Sales and Operations Planning
Strategies for Managing Complexity within Global Supply Chains

July 2010
Nari Viswanathan

~ Underwritten, in Part, by ~

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Executive Summary

Sales and Operations Planning (S&OP) is the key integrated process that the supply chain organization (specifically the Chief Supply Chain Officer) can leverage to achieve visibility and transformation across the entire organization and throughout the value chain. The following study highlights the results of over 196 companies participating in a survey on S&OP related initiatives. Fifty-nine percent (59%) of respondents indicate that improving top line revenue in 2010 (versus 45% of respondents in the July 2009 Sales and Operations Planning: Integrate with Finance and Improve Revenue report) is the top pressure driving attention and resources toward S&OP initiatives.

Best-in-Class Performance

Aberdeen used four 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:

- Forecast accuracy (average forecast accuracy at the product family level) - 82%
- Perfect orders delivered to customers (complete and on-time) - 97%
- Cash-cash cycle - decreased cash-to-cash cycle time by 0.3% year over year
- Gross profit margin (measured as a percentage) - experienced a year-over-year gross profit margin increase of 48.1%

Competitive Maturity Assessment

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

- Best-in-Class companies are two-times as likely as all other companies to have the ability to evaluate constrained planning scenarios during supply demand balancing
- Best-in-Class companies are two-times as likely as all others (Industry Average and Laggard companies combined) to have their people manage critical relationships through the end-to-end supply chain

Required Actions

Two of the key recommendations discussed in Chapter Three are:

- Implement constrained planning
- Institute a revenue focused S&OP process versus purely a cost focused one

"Ensuring our S&OP begins and end with the customer has been a very strong competitive differentiator. VTECH's S&OP cycle begins with a joint / consensus shelf level POS forecast with each retailer. This is then directly tied to every internal S&OP plan from production, material procurement, inventory planning and financial planning. This one number plan structure has helped us react faster than the competition to gain share as well as react the other way when needed to avoid excess inventory. The result has been strong profitability and growth in market share despite economic challenges."

~ Director of Supply Chain at VTech Communications Inc.
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Chapter One: 
Benchmarking the Best-in-Class

Business Context

Sales and Operations Planning (S&OP) is the key integrated process that the supply chain organization (specifically the Chief Supply Chain Officer) can leverage to achieve visibility and transformation across the entire organization and throughout the value chain. The following study highlights the results of over 196 companies participating in a survey on S&OP related initiatives. Fifty-nine percent (59%) of respondents indicate that improving top line revenue in 2010 (versus 45% of respondents in the July 2009 Sales and Operations Planning: Integrate with Finance and Improve Revenue report) is the top pressure driving attention and resources toward S&OP initiatives. The other key pressures that companies are facing with respect to S&OP processes include the need to reduce supply chain operating costs (53%) and the management of increasing demand volatility (49%), which creates the need for balancing these mutually exclusive business pressures (Figure 1). All of these pressures are competing against each other amidst an increased complexity of supply chain processes and the global nature of these supply chains.

Figure 1: Key Pressures to Improve Sales and Operations Planning

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Percent of Respondents, n=196</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve top line revenue</td>
<td>50%</td>
</tr>
<tr>
<td>Reduce supply chain operating costs</td>
<td>53%</td>
</tr>
<tr>
<td>Management of increasing demand volatility</td>
<td>49%</td>
</tr>
<tr>
<td>Customer mandates for faster, more accurate and more unique fulfillment</td>
<td>40%</td>
</tr>
<tr>
<td>Need to utilize manufacturing assets with maximum efficiency</td>
<td>26% 35% 2009 2010</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2010

From a North American perspective, management of demand volatility takes on higher importance, with 51% of respondents indicating it as a top-three pressure. But for the rest of the world, customer mandates for faster, more accurate and unique fulfillment assumes a greater importance with 46% of respondents indicating it as a top-three pressure. In fact for Asia Pacific respondents this percentage rises to 52%. This is consistent with the fact...
that many supply chains originate in Asia and other emerging areas and terminate in North America. The closer the geographic region is to the consumer, the higher the demand volatility. Consequently, the need to predict consumer behavior accurately and the need to ensure unique fulfillment to consumer demand increases as well.

