B2B Integration
Business Value and Adoption Trends

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Foreword

Today’s businesses can no longer be successful solely operating within their own four walls. The modern, 21st century corporation is critically dependent upon a network of business partners to function. Consider the typical supply chain. Contract manufacturers build the products in low-cost geographies. Freight forwarders, customs brokers, third-party logistics providers and transportation carriers move the goods to the point of consumption. Distributors, brokers and resellers provide critical sales channels to end-customers.

Even administrative functions are increasingly critically dependent upon external entities as the outsourcing trend continues to grow. Systems integrators manage IT applications. Advertising agencies manage branding and marketing strategies. Management consultants provide strategic planning. Business Process Outsourcing firms assume ownership over accounts payable, customer service and human resource functions.

To operate with today’s highly distributed business model requires real-time connectivity to your network of business partners. Without visibility into the locations of inventory, the forecasts of demand, the availability of supply and the status of payments, companies cannot make decisions related to day-to-day operations.

Yet despite this critical need for business-to-business (B2B) connectivity, the interactions between companies and their partners remain highly inefficient. Over 50% of the information exchanged between business partners travels over fax, email and phone rather than flowing directly between business applications via B2B integration technologies such as EDI and XML.

The lack of adoption of B2B technologies is not due to a shortage of options and approaches for connectivity. B2B offerings exist to support a wide variety of transaction volumes and price points. Companies of all sizes and across all industries should, in fact, be able to connect with their partners throughout the supply chain.

Of course, B2B integration also presents a unique set of challenges that does not exist with other types of technologies. Some companies, especially smaller ones, may believe that they lack the budget, resources or expertise to do business electronically. And each company takes a different view on how it chooses to exchange data based upon the security policies and architectural preferences of its IT organization.

An awareness and understanding of the adoption rates for B2B integration and the results of those efforts may provide companies with information they need to make decisions about their own B2B environments. With that in mind, we collaborated with the Stanford Global Supply Chain Management Forum on a research study to obtain benchmark data from companies that represent a variety of industries, geographies, annual revenue, and IT budgets. We believe you will find this data useful in evaluating your go-forward strategy.
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Executive Summary

Business-to-Business (B2B) electronic commerce solutions were adopted by companies as early as the late 1980s due to a growing need for more efficient inter-company information exchange and communication coordination. Early B2B solutions were usually implemented and maintained by in-house IT teams. However, the expansion of business networks, and the increasing complexity of managing them, led a growing number of companies to outsource some B2B operations to external service providers. Over the last decade, the business environment has become more demanding, and supply chains have become increasingly distributed and more complex. Electronically connecting and collaborating with trading partners is vital to thriving in this environment. Consequently, a growing number of companies have taken steps to improve their electronic communication capabilities and B2B collaboration. Some of the resulting benefits of such B2B integration programs include improved operational efficiencies, reduced costs, and increased customer satisfaction. With new forms of technological innovations and an increasing need by many organizations to automate and improve more of their B2B processes, demand for B2B solutions is expected to further increase in the coming years.

Given the new developments in B2B integration technologies in recent years, and the growing interest in B2B managed services, the Stanford Global Supply Chain Management Forum, in collaboration with OpenText (formerly GXS), initiated a research study in 2012. The goal of this study was to gain insights into the latest trends and perceived business value associated with B2B integration technologies and B2B managed services. The study was based on a survey distributed to current users of B2B integration technologies and B2B managed services. The results of the study are summarized in two separate documents. This second report focuses on the value and adoption trends of B2B integration programs in general, while a separate report looks at the business value and adoption rates of B2B managed services.

In total, 92 people from 75 companies completed the survey. The primary industry of the participating companies varied (CPG, financial services, logistics, manufacturing, retail, and other) as well as their annual revenue (from under $100 million to more than $5 billion), and their geographic base (North America, EMEA, and ASPAC). The following are some insights that emerge from analyzing the data provided by the participants regarding their B2B integration programs:

**Budgetary trends:** Half of the companies had an annual budget for B2B integration technologies of $1 million or more; often times—but not always—smaller companies tended to have smaller B2B budgets. For most companies (66 percent), their B2B integration budget represented 5 percent or less of their total IT budget. A larger portion of the small- and medium-sized companies in this group spent less than 1 percent of their IT budget on B2B, while a larger portion of very large companies spent 1 to 5 percent of their IT budget on B2B. The majority of companies (68 percent) saw their B2B budget increasing over the past three years, often by up to 10 percent. Sixty-two percent of companies expected their B2B budget to increase over the next three years, with most of them estimating an increase of up to 10 percent. Very few companies (7 percent) reduced their B2B budget over the past three years or expected it to decline in the near future. When considering the geographic location of participants, EMEA-based companies tended to have a larger annual budget dedicated to B2B integration technologies, and on average their B2B budget represented a larger portion of their total IT budget. In addition, a larger portion of them increased their B2B budget over the past three years and/or anticipated their budget to increase over the next three years.

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1 B2B managed services provides technical B2B infrastructure, including the people and processes
3 Some of the participants completed only a portion of the survey. Their responses were still taken into consideration in the data analysis.
4 CPG = Consumer Packaged Goods
5 EMEA = Europe, Middle East, and Africa
6 ASPAC = Asia Pacific
• **B2B transactions and connections**: All but a very small fraction of participating companies expected their B2B transaction volume and number of connections to increase over the next three years, with the majority of them expecting an increase of up to 25 percent in B2B transactions and number of connections (54 and 65 percent of companies, respectively). Close to half of participating companies (40-50 percent) currently exchange transactions electronically with less than 20 percent of their customers, suppliers, or other business partners. At the other end of the spectrum, 7-10 percent of companies exchange transactions electronically with 81-100 percent of their customers, suppliers or other business partners. Companies often reported different strategies for each type of trading partner, with only 28 percent of them exchanging transactions electronically with the same proportion of their customers, suppliers and other partners. Most companies used a combination of structured messages (such as EDI, XML or SWIFT) and web portals for their B2B transactions.

