Executive Summary

Economic volatility over the past several years has been illustrated by the highly unstable customer demand, raw material, fuel, and commodity prices. Most recently, it has intensified because of the global economic recession that began unfolding a few months ago. Sales and Operations Planning (S&OP) is the key integrated process that the supply chain organization (specifically the VP of Supply Chain) can leverage to achieve visibility and transformation across the entire organization and the value chain. The following study highlights the result of over 220 companies participating in a survey on S&OP related initiatives. The goal of this study is to compare and contrast the view points of supply chain and finance organizations relating to S&OP processes.

Best-in-Class Performance

Aberdeen used three key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations. These metrics determine the Best-in-Class status with respect to achieving success in S&OP processes:

- Customer service levels (on-time and complete by the customer's requested date) – 97.5%
- Average cash conversion cycle – 15 days
- Average forecast accuracy at the product family level – 82%

Competitive Maturity Assessment

Examples of the Best-in-Class process differentiators are:

- Best-in-Class companies are three-times as likely to have the ability to evaluate constrained planning scenarios during supply demand balancing as all other companies (all others).
- Best-in-Class companies are three-times as likely to have the ability to use an “exception management process” to identify and manage exceptions as all others.

Required Actions

Some of the recommendations that are discussed in Chapter Three are:

- Invest in S&OP training
- Implement the ability to express the S&OP plan in terms of revenue and margins
- Implement exception management processes that are people centric and supported by technology
- Implement SKU rationalization

Research Benchmark

Aberdeen’s Research Benchmarks provide an in-depth and comprehensive look into process, procedure, methodologies, and technologies with best practice identification and actionable recommendations.

“During these trying economic times, supply chain flexibility and responsiveness are critical. Lexmark’s key current Latin American supply chain initiatives include multi-level inventory optimization and re-engineering of the Sales and Operations Planning (S&OP) process. We are working hard to be more proactive in the supply chain organization by aligning plans with the business goals. We want to improve the ease and efficiency of the S&OP process. This requires improved communication and data sharing across various internal teams and processes. Although these initiatives were under way prior to the economic downturn, today’s tough economy puts increased pressure on our supply chain organization to facilitate their successful implementation.”

~ Elena Palacios, Director of Supply Chain & Operation for Latin American Region, Lexmark International, Inc.
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Chapter One: Benchmarking the Best-in-Class

Business Context

Economic volatility over the past several years has been illustrated by the highly unstable customer demand, raw material, fuel, and commodity prices. Most recently, it has intensified because of the global economic recession that began unfolding a few months ago. Sales and Operations Planning (S&OP) is the key integrated process that the supply chain organization (specifically the VP of Supply Chain) can leverage to achieve visibility and transformation across the entire organization and the value chain. The following study highlights the results of over 220 companies participating in a survey on S&OP related initiatives. Sixty-three percent (63%) of respondents indicate that the finance organization is involved in the S&OP process whereas only 4% of respondents indicate that finance drives the S&OP process. The goal of this study is to compare and contrast the view points of supply chain and finance organizations relating to S&OP processes.

The key pressures that companies are facing with respect to S&OP processes include the need to reduce supply chain operating costs (56%), the need to improve top line revenue (45%) and the management of increasing demand volatility (45%), which creates the need for balancing these mutually exclusive business pressures (Figure 1).

Figure 1: Key Pressures to Improve Sales and Operations Planning

- Need to reduce supply chain operating costs: 56%
- Management of increasing demand volatility: 45%
- Need to improve top line revenue: 45%
- Need to utilize manufacturing assets with maximum efficiency: 35%
- Customer mandates for faster, more accurate and more unique fulfillment: 31%

Source: Aberdeen Group, July 2009

However the finance organization has a slightly different view point in terms of top pressures: 59% indicate that the top pressure is the need to improve top line revenue and 53% indicate that the need to utilize manufacturing assets with maximum efficiency is a key pressure. This illustrates that the view point of the finance organization need not necessarily reflect the view point of supply chain organizations. In order to truly obtain engagement of
the finance organization towards S&OP, it is necessary to understand their specific pain points and how they intend to address these pain points.

The Maturity Class Framework

Aberdeen used three key performance criteria to distinguish the Best-in-Class, from Industry Average and Laggard organizations. These metrics determine the Best-in-Class status with respect to achieving success in S&OP processes.

Table 1: The Maturity Class Framework

<table>
<thead>
<tr>
<th>Definition of Maturity Class</th>
<th>Mean Class Performance</th>
</tr>
</thead>
</table>
| **Best in Class:** Top 18% of aggregate performance scorers | ▪ Customer service levels (on-time and complete to the customer’s requested date) – 97.5%  
▪ Average cash conversion cycle – 15 days  
▪ Average forecast accuracy at the product family level – 82% |
| **Industry Average:** Middle 54% of aggregate performance scorers | ▪ Customer service levels (on-time and complete to the customer’s requested date) – 92.5%  
▪ Average cash conversion cycle – 2.5 months  
▪ Average forecast accuracy at the product family level – 73% |
| **Laggard:** Bottom 28% of aggregate performance scorers | ▪ Customer service levels (on-time and complete to the customer’s requested date) – 85%  
▪ Average cash conversion cycle – 6 months or more  
▪ Average forecast accuracy at the product family level – 54% |

Source: Aberdeen Group, July 2009

The Best-in-Class PACE Model

Leveraging S&OP processes to achieve corporate goals requires a combination of strategic actions, organizational capabilities, and enabling technologies that are summarized in Table 2.

