S&OP processes are so poor in terms of improving corporate performance.

III. Internal corporate politics

This is an opportunity for change management providers to educate the companies on the value of integrated business planning and how it aims to improve corporate performance and align departmental objectives with corporate goals.

What Responses are Companies Taking to Resolve these Barriers?

a) Conduct change management programs

This point validates the barrier associated with internal politics that companies have indicated. Change management programs are critical to S&OP success due to the cross functional nature of the process.

b) Change business processes to adjust to technology limitations

This illustrates the frustration that companies have experienced with their existing S&OP technology being inflexible or having other technology limitations. This is a workaround tactic that is not suitable for improving corporate performance and reflects on the need to



move beyond traditional S&OP approaches and the current generation of S&OP technology.

c) Extract data from applications and use spreadsheets instead

This illustrates the above point where companies have given up trying to make sense of their S&OP technology and at some point start using spreadsheets to supplement the reports out of their existing technology. Spreadsheets are the easy way out of their S&OP technology morass but will not lead to the best business results.

Another issue is the fact that most companies are not using percentage gross margin and dollar sales per employee as the direct metrics for measuring the success of their S&OP process. Instead, they are using the metrics associated with supply/demand match as the key metric – for instance, % complete order fill rate, inventory turns and forecast accuracy. While these metrics are very important, having visibility to corporate performance institutionalized as part of the S&OP processes is critical to gaining Best in Class status.

Recommendations for Evolving Towards Integrated Business Planning

The following are the recommendations for action for companies, based on their S&OP maturity level. (Refer to Table 2 to assess your organization's maturity level.)

Recommendations for Laggards

Set up a formal S&OP processes and ensure communication with internal functional groups.

- Install an inter-disciplinary marketing, sales, finance and operations team to manage the process and support it with the right metrics.
- A formal team with identified representatives from marketing, sales and operations needs to be armed with a clear mandate and success targets to develop and deploy the business processes necessary for effective demand management.
- Provide a common organization focus to drive to a single demand forecast and provide the “go to” focus for all participants. The team also needs to address and resolve (usually with some final decisions by senior management) the often thorny issue of competing sales, marketing and operations metrics, at the same time.
- Set up bottom-up forecasting and planning. Tackling the demand component of the demand/supply alignment is the area most likely to generate the greatest improvement in total S&OP business performance. This is due to the fact that no amount of added flexibility invested on the supply side can offset an ineffective demand management capability.
- Set up some automation of data transfers, document the process and set up basic security.
- Invest in technology enablers that allow end users to be able to model their demand\supply accurately and be able to match them.



- Explore pure play S&OP players. Pure play S&OP players bring years of domain expertise, low cost and ability to come out with quick ROI. These tools often work on top of excel spreadsheets and help change the mindset of users from reactive ‘planning’ to an Integrated Business Planning mindset.

Recommendations for Industry Average

- Increase collaboration with key customers to drive to a collaborative single demand forecast

Interviews with companies achieving Best in Class performance have identified inclusion of key customers’ demand forecasts and perspectives on key causal variables can significantly improve forecast accuracy. One reason is that, in any competitive market, your customer is buying from your competitors as well as yourself and has knowledge that you cannot possibly possess about competitors’ intentions. This also works to ensure “no surprises” on the execution phase of demand fulfillment.

- Move towards demand shaping approaches to identify revenue opportunities that may not have been tapped previously.
- Set up operational metrics with archiving capabilities and monitoring by management.
- Establish automated data transfers and processes with user specific security and override tracking.
- Invest in technology enablers that allow institutionalizing the S&OP process with application infrastructure, security, user roles, workflows in an enterprise environment. ERP systems and best of breed supply chain vendors should be considered by these companies. Pure play S&OP solutions will continue to deliver value for these companies as plug-ins to the ERP systems/ best of breed solutions for areas where they provide better capabilities.
- Look into technology solution providers who have deep domain expertise, as the progress towards S&OP excellence can be bumpy and will require some level of hand holding. While choosing consulting partners, look for the ability to work with technology in addition to process re-engineering as technology plays an important role to move towards the next level of corporate performance.

Recommendations for Best in Class

- Move towards a single S&OP plan and process with laser focus on margin and revenue. Set up a systematic “what if” Integrated Business Planning process to move to proactively identify key opportunities and risks

The next stage, after establishing the best analytical capability based on established market circumstances, is to use a proactive approach to start to “shape the market”. This includes a highly iterative approach that seeks to identify important potential



market vulnerabilities and opportunities, based on imagining changing these market circumstances in areas that the company can control.