• **Process efficiency improvements**: The majority of companies for which these questions were relevant saw an improvement in process efficiency as measured by the processing costs of orders and invoices received electronically compared to those received in other formats, as well as the costs to manage incoming shipments received at the companies’ distribution centers, stores or manufacturing plants. The percent reduction in cost varied widely among the participating companies.

• **Best-in-class companies**: Best-in-class companies were defined as those that achieved more than 50 percent cost reduction in at least one of the potential process efficiencies listed in the survey. On average, these companies had a larger B2B budget, which also represented a larger portion of their entire IT budget. In addition, they expected a higher increase in B2B volumes and connections, and exchanged transactions electronically with a larger portion of most types of business partners. These companies also exchanged a higher portion of their transactions using structured messages.

• **Future plans**: When considering the companies’ plans for future use of B2B e-commerce, 96 percent of participants plan to increase the number of customers they trade with electronically, the number of suppliers they trade with electronically, or the number of business processes they support. Of them, 59 percent plan to expand their use of B2B e-commerce in all three areas.
1. Introduction

In the late 1980s, Business-to-Business (B2B) electronic commerce solutions were adopted by many companies due to a growing need for more efficient inter-company information exchange and communication coordination. Early B2B solutions focused on replacing manual business processes with automated alternatives that could be shared electronically between the trading partners, while solutions that were developed later included additional features and capabilities. In addition, while early B2B solutions were usually implemented and maintained by in-house IT teams, the expansion of business networks both physically and technologically, and the increasing complexity of managing them, led a growing number of companies to outsource a portion of their B2B operations to external service providers to streamline their supply chain operations and improve overall business performance.

Over the last decade, the business environment has become more demanding with highly competitive local demand and increasingly global supply. Such an environment requires faster and more automated processes to stay competitive. In addition, most supply chains have become increasingly distributed, where processes between business partners on both the supply and the demand sides have grown more complex. Electronically connecting and collaborating with suppliers, customers and other critical parties such as transportation carriers has become vital to thriving in this demanding environment.

A growing number of companies have taken note of the potential business value of B2B collaboration in this highly competitive and distributed marketplace, and have taken steps to improve electronic communication capabilities and B2B collaboration. As early as 2005, a Yankee Group analysis estimated that more than 90 percent of Fortune 500 companies were involved in B2B and trading community activities. A study conducted by Aberdeen Group two years later, based on benchmark data from more than 300 companies, showed that the majority of these companies had increased their emphasis on customer and supplier collaboration and on creating an electronic flow of data between themselves and their business partners. More recently, a 2010 Gartner Research report took note of the increasingly complex B2B integration projects that had been implemented over the previous 10 years.

Demand for B2B solutions is expected to further increase in the coming years. The 2010 Gartner Research report predicted that in the following 10 years, IT users, driven by new forms of innovation such as cloud computing and governance, and the increasing need to automate and improve more of their B2B processes, will implement even more B2B projects than in the past. Another Gartner Research report estimated that in 2009, the overall multi-enterprise / B2B infrastructure market generated almost $2.8 billion. Driven by the increasing maturity and adoption of various related standards combined with the increasing maturity and flexibility of the integration of SaaS (Software as a Service), the B2B infrastructure market was anticipated to grow at a 9 percent CAGR through 2015.

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9 Lheureux et al., “Cloud Service Brokerages Create a New Role for Integration Service Providers,” Gartner Research, November 2010.
10 Ibid.
11 Multi-enterprise/B2B infrastructure is defined as an IT project that is composed of some combination of B2B software and B2B services that companies use to perform multi-enterprise integration with external business partners.
12 CAGR = Compound Annual Growth Rate.
Another indication to the growing importance of B2B integration programs is provided in a 2010 global survey of 819 cross-industry senior executives, which analyzed the trends in customer-supplier relationships and supply chain technology. More than 70 percent of the survey respondents expected supply chain complexity to increase over the next three years, and 88 percent of the respondents believed that having a strong, flexible B2B e-commerce program provided differentiation from competitors and was important to growing business at key accounts.14

B2B integration programs can result in a variety of benefits. For example, collaboration initiatives with customers are likely to result in administrative cost savings, 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, shorter cash-to-cash cycles, and overall increased customer satisfaction.15 B2B collaboration with suppliers is likely to reduce operating costs, and improve visibility of spending, inventory pipelines, and supplier and in-transit activity. Consequently, companies are likely to see a reduction in inventory holding costs and lower safety stock requirements.16 AMR Research17 study showed that companies using e-business more extensively to connect with their customers, suppliers, and/or other trading partners such as logistics providers, realized 37 percent shorter cash-to-cash cycle times, 19 percent lower total supply chain costs, 13 percent shorter days sales outstanding, 20 percent less raw material inventory, and/or 36 percent shorter order-to-delivery cycle times.18

Given the new developments in B2B integration technologies in recent years, and a growing interest in B2B managed services, the Stanford Global Supply Chain Management Forum, in collaboration with OpenText, initiated a research study in 2012. The goal of this new study was to gain insights as to the latest trends and business value associated with these technologies and services. The study was based on a survey distributed to current users of B2B integration technologies and B2B managed services. This report summarizes the findings of the study related to B2B integration programs. The findings related to B2B managed services have been published in a separate document.19

The remainder of the report is organized as follows: Section 2 outlines the methodology we used to conduct this study, including the questionnaire design, distribution list generation, and analysis approaches. Section 3 provides basic information on the companies that participated in the study. Section 4 summarizes the results of the data analysis related to the participants’ general B2B integration programs. Section 5 provides a high-level summary of the report.

