Research Brief

B2B Integration and Collaboration: Strategies for Building a ROI Business Case

Aberdeen conducted a survey of over 191 supply chain executives (Chief Supply Chain Officer Survey, January 2011) where only 14% of respondents indicated that they had the ability to perform online trading partner collaboration and 12% of respondents have online visibility into supply chain issues/disruptions. Aberdeen conducted a follow-up survey in May 2011 where over 60 organizations detailed their B2B integration and collaboration issues and challenges - specific focus was given to Return on Investment (ROI) related issues. This Research Brief is a summary of the results from this survey.

Research Brief

Aberdeen's Research Briefs provide a detailed exploration of a key finding from a primary research study, including key performance indicators, Best-in-Class insight, and vendor insight.

Understanding the Business Context - Pressures and Actions

Aberdeen adopted the standard approach of Pressures, Actions, Capabilities and Enablers (PACE) to understand the business context of over 60 organizations with regard to their B2B integration and collaboration issues and challenges. When asked about the top challenges that these companies are facing to improve its integration and collaboration, 42% of companies cited rising logistics costs and 40% cited rising raw material/manufacturing costs. However 38% of companies also cited the rising complexity of managing an increasingly global business network (Figure 1).

Figure 1: Top Challenges to Improve its B2B Integration and Collaboration
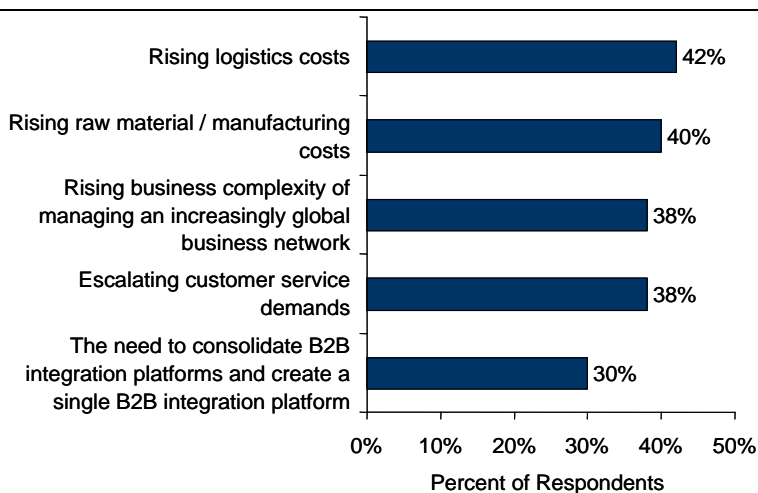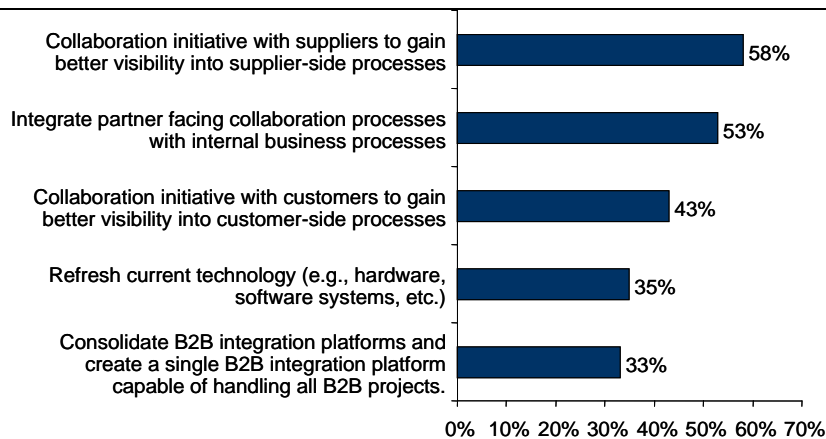

Source: Aberdeen Group, May 2011

Supply chain complexity is rising due, in large part, to globalization. For the supply chain professional, this means working with more global suppliers,

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reaching out to more global customers, and dealing with truly global competitors - a top business pressure among survey respondents. In today's cost-constrained business climate, companies are continuing their journey towards outsourced supply chains from a manufacturing and logistics standpoint. In such a manufacturing and logistics process outsourcing-intensive environment, it has become difficult for companies to stay informed and in control of every stage of their supply chains. This is especially so as the responsibility for supply chain activity has been spread throughout the network. This is why the lack of executive visibility into the end-to-end supply chain is top of mind for executives. Supply processes can be divided into enterprise centric and multi-enterprise centric processes. Examples of enterprise centric processes include: demand management, transportation management, sales and operations planning, and network design. Examples of multi-enterprise processes include: B2B connectivity, supplier collaboration, and customer collaboration. The business challenges, identified above, result in companies trying to improve both enterprise centric and multi-enterprise centric processes. In the next section, we will identify how Best-in-Class survey respondents have addressed these pressures in detail, and have achieved higher performance success within key operational metrics. Based on these Best-in-Class metrics, we will identify the key characteristics of how these companies improve their processes using technology.

