

The Growing Imperative for 100% Trading Partner Connectivity

Research Note Summary

Two decades after EDI started to become popular, and more than 10 years after the explosion of web-based technologies, many companies still have limited connectivity to the majority of their trading partners.

This appears to be the result of three factors:

- “Pareto” type analysis that shows the vast majority of transactions coming from a small set of trading partners (80/20 rule), leading to questions about the value of additional connectivity
- Perception that it is too hard or expensive to achieve connectivity with small and medium size trading partners
- As a result of the first two factors, an institutional belief that partial connectivity focused on the largest trading partners is “good enough,” which serves as a huge cultural barrier to further progress.

The result is that many companies have accepted a status quo which has existed for perhaps many years, making little progress beyond connecting to their largest suppliers, customers and service providers.

We believe global supply chain dynamics are making this status quo an increasingly limiting position that will put enterprises at a competitive disadvantage versus companies which set in place a goal of near 100% connectivity to trading partners large and small.

The options and costs for connecting these smaller players have improved substantially in recent years. This positive trend is occurring at the same time that the benefits of improved visibility and efficiency in conducting business electronically in a comprehensive B2B integration framework become readily apparent.

The Bottom Line: The wide array of web-based B2B and relatively inexpensive integration options, combined with the benefits of near universal trading partner connectivity, means many companies must specifically develop such a goal now and begin working towards its realization to maintain supply chain competitiveness.

Problems with Partial Trading Partner Connectivity

Processing business transactions manually comes at a cost. Estimates range all over the map, from \$10-12 for some transactions to \$75 or more for purchase orders, by some estimates.

When looked at purely from a cost per transaction perspective, it is understandable why companies focused on connecting (usually through EDI) their largest trading partners, which often represent 70-80% of an enterprise’s total transactions volumes.

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However, the cost savings from automating the remaining 20-30% percent can run into the millions of dollars on their own, and are often enough to justify a comprehensive connectivity program. But the real drivers of such enablement programs are usually related to the process improvements that transaction automation,

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enhanced supply chain visibility, and reduced supply chain variability can deliver.

Manual processing of purchase order, invoices, and other transactions lead to both errors and delays in

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information availability. This creates increasingly costly “black holes” of information in the supply chain, and decisions being made based on guesses or assumptions, rather than facts.

The “Perfect Order” concept is both a literal and figurative example. The Perfect Order is a binary measure used by many companies that is achieved when an order is shipped (1) as ordered, (2) delivered on-time, (3) with the proper documentation, and (4) undamaged (this is probably the most popular among several definitions available.) If a company is one carton short out of 200 ordered, that order is not perfect.

Manual interfaces with suppliers or service providers (e.g., carriers) can literally lead to failure to achieve the Perfect Order due to information delays and errors. But more figuratively, the Perfect Order concept can also be considered for the supply chain as a whole, which is chasing ever higher standards of perfection. Information dark spots, data errors, information latency and other inevitable results from manual interfaces will cause similar challenges in meeting other supply chain goals and metrics even if 80% of the total transactions in the supply chain are electronic.

The “missing carton,” whether literally in a Perfect Order sense or figuratively in a broader supply chain context, is increasingly costly to supply chain performance.

Finally, the increased global focus of many companies increases the importance of building a consistent set of business processes around the world. That consistency is difficult to achieve if information flows and availability differ substantially across regions and/or type of trading partner.

Today, competition is not so much between companies as it is between supply chain networks. It makes intuitive sense that companies that have largely or even completely connected their supply chain partners (and some indeed have done that) will have a strategic advantage over those that still are communicating manually with a significant portion of their total transactions and the majority of their trading partners, leading to uncertainty, errors and delay.

Manual Approaches for Basic Transactions Precludes Automating High Level Information Flows

Sometimes overlooked is the fact that if even basic transactions with a subset of trading partners are manual, then it is almost a given that even more value-added integration points cannot be achieved.

An easy example to use here is the Advanced Ship Notice (ASN). The ASN includes specific information about SKUs and quantities on pallets and cartons coming to a distribution center or manufacturing plant, usually tied to a bar code identifier on those containers.

The operational benefits of ASNs can be substantial. Most estimates say that receiving times can be reduced, for example, by 30-40% versus non-ASN receiving. ASNs also allow companies to better plan allocation of expected receipts, especially in retail, or to adjust manufacturing schedules based on what will actually be received when.

Yet even in the retail sector, where detailed ASNs have been used since the early 1990s, many companies are not taking advantage of the potential. A recent study by Dr. Brian Gibson of Auburn University found that only 30% of the retail survey population both required and received ASNs on virtually 100% of incoming receipts.

