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B2B Collaboration: How On-Demand Platforms Accelerate Value and Impact TCO

How to Assess Whether On-Demand Solutions Are the Right Fit for Your Supplier, Customer, and Transportation Processes

February 2007

Executive Summary

Business and IT leaders are under increasing pressure to improve B2B collaboration and underlying electronic communication capabilities of their organizations.

- Approximately 69% of companies report they have increased their emphasis on creating an electronic flow of data between themselves and their business partners over the past three years, while only 4% say the emphasis has decreased.
- Fully 80% of companies say that their emphasis on customer collaboration has increased over the past three years, while only 2% say that it has decreased.
- Companies report an increased focus on supplier collaboration, complicated by more low-cost country sourcing. The average company reports 12.9 supply disruptions a year that cause a material impact on their company.

For many companies, scaling their B2B collaboration initiatives across multiple customers and suppliers is a challenging project. As a result, Best in Class companies are finding ways to enhance their data and process collaboration by employing new strategies and technologies to aid these projects.

On-demand technology platforms (also called "software as a service") are playing an increasingly important role in enabling electronic communication and process collaboration. Companies seeking to improve their collaboration capabilities should take a strong look at on-demand solutions. On-demand solution providers tend to have greater resources and experience in on-boarding trading partners onto the collaboration platform than a company has in-house. Many on-demand providers also come to the table with networks of pre-connected suppliers and carriers, further reducing rollout times and increasing trading partner acceptance.

The Value Framework for Assessing B2B Collaboration Options

This report provides a value framework that can help companies decide whether on-demand solutions are right for their B2B collaboration needs. The framework covers such categories as hard and soft costs, business benefits and related risks, as well as the benefits of alternative solution approaches. Alternatives being compared include on-demand platforms, on-premise packaged applications, and in-house development. The four framework dimensions are:

- ✓ **Total cost of ownership:** Includes software costs, hardware expenses, maintenance costs, help desk costs, and trading partner on-boarding costs.
- ✓ **Business value gained:** Includes reductions in operating, inventory, and logistics costs; revenue gains and improvements in supply chain performance metrics.
- ✓ **Speed:** Includes initial implementation time, time to on-board trading partners, and time to change business processes.
- ✓ **Project risk:** Includes risks of project failure, software disuse, data security, and system uptime.

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Chapter One:
Issue at Hand

Key Takeaways

- The vast majority of companies are increasing their focus on electronic connectivity and collaboration with their suppliers, customers, and logistics partners.
- On-demand platforms are emerging as an effective way to scale out collaborative processes across more trading partners.
- Most on-demand supply chain solutions are operational in less than three months and have an ROI period of less than a year.

Business and IT leaders are under increasing pressure to improve B2B collaboration and the underlying electronic communication capabilities of their organizations. Benchmark data from recent surveys of over 300 companies show the following trends:

- Approximately 69% of companies report they have increased their emphasis on creating an electronic flow of data between themselves and their business partners over the past three years, while only 4% say the emphasis has decreased.
- Fully 80% of companies say that their emphasis on customer collaboration has increased over the past three years, while only 2% say that it has decreased.
- Companies report an increased focus on supplier collaboration, complicated by more low-cost country sourcing. The average company reports 12.9 supply disruptions a year that cause a material impact on their company.

This report: (1) looks at the key drivers and emerging priorities for B2B collaboration, (2) assesses the role of on-demand platforms in helping companies achieve their collaboration objectives, and (3) provides a value assessment framework to help companies and their IT organizations understand their collaborative platform alternatives.

Why Enterprises Are Making B2B Collaboration a Priority

Trading partner collaboration is critical in today's environment of highly competitive local demand and increasingly global supply; requiring faster and more automated processes to stay competitive. In addition, most supply chains are becoming increasingly distributed, where processes between business partners on both the supply and the demand sides have grown more complex. Buyers are providing stricter order fulfillment requirements to their suppliers, as well as on-going pressure to reduce costs. Electronically connecting and collaborating with suppliers, customers, and other critical parties such as transportation carriers is vital to thriving in this demanding environment.

The two main process areas for collaboration are the order-to-cash process (customer collaboration) and the purchase-to-pay process (supplier collaboration). Table 1 outlines key processes in which collaboration can occur. See Appendix A for descriptions of these processes as well as key connectivity enablers.

Table 1: Common B2B Collaboration Processes

Purchase-to-Pay Processes	Order-to-Cash Processes
Product design	Forecasting and replenishment planning
Forecasting	Order management
Vendor-managed inventory (VMI)	Trade promotions and marketing
Capacity and material planning	Invoice reconciliation and payment
Transportation management	Inventory management
Order fulfillment (e.g., direct ship to customer)	Transportation management

Source: AberdeenGroup, February 2007

Aberdeen research has found that **two-thirds** of companies currently conduct some level of inventory collaboration with trading partners, and **3/4ths** are engaged in forecast collaboration. Over three-quarters of the companies that collaborate in forecast and inventory planning report improved cycle time and profitability. Even still, most companies struggle to scale their collaborative efforts across trading partners. In fact, the majority of companies have been unable to scale these processes beyond more than 10 trading partners.

Key Pressures for Increasing B2B Collaboration

Companies are focused on improving supplier collaboration to reduce operating costs, and improve visibility of spending, inventory pipelines, and supplier and in-transit activity (Table 2). In addition, inbound transportation collaboration is now a priority for nearly three-quarters of companies.

On the customer side, companies are launching collaboration initiatives to reduce high administrative costs and meet customer requirements for more timely status information. Companies are also focused on reducing order processing errors, high inventory holding costs, and days sales outstanding (DSO).

Table 2. Why Companies Want to Do B2B Collaboration

Drivers for Supplier Collaboration	Drivers for Customer Collaboration
Reduce operating costs - **73%**	High administrative costs due to manual handling of customer orders - **59%**
Improve visibility into spending - **59%**	Customer requirements for improved status - **48%**
Improve usage and value of existing procurement and supply chain automation investments - **45%**	Excessive errors due to manual handling of customer orders - **33%**
Improve visibility into inventory and activities within the supply chain - **44%**	High lead-times for order to delivery - **28%**
Improve supplier responsiveness to demand - **35%**	High inventory holding & obsolescence costs - **26%**

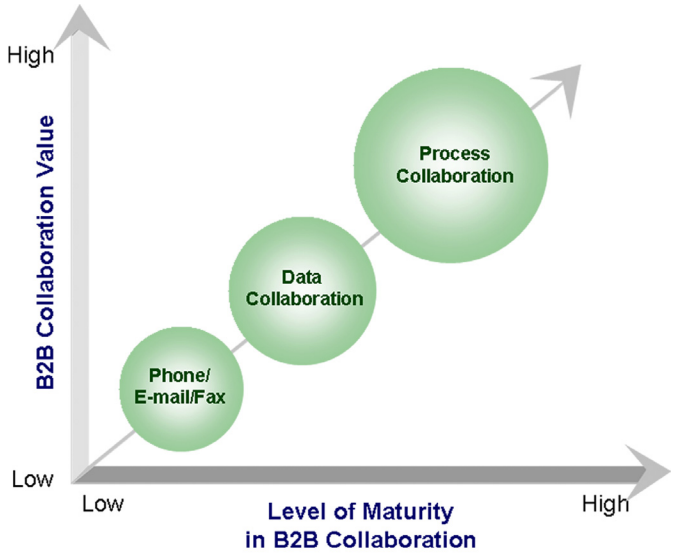
Source: AberdeenGroup, 2006

Key Milestones in B2B Collaboration

Figure 1 shows the maturity levels of B2B collaboration. Aberdeen research found that companies conducting both data collaboration (enabled by electronic communication) and process collaboration are achieving greater improvements in supply chain management. By exchanging richer and more timely information with trading partners, enterprises can make more accurate inventory and demand forecasts and shorten their cash-to-cash cycles. Benefits achieved by these market leaders include:

- ✓ Administrative cost savings, including lower transaction costs, fewer data errors, and fewer invoice discrepancies
- ✓ Shorter planning and execution cycles, and faster reaction to changes in customer demand
- ✓ Reduced out of stocks at customer/retail locations
- ✓ Increased percentage of perfect orders
- ✓ Reduced inventory holding costs/lower safety stock requirements
- ✓ Shorter cash-to-cash cycles
- ✓ Increased customer satisfaction
- ✓ Revenue growth as a result of the above

Figure 1. B2B Collaboration Maturity Stages



Source: Aberdeen*Group*, February 2007

Data Collaboration

The first step in achieving scalable process collaboration is to ensure a strong electronic communication foundation has been established that will serve effectively as a backbone for data/document exchange. Without this foundation collaborative processes become

manually intensive and almost impossible to scale across customers and suppliers. A best practice is to support EDI/XML connectivity as well as browser-based data entry.

