

Supply Chain Innovator's Technology Footprint 2008

Technology Enablers for Driving Supply Chain Transformation

March 2008

~ Underwritten, in Part, by ~



Executive Summary

Aberdeen's survey of over 805 supply chain executives from all over the world identified that 80% of companies are involved in the transformation of their domestic or international supply chains. The focus of this report is on analyzing how technology enablers are helping companies manage supply chain transformation and how innovators are gaining ROI from their technology initiatives through moving towards multi-enterprise Supply Chain Management (SCM) solutions. The report also identifies the top three areas of application focus from companies, and analyzes the reasons why these areas are important to look into.

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

Best-in-Class Performance

Aberdeen used three key performance criteria to distinguish Best-in-Class companies from Industry Average and Laggard organizations. These metrics are an indicator of the overall supply chain process competency. The Best-in-Class metrics as well as the mean class performance are:

- Finished goods inventory turns per year: 28
- Total logistics costs as a percent of sales: 5%
- Perfect order percentage (percent of orders shipped complete and on-time to the customer's requested delivery date): 96%

Competitive Maturity Assessment

Survey results show that the firms enjoying Best-in-Class performance shared several common characteristics involving various aspects of process, reporting, data, technology, etc. Results show the following:

- Best-in-Class companies are 70% more likely than all other companies to have a closed-loop integration of supply chain planning and execution
- Best-in-Class companies were two-times more likely to have end-to-end supply chain data and process visibility than all others
- Best-in-Class companies are 50% more likely than all others to have implemented cross-functional metrics across their enterprise

These capabilities are key characteristics of multi-party SCM solutions and Best-in-Class companies are ahead in terms of adopting these solutions.

Required Actions

In addition to the specific recommendations in Chapter Three of this report, to achieve Best-in-Class performance, companies must create an end-to-end business process that can support their transformation efforts through a solution that supports multi-party supply chain management.

"We have been utilizing only 20% of our ERP and best of breed solution provider's capabilities in our estimate. So why do we invest in these solutions? We realize that we need to keep experimenting and be on the cutting edge of technology to out smart our competition. But we now want to go the SOA route to do incremental technology updates and concentrate more on process improvements."

~ CIO, Large CPG
Manufacturer

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Chapter One: Benchmarking the Best-in-Class

Supply Chain Transformation is Happening Now

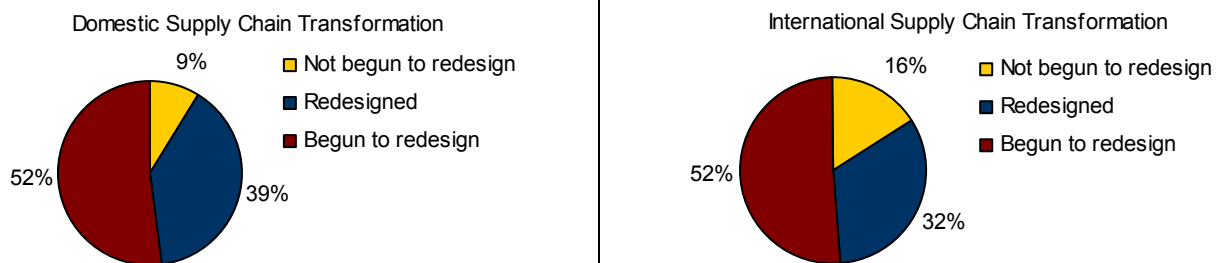
Aberdeen's survey of over 805 supply chain executives from all over the world identified that 80% of companies are involved in the transformation of their domestic or international supply chains. As shown in Figure I, more than 90% of companies have started to or have already redesigned their *domestic* supply chains - and 80% of companies have started, or have already redesigned their *international* supply chains.

The top three pressures driving companies to focus on supply chain transformation today are cost containment (68%), followed by escalating customer service demands (49%) and the restructuring requirements brought on by the increase in industry acquisition and divestiture activity (44%).

"Integrating the supply chain with business objectives to drive accountability, profitability and effectiveness is the key driver for our transformation"

~ Global Competency and Development Leader Supply Chain Transformation and Integrated Business Management, DuPont

Figure I: Companies are Actively Reinventing Their Supply Chains - Domestic and International



Source: Aberdeen Group, March 2008

Interestingly, 10% of companies have highlighted green supply chain initiatives as a top pressure for their supply chains. This is a trend that has to be looked at very closely and represents a change from last year when this issue was not even on the radar, according to the January 2008 [Supply Chain Executive's Strategic Agenda 2008: Managing Global Supply Chain Transformation](#) report.

The focus of this report is on analyzing how technology enablers are helping companies manage supply chain transformation and how innovators are gaining ROI from their technology initiatives through moving towards multi-enterprise SCM solutions. The report also identifies the top three areas of application focus from companies and analyzes the reasons why these areas are important to look into.

The Maturity Class Framework

Aberdeen used three key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations. Table I provides a

framework with which companies can benchmark themselves and identify which category they fall into.

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

Definition of Maturity Class	Mean Class Performance
Best-in-Class Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ Finished goods inventory turns per year - 28 ▪ Total logistics costs as a percent of sales - 5% ▪ Perfect order percentage (percent of orders shipped complete and on-time to the customer's requested delivery date) - 96%
Industry Average Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ Finished goods inventory turns per year - 13 ▪ Total logistics costs as a percent of sales - 14% ▪ Perfect order percentage (percent of orders shipped complete and on-time to the customer's requested delivery date) - 85%
Laggard Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ Finished goods inventory turns per year - 3 ▪ Total logistics costs as a percent of sales - 20% ▪ Perfect order percentage (percent of orders shipped complete and on-time to the customer's requested delivery date) - 71%

Source: Aberdeen Group, March 2008

The Best-in-Class PACE Model

Table 2 shows the key Pressures, Actions, Capabilities, and Enablers (PACE) that are being prioritized by the Best-in-Class companies for their supply chain process roadmap. This will help identify the key capabilities that are being considered as part of their supply chain initiatives.