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14 Christopher, “Enhancing Customer-Centric Supply Chains,” GXS Inc. and SCM World, October 2010
16 Ibid.
17 AMR Research was acquired by Gartner in late 2009.
2. Methodology

The study as a whole examined the business value, budgetary trends, and level of adoption of B2B integration technologies and B2B managed services. While a single survey was used to collect data, the results are summarized in two separate reports, one focused on B2B integration technologies and the second on B2B managed services. The main goals for the survey were defined as identifying and providing companies with benchmark information regarding:

- **B2B integration program:** Trends in budgetary requirements; current level of adoption and projected growth; and the realized process efficiency improvements.
- **B2B managed services program:** Main drivers for using B2B managed services; the level of adoption being achieved; and the financial and business benefits associated with this program.
- **Future:** Plans for future use of B2B e-commerce.

The survey questionnaire was designed with these goals in mind. It also asked participants for some basic company information to help with the data analysis. A copy of the questionnaire is available in the Appendix.

The survey included several types of questions. Some questions asked participants to provide their answers in the form of a percentage range, for example when estimating the percent of trading partners that exchange transactions with the company electronically, or when estimating improvements in process efficiency. Other questions, in particular those focusing on the benefits of B2B managed services, asked participants to use a Likert Scale of “Strongly Agree”, “Agree”, “Neutral”, “Disagree”, and “Strongly Disagree” to assess these benefits, as quantifying many of them can be challenging.

In parallel to designing the survey questionnaire, we compiled a list of individuals to invite to take part in the study. These people represented companies from a variety of industries and geographies. We targeted those companies that have integrated B2B e-commerce into their operations for more than a year, as companies that started using such solutions more recently may not have had enough time to realize some of their associated benefits.

A total of 92 individuals from 75 companies completed the entire survey or a portion of it. The participating companies are located in North America, EMEA and ASPAC, and represent a variety of industries including manufacturing, retail, consumer packaged goods, financial services, and logistics.

Once the data collection was completed, we proceeded with data analysis. Analysis of the data related to the companies’ overall B2B integration programs included the following:

- Analysis of all the responses combined.
- A breakdown of the responses based on such parameters as company size and geography. This analysis helped us to gain better insights as to those characteristics that may have had an impact on companies’ decisions and their realized benefits.
- A comparison between participants’ responses to different questions. This type of analysis helped us to identify potential correlations between different topics; for example, are companies that have increased their B2B budget over the past three years more likely to further increase their budget in the next three years.
- Best-in-class analysis. We looked at budgetary trends and business partner connections of best-in-class companies, which achieved a relatively high level of process efficiency improvement, to try to identify potential correlations between their strategies and the level of realized benefits.

While we analyzed the responses to each question based on a variety of parameters, only those analyses that revealed meaningful results were included in the report.

To ensure that each company is given the same weight in the aggregated results, multiple responses from a single company were combined.
3. Profile of Participating Companies

Ninety-two people from 75 companies participated in the study by completing the online survey. The following is some general information regarding the participating companies including their primary industry, size (based on annual revenue), and geographic base.

**Primary Industry**

Participants were asked to indicate their company’s industry from the following six categories: Consumer Packaged Goods (CPG), Financial Services, Logistics, Manufacturing (Auto, High Tech, General), Retail and Other. The distribution of participating companies among these categories is presented in Figure 1.

- **CPG**: 14%
- **Financial Services**: 5%
- **Logistics**: 8%
- **Manufacturing**: 13%
- **Retail**: 9%
- **Other**: 51%

About half of the participating companies are manufacturers offering a variety of product types including high tech products, automotive (vehicles and parts), healthcare products and pharmaceuticals, agriculture products, textile and apparel, pulp and paper, and energy. CPG accounts for 14 percent of all participants, while 13 percent of participants are retailers. Eight percent of participating companies provide financial services, and 5 percent are logistics companies. The “Other” category (9 percent of participants) includes service and software companies.
Annual Revenue

We used publicly available information to determine the annual revenue of the participating companies.²¹

As shown in Figure 2, the annual revenue of the participating companies ranges from under $100 million to more than $5 billion. For convenience, throughout this document we refer to the size of the participating companies as follows:

- **Small**: Companies with annual revenue of less than $100 million (purple section in Figure 2);
- **Medium**: Companies with annual revenue between $100 million and $1 billion (green section in Figure 2);
- **Large**: Companies with annual revenue of $1-5 billion (red section in Figure 2); and
- **Very Large**: Companies with annual revenue of more than $5 billion (blue section in Figure 2).

The majority of participating companies were large or very large organizations, including 47 percent of companies with more than $5 billion in annual revenue and 33 percent of companies with annual revenue of $1-5 billion. Twelve percent of companies were medium organizations, and the remaining 8 percent were small organizations with annual revenue of less than $100 million.

²¹ We were able to obtain annual revenue information for 73 of the 75 participating companies.
Geographic Base

Many of the participating companies have global operations in a variety of locations worldwide. When looking at their headquarter locations, we can see that the majority of them—55 companies, or 73 percent of all participants—are based in North America (see Figure 3). Of those, 53 companies are based in the United States and two are in Canada. Twenty-four percent of participating companies are based in EMEA, and the remaining 3 percent (two participants) are based in ASPAC.

GEOGRAPHIC LOCATION (HQ)

- 73% in N. America
- 24% in EMEA
- 3% in ASPAC

4. Overall Business-to-Business Integration Program

The following is a summary of the information survey participants shared with us regarding their B2B integration programs, including:

- **Budgetary trends**: Current annual budget for B2B integration technologies; how it changed in recent years; and how it is expected to evolve in the next few years.
- **B2B transactions**: Expected changes in transaction volume over the next few years.
- **B2B connections**: Expected changes in the number of B2B connections over the next few years; portion of business partners that exchange transactions with the company electronically; and the frequency of using structured messages.
- **Process efficiency**: Degree of efficiency improvements realized through B2B integration programs.
- **Best-in-class**: Budgetary trends and trading partner connections of best-in-class companies.
- **Future plans**: Plans for future use of B2B e-commerce.