Data synchronization tools can be applied at this level to ensure product information and other master data flows are aligned between trading partners – reducing data errors, invoice disputes, and out-of-stock conditions. Business activity monitoring and transactional lifecycle management also play important roles in ensuring timely and complete information flows between trading partners.

Process Collaboration

Process collaboration goes beyond electronic data exchange and management to enable collaborative workflows through an electronic communication platform. Examples of process collaboration include forecast collaboration, design collaboration, inventory collaboration, and transportation collaboration.

Large Consumer Electronics Retailer Achieves Major Collaborative Gains

At a major consumer electronics retailer, the most challenging aspects of a CPFR program included: deciding how and when to share data with suppliers, extending CPFR to suppliers, improving the technology structure, increasing the accuracy and standardization of the scorecard process, deciding on the right level of CPFR (i.e., chain, DC, store), and calculating unconstrained demand (e.g., what actual demand would have been if stock outs had not occurred).

Solution

Technology provider selected: Agentrics

Starting with a pilot with three suppliers in 2001, the company has been growing its CPFR supplier base every year. In 2005, its CPFR initiative soared from 19% of sales to 45%. It leverages an on-demand collaborative platform provided by Agentrics to enable its CPFR initiatives. It now uses a seven-step process to enable CPFR:

1. Target potential suppliers by value (e.g., using % of revenue and level of dominance within a category)

2. Analyze each targeted supplier's readiness (e.g., Can they provide a statistical forecast?)

3. Negotiate a joint CPFR business plan/front-end agreement

4. Develop an approach to implementation and testing using 3rd-party Agentrics as the central collaborative tool provider

5. Complete end-user training with supplier staff and the retailer end users

6. Incorporate CPFR into business rhythms, which are highly flexible to accommodate the differing needs of different categories (e.g., Appliances have different needs than televisions.)

7. Maintain CPFR with score carding while stressing continuous improvement.

Do On-Demand Offerings Hold the Key to B2B Collaboration?

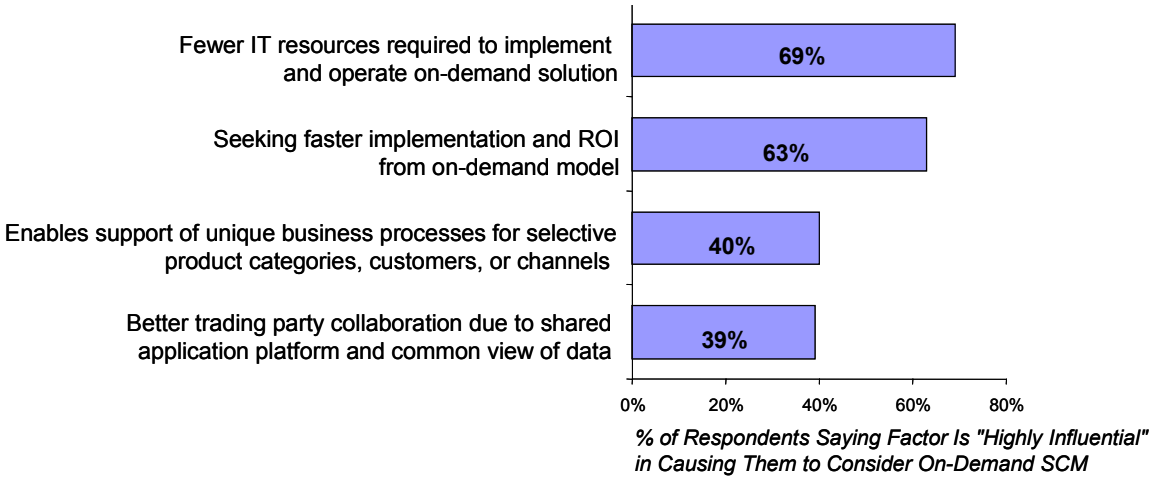
On-demand solutions are playing an increasingly important role in enabling electronic communication and process collaboration. These solutions are also called "hosted applications" or "software as a service". Unlike traditional applications that are paid for with an up-front license fee and installed on a company's own premises (referred to in this report as "on-premise applications"), on-demand solutions are hosted by the vendor and typically paid for on a subscription basis. Read Appendix B for a description of the pros and cons of different deployment models for on-demand applications.

Improved collaboration with business partners is a highly influential driver to adopt on-demand supply chain solutions for 39% of companies, as found in recent Aberdeen research (see *Software as a Service Buyer's Guide* for more information). This pressure is a Top 4 pressure after the traditional drivers for on-demand technology adoption, which include reducing IT resources required to implement and operate an on-demand solution, and the need to shorten the payback period on technology investment (Figure 2).

In particular, on-demand solution providers often have much greater resources and experience in on-boarding trading partners onto the collaboration platform than a company has in-house. 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.

The #3 driver in Figure 2 does not explicitly mention collaboration benefits, but it is one of the fundamental capabilities required for effective process collaboration. Enabling support for unique business processes by customer, product line, or channel, an on-demand technology platform can lay a foundation for richer data exchange and more flexible process collaboration.

Figure 2. Top Reasons for Interest in On-Demand Supply Chain Applications



Source: AberdeenGroup, 2006

⇒ *"We liked the fact that the on-demand solution was very flexible, because each customer has very different ways of replenishing and allocating stock to stores,"* reports a consumer goods manufacturer. *"Moreover, with an on-*

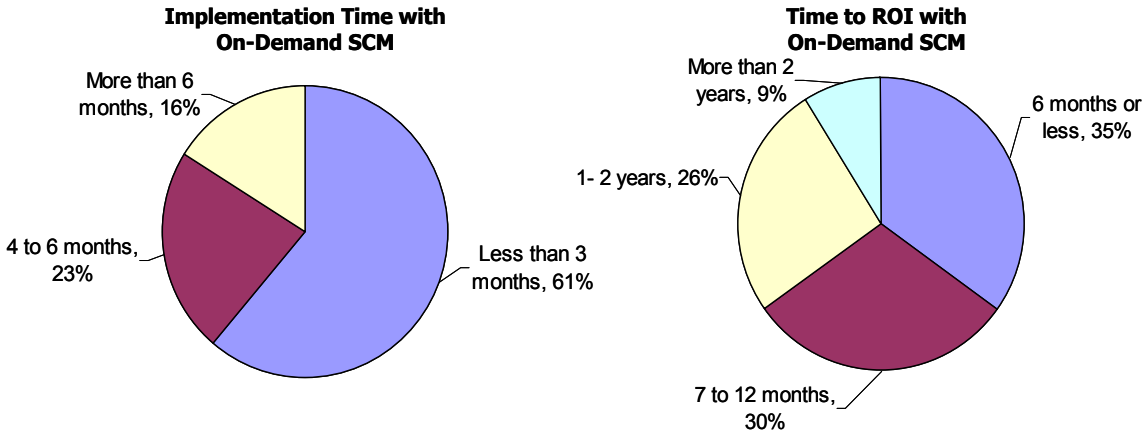
demand system, you can use just slices of the functionality – you don't have to implement the full solution with each customer to get value."