When asked about what these companies are doing in response to these challenges (Figure 2), 58% of respondents are involved in collaboration initiatives with suppliers to gain better visibility into supplier-side processes, 53% of respondents are involved in integrating partner facing collaboration processes with internal business processes and 43% of respondents are involved in collaboration initiatives with customers to gain better visibility into customer-side processes. Technology related actions such as refreshing current technology (35%) and consolidating B2B platforms (33%) are also very important considerations for companies.

Figure 2: Top Three Strategic Actions

Source: Aberdeen Group, May 2011

"As part of our supply chain strategy, we have implemented an ERP backbone and now are solving the missing pieces that exist in our IT plan. On-demand solutions are a great way for us to experiment with different approaches."

~ VP of Supply Chain, Large Electronics Manufacturer

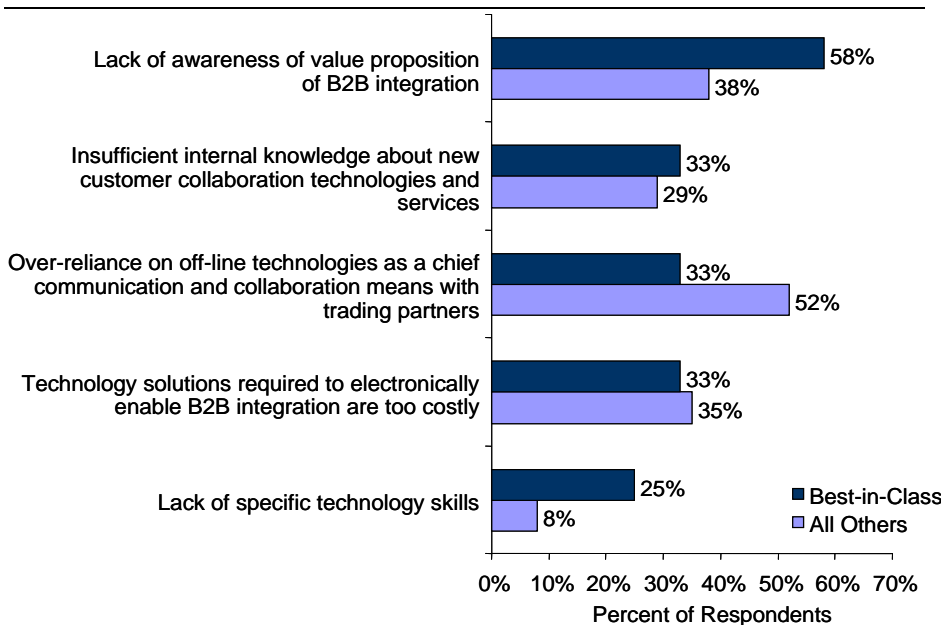**Best-in-Class Company Definition**

√ Company's percentage of orders delivered complete and on-time to customer overall - 96.7%

√ Company's percentage of orders received complete and on-time from supplier overall - 97%

√ Company's cash-to-cash conversion cycle (time from paying a supplier until receiving cash from a customer) - 36 days

√ Company's average customer service level (e.g., on-time and complete to the customer's requested date) - 94.1%

When we look at the data from the point of view of Best-in-Class companies, the results are interesting (the Best-in-Class are defined in the sidebar). Best-in-Class companies are involved heavily in technology initiatives in addition to process. Fifty-eight percent (58%) of Best-in-Class companies have indicated that they are refreshing current technology as compared to 29% of all other companies.

Challenges in Implementing B2B Integration and Collaboration

Figure 3 identifies the challenges that companies face when implementing B2B integration and collaboration processes. It is illustrative to look at the issues in the context of Best-in-Class versus all other companies. Fifty-eight percent (58%) of Best-in-Class companies indicate the lack of awareness of value proposition of B2B integration as the biggest issue facing companies as compared to 38% of all others. Whereas 52% of all others indicate that they have an over reliance on off-line technologies as a chief communication and collaboration means with trading partners as compared to 33% of Best-in-Class companies.