This strategy is centered on the reality that all market positioning is relative to competitors -- % market share is a far more insightful measure of market penetration than looking only at a company's own sales. Examples of the "comparative" approach could include comparative pricing and applying a market share or other competitive perspective to segment prioritization.

- Move towards supply and demand shaping. Look into incentives, promotions and other causal events to shape demand. Evaluate profit-optimized sourcing of supply and optimal inventory allocation to shape the supply.
- Integrate the sales revenue planning process with the demand planning process – integrate the customer, supplier and internal systems into the process
- Set up financial metrics like working capital, gross margin in addition to the operational metrics. Set up closed loop analytics and performance management systems for the top management.
- Establish workflows for management by exceptions.
- Improve the ROI on your existing S&OP technology investments in identifying areas of strengths and weaknesses of your solution provider with respect to Integrated Business Planning technology maturity and arrive at a roadmap with your vendors to fill the gaps. In addition, explore add-on plug-in applications that mirror spreadsheets in the way they operate but are more advanced in their analytics and optimization capabilities.
- Look at your Integrated Business Planning technology solution provider as your trade partner and look at setting up scorecards with your solution provider based on corporate performance on working capital, gross margin, inventory turns, etc.
- Move towards automated data transfer and planning processes are automated and event driven. Move towards an enterprise system of record.



Author Profile

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Nari Viswanathan is Research Director in Aberdeen Group's Supply Chain & Logistics Practice. Nari specializes in order to delivery and S&OP processes. His research investigates the business strategies and technologies that drive cost reductions and productivity improvements for order to delivery processes within different industries. Nari's business process and technology expertise includes demand management, manufacturing management, and demand fulfillment.

Prior to joining Aberdeen Group, Nari was a senior product manager at i2 Technologies. Nari was involved with product marketing, roadmap and requirements management and setting product direction for three of the i2 supply chain products. Prior to that Nari was a Sr. Solution Architect within the Business Optimization Services organization in i2. Past experience includes a multi-year change management and IT enablement initiative at a large automotive manufacturer in Asia and process re-engineering of a large North American distribution network.

Nari holds a masters degree in manufacturing engineering from the University of Wisconsin-Madison and a bachelor's degree in Mechanical Engineering from the Indian Institute of Technology, Madras.



Appendix A: Integrated Business Planning Process: A Closed Loop S&OP Process

The Integrated Business Planning process starts with top management setting the strategic targets for products, sales, operations, and finance. Then, senior management evaluates the detailed approaches by which these goals can be achieved. Different approaches are:

- By going into new markets (global or local)
- Extending the product portfolio to new channels
- By improving the operational capabilities of existing products in the traditional channels
- By acquisition or selling of brands

Once the overall company plan reflects the corporate strategy, an Integrated Business Planning process links strategic targets with tactical and operational planning on all hierarchy levels of the enterprise. All downstream plans are given specific business targets, in order to ensure the adherence of strategic targets. These plans are met by alignment of the demand for products within the various channels of the company with supply taking into consideration goals of working capital reduction, improved inventory turns and increased gross margin. Thus supply, demand, and profit make up the three key dimensions of the Integrated Business Planning process.

1. Sales revenue planning

The strategic targets obtained at the outset of the Integrated Business Planning Process are converted into sales targets (opportunity forecasts) taking into consideration the overall corporate objectives of profit margins and revenue.