On-demand SCM solutions are well-suited to address two key requirements critical to effective demand-supply collaboration and synchronization: (1) the need for rapid electronic supplier enablement and (2) the requirement of process flexibility, as trading partner relationships will evolve and change over time.

Many users report being pleasantly surprised with the speed and seamlessness of on-demand system deployments and enhancements. *"We didn't really appreciate at the outset just how valuable the on-demand vendor's feedback and implementation cycle speed would be in solidifying supplier support for our initiative,"* reports one study respondent.

In fact, when analyzing feedback from on-demand supply chain technology users, Aberdeen Group found that most of the on-demand solutions were operational in less than three months and had a payback period on their investment of less than a year (Figure 3). This is two to four times faster than typically experienced with on-premise SCM projects.

Figure 3. Benefits of On-Demand Supply Chain Applications



Source: Aberdeen*Group*, 2006

Chapter Two:
Key Business Value Findings

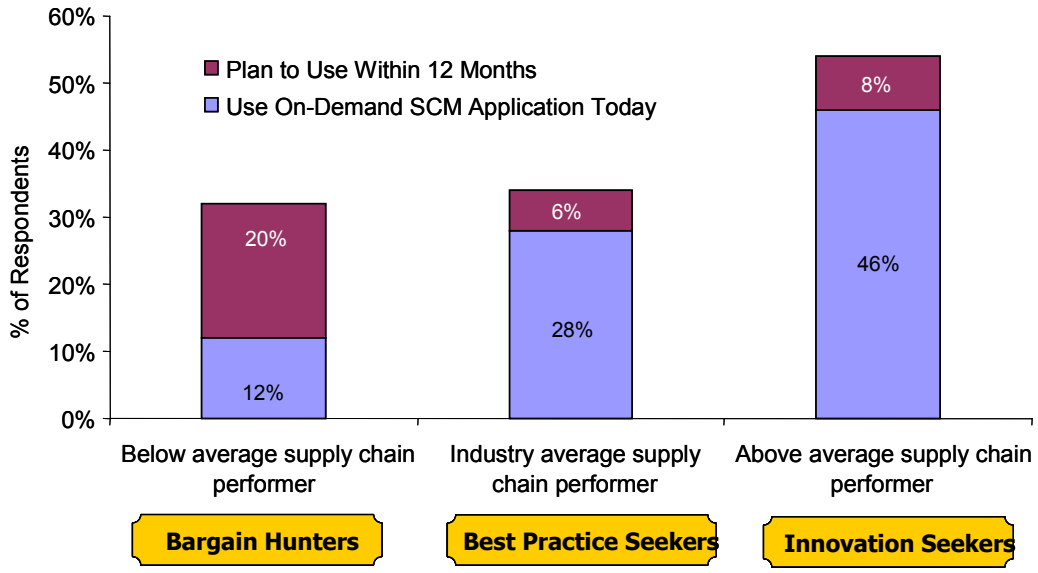
Key Takeaways

- Best in Class companies are more than twice as likely to be using on-demand supply chain applications.
- Supply chain visibility, transportation management, and demand-supply synchronization are top areas of on-demand interest.
- Collaborative demand management, data synchronization, and VMI also rate highly.

Best in Class Use More On-Demand Applications for Collaboration

Companies with above-average supply chain performance in their industry are much more likely to be using on-demand SCM applications (Figure 4). They are also more likely than their peers to consider using on-demand options across additional SCM areas.

Figure 4: Top Supply Chain Performers Use More On-Demand Applications



Source: Aberdeen*Group*, 2006

Where Companies Seek On-Demand Enablers for B2B Collaboration

A majority of companies report that they would consider using an on-demand solution for collaborative processes. Table 3 highlights some of the top areas where on-demand platforms are viewed as an attractive option.

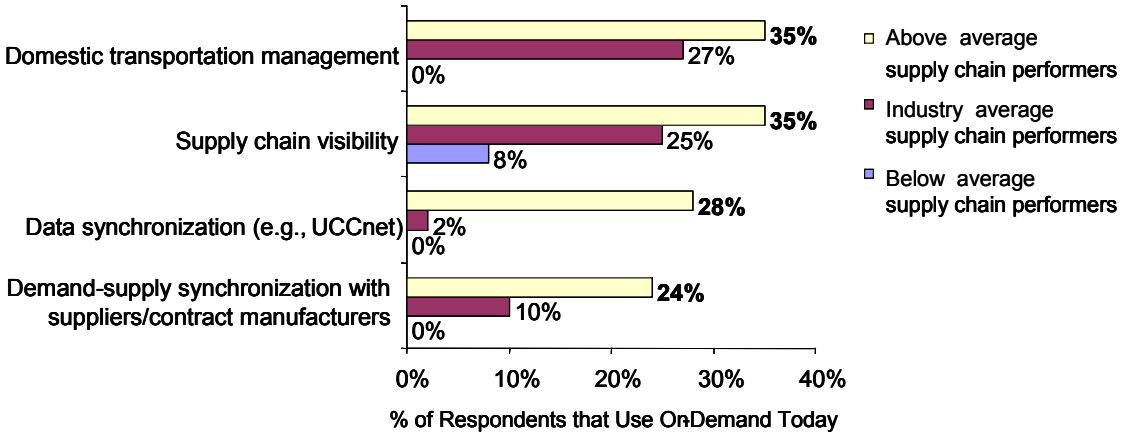
Table 3: B2B Collaboration Areas in Which Companies Would Consider Using On-Demand Platforms

Collaboration Area	% Respondents Who Would Consider On-Demand
1. Supply chain visibility	80%
2. Transportation management	74%
3. Demand-supply synchronization with suppliers	65%
4. Sales and promotions planning and forecasting with customers	63%
5. Data synchronization	63%
6. Vendor-managed inventory	58%

Source: Aberdeen*Group*, 2006

As shown in Figure 5, top supply chain performers already lead in using on-demand platforms for these collaborative processes.

Figure 5: Top Supply Chain Performers Lead in On-Demand Collaboration Use



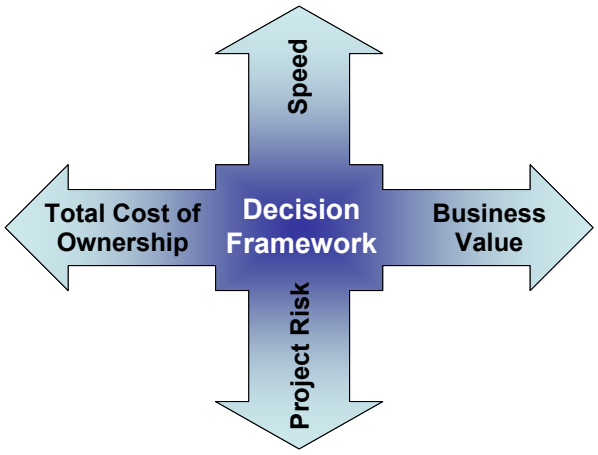
Source: Aberdeen*Group*, 2006

On-Demand Collaboration: Is It Right for Your Company?

To help companies decide whether an on-demand platform is the right choice for their collaboration needs, Aberdeen Group has created a framework for estimating the value of on-demand platforms for B2B collaboration (Figure 6). The framework can be used to compare the relative value of using an on-demand collaboration platform versus buying and implementing an on-premise packaged application, or building a custom solution in-house. The framework can help companies **build a business case around a technology implementation project aimed at enhancing B2B process collaboration.**

The framework is discussed in detail – along with case study examples – in Chapter 3.