Table 2: The Best-in-Class PACE Framework

<table>
<thead>
<tr>
<th>Pressures</th>
<th>Actions</th>
<th>Capabilities</th>
<th>Enablers</th>
</tr>
</thead>
</table>
| ▪ Need to reduce supply chain operating costs | ▪ Create a profit optimized supply-demand balanced plan  
▪ Manage demand forecasts within the S&OP plan  
▪ Trying to reduce inventory to free up working capital | ▪ Evaluate constrained planning scenarios during supply demand planning  
▪ Respond to unplanned events in a timely manner that aligns with S&OP objectives  
▪ Evaluate and optimize inventory and service policy to maximize cash flow and profitability as part of the S&OP process  
▪ Perform gap analysis between financial plans and S&OP plans and take corrective actions  
▪ Express the S&OP plan in terms of revenue and margins  
▪ Statistical analysis and fact based decision making  
▪ Use "exception management process" to identify and manage exceptions | ▪ Demand Planning  
▪ Supply Planning  
▪ Inventory Planning  
▪ Executive Reporting / Dashboards  
▪ Scenario management (financial modeling) |

Source: Aberdeen Group, July 2009

“We are now expanding into multiple channels – digital media, kiosks, internet along with our traditional retail outlets for renting movies and games. We look at S&OP as a process which will help us to consolidate demand across these channels and be able to stock the right products in the right location over the long-term horizon. We believe that managed services is the way to go in this endeavor.”

~ VP of Logistics at Large Retailer
Strategic Actions of the Best-in-Class

It is important to note the differences and similarities between the strategic actions taken by the Best-in-Class and all others. Figure 2 shows that Best-in-Class firms are two-times more likely than all others to be involved in creating a profit optimized supply-demand balanced plan. The top strategic action from Industry Average and Laggard companies is to manage demand forecasts within the supply chain.

Figure 2: Strategic Actions Taken by Best-in-Class Companies

<table>
<thead>
<tr>
<th>Action</th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a profit optimized supply-demand balanced plan</td>
<td>50%</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>Manage demand forecasts within the S&amp;OP plan</td>
<td>53%</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>Trying to reduce inventory to free up working capital</td>
<td>46%</td>
<td>35%</td>
<td>33%</td>
</tr>
<tr>
<td>Integrate financial planning and budgeting with the S&amp;OP process</td>
<td>43%</td>
<td>35%</td>
<td>33%</td>
</tr>
<tr>
<td>Manage supply constraints within the S&amp;OP plan</td>
<td>36%</td>
<td>31%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Percentage of Respondents, n = 214

Source: Aberdeen Group, July 2009

Best-in-Class companies are focusing more on a holistic consideration of supply, demand, and finance whereas the vast majority of the market place is still grappling with traditional supply chain issues (such as managing demand forecasts within the S&OP plan). Industry Average and Laggard companies are trying to reach the stage where they can forecast their demand and manage their supply constraints better. Another data point is the difference between the view point of the overall market and finance professionals. An overwhelming majority (76%) of finance professionals indicate that their top strategic action is to integrate the financial planning and budgeting process with the S&OP process. The Director of Finance at a Large Consumer Durable company said, “Our revenue forecasting process used to be once a year but now we do it monthly. One of the data feeds to our revenue forecasting process comes from the S&OP plan. We do have to go through a lot of manual processing before we can convert the volumetric plan to a revenue forecast but it is well worth it since the accuracy has been better since we started this process.”

In Chapter Two, we will explore the specific areas where Best-in-Class companies are differentiated in the execution of various S&OP actions.
About 10% of the respondents were end users who worked in the finance organization (CFOs, controllers, treasurers, etc). When asked about the inter-relationship between the financial planning and budgeting versus S&OP process in their organization, the finance respondents indicated the following:

- 30% of the respondents indicate that the processes are completely un-integrated
- 70% indicated that FP&B sets the goal of S&OP process - gap analysis between the budget and S&OP plan is done and ways of bridging the gap are identified
- No one indicated that FP&B drives the S&OP process completely - demand is adjusted to meet budget goals

Two points of observation are:

1. Only 10% of respondents were finance users even though the topic should highly resonate with the finance team to compel them to take the survey. This could imply that there is a significant opportunity to get the finance organization engaged around the S&OP process and get their mind share.

2. The 70% of finance professionals who have indicated that they adjust their budgets based on the S&OP plan “get it.” They understand the highly dynamic nature of today’s supply chains and understand that financial turbulence and Wall Street embarrassment can be reduced by efficient supply chains.