Figure 3: Issues When Executing Actions

Source: Aberdeen Group, May 2011

So, how are Best-in-Class companies overcoming these challenges and gaining significant benefits? What are the benefits that they are gaining? We will look at these in the next section.

Customer Collaboration - Order to Delivery

Examples of order-to-cash processes for which process collaboration can occur are highlighted in the sections to follow.

Forecast collaboration and replenishment

This process involves the exchange of forecasts and marketing event plans with customers and coming to a collaborative view of anticipated demand. Customers should be able to influence the forecasts based on their marketing plans and end customer demand. In a consumer goods environment, retailers' daily point of sale information and promotional fliers and other advertising plans are important inputs to the forecasting process for the medium to long term as well as to drive the replenishment process for the very near term (e.g., one to three days).

Order management collaboration

This process manages the life cycle of an order through the order capture process to the end fulfillment. It involves interfacing to the trading partner ERP and logistics systems. For instance, in the telecommunications sector, order management involves a unified process for different products like mobile, DSL, VOIP through the various order states like channels, order entry, product and contract validation, provisioning, switching, and billing.

Trade promotions and marketing collaboration

This process involves sharing trade promotions by manufacturers to the retailers to negotiate on pricing and gross margins. Retailers typically have their own modeling tools for pricing as well. CPG companies sometimes allow retailers to input their prices for the purpose of having a more accurate promotion plan.

Invoice reconciliation and automation collaboration

This process shares electronic invoices (e.g., via an ANSI X.12 810 or EDIFACT INVOIC message) with customers and automates the process of payment along with exception management and automated credit handling. This enables companies and their trading partners to collaborate on regulations related to cross border e-invoicing compliance (e.g. digital signatures, archiving and auditing).

Inventory management collaboration

This process shares sales and inventory level information to enable a supplier to manage inventory replenishment on behalf of a customer. The collaborative process enables the supplier and customer to determine safety stock targets based on demand and supply, as well as the service level requirements from the customer. For example, consumer goods companies often must support inventory management collaboration (often called vendor managed inventory) with retailers.

Transportation management collaboration

This process helps companies streamline the transporting of goods from the manufacturing facilities and distribution warehouses to the customer stores or warehouses. Companies typically collaborate on transportation mode and carrier choices, service levels, and pickup and delivery timing. As large customers continue to implement tighter oversight on their inbound

transportation processes, the manufacturers and distributors serving them must be able to exchange a richer set of shipment information and collaborate electronically to execute against customer-approved shipment plans.

Figure 4 illustrates the percentage of respondents that collaborate on each of the above processes.
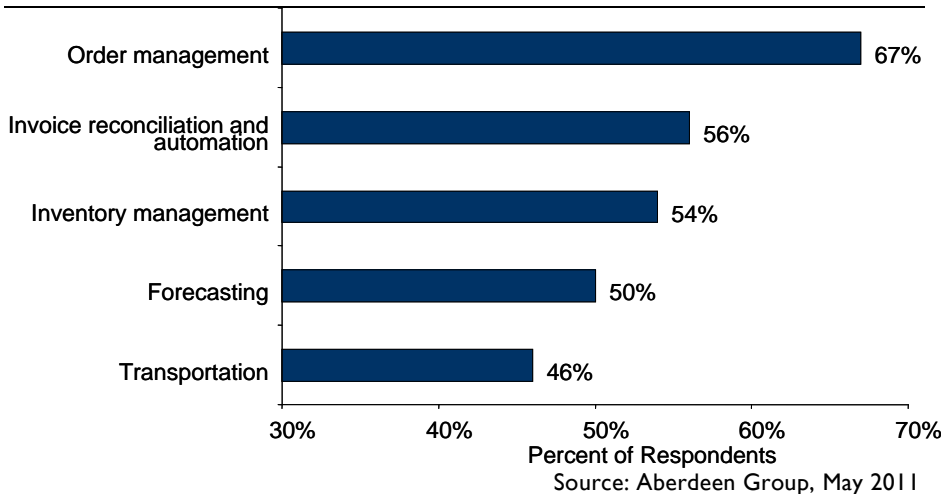
Figure 4: Customer Collaboration - Order to Delivery

Source: Aberdeen Group, May 2011

Figure 5 illustrates the benefits that companies have gained through their customer collaboration effort. Even though the highest benefit has been in reduction in manual processing and administrative work (71%), a large percentage of companies have made significant strides in hard metrics improvement - 45% of companies reported increase in perfect order percentage and 43% of companies reported reduction in costs to process a customer order.