Even that relatively low percentage may have overstated the numbers, as the respondent group was tilted towards retailers that would be more likely to have ASN programs.

What was the number 1 barrier to requiring ASNs from all suppliers? The perceived challenges and costs of connecting suppliers was cited as the top obstacle.

There are other higher-level information flows that will never be reached if the basic transactions are not made electronic. They include forecast information, inventory positions, delivery status updates, “available to promise” and many others.

It is important to understand and analyze not only the direct costs of manual methods for the most basic transactions, but the opportunity cost of never being able to move on to more sophisticated electronic information flows as well.

Automating Basic Transactions is Necessary to Move to Improving More Sophisticated Supply Chain Processes Over Time



Integration Options

While EDI remains the integration method of choice for most connections between larger companies, EDI is expensive to set up and sometimes to maintain, and as a result is often beyond the financial and technical capabilities of many small and even mid-sized trading partners.

As **Jim Flannery** of Procter & Gamble noted recently to Supply Chain Digest, there is always a cost to integration, and an ROI. Traditional EDI works very well for some, but may not produce ROI for the hub company or its trading partners in many B2B relationships.

So how can these transactions be automated without EDI? Fortunately, there are a growing number of affordable approaches (see graphic on page 4). These include:

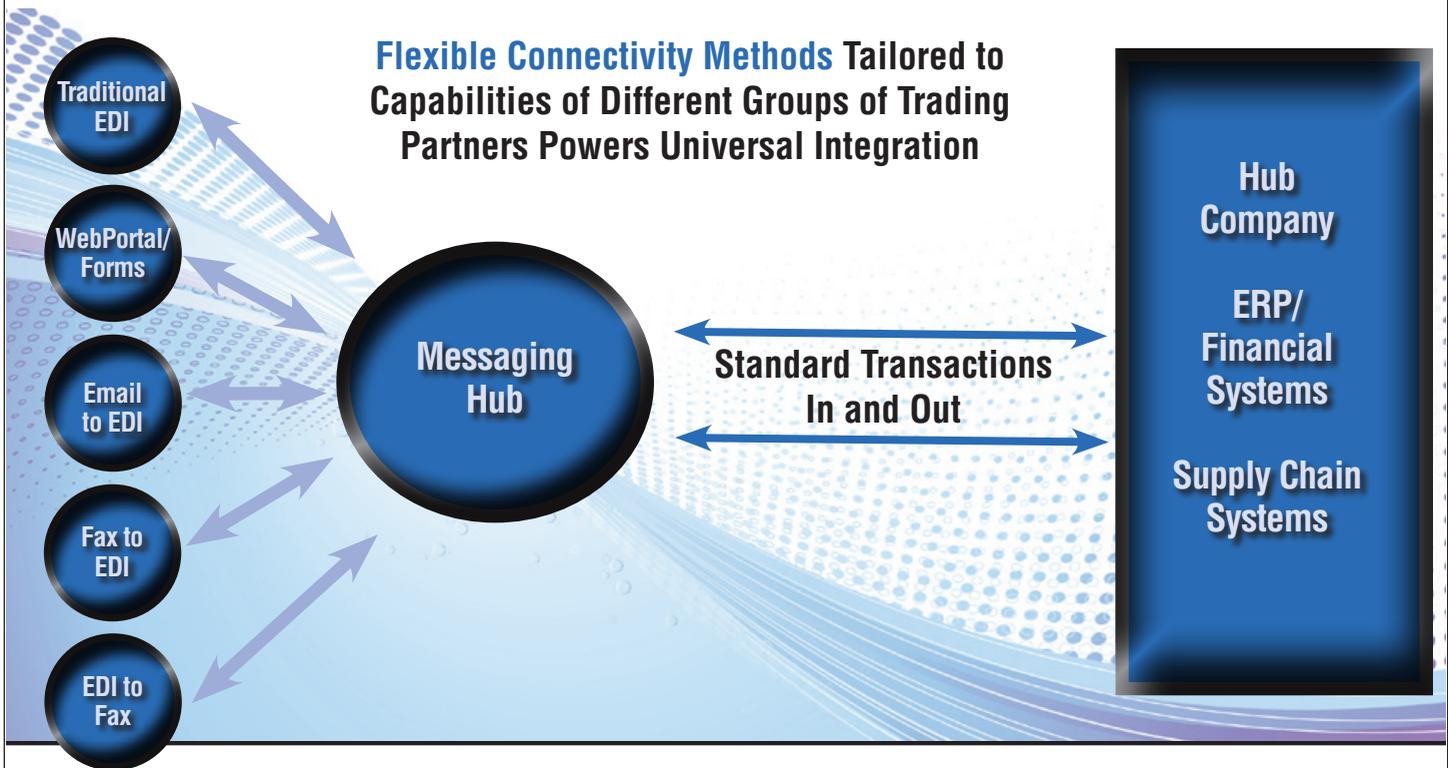
- **Supplier Portals:** A web-based entry point for trading partners that contains a variety of capabilities and electronic forms. Over the last decade, commercial offerings have become much easier to deploy, and offer greater flexibility, such as supporting web forms with sophisticated “rules engines” that enable the portal applications to react to the specifics of the interaction and business content sent or delivered.