When asked about the participation in the S&OP meetings:

- 71% of the finance organization indicated that they sit in S&OP meetings
- Only 29% indicated that they don’t participate in S&OP meetings

Sixty-three (63%) of respondents indicate that the finance organization is involved in the S&OP process whereas only 4% of respondents indicate that finance drives the S&OP process.

The VP of Finance of a Mid-size Manufacturer said, “Finance assists the SOP process by tracking actual performance, reviewing the SOP projections for reasonability and then integrates them into a full P&L on a monthly basis.”

The key takeaway that can be made from these results is that there is still a great opportunity for the finance organization to get engaged with the S&OP process (only 4% of respondents indicate that finance drives the process and 37% of respondents do not have finance participating in the process in any way).
Chapter Two: Benchmarking Requirements for Success

S&OP serves as a solution to enable companies to achieve supply and demand goals through greater optimization of inventory management, forecasting, and customer service. Overall, organizations’ S&OP programs are viewed as a vital solution for supply chain networks. Most claim that S&OP is, at the very least, a very important program to their organization; and, many in the survey declare their program to be a success. The following chapter identifies process, organization, knowledge management, and technology related capabilities which make this success a reality.

Linksys Utilizes Unique S&OP Processes to Balance Supply and Demand

Linksys is a division of Cisco (acquired in 2003) and is a leading company in voice, wireless, and Ethernet networking hardware for consumer and small businesses. Linksys has a global supply chain with customers in over 100 countries.

The company underwent hyper growth during the internet boom and the supply chain did not keep pace, which resulted in inefficiencies. The following were the key challenges:

a) A large number of expedited orders for some products and excess inventory for others which caused multiple customer service and P&L issues

b) Cross functional alignment was impossible because all functions had their own set of numbers to work from

c) A monthly cadence of processes that only focused on the top SKUs rather than the entire global portfolio of SKUs

d) Lack of a technology architecture to support the S&OP process

The Vice President of Worldwide Operations, Mark Payne, at Linksys identified the potential for leveraging S&OP processes to better manage supply and demand. The first area that Linksys tackled was implementing a new S&OP process which manages sales forecasting, production planning and inventory planning at the SKU level. Technology was added to roll up the SKU level results into multiple functional hierarchies to serve all the functions within the business. “We got all the different functions working off the same set of numbers with the goal of keeping every SKU in the portfolio in balance,” said Payne. The following were the key solution enablers:

a) People: establishing a new organization structure that provides an owner for the S&OP process. Functional areas (other than demand forecasting and product management) were included as part of the process.

b) Process: moving from being demand driven only to demand – supply balancing through planning. Every SKU in the global portfolio was managed.
Linksys Utilizes Unique S&OP Processes to Balance Supply and Demand

c) Technology: implemented technology that all functions use to view the operational data. Linksys has an operational system of record that drives the ERP system.

d) Focus on response management: as reality for any given SKU reveals itself today, Linksys can adjust the future flow of that SKU to keep the business in balance. Inventory levels of each and every SKU were now actively monitored and managed within the established tolerances. This resulted in smoother demand signals for suppliers.

Each S&OP planner was provided a continual forward-looking view of weekly sales forecast, production and inventory for each SKU called a “gameboard.” This gameboard concept, developed by Payne, allowed each planner to see the impact of demand and supply changes on inventory well into the future so that they were able to make changes or consider tradeoffs with full knowledge of their implications.

In order to automate the unique S&OP process developed by Linksys, a best of breed S&OP solution provider was selected. This system allowed Linksys to automate the gameboard concept. The solution provides the ability to create the specific hierarchies that Linksys was interested in monitoring: operational metrics across all functions. A global consulting provider was leveraged to help with the change management related issues and creating organization teams necessary for making the program a success. The benefits gained include:

a) Reducing their weeks of inventory on-hand by 35%

b) Reducing customer inventory by 30% by providing the insight into which inventory moved slowly and understanding product transitions better

c) Reductions of backorders by 60% worldwide over a nine month period

d) Improvements in forecast accuracy from 30% to 70% at the SKU level

e) Ability to plan every global SKU on a weekly basis

Competitive Assessment

Aberdeen Group analyzed the aggregated metrics of surveyed companies to determine whether their performance ranked as Best-in-Class, Industry Average, or Laggard. In addition to having common performance levels, each class also shared characteristics in five key categories: (1) process (the approaches they take to execute their daily operations); (2) organization (corporate focus and collaboration among stakeholders); (3) knowledge management (contextualizing data and exposing it to key stakeholders); (4) technology (the selection of the appropriate tools and the effective
deployment of those tools); and (5) **performance management** (the ability of the organization to measure its results to improve its business). These characteristics (identified in Table 3) serve as a guideline for best practices, and correlate directly with Best-in-Class performance across the key metrics.

Note that the percentages indicate the respondents have selected "strong capabilities" or "very strong capabilities" out of five choices that include "no capabilities," "poor capabilities," "acceptable capabilities," "strong capabilities," and "very strong capabilities."