The Maturity Class Framework

Aberdeen has used the following metrics to determine Best-in-Class, Average and Laggard performers in this study:

- Forecast accuracy (average forecast accuracy at the product family level)
- Perfect orders delivered to customers (complete and on-time)
- Cash-cash cycle (from the time you pay a supplier to the time you collect cash from a customer)
- Change in gross profit margin (measured as a percentage)*

Table 1: Top Performers Earn Best-in-Class Status

<table>
<thead>
<tr>
<th>Definition of Maturity Class</th>
<th>Average Class Performance</th>
</tr>
</thead>
</table>
| **Best-in-Class:** Top 21% of aggregate performance scorers | ▪ Experienced 81.9% forecast accuracy level for 3 months out into the future  
  ▪ 97.2% of orders delivered to customers complete and on time  
  ▪ Decreased Cash-to-Cash Cycle Time by 0.3% year over year  
  ▪ Experienced a year-over-year gross profit margin improvement of 48.1%* |
| **Industry Average:** Middle 49% of aggregate performance scorers | ▪ Experience 58.8% forecast accuracy level for 3 months out into the future  
  ▪ 92.1% of orders delivered to customers complete and on time  
  ▪ Increased Cash-to-Cash Cycle Time by 0.4% year over year  
  ▪ Experienced a year-over-year gross profit margin improvement of 34.2%* |
| **Laggard:** Bottom 30% of aggregate performance scorers | ▪ Experience 50.8% forecast accuracy level for 3 months out into the future  
  ▪ 69.1% of orders delivered to customers complete and on time  
  ▪ Increased Cash-to-Cash Cycle Time by 2.4% year over year  
  ▪ Experienced a year-over-year gross profit margin improvement of 25.4%* |

*Although it is unusual for all respondents to see an improvement in gross profit margin, but with the economic rebound from the 2008-2009 recession, this is indeed the case.

Source: Aberdeen Group, July 2010

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: Best-in-Class PACE Framework

<table>
<thead>
<tr>
<th>Pressures</th>
<th>Actions</th>
<th>Capabilities</th>
<th>Enablers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve top line revenue - 59%</td>
<td>Manage demand forecasts within the S&amp;OP plan - 70%</td>
<td>Our people understand the business strategy, products, and processes – 68%</td>
<td>Demand Planning – 53%</td>
</tr>
<tr>
<td>Reduce supply chain operating costs - 53%</td>
<td>Integrating the financial planning and budgeting process with the S&amp;OP process - 54%</td>
<td>High-level reporting designed for executive management – 54%</td>
<td>Supply Planning – 58%</td>
</tr>
<tr>
<td></td>
<td>Manage supply constraints within the S&amp;OP plan - 45%</td>
<td>Ability to consider the KPIs from previous periods with regard to capacity, forecast accuracy and inventory – 44%</td>
<td>Inventory planning – 51%</td>
</tr>
<tr>
<td>Source: Aberdeen Group, July 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Best-in-Class Strategies

Strategic actions, like the ones listed below, provide direct insight into respondent companies' overall strategy and disposition. It has to be noted that Best-in-Class, Industry Average and Laggard companies have generally prioritized the same strategic actions; however this does not mean that their organizational capabilities are the same. In Chapter Two, we will explore the specific differences in process capabilities between the Best-in-Class, Industry Average and Laggard companies.

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

The majority of companies are focusing more on a holistic consideration of supply, demand, and finance. When we explore the strategic actions, one area of Best-in-Class differentiation is apparent: the reduction of inventory to free up working capital. As we saw in the May 2010 Aberdeen report, *Working Capital Optimization: Increase Cash Flow in the New Economy*, Best-in-Class companies are more likely to be trying to optimize inventory routes, making better decisions on where and how much inventory to store. From the overall market standpoint, it is important to look at forecast accuracy.
and inventory optimization as two sides of the same coin and not prioritize one versus the other. Gaining high forecast accuracy is only the means to an end – namely gaining higher customer service level and reduced inventory.

When we compare the strategic actions of the overall respondent pool for 2009 versus 2010, we see some differences as well. The focus has shifted from inventory reduction to management of volatile demand.