**Budgetary Trends**

**Annual budget for B2B integration technologies**

We first asked participants to estimate their company’s total annual budget for B2B integration technologies, including personnel, hardware, software, network fees, consultants and external vendors.
As can be seen from Figure 4, 50 percent of all participating companies invested more than $1 million annually in B2B integration technologies, including close to 7 percent of companies with an annual B2B budget of more than $20 million.

Given that participating companies varied significantly in size, we wanted to examine their B2B budgets in comparison to their annual revenue. Since a relatively small number of small- and medium-sized companies participated in the study, we combined them into a single category for this analysis.

As can be seen from Figure 5, a larger portion of smaller companies invested less than $1 million in B2B integration technologies, while a smaller portion of these companies had an annual B2B budget of between $1 million and $5 million. There does not seem to be a clear rule when considering the behavior of companies with an annual B2B budget of more than $5 million.

Figure 6 provides a breakdown of the information based on the geographic base of the participating companies. Since only two companies from ASPAC participated in the study, they were omitted from this specific analysis.
Figure 6 shows that EMEA-based companies tended to have a larger budget for B2B integration technologies. Specifically, 40 percent of EMEA-based companies had an annual B2B budget of more than $2 million, compared with 32 percent of North America-based companies (red and blue sections in Figure 6).

**Portion of IT budget spent on B2B integration**

In addition to the annual budget for B2B integration, participants were also asked to estimate what percentage of their company’s entire IT budget it represented.

The majority of companies (66 percent, represented in the two left bars in Figure 7) spent 5 percent or less of their IT budget on B2B integration. For 20 percent of participants, B2B integration represented 6-10 percent of their total IT budget, and a total of 14 percent of participants spend more than 10 percent of their IT budget on B2B integration (the three green bars on the right of Figure 7).
Figure 8 provides a breakdown of the information based on the company size. Overall, a larger portion of small- and medium-sized companies spent less than 1 percent of their total IT budget on B2B integration, and a larger portion of very large companies spent between 1 and 5 percent of their IT budget on B2B integration. For B2B budgets that represent 6 percent or more of the companies’ IT budget, there does not seem to be a correlation between the companies’ size and the relative size of their B2B budget.

Figure 9 breaks down the IT budget information based on the geographic base of the participating companies.

As can be seen from Figure 9, a larger portion of North America-based companies dedicated 5 percent or less of their IT budget to B2B integration, compared with those based in EMEA (69 vs. 56 percent respectively, purple and green sections in Figure 9). At the same time, a slightly larger portion of North American companies dedicated more than 10 percent of their IT budget to B2B integration (14 percent, vs. 12 percent for EMEA companies).
Change in budget for B2B integration technologies over the past three years

The next two questions in the survey looked at trends in budgetary requirements.

The first of these two questions asked about the change in the company’s overall budget for B2B integration technologies over the past three years. As can be seen from Figure 10, the majority of companies (68 percent, represented in the three green bars on the right in Figure 10) saw some increase in budget over the past three years, with the percent increase ranging from zero to 10 percent (for 44 percent of participating companies), all the way to more than 20 percent (for 8 percent of companies). Twenty-five percent of participating companies saw no change in the budget for B2B integration technologies over the past three years, while the remaining 7 percent of companies experienced a decline in the B2B-related budget.

Figure 11 provides a breakdown of the information based on company size. Larger companies more frequently increased their budget by more than 10 percent (the percent of companies with that level of budget increase was 13, 24, and 29 percent for small-medium, large, and very large companies, respectively). At the same time, smaller companies more frequently increased their budget by up to 10 percent (the percent of companies with that level of budget increase was 54, 46, and 38 percent for small-medium, large, and very large companies, respectively).
The company size was not a major differentiator among companies that saw no change or a decline in their B2B budget over the past three years.

A breakdown of this information based on the companies’ geographic base (see Figure 12) reveals that among the participating companies, more EMEA-based companies saw an increase in their budget for B2B integration technologies over the past three years (85 percent of EMEA companies vs. 63 percent of North American companies, red and blue sections in Figure 12). At the same time, a much larger portion of North American companies saw no change in B2B budget over the past three years (31 percent of North American companies vs. 9 percent of EMEA companies).

**Forecasted change in budget for B2B integration technologies over the next three years**

In addition to change in B2B budget over the past three years, participants were also asked to estimate how their company’s B2B budget will change over the next three years to meet the changing requirements.
As can be seen from Figure 13, the majority of participating companies (62 percent, green bars in Figure 13) expected their B2B budget to increase in the next three years. Most of them (44 percent) forecasted an increase of up to 10 percent. Thirty-one percent of participating companies did not expect any change in their B2B budget over the next three years, and only 7 percent of companies expected their B2B budget to decline.

A breakdown of the data based on geography reveals that overall more EMEA-based companies anticipate an increase in their B2B budget over the next three years, compared to those companies based in North America (73 percent vs. 56 percent respectively, red and blue sections in Figure 14).

The company size did not seem to have an impact on companies’ expectations for change in their B2B budget over the next three years.

Figure 15 compares the change in B2B budget over the past three years to the forecasted change in budget over the next three years.