Figure 5: Benefits Received From Customer Collaboration Efforts
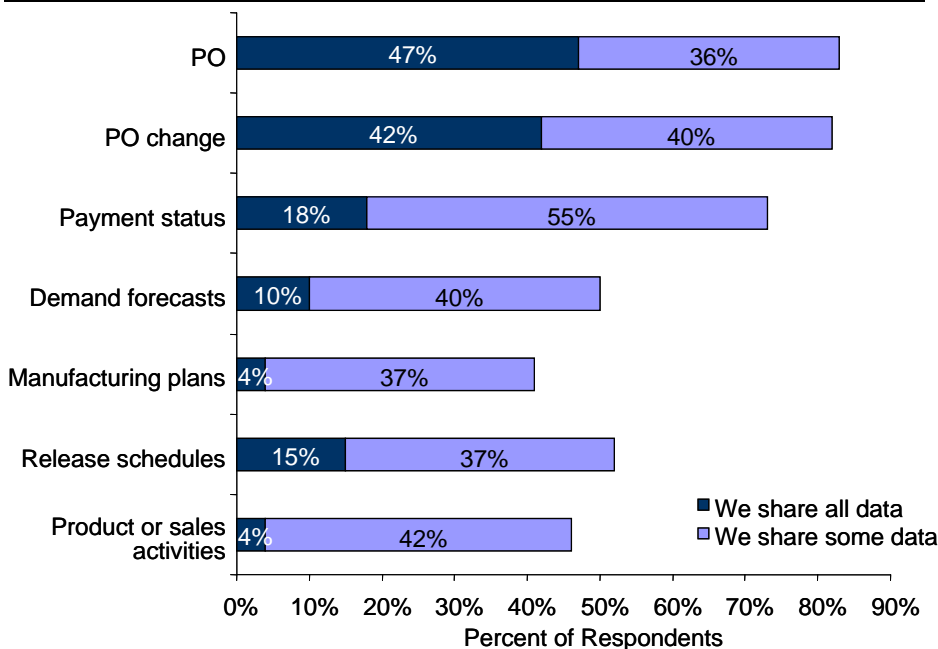

Source: Aberdeen Group, May 2011
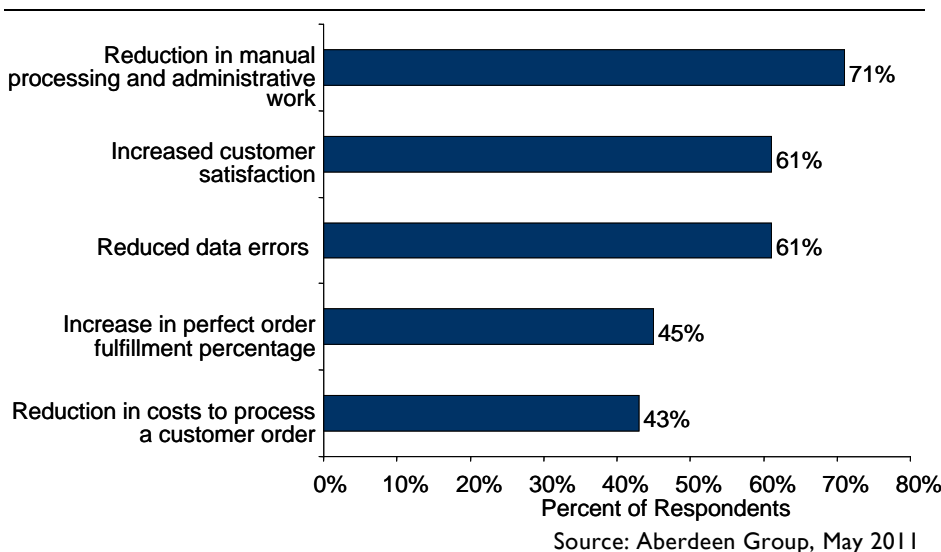
Supplier Collaboration - Purchase to Order

Figure 6 illustrates the types of transactions shared with suppliers. As we can see, very few companies indicate that they share all data across multiple transactions. As Figure 7 indicates, the reverse is true as well when we look at the data shared with the company by trading partners. What is the reason for this situation? Figure 8 helps us understand one major contributing factor. We can see that 21% of supplier transactions are handled by phone, 15% of transactions are handled by fax and 32% of transactions are handled by email. Other more automated approaches are only 31% and include traditional EDI VAN, internet based messaging, supplier network or marketplace and web-based supplier portal.