Table 2: The Best-in-Class PACE Framework

Pressures	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> ▪ Escalating customer service demands 	<ul style="list-style-type: none"> ▪ Improving supply chain visibility ▪ Improving sales and operations planning ▪ Improving inventory optimization ▪ Improving order fulfillment 	<ul style="list-style-type: none"> ▪ Formalized supply chain risk management ▪ Centralized supply chain organization ▪ Executive position with end-to-end supply chain responsibility ▪ Closed loop integration of supply chain planning and execution ▪ Cross-functional metrics 	<ul style="list-style-type: none"> ▪ Supply chain visibility tools ▪ Sales and Operations Planning (S&OP) tools ▪ Transportation management tools ▪ Inventory optimization tools ▪ Order fulfillment tools

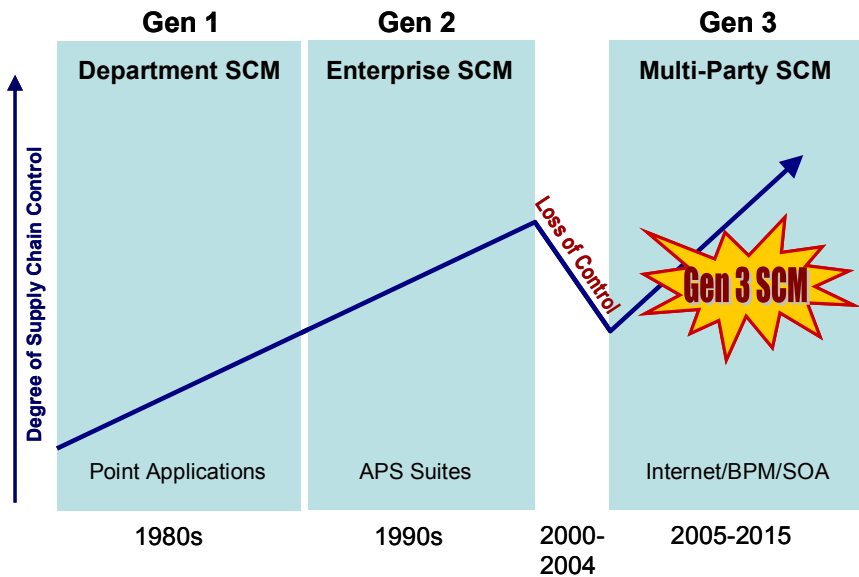
Source: Aberdeen Group, March 2008

Ingredients of Transformation Success - Multi-Enterprise SCM

Figure 2 illustrates the evolution of supply chain technologies and the fact that we are currently in the multi-party SCM (Generation 3 SCM) phase

enabled by technologies like Service Oriented Architecture (SOA) and Business Process Management (BPM).

Figure 2: Evolution of SCM Technologies



Source: Aberdeen Group, March 2008

Table 3: Transformation Drivers and Enablers

Transformation Driver	Technology Enablers
Supply chain responsiveness - supply chain visibility and agility combine to deliver a responsive supply chain that can quickly identify and react to changes in supply, demand, and execution threats /opportunities. This results in optimizing the supply chain and the use of enterprise resources while improving customer satisfaction.	Transportation management, inventory optimization, warehouse management, order management, global trade management and supply chain visibility
Strategic alignment with business objectives and internal stakeholders (finance, corporate, product engineering, etc.) - a supply chain that is designed to support and drive business objectives becomes a strategic weapon in the marketplace enabling Best-in-Class execution.	Sales and operations planning, demand management, supply chain finance
Integration / collaboration with trading partners - integrating end-to-end supply chain processes, including real-time collaboration with trading partners, is a critical element in extending the supply chain and leveraging the core domain expertise of each player.	Software as a Service (SaaS) collaboration platforms, B2B integration software, demand collaboration, distributed order management
Gaining sustainability through green initiatives - sustainability and green are more than marketing buzzwords, they are imperatives for effective supply chain design and execution. Companies that learn to lower costs and improve performance through green initiatives will have a competitive advantage in the marketplace.	Supply chain network design, transportation management software

Source: Aberdeen Group, March 2008

The key ingredients of multi-party SCM are:

- Inter-enterprise automation and visibility
- Multi-tier inventory management
- Supply chain finance
- Demand sensing and response
 - Closed-loop Supply Chain Execution (SCE) and Supply Chain Planning (SCP)
 - Extended warehouse management
- Transportation Management Services (TMS) and Global Trade Management (GTM) as knowledge centers
- Centralized supply chain organization
- Integrated business planning

These processes cannot be enabled fully through a traditional Enterprise Resource Planning (ERP) or Advanced Planning and Scheduling (APS) approach. There is a need for a comprehensive business process layer that ties existing investments in ERP and APS systems with add-on business components that can fill gaps in capabilities. In other words, a key ingredient for enabling multi-party SCM is a BPM layer that can support multi-party business processes.

A true multi-tenant on-demand, application is an example of a multi-party SCM solution. Many on-demand providers also come to the table with networks of pre-connected suppliers and carriers, which helps to further reduce rollout times and increase trading partner acceptance.