**FIGURE 14**
Forecasted Change in B2B Budget: Breakdown by Geography

**FIGURE 15**
Change in B2B Budget: Comparing Past Three Years vs. Next Three Years
We can identify from the Figure a certain degree of positive correlation between past and future change in B2B budget. Consider, for example, the companies that reported an increase in B2B budget over the past three years (50 companies, represented in the right pie chart in Figure 15). Of them, 75 percent expected their company’s B2B budget to further increase in the next three years, 19 percent expected the budget to remain the same, while only 6 percent of these participants expected their company’s B2B budget to decrease in the next three years. Similarly, among the participants that reported no change in B2B budget over the past three years (18 companies, represented in the middle pie chart in Figure 15), 60 percent of them expected their B2B budget to remain unchanged in the next three years. Only seven percent of companies saw their B2B budget decrease over the past three years. Among them 22 percent expected their company’s B2B budget to further decline in the next three years (see left pie chart in Figure 15), a much higher percentage compared to those companies that saw no change or an increase in B2B budget in the past three years.

**B2B Transactions**

**Expected change in transaction volume**

Participants were asked to estimate how their company’s B2B transaction volume will change over the next three years.

**FIGURE 16**

Anticipated Change in B2B Transaction Volume over the Next Three Years

As can be seen from Figure 16, all but 3 percent of participating companies expected B2B transaction volume to increase in the next few years. The majority of companies (54 percent) expected an increase of up to 25 percent, with the number of participants anticipating a higher percent increase gradually declining. Only 2 percent of participating companies expected an increase of more than 200 percent in B2B transaction volume over the next three years.
When comparing the expected change in B2B transaction volume to the forecasted change in B2B budget (see Figure 17), a certain degree of correlation can be identified, as those participants that anticipated a relatively high increase in the volume of B2B transactions also tended to anticipate a larger increase in B2B budget.

For example, of all participants who anticipated more than 50 percent increase in the volume of B2B transactions over the next three years (right pie chart in Figure 17), 37 percent expected their B2B budget to increase by more than 10 percent. In comparison, of those companies that anticipated their transaction volume to increase by 26-50 percent, only 19 percent expected their B2B budget to increase by more than 10 percent. And an even smaller portion (10 percent) of companies that expected their transaction volume to increase by 0-25 percent expected their B2B budget to increase by more than 10 percent. Of the companies that anticipated no increase in their transaction volume, none expected any increase in their B2B budget over the next three years.

**B2B Connections**

**Expected change in number of B2B connections**

When considering the anticipated change in the number of B2B connections over the next three years, the pattern of responses is very similar to the anticipated change in the volume of B2B transactions over the same period of time (see Figure 18).
Again, the majority of participating companies anticipated an increase of up to 25 percent in the number of their B2B connections, with a gradually declining number of participants expecting a higher percent increase in the number of connections. Only 4 percent of participants expected no increase in the number of B2B connections over the next three years.

Figure 19 further illustrates the high degree of correlation between the answers to these two questions. For example, 83 percent of companies that expected their number of B2B connections to increase by more than 50 percent also expected their transaction volume to increase by more than 50 percent. At the same time, 67 percent of companies that expected no increase in the number of B2B connections also anticipated no increase in their transaction volume.

Percent of business partners that exchange transactions electronically

Three questions in the survey focused on the percentage of customers, vendors/suppliers, and other business partners that currently exchange transactions electronically with the company. Figure 20 combines the responses to these three questions.

**FIGURE 19**
Anticipated Change in B2B Transaction Volume vs. Number of B2B Connections over the Next Three Years

**FIGURE 20**
Percent of Business Partners that Exchange Transactions Electronically with the Company
As can be seen from the Figure, the pattern of responses is similar across the different types of business partners: close to half of the participating companies (40-50 percent of companies, represented in the left-most group of bars in Figure 20) exchange transactions electronically with up to 20 percent of their customers, vendors, or other business partners. At the other end of the spectrum, 7-10 percent of participating companies (the right-most group of bars in Figure 20) exchange transactions electronically with 81-100 percent of their business partners.

However, as can be seen from Figure 21, each company does not necessarily follow the same strategy across all business partners. Consider for example all the companies that have 61-100 percent of their customers electronically exchange transactions with them (the right pie chart in Figure 21). Close to half of them (46 percent) exchange transactions electronically with only 0-20 percent of their vendors, while the remaining 54 percent of companies exchange transactions electronically with 61-100 percent of their vendors. In fact, only 28 percent of all participating companies reported that they exchange transactions electronically with the same proportion of all their business partners.

**Percentage of B2B transactions exchanged using structured messages**

The last question in this part of the survey asked participants to estimate the percentage of all their company’s B2B transactions that are exchanged using structured messages such as EDI, XML or SWIFT, versus being keyed into a web portal.
Overall, companies’ responses were spread across the entire range of possible choices. Slightly more than half of them (51 percent, green bars in Figure 22) estimated that 61-100 percent of their B2B transactions were exchanged using structured messages.

**Process Efficiency**

We asked participants to tell us about some of the process efficiency improvements their companies have realized by using B2B integration technologies. Companies that belong to the financial services or energy industries were excluded from this part of the survey, as these specific questions are not relevant for them. Following is a summary of the participants’ responses to this group of questions.

**Processing cost of orders received electronically compared to other order receipt formats**

The first question in this section asked participants to estimate the cost of processing an order received electronically (via EDI, XML, etc.) as compared to orders received via email, fax, phone or mail. Figure 23 summarizes the responses received, excluding the 12 percent of participating companies for which this question was not applicable. Of all companies for which this question was applicable, 53 percent saw a reduction of more than 40 percent in their order processing cost (green bars in Figure 23).
Processing cost of managing incoming shipments electronically compared to other methods

The next question asked participants to estimate the cost reduction in managing incoming shipments as a result of using ASNs and barcode/RFID labels to receive shipments into the company’s distribution centers, stores or manufacturing plants. This question was not applicable to 34 percent of participating companies. Excluding the “not applicable” responses, 48 percent saw a reduction of more than 40 percent in their cost to manage incoming shipments (green bars in Figure 24).