Figure 6: B2B Collaboration Value Framework



Source: Aberdeen*Group*, February 2007

Introduction to the Value Framework

The framework aims to cover the major evaluation criteria, including hard and soft costs, business benefits and the risk factors of alternative solution approaches.

The four evaluation dimensions within the Framework are:

- ✓ **Total cost of ownership:** Includes the costs of software and hardware, maintenance, all levels of help desk support, trading partner on-boarding and management, etc.
- ✓ **Business value gained:** Includes reductions in operating, inventory, and logistics costs; increases in revenue and profits; and improvements in key supply chain performance metrics.
- ✓ **Speed:** Includes initial implementation time, time to on-board trading partners, time to adapt business processes and rollout the solution to new locations/business units. All these factors impact the time to value (or time to ROI) of a technology implementation project.
- ✓ **Project risk:** Includes estimated risks of project failure, software disuse, data security breaches, and the expected system uptime.

Chapter Three:
B2B Collaboration Value Framework

Key Takeaways

- A comprehensive value assessment is critical in deciding whether to build a B2B collaboration system in-house, deploy an on-premise packaged application, or use an on-demand collaboration solution.
- Best in Class companies are 88% more likely to estimate ROI before initiating projects and 130% more likely to measure ROI after project completion
- Too many companies underestimate trading partner on-boarding costs and the need for continual process flexibility and evolution.

Recent Aberdeen research has found that most companies never calculate the actual Return on Investment (ROI) of their enterprise application implementations or upgrades. Whether justifying a purchase of an application, an upgrade, or customization, less than 25% of companies consistently estimate ROI prior to action, and 20% or fewer estimate the metrics required to calculate ROI (real costs and gains achieved) after an implementation. (See *ERP in Manufacturing Benchmark Report*).

However, our findings also show that ***Best in Class companies are 88% more likely to estimate ROI before initiating projects, and 130% more likely to measure ROI after project completion***. On average, these best-performing companies demonstrate, on average, ***93% more improvement*** across a variety of metrics such as cost reductions, schedule performance, headcount reduction or redeployment, and quality improvements.

These results clearly indicate the importance of conducting pre- and post-project assessments of costs and benefits. This analysis is especially critical with B2B collaboration projects because the actual software cost is typically the smallest component of total cost, and project value hinges on trading partners' acceptance and continued use of the collaborative platform.

Below is an overview of the four dimensions of the B2B Collaboration Value Framework. **Click here** for the spreadsheet version of this framework, which includes more details on how to calculate each element. Companies can use this framework to help determine whether to build a B2B collaboration system in-house, deploy an on-premise packaged application, or use an on-demand collaboration solution.

Note that different variations of on-demand solutions offer different value propositions. For instance, some on-demand offerings are multi-tenant and enable all users to always run on the most current software version and gain maximum IT cost efficiencies. On-demand solutions that are deployed as a separate instance for each company and its trading partners may offer more data security and customization options. Some on-demand solution providers also offer streamlined access to a community of already connected suppliers and carriers, thus reducing on-boarding costs and time.

Evaluation Dimension 1: Total Cost of Ownership

When estimating the total cost of ownership of a B2B application, the first step is to pick a timeframe over which to analyze the solution cost. Although the framework implies that one should estimate the lifetime cost of a particular technology, such estimation is very difficult and will have a relatively high error margin (as a result of changes in business requirements, technology advances, etc.). As a result, most companies find it practical to stick to a pre-determined timeframe, usually a 3-year or a 5-year period. The same applies to the estimates of value obtained and risk incurred.

Table 4 shows the key total cost of ownership (TCO) components to evaluate.

Table 4. Estimating the Total Cost of Ownership: Key Criteria

Total Cost of Ownership	**Start-up Costs**	Cost of software
		Cost of pre-requisite software
		Upfront hardware costs
		Software implementation costs (internal and external)
		Initial software training costs
	Recurring Costs	Software maintenance fee
		Cost of customization
		Monitoring and on-going maintenance of hardware and pre-requisite software
		Data storage and continuity
		Business continuity
		Internal training costs for users and system administrators
		Help desk costs
		Internal IT staff maintenance and support
		Upgrading software (internal and external costs)
	Business Partner On-Boarding Costs	On-boarding business partners (internal and external costs)
		Maintaining and trouble-shooting trading partner connections; process-related training
		Total costs borne by business partners

Source: Aberdeen*Group*, February 2007

Start-up costs

Cost of software: For on-premise applications, estimate software license costs as well as the cost of customization for initial start-up. For on-demand applications, this cost is measured as the Net Present Value (NPV) of subscription fees or equivalent transaction-

based fees for the duration of the usage period. (Note: Changes in company volume of transactions may change subscription fees. If this occurs, a company should take a time-phased approach to calculation.)

Arrow Electronics Selects On-demand Platform to Support B2B Collaboration

Arrow Electronics, a large global provider of electronic components and computer products, was looking for a platform that would initially support the automatic replenishment process with its original equipment and contract manufacturing customers, with the capability to support total supply chain visibility with suppliers and customers in the future.

Solution:

Technology provider selected: OneNetwork

The company had three main selection criteria when choosing between an external solution or building an application in-house:

- Up-front cost (the initial investment required)
- Maintenance cost (upgrade/update costs)
- Speed of implementation/creation

"*The up-front cost was not as much of a concern compared with the on-going future maintenance/upgrades required. Avoided costs of maintaining and upgrading the platform over time were the largest benefit of going with the on-demand model,*" says Bob Martin, Director of Supply Chain.

⇒ Arrow didn't feel it had the IT bandwidth to maintain, upgrade, and operate the software at the same level that an on-demand vendor could provide.

⇒ When estimating the potential time-to-market, the company concluded that it would take a lot longer to build an application from scratch. Over a three-year project horizon, the costs for maintaining and upgrading the in-house built software also exceeded the acceptable level of expenditure.

⇒ OneNetwork's solution incorporates multi-language and multi-currency support, which allows an easier rollout in new countries. One of the platform's attractions for Arrow's customers is that they can use the platform with multiple suppliers, which accelerates adoption.

Prerequisite software refers to third-party software that needs to be in place to make the new application operational. This includes the costs of database licenses, Web server licenses, and enterprise integration licenses. These costs can add 20-30% more on top of the application software license fee. Prerequisite software costs are typically covered within the subscription costs of on-demand solutions.

Upfront hardware costs should include all hardware-related costs such as servers, load balancers, etc., for all the system environments, including test, production, data recovery, and development systems. The cost of selecting, installing, configuring, testing, and deploying the hardware should also be included. These costs typically are covered within the subscription costs of on-demand solutions.

Software implementation costs include both internal expenditures (e.g., your own IT staff) and external services costs (e.g., from the software vendor or a systems integrator) for installing, configuring, testing, and deploying software, including internal system interface costs.

Select Farms Lowers TCO Through On-demand EDI Platform

Select Farms is in the preserved and dried floral business and supplies craft stores with harvested and preserved natural products. It had adopted an on-premise solution along with hiring a consultant for managing its EDI infrastructure. The Total Cost of Ownership for the on-premise solution was high, consuming too large of a percentage of Select Farms' IT budget. This included a high cost for the managing integration rules and data formats.

Solution:

Technology provider selected: RedTail Solutions

Select Farms chose an on-demand business process integration platform from RedTail Solutions. The platform supports automated order entry and streamlined EDI for Select Farms.

Benefits include:

- Measurable reduction in overhead, including annual savings of:
  - $30,000 in consulting for maintenance of maps and business interfaces
  - $12,000 in VAN fees
  - $175,000 in labor expenses
- Converted fixed costs to variable expense
- Per transaction cost helps reduce costs with Select Farms' seasonal business
- Improved customer service

Recurring Costs

When estimating the TCO of a new technology application, many companies do not consider the full costs of in-house support required over the software's lifetime. For B2B collaboration applications, evaluating these costs is especially important because the complexity of the software and hardware environment and support requirements grow exponentially as more trading partners come onboard.