**Table 3: The Competitive Framework**

<table>
<thead>
<tr>
<th>Process</th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to evaluate constrained planning scenarios during supply</td>
<td>38%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>demand balancing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to plan at multiple levels based on holistic product</td>
<td>28%</td>
<td>16%</td>
<td>9%</td>
</tr>
<tr>
<td>segmentation (e.g. high-volume or high-value products on a weekly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>basis, others on a monthly basis)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to respond to unplanned events in a timely manner that aligns</td>
<td>32%</td>
<td>24%</td>
<td>19%</td>
</tr>
<tr>
<td>with S&amp;OP objectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to evaluate and optimize inventory and service policy to</td>
<td>32%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>maximize cash flow and profitability as part of the S&amp;OP process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to create downside risk assessment scenarios to analyze S&amp;OP</td>
<td>39%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory target setting is part of the S&amp;OP process team</td>
<td>63%</td>
<td>60%</td>
<td>42%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization</th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our people manage critical relationships through the end to end supply</td>
<td>31%</td>
<td>25%</td>
<td>14%</td>
</tr>
<tr>
<td>chain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our people understand the business strategy, products, and processes</td>
<td>41%</td>
<td>38%</td>
<td>21%</td>
</tr>
<tr>
<td>Our people utilize statistical analysis and fact based decision</td>
<td>42%</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td>making</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our people use &quot;exception management process&quot; to identify and manage</td>
<td>34%</td>
<td>17%</td>
<td>9%</td>
</tr>
<tr>
<td>exceptions</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
### Technology

<table>
<thead>
<tr>
<th>Technology enablers for sales and operations planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demand Planning – 38%</td>
</tr>
<tr>
<td>• Supply Planning – 47%</td>
</tr>
<tr>
<td>• Inventory Planning – 44%</td>
</tr>
<tr>
<td>• Executre Reporting Dashboards – 34%</td>
</tr>
<tr>
<td>• Scenario management and financial modeling – 21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology enablers for sales and operations planning</th>
</tr>
</thead>
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<tr>
<td>• Inventory Planning – 31%</td>
</tr>
<tr>
<td>• Executive Reporting Dashboards – 24%</td>
</tr>
<tr>
<td>• Scenario management and financial modeling – 11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology enablers for sales and operations planning</th>
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<tbody>
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</tr>
<tr>
<td>• Inventory Planning – 11%</td>
</tr>
<tr>
<td>• Executive Reporting Dashboards – 9%</td>
</tr>
<tr>
<td>• Scenario management and financial modeling – 3%</td>
</tr>
</tbody>
</table>

### Performance

<table>
<thead>
<tr>
<th>Ability to express the S&amp;OP plan in terms of revenue and margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 40% 22% 21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High-level reporting designed for executive management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 41% 35% 31%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability to proactively monitor daily performance against S&amp;OP metrics and to be proactively alerted when you are no longer on track to meet objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 25% 16% 12%</td>
</tr>
</tbody>
</table>

### Capabilities and Enablers

Based on the findings of the Competitive Framework and interviews with research participants, Aberdeen’s analysis of the Best-in-Class demonstrates the following capabilities and enablers in process, organization, performance management, and technology.

### Process

Based on the Findings in Table 3, the following are the areas of process gaps that companies need to focus on:

- **Constrained planning and optimization.** Best-in-Class companies are more than twice as likely to have the ability to consider major constraints during supply demand balancing. Having the ability to manage constraints within the S&OP process is highly linked to the nature of technology tools available. By definition, the process is extremely difficult to be handled manually and through spreadsheets. The best approach is leveraging light-weight solutions that have the ability to do scenario analysis and rough cut capacity planning within themselves but also provide the ability to link to an Advanced Planning and Scheduling (APS) tool.
• **Integrating finance with supply and demand.** The key advantage for Best-in-Class companies exists in the ability to perform gap analysis between the financial plans and S&OP plans and take corrective actions. Financial modeling needs to be very deep in order to properly consider and evaluate the impact on working capital, profits, cash flow and other financial metrics. In addition, the financial modeling needs to replicate the company’s reporting structure in order to feed directly into the budgeting and planning process.

• **Inventory management.** Forty-two percent (42%) of Laggards have indicated strong process capabilities in setting safety stock targets for inventory during the S&OP process, versus 63% of Best-in-Class companies.

  Current S&OP processes are currently extremely demand focused versus focusing on balancing supply demand and finance. One of the critical aspects of finance is working capital, which is in turn dependent on inventory. Hence it is necessary for companies to manage inventory in a holistic fashion as part of the S&OP process workflow.

• **Scenario management.** Scenario management can be obtained through multiple sources: Excel point solutions that provide an Excel interface, BI tools, performance management modules from point solution providers, and so forth. The following capabilities, however, are critical for such solutions: an add on module that can be integrated to any underlying ERP or supply chain suite, need to provide opportunities for S&OP managers to do what-if analysis in the executive S&OP meeting itself, and all data needed for conducting S&OP meetings, as well as demand planning and supply planning pre-S&OP meetings, is available in one place. However the key is not the technology which is relatively mature with respect to BI, but the process definition for scenario management and how it seamlessly integrates with the operational processes.