Trading partners themselves generally have the ability to either manually enter the data into the portal or to integrate their own systems with the portal transactions, which may be easier for them than traditional EDI.

The reverse is also possible, of course, enabling hub companies to communicate and display data, such as a production schedule and its requirements for inventory to suppliers, or transportation routing based on expected shipment information communicated earlier by a supplier through the portal.

- **Email to EDI:** Some technology providers offer the ability for a trading partner to simply email a structured document, as a spreadsheet, and have that email converted into an electronic message

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structure, typically but not necessarily an EDI message format.

- **Fax to EDI:** Similar to email, structured fax documents can be “read” as they are received and converted to EDI or other message formats.
- **EDI to Fax/pdf:** The reverse process is also possible, enabling companies to take electronic messages and convert them into any number of formats, such as pdf documents, that can be emailed or faxed to trading partners.

But how does a company manage these multiple potential approaches to integration without a certain level of confusion? The answer is a “messaging hub” that maintains a set of transaction standards through which all inbound or outbound “documents” flow, regardless of the format or approach taken for an individual trading partner.

The message hub not only provides a central platform for B2B integration regardless of the sophistication of

the underlying communication interface (from EDI to fax conversion), it manages deliverability, enables 24 x 7 communications, and provides a variety of other integration and collaboration services. An important capability relates to “information deficiency,” where the message hub looks for invalid or missing data and communicates this deficiency to the sender and/or the Hub company.

Benefits of the Universal Integration Platform

Companies that embrace a program of universal connectivity to trading partners report a variety of benefits. Those include:

- Reduction in labor and related costs from receiving or sending documents manually
- Ability to create more standardized processes around the globe
- Improved supply chain visibility and enhanced ability to avoid/mitigate supply chain exceptions

- Reduced supply chain variability
- Having a technology platform on which to drive continuous supply chain improvement
- Ability to on-board and connect new trading partners, often even temporary ones, more quickly

These operational and process benefits will inevitably translate into related improvements in core operational and financial metrics, such as reduction in cost of goods sold, improved customer service, lower inventory, reduced cycle times, etc.

Action Steps

We believe it is important for many companies to reconsider their partner integration strategies and tools and make near universal connectivity a clear strategic priority.

That act alone will have a significant effect on the direction and success of a company's supply chain. Intent must precede action, and that may require breaking through existing paradigms of what level of connectivity is acceptable or indeed necessary to maintain a world-class supply chain.

Of course, especially in today's environment, a strong ROI is essential for any initiative, but we believe the variety of benefits available from more comprehensive connectivity will demonstrate a strong payback in hard dollars and substantial additional benefits in terms of improved visibility, reduced latency, higher levels of accuracy, etc.

Just as importantly, such connectivity initiatives need to be positioned as **highly strategic** programs

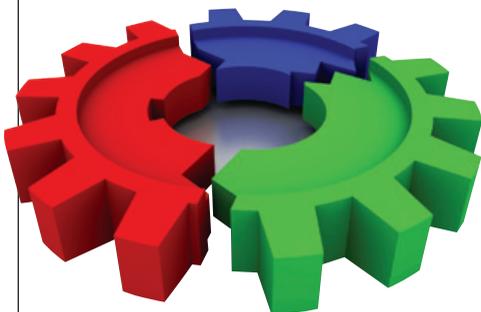
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that are essential for companies to drive continuous improvement over time, and to be truly global in their approach to supply chain. Companies will find partial connectivity to its trading partners is a very unstable platform upon which to plan and execute their supply chain strategies.

While such capabilities can be developed in-house, that option today is increasingly less attractive, as the sophistication and robustness of commercial applications have reached very high levels.