Software maintenance fee over the lifetime of the application is the annual software maintenance cost (typically 15%-20%) multiplied by the number of usage years. This cost is present for on-premise solutions, but is embedded into the subscription fee for the on-demand offerings. This category also includes the maintenance cost of the prerequisite software.

Cost of customization can be estimated by the number of hours annually spent on customization multiplied by the customization cost-per-hour and the number of usage years.

Monitoring and on-going maintenance of hardware and prerequisite software include Operating System maintenance (security patches, etc.). For on-premise solutions, this can be quantified as the number of FTEs + annual maintenance fees. For on-demand solutions, this is typically part of the subscription fee.

Data storage and business continuity fees cover data archiving, backup, disaster recovery, etc. This cost equals the annual cost multiplied by the number of usage years.

Internal training costs for users and system administrators are estimated as the annual cost of man-hours spent on training to use the new software, as well as training collateral multiplied by the number of usage years.

Help desk costs (level 1, 2, and 3) are calculated as annual costs multiplied by the number of usage years for level 1 help desk (identify and route problems), level 2 (business support), and level 3 (IT help desk). Calculate both internal and external costs (external costs are not included under software or hardware maintenance fees), and the internal helpdesk turnover costs.

Software upgrading cost consists of ***internal*** and ***external*** (e.g., vendor or systems integrator) costs of upgrade installation, testing, interface modifications, and customization modifications. This can be calculated as the cost per upgrade multiplied by the number of anticipated upgrades per usage period (adjust for the number of minor vs. major upgrades). On-demand solution providers take care of the upgrade process, which is included in the subscription fee. There may be incremental internal costs for interface modifications, however.

Hitachi GST Slashes IT Costs to Reduce TCO for End-to-End Process Collaboration

Hitachi Global Storage Technologies (Hitachi GST) was created in March 2003 as a result of the merger between IBM and Hitachi's hard disk drive businesses. As part of the merger, Hitachi GST had to execute an IT separation from IBM without interrupting mission-critical direct materials and B2B collaboration systems. The company wanted:

1) To implement new business processes to improve suppliers' experience in doing business with Hitachi GST as well as conduct business electronically with its customers to increase customer satisfaction

2) To reduce the IT costs to manage the B2B collaboration system and reduce total cost of ownership

Solution:

Technology provider selected: E2open

Hitachi GST decided to use an on-demand collaboration platform from E2open for mission-critical supply chain processes on both the supply and the demand sides. The company felt that it took a dedicated set of skills to build and manage a B2B collaboration system, and that it was not an effective use of Hitachi GST's internal IT development or support staff. Further, the company believed that it was faster and less expensive to use an on-demand platform provider that could manage the community.

Business benefits included:

- **Total Cost of Ownership Impact:** ***A 35% reduction in total cost of ownership*** of legacy systems that supported the customer and supplier collaboration processes. As a result, Hitachi enjoyed a six-month payback period on its on-demand initiative.
- **Business Value Impact:** The on-demand platform collapsed the cycle time required to flow demand and supply information smoothly throughout the supply base. This informa-

tion cycle time reduction has increased supplier responsiveness.

Hitachi GST trading partners are also benefiting from much better visibility to Hitachi GST product demand and inventory positions.

- **Speed Impact:** The on-demand environment provided by E2open enabled a rapid go-live; for example, the first business release took just four months from project launch to go-live. The project involved cutoff of legacy applications evolved over decades and spanning 10 sites worldwide. Today, thousands of Hitachi GST's direct and indirect suppliers use the system.

  In addition, the creation of an electronic framework enabled by the on-demand platform has allowed swift additional automation of new business processes with Hitachi GST's customers and suppliers.

Business Partner On-boarding Costs

The total cost and project value of B2B collaboration initiatives hinges on trading partners' acceptance and use of the collaborative platform. Many companies vastly underestimate the time and cost required to do on-boarding with internal resources. This effort is compounded if trading partners cross multiple time zones and languages, and if a company shifts suppliers frequently.

Many companies simply do not have the global IT resources needed to manage these wide-scale programs effectively, including data loading, user account management, training, maintenance, data quality and transaction monitoring, and so on. By comparison, these are typically core competencies of an on-demand collaboration vendor. Moreover, because on-demand vendors' revenue is often tied to getting trading partners connected and using the system, they are often *more* motivated to get trading partners on board than internal IT staff or internal category managers.

In addition, many on-demand vendors offer a network of pre-connected suppliers, customers, or transportation carriers on their platform, further reducing the cost and time to onboard a company's business community. In some cases, companies find that as many as 50-60% of their suppliers or carriers are already interacting with the on-demand collaboration platform.

The on-boarding of business partners has both internal and external costs to a company:

Internal company costs (e.g., EDI department, IT staff, supplier management staff) and ***external costs*** (e.g., software or connectivity vendor or systems integrator) of trading partner outreach programs, training, and system integration for suppliers, transportation carriers, customers, etc. This can be measured as the number of trading partners on-boarded multiplied by the cost per trading partner according to level of on-boarding (e.g., portal data entry costs vs. EDI connection costs).

Maintaining and trouble-shooting trading partner connections as well as on-going process-related training can be quantified as the annual cost per trading partner connection multiplied by the number of connections, multiplied by the number of usage years.

Total costs borne by business partners refer to the costs recouped by usage or implementation fees paid for by business partners (e.g., cost to suppliers to use system).

Apparel Company Chooses On-demand Platform for Worldwide Supplier Collaboration

A global apparel company evaluated the costs of building an in-house software solution for its supplier collaboration initiatives versus several alternatives offered by third-party technology providers, including on-demand platform options.

The company initially decided to build the platform in-house and actually developed a working prototype solution to support its collaboration initiatives. The project stalled when the company realized it could not roll out the prototype cost-effectively beyond the single pilot supplier. When additional costs of rolling out the platform to existing and potential future suppliers were estimated (including additional application development needed and the on-going level of support required by suppliers), the in-house development project became cost-prohibitive.

The company realized it had significantly underestimated the development and support structure required to build and sustain a solution in-house. This challenge was exacerbated by the fact that a business strategy change toward more outsourcing meant that even more suppliers in even more countries would need to be on-boarded to the platform.

Solution:

Technology provider selected: TradeCard

After going through a formal RFP process, the company selected an on-demand collaboration and global trade management platform from TradeCard to manage its procure-to-pay process with worldwide suppliers. Its main reasons for selecting the on-demand solution were:

⇒ The TradeCard platform **included most of the features and capabilities** that the company had originally developed or planned to develop in-house.

⇒ TradeCard **already had ground presence** in most countries the company was doing business with so there was **no need for additional development/expenditures to on-board and support suppliers in these regions**.

- This was the most important criterion as it would allow the company not only to save money but to ensure that it could **react to business changes much faster** (e.g. move to a new country and immediately gain access to local platform support, including application access for suppliers in their local language and time zone).
- This would also help **build stronger relationships with trading partners** by offering them more value from using the shared platform.

⇒ The above capabilities contributed to a rapid **time to market** for the company, which was considerably shorter than if the company were to continue with its in-house development project.

⇒ TradeCard offered a relatively rare capability – **automated pre-order collaboration** (e.g. the company could communicate its sourcing plans to the supplier to check their capacity before the extra PO was cut, which would avoid unnecessary processing costs and delays).

⇒ TradeCard specialists demonstrated **proven expertise in on-boarding new suppliers** internationally and making the program work, which was an added benefit for the company, which did not have such knowledge internally, especially for all the countries that would be involved in the initiative.