• **Response management.** Best-in-Class companies are two-times as likely to have the ability to continuously monitor the S&OP plan to ensure plan quality compared to all other companies. Additionally, Best-in-Class companies are two-times as likely to have the ability to respond to unplanned events in a timely manner compared to all other companies.

  The creation of an S&OP plan is only the beginning. Best-in-Class companies are gaining a significant advantage due to their superior response management capabilities. This requirement is especially true in outsourced manufacturing environments where the manufacturer has ceded significant control over to the suppliers while simultaneously needing to maintain very low cycle times.

  The key takeaway is that Best-in-Class companies are much more focused on developing end-to-end process capabilities, including demand sensing and
management, supply planning, and inventory planning. This is not an easy activity given the fact that the aforementioned areas are often handled by different departments and hence may have different priorities.

**Organization**

Best-in-Class companies are slightly more likely to have the sales organization as well as the finance organization to participate in the S&OP process (Figure 3). In fact they are 1.5-times to three-times more likely to have the sales and finance organizations to drive or lead the S&OP process. Best-In-Class companies are also more likely to incorporate inventory analysis explicitly as part of the S&OP process and not relegate inventory management to an operational afterthought.

In fact, the role of sales in organizations is very important to understand. They are more likely to be involved in demand shaping and product portfolio optimization than being just passive observers who pass on sales data to the “supply chain guys.” However it is equally important to have the finance organization participate in the S&OP process actively.

**Figure 3: Functional Area Participation in the S&OP Process**

<table>
<thead>
<tr>
<th>Percentage of Respondents</th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>72% 66%</td>
<td>78% 61%</td>
<td>82% 61%</td>
</tr>
<tr>
<td>Finance</td>
<td>72% 61%</td>
<td>91% 59%</td>
<td>84% 72%</td>
</tr>
<tr>
<td>Logistics / Supply Chain</td>
<td>91% 72%</td>
<td>92% 72%</td>
<td>94% 82%</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2009

**Performance Management**

There are three types of capabilities that companies need to adopt with respect to performance management for S&OP processes. These capabilities will enable companies to gain the advantage that Best-In-Class companies have obtained in Figure 4:

- **High level reporting designed for executives.** High-level / KPI reporting (or “overlay”) tools - most relevant to C-level executives and top-level directors.

  This type of performance management solution should provide mapping between operational supply chain metrics and financial metrics, and allow drill-down capabilities into lower-level metrics.

“In order to create alignment between supply chain, procurement and manufacturing we have done some significant organizational alignment within our company. The goal of this re-alignment is to break the traditional silos and create an integrated S&OP process. The new organization has VPs for direct materials, indirect materials, supply chain reporting to a single VP of Operations.”

~ VP at Large Aerospace Defense Manufacturer
• **Ability to express the S&OP plan in terms of revenue and margins.** Analytics / data-intensive analytical reports - most relevant to specialized data analysts. This category of performance management for S&OP should provide advanced analytics capabilities (including historical analysis and forward-looking estimates) for supply chain specialists, with the ability to perform root cause analysis and to drill down into specific business areas. These applications should provide significant levels of configuration flexibility for modeling business metrics.

It is important that today’s state-of-the-art analytics systems allow for more capabilities to become ‘externalized,’ i.e. to reflect the results of this complex performance analysis in the dashboard layer, easily understood by business users. Service-Oriented Architecture (SOA) and Web 2.0 technologies are among the enablers of these capabilities.

• **Ability to proactively monitor daily performance against S&OP metrics.** Embedded analytics / SCI tools are incorporated into other functional supply chain applications (e.g. S&OP), business analysts or mid-level supply chain / operations managers for which BI is not a primary job responsibility (users of intelligence). This category of performance management solution should provide add-on capabilities for business analysts and lower-to-mid-level managers involved in various roles within the organization. This also must enable daily level visibility into variations between actual results and predicted plan.

**Figure 4: Performance Capabilities for Best-in-Class versus Others**

![Chart showing performance capabilities for Best-in-Class, Average, and Laggard.](chart-url)

“...We are an after market service parts provider to the railway industry. Our long-term budgeting process comes up with a revenue estimate for the year. After that we only have a short term inventory replenishment process that comes up with replenishment signals for our stocking locations. Given the highly intermittent nature of our industry, gaining an accurate estimate of the variability of demand is critical. One question that we continue to have is what is the role of S&OP in our industry? We do not have an S&OP process at our company currently.”

~ Director of Supply Chain at a Mid-size Parts Manufacturer
Knowledge Management

As Figure 5 illustrates, Best-in-Class companies are highly differentiated with respect to all others when it comes to people and competency related areas. This is critical given the fact that 60% of companies indicate that they do not have S&OP related training programs and 43% of companies indicate that their employees do not consider S&OP to be a critical process.

The need to recruit, retain and cultivate talent in organizations is higher than ever before even though 75% of companies have indicated that they had to make changes in terms of retrenchments and layoffs. Retaining the high performer and training them in the latest processes and technologies is a critical need for organizations. Success for organizations when it comes to S&OP processes and its resulting benefits are very often the result of talented managers taking the initiative to kick start and maintain the long journey ahead.