**Figure 3: Comparison of the Strategic Actions for 2009 Respondents versus 2010 Respondents**

<table>
<thead>
<tr>
<th>Strategic Action</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage demand forecasts within the S&amp;OP plan</td>
<td>70%</td>
<td>50%</td>
</tr>
<tr>
<td>Integrating the financial planning and budgeting process with the S&amp;OP process</td>
<td>54%</td>
<td>37%</td>
</tr>
<tr>
<td>Manage supply constraints within the S&amp;OP plan</td>
<td>45%</td>
<td>48%</td>
</tr>
<tr>
<td>Provide executive visibility to the S&amp;OP process</td>
<td>32%</td>
<td>31%</td>
</tr>
<tr>
<td>Trying to reduce inventory to free up working capital</td>
<td>28%</td>
<td>48%</td>
</tr>
<tr>
<td>Create a profit optimized supply-demand balanced plan</td>
<td>21%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2010

**New Economy Creating New Challenges and Opportunities for High-Tech Manufacturer – Andor Technology**

Andor Technology, headquartered in Ireland, designs and manufactures low light imaging products including high-performance scientific digital cameras, spectrographs, and microscopy confocal and white light systems. Andor employs over 250 employees in 17 offices around the world. Andor has a customer base of approximately 10,000 scientific research and OEM customers. Andor has yearly revenues between $35 and $45 million U.S. dollars.

In 2009, Andor technology was seeing rapid growth despite the slumping global economy. In fact, their rapid growth became one of their biggest issues. "We were growing while many electronic components suppliers were contracting; shutting down fabrication plants," explained Peter Bannon, Supply Chain Manager at Andor Technology. The contracting supply of electronic components threatened to add to the overall production lead times for Andor's imaging products. Andor was compelled to take steps to secure its supply chain. "We had to go out and reassure our key suppliers that we were seeing strong sales orders well into the future," said Bannon.

continued
New Economy Creating New Challenges and Opportunities for High-Tech Manufacturer – Andor Technology

This wasn’t the only supply chain challenge that Andor has had to deal with over the past 18 months. Andor’s business is largely a “build to order” business with order activity directly driving production and inventory levels. This places a great deal of importance on forecasting demand accurately. “Because our production and inventory is based on the orders that we get in, we were sensitive to large spikes in our sales orders,” explained Bannon. With longer lead times for “build to order” imaging products, inaccurate forecasting not only posed a risk of unnecessary inventory costs but lower customer satisfaction. Andor decided that a change in their forecasting process would be the most cost effective way to address this issue; “We had to increase the frequency of our S&OP meetings and increase our communication with the sales team to get ahead of the spikes in demand,” mentioned Bannon.

When we take a look at the top pressures as identified by the sales and marketing team, an overwhelming majority of 83% of respondents indicate that it is "to improve top line revenue." The top action for 80% of respondents in the sales and marketing functional area is "manage demand forecasts within the S&OP plan." When we take a look at the top pressure as identified by the supply chain and logistics group, 60% of respondents indicate that it is "management of increasing demand volatility." For the top action for supply chain and logistics group, 70% of respondents indicate that it is "manage demand forecasts within the S&OP plan."

The sales and marketing organization(s), with their responsibility for revenue generation and business expansion opportunities plays a key role. Where revenue growth and expansion opportunities are scarce, senior management is looking to sales and marketing to enhance margins and prevent share erosion, at the very least. These objectives are tied both to extended supply chain costs/efficiencies and new product infusion.

Conventional Sales and Operations Planning (S&OP) processes have failed to integrate these broader lifeblood issues of the sales, R&D/Product Management, marketing and financial business leaders into the process. The next step in the evolution of S&OP, what has come to be known as Integrated Business Planning (IBP), elevates S&OP from a purely operational process to a strategic one. IBP merges the operational and financial plans into one seamless business planning and tactical execution-directing process.

In the next chapter, we will see what the top performers are doing to achieve these gains.
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, customer service and finance. The following chapter identifies the process, organization, knowledge, and technology management capabilities which make this success a reality.

### Case Study: Integrating the Budgeting Cycle with S&OP Yields Better Accuracy and Agility for SIG Combibloc

SIG Combibloc, a part of the New Zealand-based Rank Group, is a global supplier of carton packing and filling machines to the food and beverage industry. The company sells complete systems including both the filling machines along with the packaging materials. In 2009, SIG Combibloc had revenues of over $1.5 billion US dollars. Today, SIG Combibloc employs more than 4,250 people in more than 40 countries.