Evaluation Dimension 2: Business Value

Table 5 summarizes how to estimate the hard and soft benefits of a B2B collaboration system. The functionality, usability, extensibility, and acceptance rate of a B2B platform can all greatly impact its business value. This evaluation dimension helps capture additional business value that a more robust system can deliver.

Table 5. Estimating Business Value: Key Criteria

Total Business Value	**Reduction in Operating Costs**	Reduced labor costs
		FTEs avoided during business expansion
		Reduced transaction processing costs
		Reduced inventory costs (including inventory carrying costs and reduced markdowns and inventory write-offs)
		Reduced logistics costs
		Reduced costs due to managed services
	Increase in Revenue	Increase in sales due to new customer acquisition/additional orders
		Increase in new product sales
		Decrease in sales lost due to customer defections
	Supply Chain Metrics Improvements	Supply chain costs as a % of revenue
		Increased # of partners participating in collaboration initiatives
		Demand management-specific metrics
		Supply management-specific metrics
		Logistics management-specific metrics
		Cash-to-cash cycles
	Community Benefits	Hard and soft benefits of community development and enhanced collaboration

Source: AberdeenGroup, February 2007

Reduction in Operating Costs

Reduced labor costs estimate the decrease in labor costs due to the implemented technology. For instance, less staff may be needed to monitor purchase order status with suppliers or process invoices now that data is flowing electronically. Labor savings come from the reduction in FTEs in supply chain and related operations such as purchasing, finance, and customer account management. For both on-demand and on-premise solutions, the reduced labor costs can be estimated as the fully loaded FTE cost multiplied by the number of FTEs saved and by the usage period.

Avoided FTEs refers to the FTEs that previously would have been needed to support business growth, but have been avoided due to the efficiencies of the new technology.

Reduction in transaction processing costs (non-labor-related component) is measured by the IT-related transaction processing cost reduction (e.g. move to EDI over the Internet or Portal instead of paper).

Reduced inventory carrying costs, reduced markdowns and inventory write-downs and reduced logistics costs (e.g., freight costs, warehousing costs) are measured in monetary savings realized over the period of use.

Reduced costs due to managed services by the software vendor (e.g., business process outsourcing services) are measured in monetary savings realized over the period of use, typically by subtracting the cost of the managed service from the FTE cost of supporting the process in-house.

Increase in Revenue

Increase in sales due to new customer acquisition/additional orders or new product sales is estimated as additional revenue generated over the usage period because of the new collaborative capabilities.

Decrease in sales lost due to customer defections (these defections may be caused by order fulfillment errors, delays, shortages, or other supply chain-related issues) can be measured as the monetary value of win-back sales previously lost for this reason over the usage period.

Supply Chain Metrics Improvements

Demand management-specific metrics to be tracked include:

- Increase in product availability (%)
- Improvement in forecast accuracy (%)
- Increased # of customers participating in collaboration initiatives

Supply management-specific metrics are:

- Reduction in inventory costs ($)
- Supplier perfect order (%)
- Increased # of suppliers participating in collaboration initiatives

Logistics management-specific metrics to consider are:

- Reduction in time from order to delivery (%)
- Percentage point improvement in on-time shipments
- Percentage point improvement in customer perfect orders (right product, right quantity, on-time to customer requested delivery date)
- Transportation costs as a % of revenue

Shorter cash-to-cash cycles result from a decrease in data latency and fewer errors (that lead, among other things, to faster P.O./invoice approvals, reconciliation, and payment), as well as better demand/supply synchronization. The value of a shortened cash-to-cash cycle stems from improved working capital balance and cash flow position and can be monetized as avoided finance charges for additional working capital loan (that could be avoided by shortening the cash-to-cash cycle). The soft benefits include being less constrained in planning new business initiatives and production/sales expansions.

"Community Benefits" to Enhance Collaboration Processes

Another aspect of the on-demand model that companies are interested in is the **potential benefits from a community of connected parties**. These benefits can include industry benchmarking, business partner discovery (e.g., identifying appropriate suppliers or carriers to use), matching of transportation backhauls or continuous move opportunities across companies, best practice sharing, shared data content (e.g., descriptions of ports, transportation carrier capabilities, and sailing schedules), and group buying power (e.g., cargo space, warehouse services, and brokerage services). Quantifiable community benefits include sharing transportation capacity with someone on the network and thus achieving cost reduction. *These capabilities are only beginning to become available from on-demand solution providers; however, many on-demand providers recognize their importance and are making a commitment to developing community benefits.*

Raytheon Joins Other Exostar Partners to Activate an Electronic Collaboration Backbone with Thousands of Suppliers

Raytheon is a leader in defense and government electronics, space, information technology, technical services, and business aviation and special mission aircraft. The company has seven large business units, which collectively have about 20,000 main suppliers with which they regularly place purchase orders. Raytheon was interested in replacing its existing enterprise-wide system capability with one supporting many A&D companies. It also wanted a platform that could deliver a robust network of electronic services to member companies as e-commerce expanded and developed.

Solution:

Technology provider selected: Exostar

Raytheon chose Exostar as the solution provider for enabling supplier e-commerce transactions and collaboration. The main reasons for selection include:

- Exostar has a supplier subscriber base of 34,000 suppliers. Raytheon has been able to tap into this existing network and onboard 3,400 of its key suppliers (comprising about 60% of Raytheon's total P.O. volume).
- Raytheon is increasing the number of suppliers with which it conducts business over Exostar at a rate of about 600 additional suppliers a year.
- There is a robust capability at Exostar to "surge" supplier memberships as requested.
- All units of Raytheon participated in the initial deployment and growth; however, the model for new capability allows business units to participate at their own rate and "lead" or "follow" depending upon business need. Results have included: 60% of Raytheon's P.O.s go

through the Exostar network.

- The cost per P.O. of conducting electronic transactions through Exostar is about 1/4 the cost per paper-based P.O. and almost half the cost of email or fax-based invoices.
- Additional benefits include data and process speed and accuracy.

Evaluation Dimension 3: Speed

In today's dynamic business environment, speed is increasingly a competitive weapon. The purpose of this evaluation dimension, shown in Table 6, is to estimate various aspects of speed that ultimately impact project success. These include the speed of initial implementation and time to ROI, as well as the speed to deploy a new or changed collaborative process or connect additional trading partners.

Table 6. Estimating Speed: Key Criteria

Speed	Initial implementation time
	Time to on-board trading partner
	Rollout time to new locations/ business units
	New process deployment
	Time to reconfigure existing processes
	Upgrade speed

Source: Aberdeen*Group*, February 2007

Initial implementation time is measured by the number of weeks required for implementation until the solution first becomes operational (additional functionality and locations may be added later).

Time to on-board trading partner (either with systems integration or without systems integration ─ e.g., web portal usage) is usually measured by the number of days needed to onboard the partner.

- For instance, SupplyOn AG, a provider of electronic business services for the automotive industry, needed a cost-effective way to manage 11,000 customers, 12,500 electronic queries a month and 500,000 EDI messages over the Web a month. To manage this, SupplyOn chose to use SEEBURGER for its on-demand EDI translation solution as well as electronic communications with smaller suppliers. It found that **by using the on-demand capabilities of SEEBURGER it now takes just half the time to on-board new suppliers to its business services portal.**

Rollout time to new locations/ business units is measured by the number of weeks to bring a new location or business unit onto the system (including implementation, integration, and training).

New process deployment reflects the number of weeks to deploy a new collaborative process (e.g., VMI) after initial implementation is completed.

Time to reconfigure existing processes is measured by the number of FTE days to change workflow, user interfaces, reports, etc.