Best-in-Class companies lead the way in the percentage of transactions received electronically. They share more information electronically with suppliers than Industry Average and Laggard firms, especially critical transaction information such as purchase orders and payment status (by a factor of two-times to three-times). And their suppliers are more likely to share electronic information such as purchase order acknowledgements, Advance Shipping Notices (ASNs), and invoices. In addition, 40% of the Best-in-Class are even willing to share some of their more sensitive information, such as manufacturing plans and release schedules.

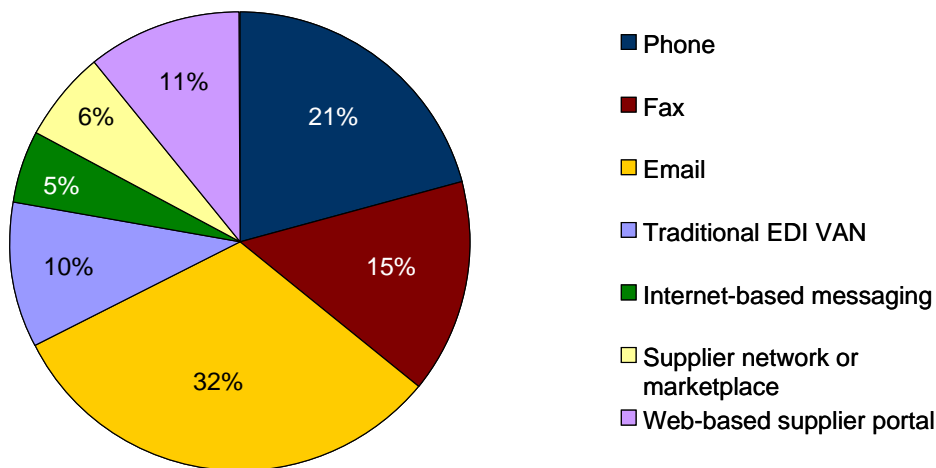**Figure 6: Transactions Shared with Suppliers**

Source: Aberdeen Group, May 2011

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Figure 7: Transactions Shared with your Company
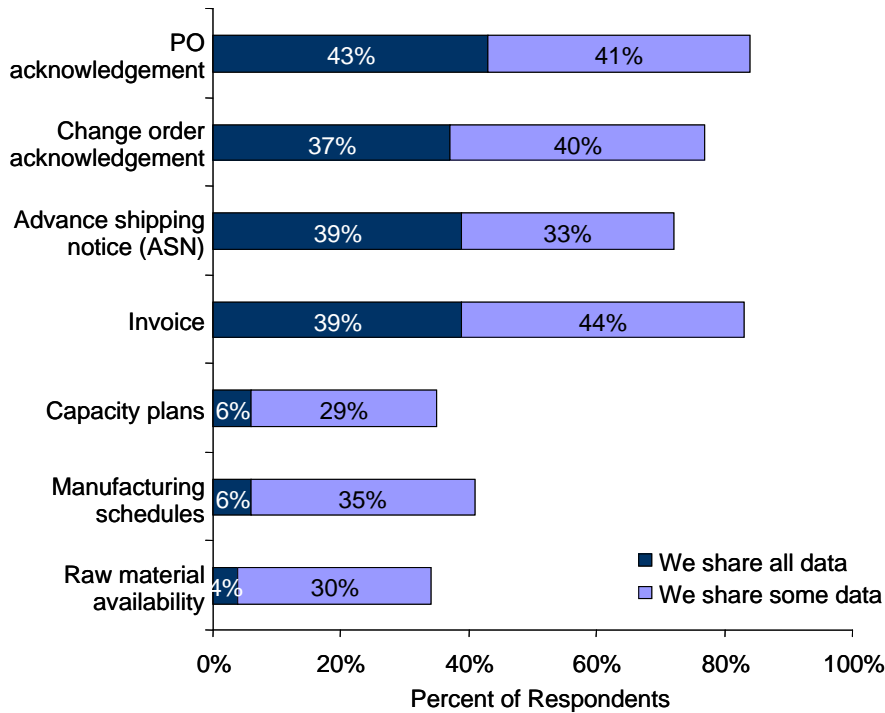
Source: Aberdeen Group, May 2011

Figure 8: percent of supplier transactions

Source: Aberdeen Group, May 2011

"The recession has increased outsourcing of business processes in general; and our company has started getting more data and more complex data from customers - which requires us to scale our B2B infrastructure horizontally and vertically. Additionally, we are seeing more 'international' (multi-byte) B2B from Asian and European partners which also requires us to support a wider variety of B2B."