SIG Combibloc’s strong sales growth coupled with their long budgeting and forecasting cycle created an increasingly inaccurate and overly rigid sales and operations planning process. “We were very accurate with the more stable markets like Europe. But the rapid growth in emerging regions like South America and Asia really limited the accuracy as you move further and further out. Our budgeting process wasn’t dynamic enough to keep up with the constantly changing demand from those areas of the world,” said Carmen Zech, Head of Global Resource and Master Data Management at SIG Combibloc. The problem for SIG Combibloc was redesigning a new budgeting process that was capable of coping with change and market fluidity.

SIG Combibloc decided to use a technological solution along with a few process changes. First, SIG began using a sales and operations planning software package to optimize plant utilization, improve workflows and find bottlenecks. “The software is useful in finding possible bottlenecks in the manufacturing process before they become a problem,” mentioned Zech. In other words, the software was utilized to identify supply constraints in the system.

SIG Combibloc, then, decided to change from its 18 month budgeting plan cycle to a six month rolling forecast cycle. “We felt that six months was long enough to see the big picture but short enough to adjust to changes in the market,” explained Zech.

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**Fast Facts**

- Best-in-Class companies are two times as likely as all other companies to enable employees to understand the business strategy, products, and processes
- Best-in-Class companies are two times more likely than all others to have the ability to evaluate constrained planning scenarios during supply demand balancing

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Case Study: Integrating the Budgeting Cycle with S&OP Yields Better Accuracy and Agility for SIG Combibloc

In addition, SIG Combibloc added monthly meetings of top management with representatives from all major parts of the business including sales, production, and marketing. “These meetings are a way to stay on top of market developments, deal with any quality control issues and address any bottlenecks in the manufacturing process. We are able to utilize the software to bring an accurate picture of our supply into these meetings,” added Zech.

The added measures had an immediate effect. “With the 18 month static budgeting process, the forecast accuracy really suffered once you went past four months. Now, we have a process that brings the S&OP supply-demand picture into our budgeting process which has increased our forecast accuracy and, as an added bonus, we have better communication among top management within the company. Now, we are able to deal with changes in the market better.” With these changes, SIG Combibloc was able to have a more accurate and more agile sales and operations planning process.

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 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.

Table 3: Competitive Framework

<table>
<thead>
<tr>
<th></th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process and Organization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to evaluate constrained planning scenarios during supply demand balancing</td>
<td>46%</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Ability to evaluate and optimize inventory and service policy to maximize cash flow and profitability as part of the S&amp;OP process</td>
<td>38%</td>
<td>17%</td>
<td>11%</td>
</tr>
<tr>
<td>Ability to create upside opportunity assessment scenarios to analyze S&amp;OP plan</td>
<td>28%</td>
<td>13%</td>
<td>11%</td>
</tr>
</tbody>
</table>
### Performance Measurement

<table>
<thead>
<tr>
<th></th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-level reporting designed for executive management</td>
<td>54%</td>
<td>34%</td>
<td>32%</td>
</tr>
<tr>
<td>Ability to consider the KPIs from previous periods with regard to capacity, forecast accuracy and inventory</td>
<td>44%</td>
<td>41%</td>
<td>25%</td>
</tr>
<tr>
<td>Ability to express the S&amp;OP plan in terms of revenue and margins</td>
<td>48%</td>
<td>30%</td>
<td>26%</td>
</tr>
</tbody>
</table>

### Technology

- Demand Planning – 53%
- Supply Planning – 58%
- Inventory planning – 51%

<table>
<thead>
<tr>
<th></th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our people understand the business strategy, products, and processes</td>
<td>68%</td>
<td>39%</td>
<td>25%</td>
</tr>
<tr>
<td>Our people manage critical relationships through the end to end supply chain</td>
<td>47%</td>
<td>27%</td>
<td>15%</td>
</tr>
<tr>
<td>Our people view the supply chain holistically, in terms of linked processes</td>
<td>44%</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td>Our people utilize statistical analysis and fact based decision making</td>
<td>30%</td>
<td>27%</td>
<td>18%</td>
</tr>
<tr>
<td>Our people understand business systems (ERP, Advanced Planning, BI) and utilize them effectively</td>
<td>28%</td>
<td>26%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2010

Respondents were asked to choose the level of process capability on a 1 to 5 scale, where 1 is No Capability and 5 is Strong Capability.