Processing cost of invoices received electronically compared to other invoice formats

The last question in this part of the survey asked participants to compare the cost of processing an invoice received electronically (via EDI, XML) as compared to invoices received via paper, fax, email or PDF. When excluding the “not applicable” responses that were received from 23 percent of participants, 56 percent of companies saw a reduction of more than 40 percent in their cost to manage invoices (green bars in Figure 25).
Best-in-Class

In this part of the analysis, we looked at budgetary trends and trading partner connections of best-in-class companies, which were defined as those companies that achieved more than 50 percent cost reduction in at least one of the three process efficiency improvements listed in the survey. That is, we defined best-in-class companies to be those that achieved more than 50 percent reduction in order processing cost, the cost to manage incoming shipments, and/or invoice processing cost.

A total of 38 of the 92 participants met the definition of best-in-class companies. Below is a summary of our findings:

Best-in-class companies dedicated a larger budget for B2B integration technologies

A comparison of best-in-class companies’ total estimated annual budget for B2B integration technologies compared with the annual B2B budget of all other companies reveals that on average, best-in-class companies tended to have a larger annual B2B budget. More specifically, Figure 26 shows that a higher portion of best-in-class companies had an annual B2B budget of more than $1 million (56 percent, vs. 46 percent of all other companies). Moreover, 21 percent of best-in-class companies had an annual B2B budget of more than $5 million, compared with 15 percent of all other companies.

FIGURE 26
Annual B2B Budget: Best-in-Class vs. Other Companies
Figure 27 provides a breakdown of the data based on company size.

For both large and very large companies, best-in-class companies seem to be investing more, on average, in B2B integration technologies. The difference between best-in-class and other companies is especially significant for large companies, where 47 percent of best-in-class companies had an annual B2B budget of more than $1 million, compared with 17 percent of all other companies (see two left charts in Figure 27). For very large companies, the difference between best-in-class companies and all other companies is less significant, but is still apparent, as can be seen in the two right charts in Figure 27: 77 percent of best-in-class companies vs. 73 percent of all other companies had an annual B2B budget of more than $1 million, including 33 percent of best-in-class companies that had an annual B2B budget of more than $5 million, compared with 23 percent of all other companies. Due to the relatively small number of small- and medium-sized participating companies, they were excluded from this analysis.

Best-in-class companies spent a larger portion of their total IT budget on B2B integration technologies, but this budget represented a larger portion of the companies’ total IT budget. Specifically, 43 percent of best-in-class companies spent 6 percent or more of their IT budget on B2B integration, compared with 26 percent of all other companies (see purple and yellow sections in Figure 28).
Best-in-class companies expected a higher increase in B2B volumes and connections.

An analysis of the expected B2B transaction volume over the next three years reveals that on average best-in-class companies expected a higher increase in their transaction volume. Figure 29 shows that 28 percent of best-in-class companies expected transaction volume to increase by more than 50 percent, compared with 17 percent of all other companies. An additional 28 percent of best-in-class companies, vs. 17 percent of all other companies, expected an increase of between 26-50 percent in transaction volume.

An analysis of the expected number of B2B connections over the next three years yields very similar results, as can be seen from Figure 30. Overall, 22 percent of best-in-class companies expected an increase of more than 50 percent in the number of connections, compared with 10 percent of all other companies. In addition, 18 percent of best-in-class companies, compared with 12 percent of all other companies, expected an increase of between 26-50 percent in the number of B2B connections.
Best-in-class companies exchange transactions electronically with a higher portion of customers

When looking at the percentage of customers that exchange transactions electronically with the participating companies, we see that this percentage was higher for best-in-class companies compared with all other companies. As can be seen from Figure 31, 37 percent of best-in-class companies exchanged transactions electronically with more than 60 percent of their customers, compared with 24 percent of all other companies. Similar results were obtained for most other types of business partners.

Best-in-class companies exchange a higher portion of their transactions using structured messages

Looking at the percentage of B2B transactions that were exchanged using structured messages, we see that it was higher for best-in-class companies. Specifically, 66 percent of best-in-class companies exchanged more than 60 percent of B2B transactions via structured messages, compared with 40 percent of all other companies (see Figure 32).
Future Plans

At the end of the survey we asked participants about their plans for future use of B2B e-commerce. The participants were given a list of options and were asked to select all those that apply to their organization. The three options listed in the survey were:

- Increase the number of customers we trade with electronically;
- Increase the number of suppliers we trade with electronically;
- Increase the number of business processes we support

Figure 33 summarizes the participants' responses. Eighty-three percent of participants plan to increase the number of customers they trade with electronically, 78 percent of participants plan to increase the number of suppliers they trade with electronically, and 74 percent of participants plan to increase the number of business processes they support. Only 4 percent of participants do not plan to expand the use of B2B e-commerce in any of these three areas.

As mentioned earlier, participants were asked to select all the options that apply to their organization. Figure 34 shows the percentage of participants that selected one, two, or all three of the listed options.
The 4 percent of participants who do not plan to expand the use of B2B e-commerce in any of the three listed areas were excluded from the analysis summarized in Figure 34. Of the remaining participants, 59 percent selected all three areas for future use of e-commerce, meaning that they plan to increase the number of customers and suppliers they trade with electronically, as well as the number of business processes they support. Twenty-six percent of participants plan to expand the use of e-commerce in two of these categories, and 15 percent of participants plan to expand the use of e-commerce in one of these categories.

5. Summary

An increasingly demanding business environment, combined with more complex and distributed supply chains, have led a growing number of companies to take steps to improve electronic communication capabilities and B2B collaboration. In 2012, the Stanford Global Supply Chain Management Forum, in collaboration with OpenText, launched a study to examine, among other things, the latest trends and business value associated with B2B integration programs. This report summarizes the results of this study and provides some valuable insights.