~ Director of IT at Large Electronics Manufacturer

KPIs and Benefits Associated with Supplier Collaboration

When asked about what the top three KPIs that companies utilize to measure the benefits of supplier collaboration (Figure 9), they have

identified the percent of total transactions issued/received electronically
(53%) as the top KPI. The second KPI is the percent of their supply base
that is electronically enabled (46%). It is, however, important to note that
the more process related KPIs, like the cost and cycle times, are prioritized
lower. This indicates that companies are focusing overall more on process
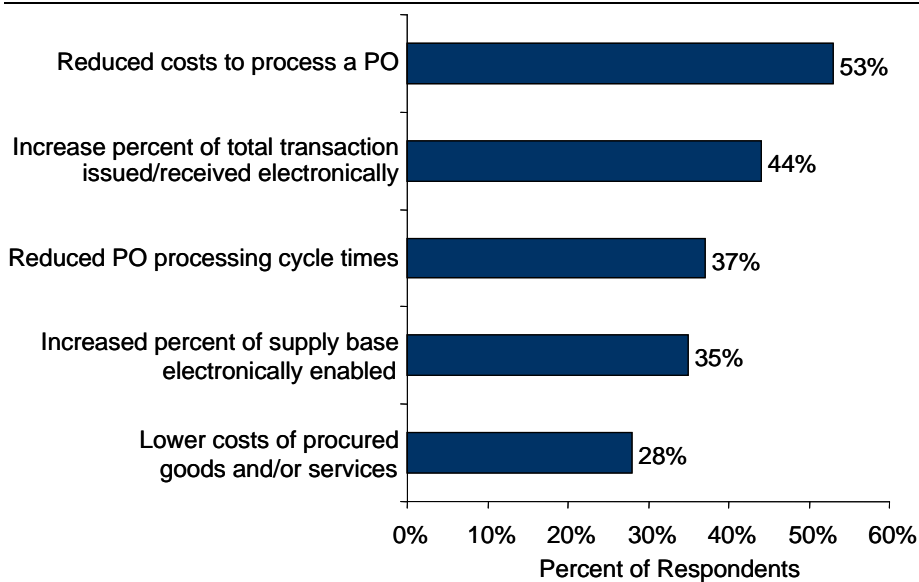integration versus process collaboration.

Figure 9: Top Key Performance Indicators (KPIs)
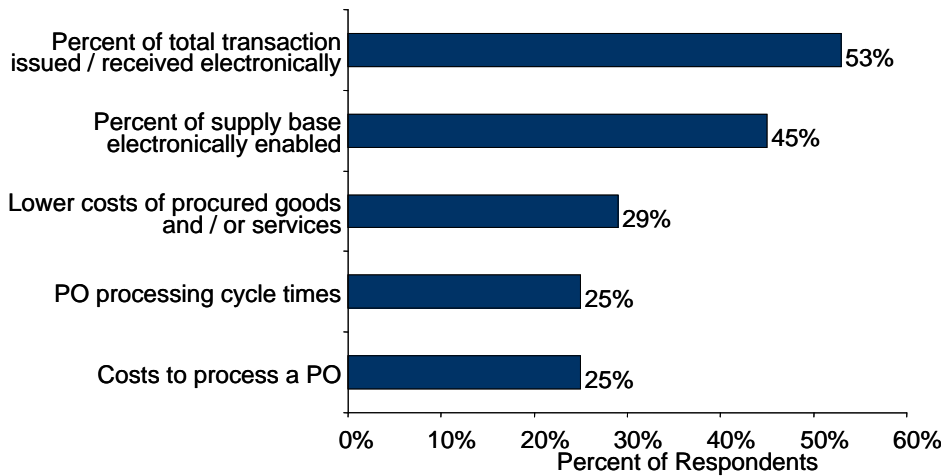
Source: Aberdeen Group, May 2011

Figure 10 indicates the top benefits that companies have gained through
supplier collaboration.