### 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

The following are process areas which are differentiators for Best-in-Class companies:

- **Constrained planning and optimization.** Best-in-Class companies are more than twice as likely to have the ability to

  “We spent significant effort in stabilizing our S&OP process and embarked on a technology initiative after having full confidence in our existing process. Implementation of technology enhanced the speed of response as well as depth of analysis we could perform.”

  ~ Keith Holliday, Director, Supply Chain & Operating Excellence for Sonoco
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 handle 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.

- **Inventory management.** Best-in-Class companies are distinguishing themselves in the ability to evaluate and optimize inventory and service policy to maximize cash flow and profitability as part of the S&OP process. 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.

In the survey, respondents were asked to rank the need for a process capability before indicating the extent of maturity associated with the capability. This was done to see if there are any specific process areas which are needed in certain industries versus others. Table 4 provides a view of this and we can clearly see several process capabilities which are different in terms of requirements for the discrete versus consumer industry. The key takeaway from this table is that consumer industries have higher needs across the board. One reason could be the urgency in process improvement after having faced significantly more pressure from reduced demand during the recessionary period.

**Table 4: Process Capability Needs for Discrete Versus Consumer Industry**

<table>
<thead>
<tr>
<th>Process Capability</th>
<th>Discrete Industry</th>
<th>Consumer Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to optimize product portfolio from multiple perspectives (e.g. remove or outsource potentially non-profitable or cash-negative products even before launching, model price &amp; promotion changes, etc.)</td>
<td>32%</td>
<td>41%</td>
</tr>
<tr>
<td>Ability to model pricing as a parameter to shape demand</td>
<td>47%</td>
<td>50%</td>
</tr>
<tr>
<td>Ability of systems to enable the feedback from S&amp;OP process to the financial planning and budgeting process</td>
<td>44%</td>
<td>52%</td>
</tr>
<tr>
<td>Ability to respond to unplanned events in a timely manner that aligns with S&amp;OP objectives</td>
<td>46%</td>
<td>58%</td>
</tr>
</tbody>
</table>

**Organization**

Best-in-Class companies are 50% more likely to have senior management lead the S&OP process. In fact they are four-times more likely to have the Chief Supply Chain Officer as the top supply chain executive at their organization. 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 addition we also
see that Best-in-Class companies have ensured that accountability for each step of the process is clearly defined. The following case study provides an example of a company that has adopted a center of excellence approach towards centralized management of the S&OP process.

**Sonoco Navigates the Recession With the Help of Sales and Operations Planning Excellence**

Sonoco (NYSE: SON) is a global supplier of industrial and consumer packaging and a provider of packaging solutions. They have more than 300 locations worldwide and approximately 16,500 employees. Their 2009 revenue was approximately $3.6 billion.

Their products are sold into two major markets – industrial and consumer. Sonoco saw their consumer segment continue to grow during the recessionary period last year while their industrial segment was under much more stress. The Paper manufacturing portion of Sonoco’s supply chain is asset intensive, and requires the need to operate the equipment at high capacity. In other words it is a push based industry and some rationalization of assets were required during the height of the recession.

Sonoco started their S&OP journey in 2007. They worked with a consultancy which focuses on setting up an Integrated Business Planning process and underwent extensive training and change management. They did not implement any technology at this stage. As part of this process initiative a Center of Excellence was instituted for which there was a Director role established. There are supply chain managers for each business unit who report to the Director of Supply Chain for the Center of Excellence.

There are four streams of demand for Paper manufacturing that Sonoco has to deal with – industrial demand, protective packaging, consumer demand and trade sales. Trade sales, in this case, is defined as the demand for products sold directly to end consumers, whereas the other line-items are associated with raw materials that are used in other products. In other words, Sonoco forecasts at the dependent demand associated with the raw material, namely paper. The reason for this is the large number of SKU combinations for end products that are being sold.

Sonoco has a monthly S&OP process with the standard five steps associated with new product review, demand review, supply review, supply-demand balancing and management review.