The majority of companies spent up to 5 percent of their IT budget on B2B integration. Often times, smaller companies tended to have a smaller B2B budget, and for these companies the B2B budget frequently represented a smaller percentage of their entire IT budget. Nearly all survey participants expected their B2B transaction volume, as well as their number of B2B connections, to grow over the next three years, which seem to indicate that the use of B2B e-commerce is on the rise. It is therefore not surprising that most companies saw their B2B budget increasing over the last three years, and expected a further budget increase over the next three years. EMEA-based companies seem to be investing more in B2B, as their B2B budget was on average larger than the B2B budget of North American companies, and that budget also represented a higher portion of their entire IT budget. Furthermore, more EMEA-based companies saw their budget increase in the past three years and anticipated it to increase in the next three years.

The percentage of business partners with whom companies transacted electronically varied widely between companies. Internally, companies also had often times different strategies for each type of business partner. Companies also seem to differ significantly in terms of their use of structured messages for B2B transactions.

As for the process efficiencies associated with B2B integration, while the level of improvement realized by the different companies had a high degree of variation, about half of the companies reported a cost reduction of more than 40 percent for each of the improvement areas listed in the survey. Best-in-class companies, defined as those companies that achieved a relatively high level of process efficiency improvements, dedicated on average more resources for B2B integration technologies, and also seem to be using these technologies more extensively.

Finally, when considering companies’ plans for future use of e-commerce, the vast majority plan to expand their use of B2B e-commerce in the future by increasing the number of customers they trade with electronically, the number of suppliers they trade with electronically, and/or the number of business processes they support. This may serve as another indication to the value that companies see in these technologies.
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About the Stanford Global Supply Chain Management Forum

Housed within the Stanford Graduate School of Business, the Global Supply Chain Management Forum works in partnership with academic, corporate, and nonprofit organizations to identify, research, develop, and disseminate supply chain best practices within a dynamic, global business environment. Forum membership is open to industry leaders with a common interest in advancing the state of the art in global supply chain management. Member organizations have access to a unique and high-level professional network of supply chain experts and research. To learn more about the Forum, please contact Shoshanah Cohen (cohen_shoshanah@gsb.stanford.edu).

About OpenText

OpenText enables the digital world by simplifying, transforming, and accelerating enterprise information needs, on premises or in the cloud. For more information about OpenText (NASDAQ: OTEX, TSX: OTC) visit opentext.com.

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## Appendix

### B2B e-Commerce Questionnaire

#### RESPONDENT INFORMATION

Please fill out the following information:

1. **Company Name:**

2. **BU/Division (optional):**

3. **Respondent Name:**

4. **Email address:** (required to receive a copy of the final report)

5. **Phone number (optional):**

6. **Please indicate below the primary industry for your B2B program:**
   - [ ] CPG
   - [ ] Financial Services
   - [ ] Logistics
   - [ ] Manufacturing (Auto, High Tech, General)
   - [ ] Retail
   - [ ] Other (please indicate):

#### YOUR OVERALL B2B INTEGRATION PROGRAM

1. **What is your company’s total estimated annual budget for B2B integration technologies including personnel, hardware, software, network fees, consultants and external vendors?**
   - [ ] Less than $1M
   - [ ] $1M to < $2M
   - [ ] $2M to < $5M
   - [ ] $5M to < $10M
   - [ ] $10M to < $20M
   - [ ] More than $20M

2. **What percentage of your company’s overall IT budget do you estimate is spent on B2B integration?**
   - [ ] Less than 1%
   - [ ] 1-5%
   - [ ] 6-10%
   - [ ] 11-20%
   - [ ] More than 20%

3. **How has your company’s overall budget for B2B integration technologies changed over the past three years?**
   - [ ] Increased by more than 20%
   - [ ] Increased by 11-20%
   - [ ] Increased by 0-10%
   - [ ] No Change
   - [ ] Decreased by 0-10%
   - [ ] Decreased by 11-20%
   - [ ] Decreased by more than 20%

4. **What is the forecasted growth of your company’s B2B budget to meet the changing requirements over the next three years?**
   - [ ] Increasing by more than 20%
   - [ ] Increasing by 11-20%
   - [ ] Increasing by 0-10%
   - [ ] No Change
   - [ ] Decreasing by 0-10%
   - [ ] Decreasing by 11-20%
   - [ ] Decreasing by more than 20%

5. **By what percentage do you anticipate your company’s B2B transaction volumes will change over the next three years?**
   - [ ] Increasing by more than 200%
   - [ ] Increasing by 101-200%
   - [ ] Increasing by 51-100%
   - [ ] Increasing by 26-50%
   - [ ] Increasing by 0-25%
   - [ ] Not Increasing

6. **By what percentage do you anticipate your company’s number of B2B connections will increase over the next three years?**
   - [ ] Increasing by more than 200%
   - [ ] Increasing by 101-200%
   - [ ] Increasing by 51-100%
   - [ ] Increasing by 26-50%
   - [ ] Increasing by 0-25%
   - [ ] Not Increasing
YOUR CONNECTIONS

1. What percentage of your company’s customers exchange transactions with you electronically (EDI, XML, web portals and other forms of electronic commerce)?
   - 0-20%
   - 21-40%
   - 41-60%
   - 61-80%
   - 81-100%

2. What percentage of your company’s vendors/suppliers exchange transactions with you electronically?
   - 0-20%
   - 21-40%
   - 41-60%
   - 61-80%
   - 81-100%

3. What percentage of your company’s other business partners (e.g., logistics providers, financial institutions, insurers) exchange transactions with you electronically?
   - 0-20%
   - 21-40%
   - 41-60%
   - 61-80%
   - 81-100%

4. What percentage of all your company’s B2B transactions are exchanged using structured messages such as EDI, XML or SWIFT messages (versus being keyed into a web portal)?
   - 0-20%
   - 21-40%
   - 41-60%
   - 61-80%
   - 81-100%

PROCESS EFFICIENCY IMPROVEMENTS

- If your company belongs to the Financial Services or Energy industries, please check this box and skip questions 1-3 below.