Enabling support for unique business processes by customer, product line, or channel, an on-demand technology platform lays a foundation for richer data exchange and more flexible process collaboration. Aberdeen's August 2007 report, [Supply Chain On Demand: Enable Flexible Business Processes](#), on supply chain software investments showed that Best-in-Class companies are three-times more likely to support unique business processes for select product categories, customer, or channels and are two-times more likely to be using on-demand applications than all others.

Aberdeen Insights - Primary Partner for Enabling SCM Technology Roadmap

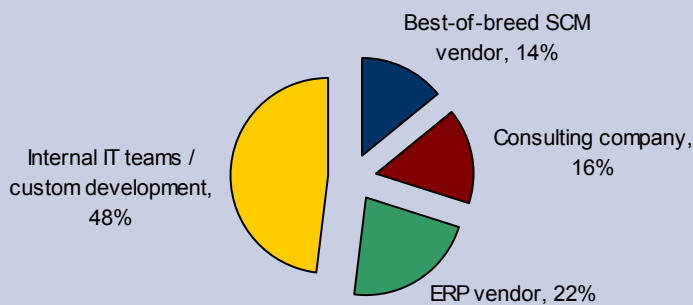
Figure 3 shows the key partners that are responsible for enabling the SCM technology roadmap of the survey respondents. "Internal IT teams and custom development" is still identified as the top partner by the line of business executives (survey respondents that have identified themselves as coming from a line of business role instead of an IT role). Among the IT-related survey respondents, the percentage of those who indicate that "internal IT teams and custom development" are the primary partners shoots up to 55%.

continued

**Aberdeen Insights -
Primary Partner for Enabling SCM Technology Roadmap**

Within an organization, the supply chain continues to be viewed as a key competitive advantage by enterprises. That is the reason why internal IT development is being performed by industry leading companies to complement existing applications to enable competitive differentiation and enabling capabilities that their competitors do not have.

Figure 3. Primary Partner for Enabling SCM Technology Roadmap



Source: Aberdeen Group, March 2008

The key question that has to be asked by enterprises is how they can gain the benefits and flexibility of internal development along with the total cost of ownership reductions and upgradeability of packaged applications.

The evolution of SOA has enabled significant opportunities for companies to expand their existing solutions without making large scale upgrades and re-implementations.

In the next chapter, we will see companies' application areas for investment and how multi-enterprise SCM is enabling innovations in the supply chain.

Chapter Two: Benchmarking Requirements for Success

Designing a supply chain technology footprint is an intensely unique decision for each company. Corporate strategies for competitiveness, existing technology investments, business pressures, customer demands – as well as internal skill sets, IT resources, and politics – must all be factored into a technology adoption strategy. Here is an example of a company that created a cutting edge technology solution driven by the need for supply chain transformation.

Case Study - Large Retailer Leverages Innovative Network Optimization and Simulation Tool to Drive Supply Chain Transformation

The company is one of America's leading retailers with a catalog and Internet channel. Increased competition has caused the company to focus on private brands. The company's strategic goals is to be the growth leader in their category. There has been a steady growth in the number of stores for the company year over year. This results in a corresponding growth in their supply chain network. The challenge is to identify the best way to position the supply chain assets to not only minimize costs but also to retain this growth.

Today, the company operates a two-tier distribution network. This network has enabled the rapid growth in sales and it gets the goods closer to the stores with less costs. The two-tier network consists of regional DCs and store DCs. There are six regional DCs, and they are the first echelon of store support. They receive goods from vendors, both domestic and international, and allocate / cross-dock them to the store DCs.

The company selected an innovative network design tool that can perform both optimization as well as discrete event simulation. The key innovation is the fact that optimization by itself does not take into account variations of volumes over time - it in fact homogenizes it. But a combination of optimization and simulation results in significantly improved plan accuracy. The size of the network for the company was so big that only three time periods into the future could be modeled with existing hardware and hence there was a need for refining the plan through simulation. The following are the three steps to the process:

- **Optimization.** The objective of optimization is to determine the changes to be made to the network structure. Separate models were created to represent the current state (which is the baseline), the next calendar year, and three years view into the future.

continued

Fast Facts

- √ 66% of Best-in-Class companies have closed-loop integration of supply chain planning and execution versus 42% of all others
- √ 78% of Best-in-Class companies indicate that they have the ability to find (within a reasonable time) and access supply chain data needed for decision making versus 50% of all others

Case Study — Large Retailer Leverages Innovative Network Optimization and Simulation Tool to Drive Supply Chain Transformation

- **Simulation.** The solution includes discrete event simulation to predict and visualize the operational performance of any scenario, to compare multiple scenarios, and to verify the service rates, inventories, and site capacities defined over time.
- **Plan refinement.** Armed with the transport volumes and costs by lane from simulation, the model was optimized once again to analyze the network structure based on practical data.

Competitive Assessment

The aggregated performance of surveyed companies based on key performance indicators determined whether they 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 ability to detect and respond to changing conditions without placing additional burdens on the organization); (2) **organization** (corporate focus and collaboration among stakeholders); (3) **data** (contextualizing data and exposing it to key stakeholders); (4) **technology** (the selection of appropriate tools and intelligent deployment of those tools); and (5) **performance measurement** (the ability of the organization to measure the benefits of technology deployment and use the results to improve key processes further). These characteristics (identified in Table 4) serve as a guideline for best practices, and correlate directly with Best-in-Class performance across the key metrics.