2. Demand Planning

- ***Demand Forecasting***

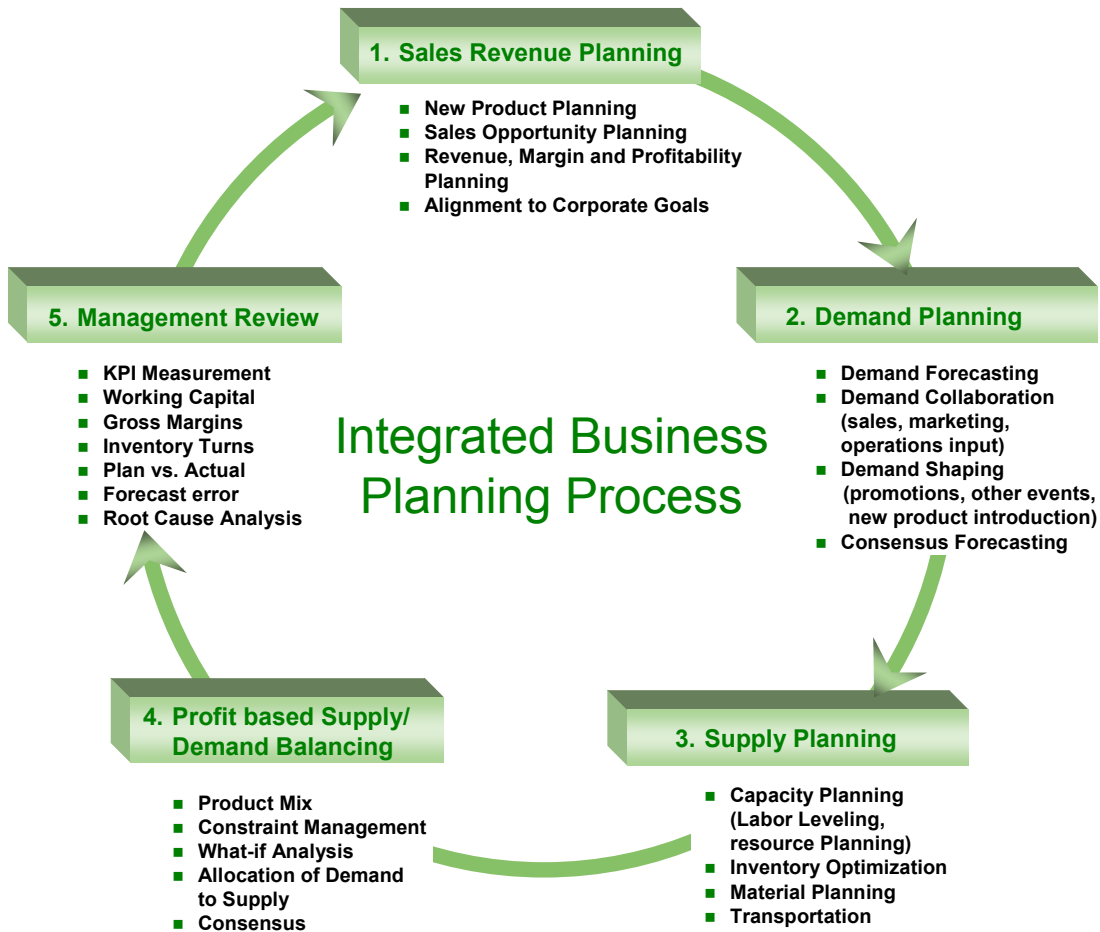
Demand forecasting relies on tools to perform time series-based analysis to come up with forecasts at different levels in the product hierarchy – down to the SKU/customer level.

- ***Demand Collaboration***

Demand collaboration is supported by tools that capture forecast data from the enterprise network partners like dealers, distributors, regional sales, etc., and manage the data in a centralized environment. These tools need to have intuitive user inputs, aggregation to higher levels of abstraction, and the ability to represent product and geographical data.



Figure A. Integrated Business Planning Process



Source: [AberdeenGroup](#), July 2006

- ***Demand Shaping***

Once the unconstrained forecast has been generated as part of the demand forecasting process, the forecast needs to be refined based on events such as promotions, downturns, and new product introductions. The system should predict and shape consumer response by building a business strategy that incorporates forecasting and promotional impacts into the demand plan. These solutions also should determine when and how to price and promote products -- throughout a product's lifecycle -- to achieve revenue and profit objectives.



- ***Consensus Forecast***

The management team should be able to incorporate the corporate goals for profitability and revenue targets into this function. Finally, there is a need to arrive at a consensus forecast across the top level, bottom up and middle out forecasts. Ease of use for the end users is an important consideration for this technology to ensure sufficient user adoption.

3. Supply Planning

This function involves the creation of a constrained forecast based on consideration of supply restrictions (constraints) at the medium to long term time period. These constraints may deal with material constraints from vendors, capacity constraints at the manufacturing facilities, labor leveling considerations, transportation constraints, etc. The supply constrained plan is especially important for highly constrained process-based industries and industrial manufacturing industries.

One key area of consideration is to factor in inventory optimization strategies for manufacturing and distribution intensive companies. This is an area where companies have failed to deploy adequate technology solutions.

4. Profit-based Supply Demand Balancing

This function involves the creation of a constrained plan that aims to not only align the supply with the demand but to maximize profits. Further, the process involves establishing a target profit and having the detail in cost and product information to make detailed trade-offs among alternative marketplace and supply alternatives. Another example is the ability to simulate the plan that drives the highest total profit as one of the objectives instead of having a target profit defined.