Upgrade speed refers to the percentage of time that the system is on the most current version of software, meaning that users have access to the most up-to-date system capabilities. This can be best measured as the number of weeks a system is on the most current software version for the usage period/total weeks in the usage period. One benefit of on-demand systems is their rapid rollout and access to new functionalities that support a continuous competitive advantage. Using a multi-tenant on-demand provider typically means you will always be using the most recent version.

Ace Hardware Uses On-demand Transportation Platform For High-Speed Success

Ace Hardware is a high-growth retailer opening many new stores every month. With its traditional distribution processes, new distribution centers had to be opened to support these expansion projects every 18-24 months. Ace Hardware decided that it needed to improve inventory turns so it could support retail store growth without having to add distribution centers. This would free up millions of dollars that could be spent on even more store initiatives instead. To achieve this, Ace Hardware decided to redesign its inbound supply process and reduce lead times and variability.

Solution:

Technology provider selected: LeanLogistics

In late 2005, Ace Hardware selected an on-demand transportation management platform from LeanLogistics. The retailer chose an on-demand solution because it wanted to get up and running in a few months – not have to wait a year or more as they figured they would need to do with a traditional on-premise application approach. Moreover, because Ace Hardware wanted to hook up hundreds of suppliers, trying to do this with internal resources – and then maintain it – would have been a tremendous undertaking.

Under the new process, suppliers commit to a consistent, short order-ship cycle; carriers commit to timely and accurate pick-up and delivery; and Ace Hardware's distribution centers commit to timely unloading and receiving goods after the trailer arrives. The process is monitored and managed via LeanLogistics' transportation management system, which coordinates and directs activities and provides detailed online visibility to orders and shipment status to all the parties involved.

Benefits achieved include:

- **Fast implementation with 700 suppliers on-boarded:** The project fully kicked off in early 2006 and was operational in April. By November 2006, a phenomenal 700 vendors were connected to the system.
- **Improved transportation execution**. The retailer is now actively connected to about 200 of its carriers on the LeanLogistics network, including its own private fleets. Ace Hardware has saved millions of dollars in transportation costs because of an improved shipment consolidation and carrier selection process.
- **Performance improvement**: With some suppliers, Ace Hardware has achieved as much as a **24% reduction in inventory** due to a dramatic reduction in lead time variability.

Evaluation Dimension 4: Project Risk

Table 7 shows primary aspects of project risk. This includes the potential exit cost of a project due to implementation issues, failure of software to support the business process, change in business requirements, etc. The table also looks at other project risk factors such as system availability and data security.

Table 7. Estimating Project Risk: Key Criteria

Project Risk	Year 1 exit costs
	Risk of project failure
	Risk of software disuse
	Risk of implementation cost overruns
	Risk of data security
	Risk of system downtime

Source: AberdeenGroup, February 2007

Year 1 exit costs equals the total cost of ownership at the end of year 1 (upfront costs such as software license fees and hardware expenditures plus year 1 ongoing costs) + any additional sunk costs.

Risk of project failure (e.g., as a result of software is not able to be implemented to company expectations) can be tentatively estimated as the degree of project complexity multiplied by the historical company success rate with business applications. The degree of a solution's flexibility and configurability and its match to business requirements will raise or lower the project risk. Background checks on the vendors and their clients' experiences will also weigh into this risk factor.

Risk of software disuse (software being turned off before full lifetime period) can be tentatively estimated as the degree of project complexity multiplied by the historical company success rate with business applications. For B2B collaboration projects, a good measure is to assess the number of internal and external users on the system of current clients.

Risk of implementation cost overruns can be tentatively estimated by the historical company success rate with meeting implementation cost estimates for business applications. Fixed price implementations can reduce these risks.

Risk of data security can be approximated by the level of security (e.g., speed of security patches, sophistication of internal user and trading partner data security capabilities, and data backup practices). Data security is typically a key concern of companies evaluating on-demand solutions; however, many companies find that the on-demand provider can deliver higher data security for a B2B initiative than can be delivered by the internal IT organization. This is due to the economies of scale and business focus of the on-demand provider.

Leed's Addresses Design Collaboration Challenges with an On-Demand Solution

Leed's, North America's fourth-largest supplier of promotional products and advertising specialties, faced significant collaboration challenges in 2006 because of the following factors: large number of products launched in 2006 (close to 1,000), high-end designs that needed to be created at a lower price, requiring detailed cost control and the need to interact with global suppliers, which increases the chances of miscommunication and design revisions.

Solution:

Technology provider selected: ecVision

In order to address these challenges, Leed's leveraged an on-demand product design collaboration system from ecVision to enable product design-related collaboration with its suppliers. This collaborative platform supports the design phase, vendor communications and internal information sharing. Leed's selected and implemented the platform after evaluating the following aspects of the solution: system accessibility, disaster recovery, remote capability, confidentiality, ownership of data, and review of operating procedures.

Risk of system downtime is measured by the contractual service level agreements for uptime performance and the historical uptime performance of the in-house managed or on-demand solution environment. Be sure to measure planned and unplanned downtime separately. Many companies find that the scalability, load balancing, redundancy, and failover support is superior with an on-demand solution compared with what they can afford to support internally.

A detailed risk assessment requires analysis and classification of technology-related projects at the company in addition to the historic data on company's performance in these metrics. Detailed measurement requires a relatively longer time to develop and test the metrics and to collect the data regarding the historic patterns of performance. However, approximate risk factors (e.g., grading the risk on a scale of 1 to 10) can provide a relative project risk comparison among homegrown applications, on-premise packaged applications, and on-demand solution alternatives.

Chapter Four: Recommendations for Action

Key Takeaways

- Step1. Determine whether your company is in the sweet spot for on-demand solutions
- Step 2. Use the B2B Collaboration Value Framework to consider the pros and cons of alternate approaches
- Step 3. Ask the right questions when evaluating on-demand B2B collaboration vendors

Leverage the following three step process to identify whether on-demand solutions are applicable for your collaboration needs.

Step 1. Determine whether your company is in the sweet spot for on-demand solutions

These Are the Characteristics of Companies Adopting On-Demand Solutions for Collaborative Business Processes:

- Are pressured to improve externally oriented processes, which legacy supply chain applications do not support sufficiently
- Need to support rapidly a new business practice or improve performance for a specific set of products, customers, or channels
- Have a large supplier or logistics partner network that needs coordination
- Face constrained internal IT resources or have outsourced aspects of their IT organization
- Are embracing an IT portfolio strategy of investing internal IT resources on business differentiating areas, with the goal of using external technology experts for non-core processes

When Should Companies Consider On-Premise or Homegrown Software:

Companies should stay with on-premise or in-house developed applications if they:

- Require highly customized software
- Have a low-cost, high-quality internal IT data center and sufficient resources for initial and ongoing installations, integrations, and upgrades
- Need to support complex internal workflow with many tight integrations to corporate systems

Step 2. Use the B2B Collaboration Value Framework to consider the pros and cons of alternate approaches

Download the framework by clicking here. For more information on how to use the framework, email supplychain@aberdeen.com

Step 3. Ask the right questions when evaluating on-demand B2B collaboration vendors

Table 8 summarizes key evaluation criteria for an on-demand B2B collaboration vendor. Overall, consider vendors that have application and infrastructure architectures and support models designed specifically for on-demand. The exception is if your company is viewing a hosted ASP implementation as a way to jump-start an on-premise implementation and plan to move the application in-house in the near term; in that case, it is most important to understand the hosting provider's reliability and the migration methodology.