“The reason why we went with the combined optimization and discrete event simulation approach was that our network was so large that conventional approaches did not work. We could only model three time periods which is not sufficient – in fact we could have made dramatic changes in our network that could have impacted the bottom-line with the pure optimization approach. Due to our ability to simulate the results of our optimized plan we were able to come out with a feasible solution.”

~Director of Supply Chain Strategic Planning, Large Retailer

Table 4: The Competitive Framework

	Best-in-Class	Average	Laggards
Process	Closed-loop integration of supply chain planning & execution		
	66%	44%	43%
	Online (real-time) visibility into supply chain issues / disruptions		
	46%	27%	18%
Organization	Formalized supply chain risk management		
	63%	34%	27%
	Executive position with end-to-end supply chain responsibility		
	62%	56%	41%
	Centralized supply chain management organization		
	67%	38%	33%

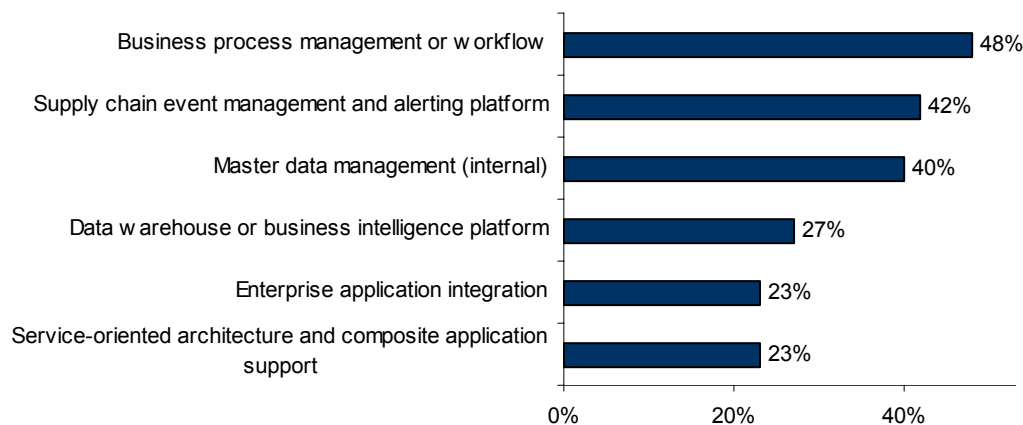
	Best-in-Class	Average	Laggards
Performance Measurement	Cross-functional metrics		
	74%	56%	31%
	The ability to find (within a reasonable time) and access supply chain data needed for decision making		
Knowledge Management	78%	60%	46%
	End-to-end supply chain data and process visibility		
Technology Enablers	67%	51%	29%
	Supply chain visibility tools		
	52%	42%	29%
	S&OP tools		
	53%	33%	25%
	Transportation management tools		
	60%	41%	35%

Source: Aberdeen Group, March 2008

Supply Chain Enterprise Infrastructure Areas

Figure 4 shows the enterprise infrastructure areas that line of business users believe are most important for their SCM technology roadmap. Even though SOA is an important enabler for several infrastructure areas like Supply Chain Event Management (SCEM), Master Data Management (MDM), and BPM, it does not rank highly in the priorities of corporate users. Instead, companies are focused on leveraging the following capabilities in their supply chain technology roadmaps: BPM, SCEM and alerting platforms, and MDM (internal).

Figure 4: Supply Chain Infrastructure Technology Priorities for Line of Business Respondents



"We are utilizing an innovative SOA-based solution to bridge the gaps in our APS replenishment management and warehouse management packaged products."

~ Dan Grosz, VP of IT, VIP Auto Inc.

Source: Aberdeen Group, March 2008

However compared to 2007, SOA and composite applications are seeing enhanced interest in the marketplace. The general market is becoming more aware of the underlying technology used by BPM and SCEM solutions. There are technology proof-of-concept implementations underway in the IT

organizations of Fortune 500 companies with oversight by the supply chain line of business organizations.

BPM applications can be obtained in three ways - through specialized solution providers, ERP solution providers, and best-of-breed solution providers. There are pros and cons of each of these three approaches which are explored in the Research Brief [*Business Process Management: Is it Driving Supply Chain Transformation.*](#)

Event management continues to be a key enabling technology being looked at as part of business transformation initiatives - for example: global trade management or inventory replenishment are two business processes where event management applications are highly relevant.

"We want to focus on improving our event management capabilities so that we have immediate visibility into delays in international shipments."

~Vice President of Supply Chain, Auto Parts Distributor

Case in Point - Combination of Business Process Platform and Supply Chain Transformation Yields Best-in-Class Status

A consumer electronics company wanted to facilitate their transition from a traditional push-based supply chain to a demand driven supply chain, so it retained a leading consulting solution provider to develop their transformation strategy to become a demand driven company. The key business issues that necessitated such a transformation were:

- High inventory in the channels
- High price protection to channels
- Stock outs at store level
- Long replenishment lead times
- Informal collaboration processes
- Lack of established metrics

Key challenges in making this transformation a reality were lack of process, organization skills, and integrated systems. The consulting solution provider developed an approach using their BPM services framework which would provide quicker value, while planning and executing long term transformation. As part of the BPM services delivered, the solution implemented and operated the Collaborative Planning, Forecasting, and Replenishment (CPFR) practices on an outsourced basis, using key resources from the consulting solution provider's Supply Chain Strategy and Planning practices. The consultants worked alongside this electronics company's employees and its channel partners (such as Best Buy) to create consensus channel sales forecasts and replenishment plans each week. As a result of this BPM work, the following benefits were realized:

- **Increase in forecasting accuracy.** The forecast accuracy is higher than prior to the project and that of the manufacturer's retail partners. Typical forecast accuracy achieved by the solution is around 79% four weeks out at the level of channel partner-SKU-distribution center.