It was only in 2009 that Sonoco felt the need to have a more automated data analysis process to support S&OP and went through an extensive selection process and finally chose a best of breed solution provider. This solution has now automated the optimized S&OP process that Sonoco had designed. Specifically, the areas which are implemented are demand planning, inventory planning and supply planning. From a process ownership perspective, the VP of sales owns the demand review, the VP of operations owns the supply review, the VP of finance owns the balance step converted to financial results and the General Manager owns the management business review. Sonoco has spent significant effort in training their employees – they have a Six Sigma black belt certified individual as the S&OP analyst and over 30 employees have undergone APICS CSCP certification. The S&OP process has been a contributor to an overall corporate improvement:

- Cash to cash cycle time of 27% (vs. 2005 base)
- Ability to reconfigure supply network during the recession – when demand dramatically reduced in 2009, Sonoco was able to adapt to the changes by reducing their inventory and adjusting capacity
- Once the best of breed solution was implemented, the ability to analyze key metrics at different levels of granularity improved whereas prior to the implementation Sonoco had to do the analysis at a higher level of abstraction
From a global perspective, it is interesting to note that respondents out of Asia Pacific region are two times more likely to have senior management drive the S&OP process as compared to North American companies.

**Performance Management**

There are two types of capabilities that companies need to adopt with respect to performance management for S&OP processes based on Best-in-Class differentiation.

- **High level reporting designed for executives (54% of Best-in-Class versus 31% of all others)** - high-level / KPI reporting (or "overlay") tools are 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.

- **Ability to express the S&OP plan in terms of revenue and margins (48% of Best-in-Class versus 26% of all others)** - analytics / data-intensive analytical reports are 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. reflecting 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.

**Knowledge Management**

As Figure 4 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 69% of companies indicate that they do not have S&OP related training programs and 37% of companies indicate that their employees do not consider S&OP to be a critical process.

A lower percentage of companies (23%) are retrenching employees as compared to 75% in 2009. Retaining the high performer and training them in the latest processes and technologies is a critical need for organizations. A strong S&OP process is 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 require expertise that may not be present 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 4: Knowledge Management Capabilities for Best-in-Class versus All Others**

<table>
<thead>
<tr>
<th>Capability</th>
<th>Best-in-Class</th>
<th>Average</th>
<th>Laggard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our people understand the business strategy, products, and processes</td>
<td>66%</td>
<td>25%</td>
<td>39%</td>
</tr>
<tr>
<td>Our people manage critical relationships through the end to end supply chain</td>
<td>47%</td>
<td>15%</td>
<td>27%</td>
</tr>
<tr>
<td>Our people view the supply chain holistically, in terms of linked processes</td>
<td>44%</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Our people utilize statistical analysis and fact based decision making</td>
<td>30%</td>
<td>18%</td>
<td>27%</td>
</tr>
<tr>
<td>Our people understand business systems (ERP, Advanced Planning, BI) and utilize them effectively</td>
<td>28%</td>
<td>12%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Source: Aberdeen Group, July 2010

**Technology**

Best-in-Class companies are now leveraging technology as a differentiator as shown in Figure 5. In addition to the traditional areas associated with inventory planning, demand and supply planning, Best-in-Class companies are also getting differentiation with the areas around executive reporting.

We still see rampant usage of spreadsheets across all the categories - 84% of overall respondents indicate that they are using spreadsheets to support the enablement of the S&OP process. Fifty-two percent (52%) of respondents indicate the usage of integrated ERP modules. Twenty-one percent (21%) of these respondents indicate the use of best of breed solutions whereas 31% still utilize custom legacy systems. Thirty-eight percent (38%) of respondents utilize business intelligence solutions. The variety of technology adoption approaches is due to the fundamentally interdisciplinary and customized nature of the S&OP process for each organization. For a detailed discussion of how S&OP technologies have evolved and how Integrated Business Planning is the next frontier of S&OP please refer to the December 2008 benchmark report *Making Integrated Business Planning Pay Off: Bridging Supply, Demand, and Finance*. 
Figure 5: Technology Adoption with Respect to S&OP Related Areas

- Supply Planning
  - Best-in-Class: 58%
  - Average: 26%
  - Laggard: 28%

- Demand Planning
  - Best-in-Class: 53%
  - Average: 30%
  - Laggard: 33%

- Inventory Planning
  - Best-in-Class: 51%
  - Average: 32%
  - Laggard: 28%

- Executive reporting/dashboards
  - Best-in-Class: 51%
  - Average: 33%
  - Laggard: 19%

Percent of Respondents, n=196
Source: Aberdeen Group, July 2010

Aberdeen Insights – Are Mid-Size Companies Behind in Technology Adoption?