Figure 10: Top Benefits that Companies have Gained Through Supplier Collaboration

Source: Aberdeen Group, May 2011

Fifty-three percent (53%) indicate that the cost to process a PO has reduced and 37% indicate that PO processing times have reduced. When we look at the Best-in-Class companies, we see that they are 1.5-times to two-times as likely to have gotten these benefits across the board.

How can we quantify the benefits that Best-in-Class companies have gained from a cost perspective? This is the focus of the next section.

ROI of Process Integration and Collaboration

Organizations that have rallied their suppliers, distribution partners, and customers to create an electronic flow of information report that the benefits are layered like an onion. Significant productivity and administrative cost benefits can be gained from moving from phone/email/fax based communication to electronic communication (Table 1). Additional value can be gained by moving towards process collaboration (Table 2), including lead time reductions, improved customer service levels, and top line revenue growth.

Table 1: Electronic Connectivity Benefit Source: Aberdeen Group, June 2011

Improvement Area	Business Benefits for the Enterprise	Business Benefits for Trading Partners
Automate Data Exchange	▪ Reduced transaction processing costs ▪ Workforce freed up from low value-add tasks ▪ Ability to grow business without adding labor ▪ Ability to synchronize activities despite time zone differences	▪ Reduced transaction processing costs ▪ Workforce freed up from low value-add tasks ▪ Become an easier partner for hub to do business with
Exchange Better Quality Data	▪ More accurate operational plans ▪ Fewer invoice discrepancies ▪ Less human intervention in transaction process	▪ Fewer penalties or deductions from hub for inaccurate or incomplete data ▪ Increased ability to deliver perfect orders and delight end customer

Source: Aberdeen Group, May 2011

Additional value can be gained by moving towards process collaboration (Table 2), including lead time reductions, improved customer service levels, and top line revenue growth.

Table 2 summarizes the benefits of process collaboration and the benefits it brings to a company as well as its trading partners.

Table 2: Process Collaboration Benefits

Improvement Area	Business Benefits for the Enterprise	Business Benefits for Trading Partners
Exchange Richer Data	▪ Increased forecast and plan accuracy ▪ Lower safety stock ▪ Fewer out of stocks or materials shortages	▪ Increased forecast and plan accuracy ▪ Lower on-hand and in-process inventory ▪ Fewer lost sales
Exchange Data More Frequently	▪ Faster planning velocity (hours or days instead of weeks or months) ▪ Increased visibility of execution activities to enable midcourse corrections	▪ Better visibility of hub business plans and real demand ▪ Improved workload balancing and cash flow management

Source: Aberdeen Group, May 2011

Table 3 shows the improvements that Best-in-Class companies have gained in terms of unit costs of various transactions. It is important to note that even for manual approaches for each transaction; Best-in-Class companies are ahead of all others. But when we compare manual with automated, both Best-in-Class companies and all others have gained dramatic improvements.

Table 3: Transaction Costs for Manual and Automated Approaches across Best-In-Class and All Others

Average Cost Per Transaction	Best-in-Class	All Others
Purchase order (manual)	$14.13	$16.94
Purchase order (automated)	$4.13	$7.05
Purchase order acknowledgment (manual)	$1.50	$8.70
Purchase order acknowledgment (automated)	$0.50	$2.63
Advanced ship notice (manual)	$3.67	$12.46
Advanced ship notice (automated)	$1.50	$3.40
Invoice (manual)	$16.83	$17.77
Invoice (automated)	$3.67	$6.19
Remittance (manual)	$1.50	$16.88
Remittance (automated)	$0.50	$3.92

Source: Aberdeen Group, May 2011

Case in Point

Take the example of a $13 Billion USD global consumer packaged goods manufacturer. They manufacture in 18 countries and sell their products in over 180 countries around the world. Till 2005, this organization was focused on high volume suppliers with EDI capabilities. Then they realized the importance of reaching out to their long tail suppliers and wanted to expand the e-commerce options to include both EDI and purchasing card. However there were definite challenges, including:

- Large number of suppliers to deal with as well as the challenge of incomplete supplier contact information

- Diversity of suppliers with varying levels of capabilities on their part (from simple to sophisticated)

- Existing IT staff was resource constrained

- Need to look into future flexibility to accommodate new documents and processes

This organization went with solution provided by Sterling Commerce (Business Integration Suite) with the following characteristics:

- Community management services for managing first level contact and recruiting

- Established an internet-based solution for non-EDI suppliers

- Developed automated business process workflow for data management

- Expanded the ability to recruit non-EDI suppliers

- Developed a customized recruitment portal

The benefits the company gained include:

- Reduced resource cost associated with manual data entry, mass communication and error resolution

- Reduced the number of blocked invoices, processing errors

- Reduced the risk of frauds

- Improved the on-boarding process speed

- Resulted in overall improved supplier relationship

There were several benefits gained by the supplier as well, including the reduced costs associated with manual efforts, reducing of processing errors, and minimization of payment errors.