Case in Point - Combination of Business Process Platform and Supply Chain Transformation Yields Best-in-Class Status

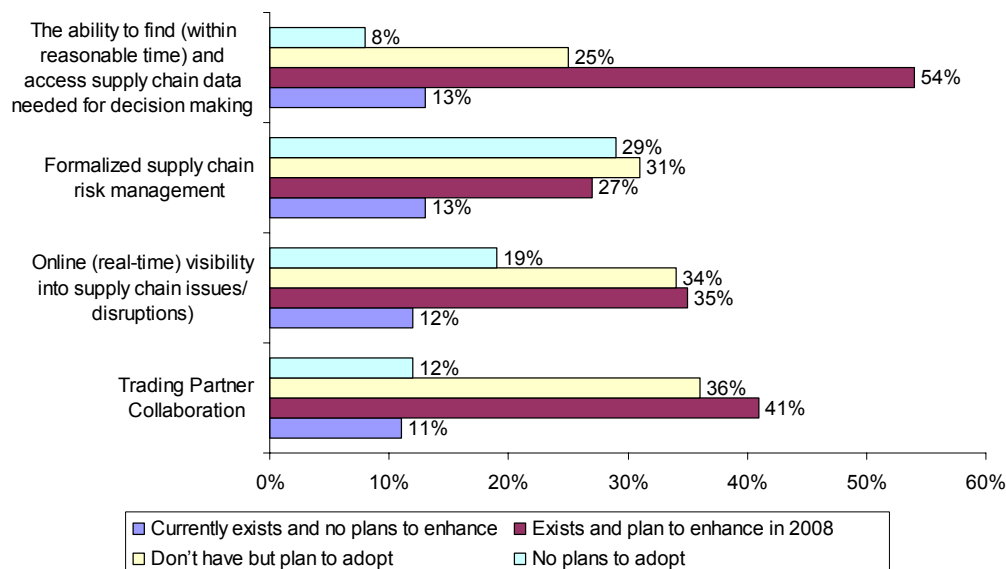
- Reduced inventory levels.** Based on the improved forecast accuracy, this consumer electronics company is now using these forecasts and the associated replenishment plans to target reduced inventory levels in the channel without compromising service levels. The typical weeks of supply has been reduced from 10 weeks on many products down to six weeks, with a long term goal of cutting weeks of supply in the channel to as low as three weeks.

The solution uses BPM methodologies and utilizes a global resource pool, allowing for around-the-clock process execution.

Overall Process Maturity: Call for Action for Multi-Party SCM

Enterprises are unhappy with the extent of overall visibility of data as well as the extent of their ability to manage supply chain risks within their supply chain as exemplified by their continued interest in expanding / enhancing these capabilities (Figure 5). Collaboration is another area that every entity in the supply chain believes is critical, but has still not achieved critical-mass in adoption.

Figure 5: Overall Process Maturity for Supply Chain Processes

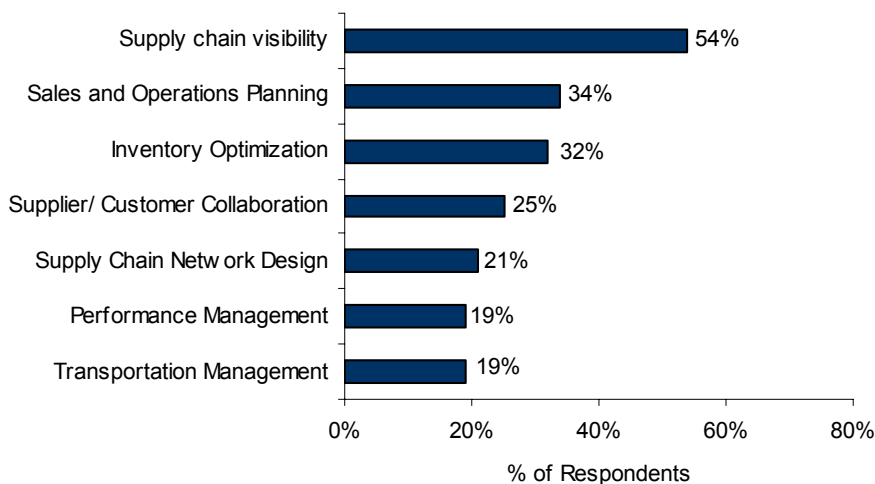


Source: Aberdeen Group, March 2008

Application Investment Areas

In this study, participants were asked to list the top three application investment areas used to meet their key supply chain objective (e.g., lower cost or meet customer mandates). Companies ranked supply chain visibility at the top of the list (Figure 6) with S&OP coming in at the number two spot. In comparison, 2007 results showed inventory management at the top position, while supply chain visibility was at the number two position. Both of these areas are multi-enterprise processes that require capabilities that are beyond ERP and APS solution capabilities. There is a definite need for multi-party SCM solutions like SOA and BPM to enable these business processes (for large enterprises). For mid-size companies, workflow-based packaged applications or SaaS are two ways to enable these capabilities.

Figure 6: Top Application Investment Areas



Source: Aberdeen Group, March 2008

“With the response management solution materials, logistics and manufacturing operations efficiency is increased and information sharing is dramatically improved.”