1. The cost of processing an order received electronically (via EDI, XML, etc.) as compared to orders received via email, fax, phone or mail is:
   - 0-10% lower
   - 11-20% lower
   - 21-30% lower
   - 31-40% lower
   - 41-50% lower
   - 51-60% lower
   - 61-70% lower
   - 71-80% lower
   - 81-90% lower
   - 91-100% lower
   - N/A

2. The use of ASNs and barcode/RFID labels to receive shipments into my company’s distribution centers, stores or manufacturing plants reduces our costs to manage incoming shipments (e.g., cost related to planning receiving resources, DC setup and ability to cross-dock) by:
   - 0-10% lower
   - 11-20% lower
   - 21-30% lower
   - 31-40% lower
   - 41-50% lower
   - 51-60% lower
   - 61-70% lower
   - 71-80% lower
   - 81-90% lower
   - 91-100% lower
   - N/A

3. The cost of processing an invoice received electronically (via EDI, XML) as compared to invoices received via paper, fax, email or PDF is:
   - 0-10% lower
   - 11-20% lower
   - 21-30% lower
   - 31-40% lower
   - 41-50% lower
   - 51-60% lower
   - 61-70% lower
   - 71-80% lower
   - 81-90% lower
   - 91-100% lower
   - N/A

ABOUT YOUR B2B MANAGED SERVICES PROGRAM

B2B Managed Services is the combination of outsourcing your technical B2B infrastructure and the people and processes necessary to manage your B2B operations and trading partner connections.

1. For how many years has your company been using B2B Managed Services for some or all of its B2B operations?
   - Less than 2 years
   - 2 – 4 years
   - 5 – 6 years
   - More than 6 years

2. Please indicate the geographic location(s) of your Managed Services program (select all that apply).
   - Americas
   - EMEA
   - Asia Pacific
3. What were the primary business drivers behind your company’s original decision to use B2B Managed Services?
   (Please choose top three and rank in order of importance.)
   a. ___________________________ Pending upgrade to an enterprise application (e.g., ERP, core banking system or other)
   b. ___________________________ Support global expansion into new markets
   c. ___________________________ Divestiture, merger or acquisition
   d. ___________________________ Need to reduce IT costs
   e. ___________________________ Desire to consolidate multiple B2B programs onto single platform
   f. ___________________________ Improve business process efficiency in supply chain, payment processing, etc.
   g. ___________________________ Need to replace/retire aging B2B platform with modern capabilities
   h. ___________________________ Improve customer experience (e.g., accelerate on-boarding times, offer more flexibility)
   i. ___________________________ C-Level strategy to outsource more IT functions

4. What percentage of your company’s overall B2B integration program is supported by a B2B Managed Services vendor today?
   [ ] 0-20%  [ ] 21-40%  [ ] 41-60%  [ ] 61-80%  [ ] 81-100%

5. For which trading partner categories does your company use B2B Managed Services? Check all that apply.
   [ ] Suppliers/Vendors  [ ] Customers  [ ] Logistics Service Providers  [ ] Financial Institutions  [ ] Insurers

**BENEFITS OF B2B MANAGED SERVICES**

The following section includes a list of potential benefits associated with B2B Managed Services. Please indicate whether your company has experienced these benefits, by selecting for each question one of the options: “Strongly Agree”, “Agree”, “Neutral”, “Disagree”, “Strongly Disagree” or “Not Applicable”.

**FINANCIAL**

1. The ability to replace capital expenditures for server hardware, storage devices, software licenses and maintenance fees with an ongoing monthly fee (e.g., operating expense) for B2B Managed Services is of value to my company.
   [ ] Strongly Agree  [ ] Agree  [ ] Neutral  [ ] Disagree  [ ] Strongly Disagree

2. The use of B2B Managed Services has enabled my company to reduce costs associated with performing functions such as developing maps, onboarding business partners and providing technical support.
   [ ] Strongly Agree  [ ] Agree  [ ] Neutral  [ ] Disagree  [ ] Strongly Disagree

3. Which of the following best describes the value of B2B Managed Services for your company:
   [ ] Decreased cost with Increased value  [ ] Same cost with Increased value
   [ ] Increased cost with Increased value  [ ] Decreased cost with Decreased value

4. After switching to B2B Managed Services my company was able to redeploy some of our IT staff to other projects or roles.
   [ ] Strongly Agree  [ ] Agree  [ ] Neutral  [ ] Disagree  [ ] Strongly Disagree

5. Planning for the B2B budget and resources has improved due to the predictability of our B2B Managed Services costs (e.g., predictable monthly payment to external B2B Managed Services providers).
   [ ] Strongly Agree  [ ] Agree  [ ] Neutral  [ ] Disagree  [ ] Strongly Disagree

**TRADING COMMUNITY MANAGEMENT AND SUPPORT**

1. Use of B2B Managed Services has improved the level of local languages, standards and regulations support for business partners located in other countries.
   [ ] Strongly Agree  [ ] Agree  [ ] Neutral  [ ] Disagree  [ ] Strongly Disagree
☑ If your company’s use of B2B Managed Services does not involve integration with customers, please check this box and skip questions 2-4 below.

2. The efficiency of onboarding new customers has been improved with B2B Managed Services.
   ☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

3. With B2B Managed Services we are better able to meet and respond in a timely manner to changes in our customers’ requirements.
   ☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

4. Our customers are finding it easier to do business with us.
   ☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

FUTURE

1. Which of the following describes your plans for future use of B2B e-commerce? Please check all that apply.
   a. Increase the number of customers we trade with electronically
   b. Increase the number of suppliers we trade with electronically
   c. Increase the number of business processes we support – e.g., add electronic invoices, add advance ship notices, add regulatory compliance capabilities, add data quality business rules
   d. None of the above