However it must be realized that success in S&OP initiatives requires expertise that may not be resident in the organization and may have to be sourced externally. Consulting providers or software vendors have to be chosen in this case based on their track record and ability to train the organization.

Figure 5: Knowledge Management Capabilities for Best-in-Class versus All Others

Technology

Technology continues to not be a clear differentiator for Best-in-Class performance for the S&OP process. More than 70% of companies still indicate spreadsheets are the key enabler for S&OP. However, Aberdeen
research finds that companies that have reached the level of process, organizational, and personnel maturity stand to benefit from technology.

There is a renewed focus in the industry towards coming up with specialized modules that address the Integrated Business Planning (IBP) related solution areas of S&OP.

The IBP related areas have traditionally been in the realm of management consultants who would charge significant rates to create custom spreadsheet applications as part of a larger transformation engagement. However this approach is not scalable given the large number of SKUs involved and the dynamic nature of business processes that continue to evolve at fast rates. There is a need for a new category of solutions in the marketplace which should be focused on addressing the various components identified in this document – IBP solutions.

There are a host of best-of-breed players and ERP providers that are working towards these next generation IBP solutions. It remains to be seen who wins the race in getting a comprehensive solution to the marketplace.

But one thing is clear: the need for these capabilities is more prevalent than ever – especially during tough economic times where making money is critical to the survival of the organization. Figure 6 indicates that 65% of companies are interested in making technology investments within the next 12 months which is a very high percentage relative to other areas where much lower technology adoption plans have been reported as part of recent surveys.

Figure 6: Technology Adoption with Respect to S&OP Related Areas

In addition there is a significant opportunity for best of breed players – 71% of respondents indicate that they are going to continue running an existing version of ERP for the next 12 months. The appetite for doing large scale rip and replace ERP projects is at an all time low currently.
Implementing a technology enabler for S&OP is not an easy task – it requires significant focus from the implementation team and executive management support. There are a number of barriers and challenges that must be considered and addressed when deploying a S&OP solution:

- **Cultural resistance to change.** Change is never easy, especially when it comes to new organizational roles, processes and procedures, and technology solutions. Forty-one percent (41%) of all respondents indicated that overcoming the organizational resistance to change is a barrier to process change. Over 78% of respondents indicate that they are leveraging spreadsheets for managing their S&OP process. However, the limitations of spreadsheets are extensive and directly contribute to the fact that current S&OP processes are poor in terms of improving corporate performance.

- **Integration challenges.** 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. This creates significant integration challenges trying to get data from multiple data sources into a coherent workflow.

- **Lack of optimization capabilities.** The ability to support decisions on product line, price policy, capital expenditures, financial policy, network design, open / close, supply chain policy, etc. is critical to S&OP technology. Without optimization, scenarios cannot be compared on an apples-to-apples basis. Optimization does this by making sure each scenario represents “the best the company can do” under the specific sets of assumptions. For example, different scenarios might require different production allocation, different use of raw materials, etc.
Chapter Three:
Required Actions

Whether a company is trying to move its performance in inventory management from Laggard to Industry Average, or Industry Average to Best-in-Class, the following actions will help spur the necessary performance improvements:

**Laggard Steps to Success**

- **Implement constrained planning.** Fourteen percent (14%) of Laggards have indicated strong process capabilities in evaluating constrained planning scenarios during supply demand balancing, versus 38% of Best-in-Class companies. Having the ability to manage constraints within the S&OP process is highly linked to the nature of technology tools available. By definition, the process is extremely difficult to be handled manually and through spreadsheets. The best approach is leveraging light-weight solutions that have the ability to do scenario analysis and rough cut capacity planning within themselves but also provide the ability to link to an Advanced Planning and Scheduling (APS) tool.

- **Explicitly consider risk as part of S&OP process.** Ten percent (10%) of Laggards have indicated strong process capabilities in creating downside risk assessment scenarios to analyze the S&OP plan, versus 393% of Best-in-Class companies. Instead of using rules of thumb risk management (not letting inventory come below a week of supply), companies should look at formal techniques for managing financial risks. The office of the treasurer and CFO of companies should step up to the plate and share their expertise in this area.

- **Implement the ability to express the S&OP plan in terms of revenue and margins.** Twenty-one percent (21%) of Laggards have indicated strong process capabilities in the ability to express the S&OP plan in terms of revenue and margins, versus 40% of Best-in-Class companies. Unless the solution can convert the operational volumes associated with the traditional S&OP plan real-time into various financial metrics, companies are at a disadvantage due to a potential lack of engagement and ownership from the financial organization.

- **Invest in S&OP training.** Thirteen percent (13%) of Laggards indicated that they have strong employees in place that utilize statistical analysis and fact based decision making, versus 42% of Best-in-Class companies. Improved competencies, in terms of supply chain knowledge, have emerged as a key driver in companies with the looming shortage of talent in supply chain professionals. Companies must create centers of excellence of experts in supply chain, six sigma, and Lean to aid the S&OP process. Laggards need to work with consulting providers that bring specific expertise in training organizations and make them independent in a short period of time.