~ General Manager,
Information Technology
Department, Casio Computer
Co. Ltd

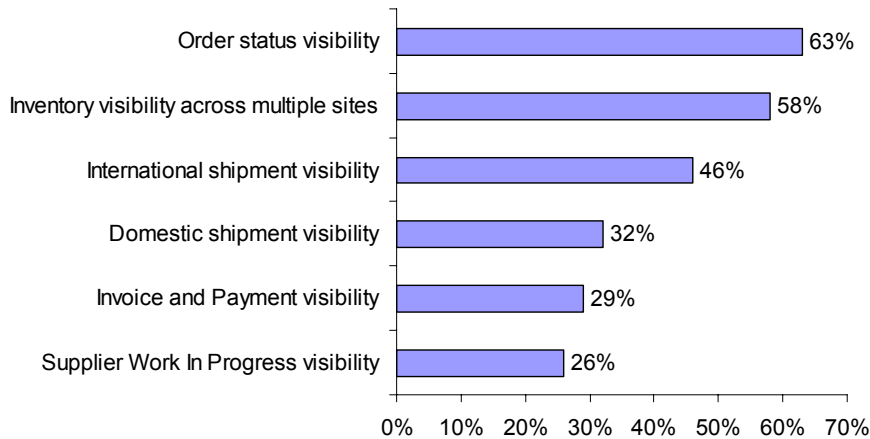
Supply Chain Visibility

Supply chain visibility ranks as the top application focus area for companies as part of their supply chain technology investment plans. The ability to respond to change rapidly is emerging as critical to a company’s success. This is often driven by increasing demand volatility, shorter product lifecycles and globally distributed supply networks. However, just having visibility is not enough to manage this constant change - response management is needed as well, as found in the August 2007 *Beyond Supply Chain Visibility: Response Management is the Key* report.

The greatest financial value comes from leveraging visibility information to identify and eliminate root causes of delays, and to rapidly respond to changes that could negatively impact the business if mismanaged or left unattended. All of this hinges on the ability to rapidly analyze data to understand its impact, collaborate, and simulate to understand what options exist to solve a given problem and to score each option to ensure that actions are aligned with corporate objectives. Effective supply chain

response management reduces lead times and variability, enables lower inventory investment, improves customer satisfaction and revenue attainment, and cuts supply chain costs.

Figure 7: Supply Chain Visibility Areas of Focus



Source: Aberdeen Group, March 2008

Figure 7 shows the areas companies are focused on with respect to supply chain visibility. It is critical to note that these capabilities by definition require business processes that span multiple ERP and APS systems and hence are likely to be composite applications built using BPM solutions.

Notable technology innovations include response management applications, transformation from status tracking to exception-based process management platforms with alerting, escalation policies, resolution advice or workflow. These innovations deliver value in terms of inventory and lead-time reductions, improved on-time deliveries, improved cross-company, and cross-department synchronization.

Sales and Operations Planning (S&OP) Priorities

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

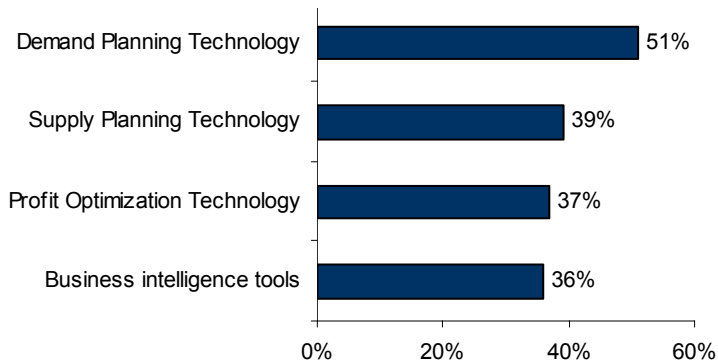
The results from our 2008 innovator's survey (Figure 8) finds that the top two areas of technology priorities for companies within S&OP include:

- Technology that helps manage demand within S&OP plan
- Technology that helps evaluate supply constraints within the S&OP plan

Even though these capabilities are available in stand-alone APS tools, 70% of companies report the usage of spreadsheets to support their executive S&OP processes, as found in the [Executive Sales and Operations Planning: Process and Technology Strategies](#) report. One critical reason is the lack of rapid scenario analysis and what-if capabilities in existing tools.

Even though BI tools have been around for the last 10 years, there is a new breed of business intelligence tools that APS / ERP solutions provide, which integrates optimization with reporting and analytics. The key characteristic of this new breed of S&OP solutions is that they allow forward visibility of plans through rapid re-planning and scenario analysis without being bogged down by the need to require significant amounts of planning data.

Figure 8: S&OP Technology Priorities



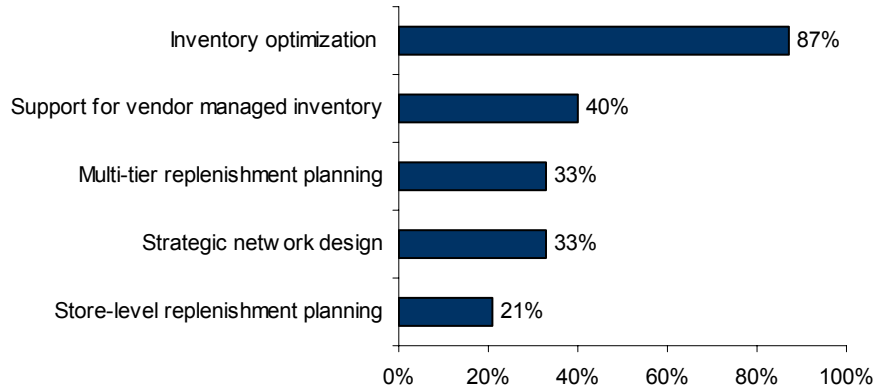
Source: Aberdeen Group, March 2008

Notable technology innovations include web-service based composite application support for S&OP processes, enterprise Excel support integrated with advanced planning solutions, and response management applications that provide rapid supply planning capabilities. These innovations deliver value in terms of improved gross margins, improved cash-cash cycles and reduced finished goods inventory.