Recommended Actions

- **Create collaborative network with key customers.** Thirty-three percent (33%) of Laggards indicate the ability to collaborate with a network of key customers versus 56% of Best-in-Class

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companies. Companies should segment their customer base according to revenue and identify the top customers to set up a trading community network. Key process areas should be identified such as order management collaboration, inventory management collaboration and forecast collaboration after which these collaborative processes should be implemented.

- **Create a collaborative network with key suppliers.** Twenty-one percent (21%) of Laggards indicate having the ability to collaborate with a network of key suppliers versus 65% of Best-in-Class companies. The supplier base should be segmented based on criterion such as spend volumes and the key suppliers identified. Procurement and in-bound logistics are examples of areas where collaborative processes can be implemented on the supplier side.

- **Segment the trading partner base.** Seventy percent (70%) of Best-in-Class companies receive sales orders electronically from 50% or more of their customers versus 50% of Industry Average companies. In addition 41% of Industry Average companies indicate that their top challenge with respect to B2B integration and collaboration is over-reliance on off-line technologies (e.g., phone, fax, e-mail) as a chief communication and collaboration means with trading partners. Segmenting the trading partner base into tiers will help Industry Average companies to prioritize their trading community enablement initiative. Key criterion that should be adopted are: business document trading volume per trading partner, onboarding and integrating complexity, and the partner's in-house integration capability.

- **Create accountability for the supplier base.** Forty-five percent (45%) of Industry Average companies have the ability to measure supplier performance over a period of time versus 65% of Best-in-Class companies. Measuring brings accountability into the process. Create a shared list of metrics that include factors such as on-time delivery of products, sustainability, quality, defects, etc. For a director at a US-based consumer durable goods manufacturer, having accountability for supplier metrics translates into being able to meet customers' needs. "At this time, our best opportunities for improvement are on the inbound side, namely, in getting more visibility into our suppliers' production capacity," says the director. "We have good visibility after the product has left a foreign port, but would like to have more insight into our suppliers' subcontractors and what is happening in their incoming supply chains. We believe that higher visibility is partly contributing to lower lead time variability, reduced inventory, shorter lead times, increased fill rates, and other supply chain operational improvements."

- **Expand the trading community to non-critical suppliers and customers.** Thirty-seven percent (37%) of Best-in-Class companies indicate that they have established electronic communication with

greater than 50% of their suppliers. Hence there is a significant opportunity to improve recruitment efforts and on-board additional partners. Take for example the director at a large agricultural testing manufacturer; "The most challenging aspect in building an integrated collaborative supply chain for us has been the initial approach and educating partners on the benefits of lean and end-to-end supply chain management strategies, which are still alien to many companies, particularly smaller suppliers. To overcome this, we continue our efforts to educate potential and existing supply chain partners on the value of the collaborative approach."

- **Implement an outsourced B2B trading community management wherever applicable.** Seventy-seven percent (77%) of IT respondents indicate that their primary job is to handle process and application mapping. If some of these tasks can be done in the B2B cloud then the IT organization can focus more on value added activities such as R&D and innovation. To ease internal IT requirements, look for a B2B solution provider that has a large, existing community of trading partners you can plug into. Also look for a hybrid B2B solution that allows you to deal with your largest, most demanding suppliers/customers using an on-site B2B solution and the balance with a cloud B2B solution.

For more information on this or other research topics, please visit www.aberdeen.com.

Related Research	
Supply Chain Intelligence: Adopt Role-Based Operational Business Intelligence and Improve Visibility; Feb 2010	*Enabling Supply Chain Visibility and Collaboration in the Cloud*; November 2010
Multi-enterprise Manufacturing: The Role of Visibility and Collaboration in Driving Responsiveness; July 2009	*Business Intelligence Command and Control Center for the Chief Supply Chain Officer*; May 2011
B2B Integration and Collaboration: Trading Community Enablement for the Multi-Enterprise Supply Chain; March 2010	
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