**Fast Facts**

- Fourteen percent (14%) of Laggards have indicated strong process capabilities in evaluating constrained planning scenarios during supply demand balancing, versus 38% of Best-in-Class companies.
- Seventeen percent (17%) of Industry Average companies have indicated strong capabilities in their people’s ability to use exception management process to identify and manage exceptions, versus 34% of Best-in-Class companies.

“We are leveraging an Integrated Business Planning tool that allows us to model our product’s bill of materials structure and the manufacturing process from purchasing to delivery at the customer warehouse. The solution optimizes the mix of products that we need to manufacture based on maximizing profit margins.”

~ S&OP Coordinator at a Mid-Size Food Manufacturing Company
Industry Average Steps to Success

- **Move from S&OP to SIOP processes.** Sixteen percent (16%) of Industry Average companies have strong process capabilities in evaluating and optimizing inventory and service policy to maximize cash flow and profitability as part of the S&OP process, versus 32% of Best-in-Class companies. S&OP processes are currently extremely demand focused versus focusing on balancing supply demand and finance. One of the critical aspects of finance is working capital, which is in turn dependent on inventory. Hence it is necessary for companies to manage inventory in a holistic fashion as part of the S&OP process workflow.

- **Implement rapid response management capabilities.** Twenty-four percent (24%) of Industry Average companies have strong process capabilities to respond to unplanned events in a timely manner that aligns with S&OP objectives, versus 32% of Best-in-Class companies. The creation of an S&OP plan is only the beginning. Best-in-Class companies are gaining a significant advantage due to their superior response management capabilities. This requirement is especially true in outsourced manufacturing environments where the manufacturer has ceded significant control over to the suppliers while simultaneously needing to maintain very low cycle times.

- **Implement exception management processes that are people centric and supported by technology.** Seventeen percent (17%) of Industry Average companies have strong confidence in their employees’ ability to use exception management process to identify and manage exceptions, versus 34% of Best-in-Class companies. The key takeaway is that Best-in-Class companies are much more likely to possess supply chain talent that understands the details of their business systems and can perform fact based decision making. In the absence of any technology, Best-in-Class companies will continue to do well because they simply possess a competitive advantage based on their people.

Best-in-Class Steps to Success

- **Monitor performance against the S&OP plan daily.** Twenty-five percent (25%) of Best-in-Class companies have a strong ability to proactively monitor daily performance against S&OP metrics. As the case study in Chapter Two illustrated, it is critical for organizations to consider the entire set of SKUs globally for the company as part of the S&OP plan at a frequency that is at least weekly. Once the S&OP plan has been generated, then it needs to be monitored daily to ensure the possibility of course correction.

- **Implement scenario management.** Twenty-two percent (22%) of Best-in-Class companies indicate that their people use “what-if” scenario analysis to determine alternatives. Organizations should be able to adopt business goals that are rapidly evolving with the marketplace and its supply chain should be able to flex itself to
adjust to these changing goals. A process playbook approach has to be adopted in order to implement scenarios which simulate various supply chain tactics that can result in meeting the business goals.

- **Implement SKU rationalization.** Twenty-eight percent (28%) of Best-in-Class companies have the ability to plan at multiple levels based on holistic product segmentation (e.g. high-volume or high-value products on a weekly basis, others on a monthly basis). SKU rationalization is not looked as a component of S&OP processes but an increasing number of organizations are incorporating this key area into the process. One example would be a CPG manufacturer looking at rationalizing the number of SKUs that they are manufacturing and reducing the number of non-organic products in their portfolio. This is driven by the sustainability movement and increased consumer interest in organic products.

### Aberdeen Insights — Process for Obtaining Revenue Projections

Ideally, the output of the S&OP plan should drive the income statement and balance sheets of companies. Companies should create internal projects and SWAT teams wherein the S&OP plan is mapped to the key financial documents with collaboration between finance and supply chain. Once this activity is completed, very interesting insights can be gained by both sides of the organizations, in terms of supply chain tactics that can impact corporate goals and vice versa.

However, currently only 24% of companies report a completely automated workflow between the S&OP volumetric projections and the revenue projections. Forty-one percent (41%) of companies have a semi-automated approach where the S&OP plan is fed as one of the inputs for the finance organization to leverage for coming up with the financial numbers.

**Table 4: Revenue Projection Approach Adopted by the Finance Organization**

<table>
<thead>
<tr>
<th>Revenue Projection Method</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no revenue projection done within the organization</td>
<td>12%</td>
</tr>
<tr>
<td>Revenue projections are an automatic output of the S&amp;OP process</td>
<td>24%</td>
</tr>
<tr>
<td>S&amp;OP process and the revenue process are completely un-integrated</td>
<td>24%</td>
</tr>
<tr>
<td>S&amp;OP process feeds finance volume and mix, and finance comes out with revenue projections</td>
<td>41%</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2009
Appendix A: Research Methodology

Between June and July 2009, Aberdeen examined the use, the experiences, and the intentions of 214 enterprises involved in S&OP processes in a diverse set of enterprises with a specific focus on balancing supply and demand based on financial criteria. Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on S&OP strategies, experiences, and results. Responding enterprises included the following:

- **Job title**: The research sample included respondents with the following job titles: C-Level executive (CEO, CFO, CTO, CIO) (9%); VP/General Manager (10%); Director (30%); Manager (32%); other titles (19%).