Based on the data shown in Figure 6, it is evident that mid-size companies are behind in technology adoption compared to large companies.

Figure 6. S&OP Technology Adoption in Mid-Size and Large Respondents

- Demand Planning
  - Large Respondents: 49%
  - Mid-Size Respondents: 30%

- Supply Planning
  - Large Respondents: 47%
  - Mid-Size Respondents: 32%

- Inventory Planning
  - Large Respondents: 45%
  - Mid-Size Respondents: 29%

- Executive reporting/dashboards
  - Large Respondents: 32%
  - Mid-Size Respondents: 22%

Percent of Respondents, n=196
Source: Aberdeen Group, July 2010
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 mid-size companies face:

- Cultural resistance to change - 51% of mid-size respondents indicate that their employees do not consider S&OP to be a critical process
- Lack of executive support - 39% of mid-size respondents indicate that their executive team does not consider S&OP to be a critical process
- Lower adoption of best of breed solutions - only 18% of mid-size respondents indicate the usage of best of breed S&OP solutions
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:

Laggards Average Steps to Success

- **Implement constrained planning.** Twenty percent (20%) of Laggards have indicated strong process capabilities in evaluating constrained planning scenarios during supply demand balancing, versus 46% 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 as well as the complexity of the process involved. If the number of SKUs is high and processes are complex, the process is extremely difficult to manage manually 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. Look for solutions that either integrate with spreadsheets or use the spreadsheets as the de-facto UI.

- **Institute a revenue focused S&OP process versus purely a cost focused approach.** Twenty-six percent (26%) of Laggards have indicated strong process capabilities in the ability to express the S&OP plan in terms of revenue and margins, versus 48% 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.

  Only 11% of Laggard companies report that their sales team is involved in demand shaping or product mix optimization activities as compared to 48% of Best-in-Class companies. The sales and finance teams have a major role to play in converting the cost focused supply chain processes into a revenue focused process.

Industry Average Steps to Success

- **Implement rapid-response management capabilities.** Seventeen percent (17%) of Industry Average companies have strong process capabilities to respond to unplanned events in a timely manner that aligns with S&OP objectives, versus 29% of Best-in-Class companies.

Fast Facts

- Forty-five percent (45%) of respondents indicate that they are planning to implement a technology solution related to S&OP within the next 24 months.

- Best-in-Class companies are two times as likely as all other companies to have the capability to evaluate constrained planning scenarios during supply-demand balancing.

"Finance is the established key stakeholder and process owner of the whole process. Finance still runs independent revenue projections - but the gaps are identified within S&OP process. Finance is in agreement to completely do away with independent projections once S&OP is implemented globally - at present we have more of a NA centric process with plans to take it to EMEA and Asia over this year and next."

~ Director of Supply Chain at Large Automotive Manufacturer
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.

- **Create systems thinking to manage complexity.** Twenty-seven percent (27%) of Industry Average companies indicate that their people manage critical relationships through the end to end supply chain versus 47% of Best-in-Class companies. Given the highly outsourced and dynamic nature of today's Integrated Demand Supply Networks, those involved in the S&OP process must take a complete, end-to-end view of the supply chain and integrate that viewpoint throughout their organization. From the training programs to the actual management decisions, everything must be done with consideration to its effect on the entire supply chain. In addition, technologies that allow scenario management for both risk management (downside) and opportunity analysis (upside) should be implemented.

### Best-in-Class Steps to Success

- **Implement scenario management and monitor performance against the S&OP plan daily.** Thirty-four percent (34%) of Best-in-Class companies have a strong ability to proactively monitor daily performance against S&OP metrics. Twenty-eight percent (28%) 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. This is essential to manage the complexity associated with the global nature of today’s supply chains.

- **Measure end to end costs.** Twenty percent (20%) of Best-in-Class companies indicate the ability to practice advanced cost and revenue management in S&OP processes. Cost visibility remains a problem even for the Best-in-Class survey respondents. However, the ability to measure accurate cost quickly is an essential element to overall business agility. As the market begins to recover and sales volumes increase, only those companies with a strong grasp of their cost will achieve sustained Best-in-Class performance.