Table 8: Evaluation Criteria for On-demand SCM

Business Requirements	Deployment / Integration	Costs
How is trading partner on-boarding supported? What role will the vendor play? Will the system's response time and technical requirements be adequate for our whole spectrum of trading partners that may collaborate on the system?	Which Web services are available for integration into customer service applications, enterprise portals, etc.?	What are the options to expand usage, including internal and trading partner usage?
What levels of role-based support are included?	What are the integration options and approaches into our back-end systems?	What is the cost of configuration, integration, and training initially and on an on-going basis (e.g., what costs are not included in the monthly subscription fee)?
Are pre-built analytical reports or domain-specific business process templates available?	Are there already established connections to logistics partners or suppliers/customers that can speed deployment times and reduce costs?	How intuitive is the system? Will additional training, user documentation, or internal help desk support be required?
Does the vendor offer managed services for augmenting our staff and providing on-going operational or analysis help?	Are business users able to configure and reconfigure the application and reports or is IT assistance required?	What are the costs for archived data and how easily is this data accessed and analyzed?
Are their community benefits that we can take advantage of now and in the future?	Is custom configuration or application customization needed or supported?	What are the options and cost impacts of moving the system on-premise at a later time?

Source: Aberdeen*Group*, February 2007

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RedTail Solutions, Inc. a privately held company located in Westborough, MA provides on-demand services for EDI & GDS, with integration to leading accounting/ERP and business system solutions installed at supply chain companies. RedTail delivers cost-effective solutions for all order level types (distribution center/store/drop ship to consumer), as well as a variety of communication protocols through a single, integrated solution. Suppliers with multiple trading partners and high transaction volumes can streamline their business processes, reduce transaction errors, and achieve the highest levels of supply chain visibility. RedTail is a certified Microsoft Solution Partner, SAGE Solution Provider and a 1SYNC Solution Partner.

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Appendix A:
B2B Data and Process Collaboration

Enablers for Data Collaboration

A myriad of technology enablers are available for data collaboration, and most companies will need to use multiple methods to gain electronic communication across their full business partner community. A first step is to categorize trading partners into high-volume, mid-volume and low-volume partners. The high-volume partners (or strategic component supplier/high dollar revenue suppliers) typically need full EDI or B2B integration capabilities. The mid-volume trading partners ideally need system-to-system connections, but these partners typically resist full electronic connectivity because of cost and IT resource concerns and sometimes must be served via a portal. The low-volume partners require lower-cost methods of connectivity that leverage the Internet and, in some cases, phone/fax/email suffices. Table 9 outlines the most common electronic communication enablers.

Table 9: Electronic Communication Enablers

Methods	Benefits of Approach
Data-Entry Portal or Webform	No IT support required by trading partner other than Web browser access.
EDI/XML Translation Software	Enables system-to-system connectivity, reducing labor costs and data errors. Wide availability of stand-alone solutions.
In-network EDI/XML Translation Service	Value-added network or Internet messaging service provider performs translation and transformation and maintains message maps on its network, minimizing the hub and trading partners' IT requirements.
Value-added Network	Highly secure transmission over private network protects data privacy and ensures message delivery.
EAI or B2B Integration	Enterprise application integration tools and B2B integration platforms provide advanced business process management or human workflow management capabilities along with message translation and transformation.
Messaging Appliance	Network-aware box deployed by hub to its trading partners. Contains pre-configured and updatable translation and transformation capabilities. Business users can often implement without IT support.
Internet Messaging	Lower message transmission costs (cost of Internet access, related technology, and ongoing IT oversight); message encryption technology provides good level of security.
Industry B2B Exchange or Integration Hub	B2B exchanges or industry portals may already have connections to your trading partner community and provide secure transmission via the Internet. Integration hubs from on-demand solution providers may also have pre-established connections.

Source: **Aberdeen*Group***, August 2006

Key B2B Collaboration Processes

Once a company has a foundation for exchanging electronic information with its suppliers and customers, it can move to scale out collaboration across both order-to-cash and purchase-to-pay processes.

Order-to-Cash Collaboration

Examples of order-to-cash processes for which process collaboration can occur are:

a) **Forecast collaboration and replenishment:**

This process involves the exchange of forecasts and marketing event plans with customers and building 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., 1-3 days).

b) **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.

c) **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. Consumer goods companies sometimes allow retailers to input their prices for the purpose of having a more accurate promotion plan.

d) **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.

e) **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.

f) **Transportation management collaboration:**

This process helps companies streamline the transporting of goods from manufacturing facilities and distribution centers to 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.

Purchase-to-Pay Collaboration

Examples of purchase-to-pay processes for which electronic communication and collaboration can occur are:

a) **Forecast collaboration:**

This process involves communicating forecasts from a buyer to its suppliers. The suppliers then provide commitments to these forecasts in a time-phased manner. For example, in many industries an ANSI X.12 830 or EDIFACT DELFOR message signal is used to share projected sales for the time-period agreed upon by the supplier and the company.

b) **Design collaboration:**

This process involves collaborating on product design (typically for complex and long lead-time products) between a company and its suppliers. For example, government defense contractors often must be heavily involved in design collaboration with several thousands of suppliers.

c) **Supplier-managed inventory collaboration:**

Often used by high tech, industrial, and component manufacturers to shift the task of inventory management to their suppliers. Rather than issue purchase orders to its suppliers, a manufacturer can use EDI or a supplier portal to share on-hand inventory levels, forecasts, current and future production schedules, and order commitments with its suppliers. Using this data, the suppliers determine how and when to ship to the manufacturer to ensure that inventory at the manufacturing location remains within the agreed-upon minimum/maximum levels.

d) Capacity and material collaboration:

In environments where capacity and material are constrained, companies seek to share on-going availability and constraint information to ensure that their suppliers can meet order requirements in a timely manner.

g) **Transportation management collaboration:**

This process helps companies streamline the transporting of goods from suppliers into their manufacturing facilities and distribution centers. Companies typically collaborate on transportation mode and carrier choices, service levels, and pickup and delivery timing. To lower freight costs and improve inbound shipment visibility, many companies are seeking to implement tighter oversight on their inbound transportation processes. This often takes the form of an inbound transportation portal, which orchestrates activity between the company and its suppliers and carriers.

Appendix B:
Deployment Options for On-demand Applications

Option	Definition	Advantages	Drawbacks
Multi-Tenant	Multiple companies use the same instance of hosted software; configuration settings and company and role-based access personalize business processes and protect data security.	• TCO and implementation speed benefits over standard ASP model because the cost of software, hardware, and connections to suppliers, carriers, data sources, and so on are shared across multiple firms. • Users automatically are on latest software version and can quickly leverage new functionality. • Enables community benefits such as industry benchmarking, transportation backhaul matching, and group buying power.	• Harder to migrate implementation in-house. • Requires robust company and role-based data security model. • Less flexibility for unique security, data storage, or performance needs. • Intense scalability requirements as adoption grows.
Multi-Instance Shared Service	Each company is given its own instance of the software but shares some common services, such as an integration platform, security and permissibility models, or optimization engines.	• Assurance of complete data security. Flexibility for unique data storage or performance requirements. • Enables some community benefits, such as a shared network directory that provides easier, faster, and less costly trading partner connectivity. • Ability to stay on back version of software. • Easier to migrate system in-house.	• More limited community benefits. • Shared services must be able to scale as adoption grows.
ASP (application service provider)	Application is hosted by the vendor or, more often, by an outside hosting company in a separate instance on a separate piece of hardware just for your company.	• Somewhat faster deployment than in-house implementation. • Assurance of complete data security. Flexibility for unique data storage or performance requirements. • Enhanced ability to customize application. • Ability to stay on older version of software. • Easily migrate implementation in-house.	• No ability to share cost of hardware or business partner connections. • No native community benefits.

Source: Aberdeen*Group*, February 2007

Appendix C:
Related Aberdeen Research

Demand Management in Consumer Industries; December 2006

Technology Strategies for Inventory Management: How to Convert Inventory from Cost to a Competitive Advantage; September 2006

Software as a Service Buyer's Guide; August 2006

The On-Demand Tipping Point in Supply Chain; March 2006

Transportation Management Benchmark Report; September 2006

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