- **Functional Responsibility**: The research sample included respondents with the following functional areas of responsibility: Logistics/supply chain (51%); operations/procurement (10%); Finance (10%); Sales/Marketing (4%); business process management (14%); other areas (11%).

- **Industry**: The research sample included respondents from the four major industry segments - process, consumer, discrete and high-tech/electronics. Key demographics are:
  - Discrete (25%): aerospace and defense (3%), automotive (7%), general manufacturing (8%), industrial equipment manufacturing (7%)
  - Consumer (38%): consumer durable goods (4%), consumer packaged goods (8%), consumer electronics (7%), distribution (3%), food/beverage (10%), retail (3%), wholesale (3%)
  - Process (20%): chemicals (6%), metals and metal products / mining / oil / gas (5%), paper / lumber / timber (1%), pharmaceutical manufacturing (8%)
  - High-tech/electronics (16%): computer equipment and peripherals (4%), health / medical / dental devices or services (5%); high-technology (2%); telecommunication equipment / services (5%)

- **Geography**: The majority of respondents (64%) were from North America. Remaining respondents were from the Asia-Pacific region (10%), Europe (17%), and rest of world (South / Central America, Caribbean, Middle East, Africa) (9%).

- **Company size**: 16% - under $50 million; 10% - $50 million to $100 million; 11% - $100 million to $250 million; 12% - $250 million to $500 million; 13% - $500 million to $1 billion; 12% - $1 billion to $2.5 billion; 11% - $2.5 billion to $5 billion; 15% - over $5 billion

- **Nature of organization**: 74% - manufacturer; 9% - distributor; 9% - distributor; 4% - brand manager; 4% - retailer

**Study Focus**

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

- The key pressures and strategic actions that companies are facing and adopting
- Feedback from the financial organization with respect to S&OP processes
- The perceived impact of S&OP in helping companies achieve business goals
- The actual impact of S&OP in helping companies achieve business goals
- The Best-in-Class metrics of companies with respect to S&OP
- The process, organization, performance management, and knowledge management capabilities of Best-in-Class companies as compared to Industry Average and Laggard companies
- Case studies that highlight companies supply chain tactics that enable the business strategies identified
### Table 5: The PACE Framework Key

<table>
<thead>
<tr>
<th>Overview</th>
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</thead>
<tbody>
<tr>
<td>Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:</td>
</tr>
<tr>
<td><strong>Pressures</strong> — external forces that impact an organization’s market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</td>
</tr>
<tr>
<td><strong>Actions</strong> — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product / service strategy, target markets, financial strategy, go-to-market, and sales strategy)</td>
</tr>
<tr>
<td><strong>Capabilities</strong> — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing)</td>
</tr>
<tr>
<td><strong>Enablers</strong> — the key functionality of technology solutions required to support the organization’s enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2009

### Table 6: The Competitive Framework Key

<table>
<thead>
<tr>
<th>Overview</th>
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</thead>
<tbody>
<tr>
<td>The Aberdeen Competitive Framework defines enterprises as falling into one of the following three levels of practices and performance:</td>
</tr>
<tr>
<td><strong>Best-in-Class (20%)</strong> — Practices that are the best currently being employed and are significantly superior to the Industry Average, and result in the top industry performance.</td>
</tr>
<tr>
<td><strong>Industry Average (50%)</strong> — Practices that represent the average or norm, and result in average industry performance.</td>
</tr>
<tr>
<td><strong>Laggards (30%)</strong> — Practices that are significantly behind the average of the industry, and result in below average performance.</td>
</tr>
</tbody>
</table>

In the following categories:

| Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process? |
| Organization — How is your company currently organized to manage and optimize this particular process? |
| Knowledge — What visibility do you have into key data and intelligence required to manage this process? |
| Technology — What level of automation have you used to support this process? How is this automation integrated and aligned? |
| Performance — What do you measure? How frequently? What’s your actual performance? |

Source: Aberdeen Group, July 2009

### Table 7: The Relationship Between PACE and the Competitive Framework

<table>
<thead>
<tr>
<th>PACE and the Competitive Framework – How They Interact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen research indicates that companies that identify the most influential pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute those decisions.</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2009
Appendix B:  
Related Aberdeen Research

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

- *Supply Chain Executive’s Strategic Agenda 2008: Managing Global Supply Chain Transformation*; January 2008
- *Technology Strategies for Closed Loop Inventory Management*; April 2008
- *Demand Management in Process Industries: Strategies for Being Demand Driven in a Globalized Economy*; September 2008
- *Beyond Visibility: Driving Supply Chain Responsiveness*; September 2008
- *The Secret SaaS: On-Demand Supply Chain Management*; December 2008
- *Integrated Demand-Supply Networks: Five Steps to Gaining Visibility and Control*; March 2009
- *Inventory Management: 3 Keys to Freeing Working Capital*; May 2009

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

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