"We are currently developing an enhanced cost accounting system for our end-to-end supply chain. As a manufacturer, we get measured on this by our own end customers, so we want to hold our suppliers accountable for the same goals. Our own internal supply chain operational metrics are established by our top management, as the supply chain organization has a high profile within our company. Our management, including the CEO, understands the importance of an efficient supply chain and keeps a close watch of our supply chain performance from both a revenue as well as cost perspective."

~ Director at a US-based Manufacturer of Consumer Durable Goods
Aberdeen Insights — Integrated Business Planning

When we look specifically at the integration of the financial planning and budgeting process with the S&OP process, we see the following results for the 2010 respondents:

- 67% of respondents in 2009 indicated that they have a formal planning and budgeting process versus 72% of respondents in 2010
- 72% of respondents in 2009 indicated that finance is involved in the S&OP meetings versus 74% of respondents in 2010
- In 2009, 12% of respondents indicate that the S&OP process and financial planning process are integrated versus 24% of respondents in 2010

Ideally, the output of the S&OP plan should drive a company’s income statement and balance sheets. 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 the supply chain. Once this activity is completed, very interesting insights can be gained by both the corporate/finance and supply management organizations, in terms of supply chain tactics that can impact corporate goals and vice versa.
Appendix A: Research Methodology

Between June and July 2010, Aberdeen examined the use, the experiences, and the intentions of 196 enterprises implementing Sales and Operations Planning (S&OP) processes and technologies. 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: CEO / President (16%); EVP / SVP / VP (13%); Director (20%); Manager (34%); and other (17%).

- **Department / function:** The research sample included respondents from the following departments or functions: logistics/supply chain (44%); operations/procurement (15%); finance (7%); sales and marketing staff (12%); corporate management (11%) and other areas (14%).

- **Industry:** The research sample included respondents from the four major industry segments - process, consumer, discrete and high-tech/electronics. Please note: Respondents may identify themselves in more than one category, thus the percentages will not equal 100%. Key demographics are:
  - Discrete (26%): Aerospace and Defense (4%), Automotive (4%), Industrial Equipment Manufacturing (9%), Industrial Product Manufacturing (9%)
  - Consumer (40%): Apparel (3%), Consumer Durable Goods (4%), Consumer Packaged Goods (8%), Consumer Electronics (4%), Wholesale/Distribution (7%), Food/Beverage (9%), Retail (5%),
  - Process (21%): Chemicals (4%), Metals and metal products/Mining/oil/gas/utilities (10%), Paper/lumber/timber (3%), Pharmaceutical manufacturing (4%)
  - High-tech/electronics (20%): Computer equipment and peripherals (2%), Health/medical/dental devices or services (9%); High-technology (2%); Telecommunication equipment/services (7%)

- **Geography:** The majority of respondents (68%) were from North America. Remaining respondents were from the Asia-Pacific region (14%), Europe (15%), and rest of world (South / Central America, Caribbean, Middle East, Africa) (3%).

- **Company size:** 25% - under $50 million; 12% - $50 million to $100 million; 10% - $100 million to $250 million; 9% $250 million to $500 million; 10% $500 million to $1 billion; 12% $1 billion to $2.5 billion; 7% $2.5 billion to $5 billion; 15% Over $5 billion

- **Nature of organization:** 70% - manufacturer; 11% - distributor; 7% - retailer; logistics service provider - 4%; 3% - brand manager; other - 5%
Table 5: The PACE Framework Key

<table>
<thead>
<tr>
<th>Overview</th>
</tr>
</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 2010

Table 6: The Competitive Framework Key

<table>
<thead>
<tr>
<th>Overview</th>
</tr>
</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 2010

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 2010
Appendix B: Related Aberdeen Research

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

- *Beyond Visibility: Driving Supply Chain Responsiveness*: September 2008
- *The Secret SaaS: On-Demand Supply Chain Management*: December 2008
- *Inventory Management: 3 Keys to Freeing Working Capital*, May 2009
- *2009 Supply Chain Summit: Managing Integrated Demand-Supply Networks*, May 2009

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

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