Inventory Management Priorities

Improving customer service levels has been identified by the majority of end users (56%) as the top pressure for improving the inventory process based on Aberdeen's November 2006 study on inventory management [Technology Strategies for Inventory Management: How to Convert Inventory From Cost to a Competitive Advantage](#). In addition, 82% of surveyed respondents indicate that it is highly important to their company to increase service levels without increasing inventory investment. The level of customer service is a metric that is impacted by several process steps across different organizations even though the owner of this metric is the order fulfillment group. Multi-tier inventory optimization continues to be the area companies are most focused on today in terms of inventory improvement priorities (Figure 9).

Figure 9: Inventory Management Technology Priorities



Source: Aberdeen Group, March 2008

Notable technology innovations include network optimization tools that are able to perform operational planning in addition to longer term multi-echelon tools – tools that optimize the customer service levels through mix-optimization. These innovations deliver value in terms of reduction in inventory, higher customer service levels, and lower out of stocks.

**Aberdeen Insights -
What is the Best Solution for the Mid-size Sector?**

The evolution of SOA has enabled significant opportunities for companies to expand their existing solutions without making large scale upgrades and re-implementations. However these solutions tend to be more suitable only for larger companies rather than mid-size companies due to the initial investment needed to enable these solutions.

For example, a large CPG manufacturer is creating SOA enabled workflows on top of their ERP system to manage their new product development process. However, the same benefits provided by the multi-party SCM solutions for large companies can be obtained by mid-size and small companies through Software as a Service (SaaS).

A true multi-tenant SaaS solution requires the following capabilities:

- **Configuration templates.** These allow enterprises to reduce deployment time by subscribing to common global business processes. These customers can log in, collaborate with their partners, load master data, and then on-board suppliers. After the system of process has been set up, then their customers can execute processes (both transactional as well as decision support processes).

continued

Aberdeen Insights – What is the Best Solution for the Mid-size Sector?

- **Ease of integration.** In order to help customers leverage existing back-end systems, SaaS solutions need to make their business process libraries available as part of an SOA Application Programming Interface (API). The intention will be to allow this API to be leveraged by customers and third-party solution providers as a supply chain platform.
- **Business process library.** In order to feed the configuration templates and also to allow extension through the SOA API, there needs to be a set of process solutions and functional enhancements such as self-service reporting. These process libraries must be continuously enhanced and maintained by the solution provider and must allow innovators to keep their IP separate from the 'core' solutions.

Chapter Three: Required Actions

Whether a company is trying to move its performance 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

- **Institute S&OP technology to execute reporting and metrics.** Forty-three percent (43%) of Laggards have indicated that they have closed-loop integration of supply chain planning and execution versus 56% of Best-in-Class companies. Implement basic S&OP capabilities with supply planning capabilities and ensure that the S&OP plan to execute metrics are captured. The first area of plan execution is at the manufacturing facilities.
- **Institute a formal supply chain visibility dashboard.** Only 18% of Laggards indicate that they have the ability to make mid-course changes to their shipments (e.g. reallocate or reroute in-transit shipments). It is important to establish visibility into at least the most critical supply chain milestones. Select a set of metrics targeted for improvement and assign responsibility for each metric to a specific person / unit in the company. Build a business case by citing the benefits achieved by the early adopters.

Industry Average Steps to Success

- **Include logistics and distribution metrics in the S&OP plan to execute.** Forty-four percent (44%) of Industry Average companies indicated that they have a closed-loop integration of supply chain planning and execution versus 56% of Best-in-Class companies. Expand the S&OP plan to execute closed loop dashboards, and include logistics and distribution related metrics in addition to manufacturing metrics.
- **Invest in data quality tools.** Fifty-one percent (51%) of Industry Average companies indicate that they have an end-to-end supply chain data and process visibility capability versus 67% of Best-in-Class companies. Focus on data quality. If internal means have been explored (e.g. collaboration initiatives with suppliers and customers to improve the quality of data feeds, on-boarding more partners to use the visibility system), consider the feasibility of using a third-party service to check data quality. Only 17% of respondents have reported using this; however, Best-in-Class companies in this study are 56% more likely than Industry Average and twice as likely as Laggards to be currently using such a service.

Fast Facts

- √ Only 18% of Laggards indicate that they have the ability to make mid-course changes to their shipments
- √ 46% of Best-in-Class companies indicate that they have a process level electronic collaboration with their trading partner

Best-in-Class Steps to Success

- **Accelerate B2B process collaboration through use of multi-enterprise collaboration platforms.** Forty-six percent (46%) of Best-in-Class companies indicate that they have process level electronic collaboration with their trading partner. Collaboration is one of the key tenets of transformation and has to be given more focus by Best-in-Class companies.
- **Improve supply chain responsiveness through usage of predictive analytics and demand simulation capabilities.** Best-in-Class companies lack predictive analytics and demand simulation capabilities. Only 33% of Best-in-Class companies are able to include causal events (e.g. weather, natural disasters, competitor actions, etc.) into the demand forecasts. These companies are unable to model risk downside scenarios dealing with spikes in customer demand. These companies need to invest in this capability for better management of market demands.