To explore the potential and develop an action plan, we recommend the following steps:

- Catalog at a medium level of granularity where you stand today. What percent of your total trading partners, by type (suppliers, customers, service providers), are connected electronically to your company, and for what percent of total transactions? The results may be eye opening.
- Assess the value potential for enhanced and even universal connectivity to trading partners, both in terms of immediate payback and as a platform for continuous improvement. Consider partnering with a consultant or technology provider with experience in such an assessment.
- Use an electronic survey to assess the technology enablement and readiness of all trading partners to determine which trading partners are not connected at all, or have capabilities that match your needs but are not yet connected. Some companies will segment their trading partner populations into four categories, for example, Fully Capable, Partially Capable, Challenged, and Not Connected.



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- Look for “pockets of paper” or other high impact opportunities in your company for significant ROI from transaction automation.
- Select a technology partner, with key considerations for most companies being portal capabilities, having a number of integration methods available for the different tiers of trading partner capabilities, and ability to provide global reach.
- Develop a clear roll-out plan that is aggressive but realistic, recognizing that “change management” issues both internally and with trading partners are almost always the largest barrier to success. The most successful programs place a high value on training for suppliers (webinars, videos, documents, etc.)

The key is to get on the path. Once companies commit to universal connectivity, they later simply can't imagine going back.

Case Study Shows the Potential for Universal Connectivity

Huhtamaki Americas is a specialty packaging company offering food service and retail tableware products, consumer packaging, and packaging machinery. A division of Huhtamäki Oyj, the company has 18 manufacturing and distribution facilities in North and South America.

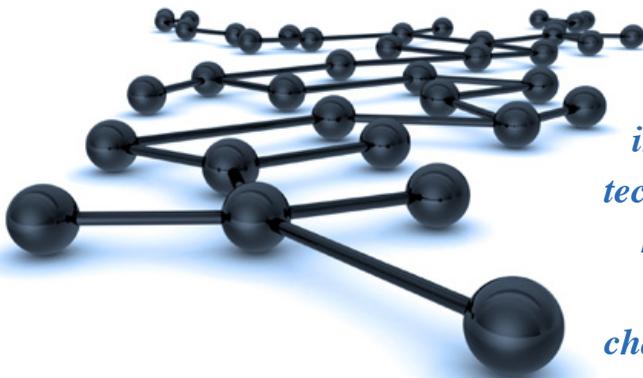
While Huhtamaki's largest customers are connected via EDI, many mid-sized and smaller firms are not, especially in the food services area of the business, which has hundreds of smaller “mom and pop” type accounts. Huhtamaki realized that the manual nature of these connections, which generally involved faxing documents back and forth, were a hit to productivity and a source of errors and delays.

Initially, Huhtamaki used a service bureau that received faxes from suppliers and key-entered the data into EDI transaction templates. While an improvement over manually handling fax communications internally, the process still left lots of room for errors and delays in getting information into the company's enterprise systems.

Huhtamaki decided a more automated solution was required. Several years ago, it made the switch to a new Fax to EDI service provider (Sterling Commerce) through which faxed documents sent from non-EDI customers are automatically scanned in and converted to the appropriate EDI transactions.

As with the previous service, the new system of course also reduces Huhtamaki's internal processing costs, but has substantial advantages over the initial service bureau approach. The company says the new system has:

- Substantially reduced data errors
- Cut transaction processing time to one hour from six



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- As a result, reduced late shipments versus customer expectations because orders no longer miss cut off times
- Reduced the time customer service reps have to spend interacting with fax-based customers

Summary

Partial or incomplete trading partner connectivity, especially with suppliers and supply chain service providers, is swiftly moving from status quo in most companies to a source of competitive disadvantage versus those that have embraced a different strategy.

In a competitive landscape in which one supply chain network competes with another, having a sizable portion of that network disconnected and interfaced via manual methods when many options exist to automate those interfaces will be an increasing drag on supply chain performance.

The real key lies in **strategic intent** - when the enterprise finally understands the value of universal

integration, and proceeds with action towards realization of that end state.

Key in turn to having the company embrace such a strategy is not only recognizing the immediate costs and opportunities from manual transactions and lack of connectivity with small and medium trading partners, but that the company's ability to drive continuous improvement into its supply chain will in the end be severely hampered by having only a portion of the supply chain connected, even if the majority of total transactions are currently electronic.

The "perfect" supply chain cannot be reached given the errors, delays and large indirect costs of manual interfaces. With the technology to support universal connectivity here and now very mature, with a strong payback for most companies, it is time to for someone within each company to begin an assessment of what the future supply chain might look like with full trading partner connectivity.

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