5. Management Review

This function involves the review of the integrated business plan by the management as well as the different organizations based on key performance indicators like working capital, gross margin, inventory turns and arriving at key areas of gaps in the plan. Once the gaps are identified, root cause analysis is performed and

This is often defined as the S&OP process traditionally especially by management consulting practitioners and the previous processes defined as enablers for S&OP. However Aberdeen regards this and the previous process as equal players in the integrated business planning process.



Appendix B: **Research Methodology**

Between June and July 2006, **AberdeenGroup** examined the services parts management procedures, experiences, and intentions of more than 140 enterprises in aerospace and defense (A&D), apparel, automotive, chemicals, consumer electronics, consumer durables, consumer packaged goods, food/beverage, industrial equipment manufacturing, and various other industries. The top three industries were consumer packaged goods, food/beverage and industrial equipment manufacturing.

Responding supply chain, logistics, and operations executives completed an online survey that included questions designed to determine the following:

- The functional areas which drive the sales and operations planning processes (sales, marketing, supply chain operations, manufacturing, procurement, finance, collaborative balanced cross-functional team)
- The technology enablers and effectiveness of existing S&OP processes
- Areas of improvements desired by end users for technology enablers by end users
- Current and planned use of technology investment to aid these activities
- The benefits, if any, that have been derived from S&OP programs.

Aberdeen supplemented this online survey effort with telephone interviews with select survey respondents, gathering additional information on S&OP technology adoption strategies, experiences, and results.

The study aimed to identify emerging best practices for technology adoption for Sales and Operations Planning by which readers could assess their own S&OP technology adoption maturity.

Responding enterprises included the following:

- **Job title/function:** The research sample included respondents with the following job titles: Senior management (CEO, CFO, COO) (10%); CIO/IT Leader (4%); Vice President (6%); Director (21%); Manager (39%); Staff (7%); Internal Consultant (6%) and Other (6%).
- **Industry:** The research sample included respondents from a multitude of industries. Consumer Packaged Goods represented 11% of the sample, food/beverage industry accounts for 10% of the sample, industrial equipment manufacturers accounted for 10% of the sample. Other sectors with 5% or more included medical equipment, construction/engineering, and retail and distribution.
- **Geography:** 59% of the survey respondents were from the U.S. 18% of respondents were from Europe and 11% from Asia/Pacific.
- **Company size:** About 36% of respondents were from large enterprises (annual revenues above US\$1 billion); 20% of respondents actually had revenue upwards of US\$5 billion; 46% were from midsize enterprises (annual revenues between \$50 mil-



lion and \$1 billion); and 18% of respondents were from small businesses (annual revenues of \$50 million or less).

Solution providers recognized as sponsors of this report were solicited after the fact and had no substantive influence on the direction of the *actual report*. Their sponsorship has made it possible for **AberdeenGroup** to make these findings available to readers at no charge.



Appendix C: **Related Aberdeen Research & Tools**

Related Aberdeen research that forms a companion or reference to this report include:

- *Dynamic S&OP: The Next Generation Solution to a Dynamic Marketplace* (November 2005)
- *Leveraging S&OP for Competitive Advantage* (June 2004)
- *Best Practices in Sales and Operations Planning* (June 2005)
- *Integrated Pricing Management: The Key to Profitable Demand Management* (April, 2005)
- *Seizing the Opportunity to Competitively Manage Business and Financial Risk and Returns* (March 2005)
- *Demand Management: Profitably Dominating Your Target Markets* (December 2004)

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.



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To be the trusted advisor and business value research destination of choice for the Global Business Executive.

Our Approach

Aberdeen delivers unbiased, primary research that helps enterprises derive tangible business value from technology-enabled solutions. Through continuous benchmarking and analysis of value chain practices, Aberdeen offers a unique mix of research, tools, and services to help Global Business Executives accomplish the following:

- IMPROVE the financial and competitive position of their business now
- PRIORITIZE operational improvement areas to drive immediate, tangible value to their business
- LEVERAGE information technology for tangible business value.

Aberdeen also offers selected solution providers fact-based tools and services to empower and equip them to accomplish the following:

- CREATE DEMAND, by reaching the right level of executives in companies where their solutions can deliver differentiated results
- ACCELERATE SALES, by accessing executive decision-makers who need a solution and arming the sales team with fact-based differentiation around business impact
- EXPAND CUSTOMERS, by fortifying their value proposition with independent fact-based research and demonstrating installed base proof points

Our History of Integrity

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Aberdeen's integrity has always been and always will be beyond reproach. We provide independent research and analysis of the dynamics underlying specific technology-enabled business strategies, market trends, and technology solutions. While some reports or portions of reports may be underwritten by corporate sponsors, Aberdeen's research findings are never influenced by any of these sponsors.



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