Aberdeen Insights – Use Patterns of BPM for Enabling Supply Chain Transformation

There is significant value to be gained through point solution implementations in areas where there is not enough automation being done in the first place. But once point areas of functionality are addressed, innovation can occur by connecting the dots. Here are some ways by which BPM platforms embedded within supply chain packages can help:

- Improved usability - the creation of an efficient user experience
- Rules-based workflow - adding a rules-based process playbook that captures institutional knowledge
- Fixing functionality gaps - packaged applications inherently do not solve 100% of the problem and possess functionality gaps; these gaps can be resolved through relatively little customization
- Process re-sequencing – the ability to configure business processes that are unique to an enterprise or even a business unit by leveraging a standard out of box business process template

The journey into leveraging multi-party SCM solutions has only begun for most companies. Tremendous opportunities for innovations exist for those that are willing to go down this path.

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Appendix A: Research Methodology

In November 2007, Aberdeen examined the strategic supply chain process roadmap of more than 805 enterprises. This survey was conducted in partnership with Global Logistics and Supply Chain Strategies magazine. Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on supply chain process roadmap and technology investment indicators.

Responding enterprises included the following:

- *Job title:* The research sample included respondents with the following job titles: Senior management / CIO / CFO (11%); Vice President (15%); Director (31%); Manager (30%); Staff (3%); and Consultant (10%).
- *Industry:* The research sample included respondents from discrete and process manufacturing industries. Key demographics are: Aerospace and defense (6%), apparel (4%), automotive (9%), chemicals (6%), computer equipment and peripherals (5%), construction / architecture / engineering (5%), consumer durable goods (5%), consumer electronics (4%), consumer packaged goods (9%), distribution (11%), food / beverage (9%), health / medical / dental services (6%), high technology (10%), industrial equipment manufacturing (6%), medical devices (6%), metals and metal products (7%), retail (6%), transportation / logistics (9%), and telecommunication equipment (4%). Please note that respondents can select more than one industry segment.
- *Categories of companies:* The research sample included respondents of the following categories (please note that respondents may select more than one option): manufacturers (60%), distributor (11%), retailer (7%), logistics provider (13%), contract manufacturer (3%), and brand manager (5%)
- *Geography:* The majority of respondents (63%) were from North America. Remaining respondents were from the Asia-Pacific region (11%) and Europe (17%). The rest of the world constituted the remaining 9%.
- *Company size:* Forty-five percent (45%) of respondents were from large enterprises (annual revenues above US \$1 billion); 33% of respondents were from midsize enterprises (annual revenues between \$50 million and \$1 billion); and 22% of respondents were from small businesses (annual revenues of \$50 million or less).
- *Headcount:* Seventeen percent (17%) of respondents were from small enterprises (headcount between 1 and 99 employees); 27% were from midsize enterprises (headcount between 100 and 999 employees); and 56% of respondents were from large enterprises (headcount greater than 1,000 employees).

Study Focus

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

- √ What percentage of companies are re-designing their domestic or global supply chain processes or networks
- √ What the key application priorities are that companies have set in response to their transformation goals
- √ What the top three functionality priorities are for companies within these key application areas
- √ What the key supply chain infrastructure technologies are that are being considered as part of their roadmap
- √ Whether SOA help to drive innovations in the supply chain

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

Table 5: The PACE Framework Key

Overview
<p>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:</p> <p>Pressures — external forces that impact an organization’s market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</p> <p>Actions — 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)</p> <p>Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing)</p> <p>Enablers — 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)</p>

Source: Aberdeen Group, March 2008

Table 6: The Competitive Framework Key

Overview	
<p>The Aberdeen Competitive Framework defines enterprises as falling into one of the following three levels of practices and performance:</p> <p>Best-in-Class (20%) — Practices that are the best currently being employed and are significantly superior to the Industry Average, and result in the top industry performance.</p> <p>Industry Average (50%) — Practices that represent the average or norm, and result in average industry performance.</p> <p>Laggards (30%) — Practices that are significantly behind the average of the industry, and result in below average performance.</p>	<p>In the following categories:</p> <p>Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?</p> <p>Organization — How is your company currently organized to manage and optimize this particular process?</p> <p>Knowledge — What visibility do you have into key data and intelligence required to manage this process?</p> <p>Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?</p> <p>Performance — What do you measure? How frequently? What’s your actual performance?</p>

Source: Aberdeen Group, March 2008

Table 7: The Relationship Between PACE and the Competitive Framework

PACE and the Competitive Framework – How They Interact
<p>Aberdeen research indicates that companies that identify the most impactful 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.</p>

Source: Aberdeen Group, March 2008

Appendix B: Related Aberdeen Research

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

- [Technology Strategies for Integrated Business Planning \(July 2006\)](#)
- [Technology Strategies for Inventory Management \(September 2006\)](#)
- [Driving Sales and Top Line Revenue Requirements through Executive S&OP \(April 2007\)](#)
- [Executive Sales and Operations Planning: Process and Technology Strategies \(June 2007\)](#)
- [Supply Chain on Demand: Enable Flexible Business Processes \(August 2007\)](#)
- [Working Capital Optimization: Improving Performance with Innovations and New Technologies in Inventory Management and Supply Chain Finance \(June 2007\)](#)
- [The Supply Chain Executive's Strategic Agenda: Managing Global Supply Chain Transformation \(January 2008\)](#)

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

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