IDC

Next-Generation B2B Integration Enables a Digital-First, Resilient Supply Chain

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IDC Opinion/Executive Summary

The past three years have been tough on supply chains. Disruptions of differing scale, duration, and complexity have exposed numerous "cracks" across the breadth of operational processes and revealed a disturbing lack of resiliency in many key areas of the supply chain. While digital tools and capabilities are not the sole remedy for a lack of resiliency, there is mounting evidence that companies that are more progressed in their digital journey outperform less-progressed competitors in both revenue and profit performance.

Over the last couple of years, IDC has heard a familiar refrain from manufacturers and retailers: "*We were working on the right digital capabilities in the supply chain; we just weren't doing it quickly enough.*" Further, in the IDC's *Worldwide Supply Chain Survey*, 2022, when asked about the current gaps that will prove to be the most problematic in the future if not addressed, companies most frequently cited a lack of visibility and resiliency to see changes in time to react effectively. Yet, as this paper will argue, the maturity of the supply chain toward a digital-first, resilient supply chain remains incomplete, the journey unfinished, with a sizable percentage of companies far less progressed than we might have anticipated by now. According to IDC's *Supply Chain Resiliency MaturityScape Benchmark Survey*, 2022, less than a quarter of supply chains are in the two most mature stages.

It has been the view of IDC for some time now that business-to-business (B2B) integration represents the backbone of the supply chain. As this paper will explore, the automation of various B2B processes and the documents that underpin those processes are both ubiquitous and significant drivers of overall supply chain performance. In the survey completed specifically for this report, 80% of respondent companies said, on average, that the digitization of B2B documents like advanced shipment notices, invoices, and customs documents has improved their supply chain. In a supply chain world increasingly intolerant of latency, where speed and visibility are paramount, manual processes and paper-based document exchanges simply are not adequate anymore.

Digital B2B integration capabilities and progressing maturity align with top business priorities of reduced costs (both operational and logistics), faster time to market, improved data quality/accuracy, and progressive visibility. Indeed, the focus on scalable analytics and artificial intelligence (AI) tools doesn't get the supply chain very far if the data is not timely and accurate. Ultimately, the challenge for most companies is to decide how to focus their resiliency efforts and where those efforts will pay off most materially.
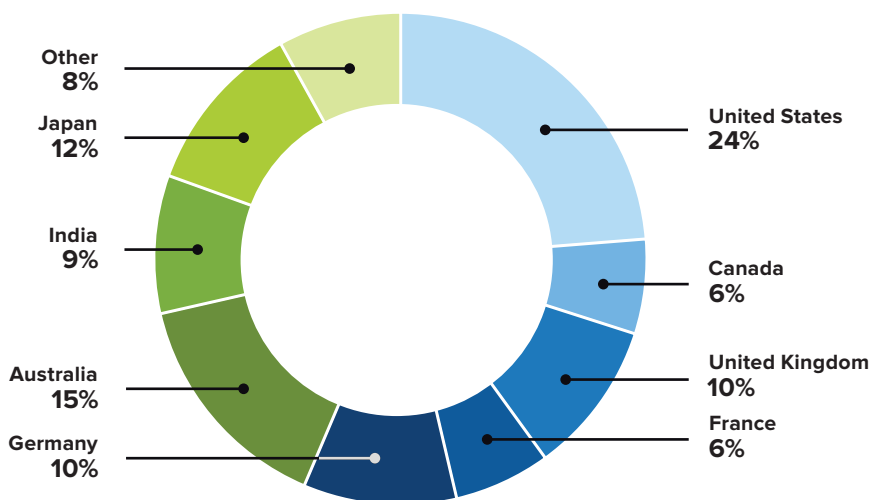
In This White Paper/Methodology

This IDC white paper, sponsored by OpenText, explores the digital transformation journey for a broad range of companies and showcases how modern, automated B2B integration capabilities enable the digital supply chain necessary to support a resilient business. The research hypothesis is that digital transformation must affect the way that supply chains are run, from both an IT and a business process perspective. The conclusions and recommendations in this research paper are based on IDC knowledge and prior survey work as well as a recent survey conducted exclusively to test the research hypothesis.

Survey Demographics

The survey, sponsored by OpenText, was conducted in the third quarter of 2022 and included 811 respondents from the manufacturing, life sciences, and retail industries across 10 countries within North America, Western Europe, and Asia/Pacific (APAC). The splits by country are illustrated in **Figure 1**. Target sample sizes were 70 respondents for all countries except the United States, which had 170.

FIGURE 1
Country Demographics
(% of respondents)

Other
8%

Japan
12%

India
9%

Australia
15%

Germany
10%

United States
24%

Canada
6%

United Kingdom
10%

France
6%

n = 811, Source: IDC's *OpenText Supply Chain Research,* July 2022

Other key demographics include:

- Manufacturing accounted for 586 respondents, life sciences 89, and retail the remaining 136.

- Across manufacturing, respondents ranged across multiple subsegments, including discrete and process, high tech, and consumer packaged goods (CPG).

- One-third (33%) of the respondents were companies with revenue above US$10 billion; 67% were companies with revenue between US$1–10 billion.

- In terms of role, the respondents included CXOs and those at the vice president, director, and manager level, all of whom were familiar with their organization's supply chain strategy and operations or technology supporting the supply chain.

One important goal for the survey was to poll as broad an audience as possible to generate a rich and diverse set of results. Given the overall sample size, however, narrow data cuts may fall below statistically significant sample sizes. While this paper will mainly focus on the overall findings, we will be weaving in industry, country, or company-size insights where relevant and notable.

586 respondents accounted for in manufacturing

89 respondents accounted for in life sciences

136 respondents accounted for in retail

33% of the respondents were companies with revenue above US$10 billion

67% of the respondents were companies with revenue between US$1–10 billion

Key Findings

The survey underpinning this research report provided a wealth of data and insights for both supply chain digital transformation (DX) and supply chain restructuring. Given the central research hypothesis noted earlier, we have identified four key findings that we will explore in greater detail in this paper:

- Of the survey respondents, 78% said that digital B2B integration has improved the overall performance of their supply chains, with 40% reporting significant improvements. Key benefits include reduced costs, faster responsiveness, and higher customer satisfaction.

- Integration priorities include collaboration with suppliers, better interconnectivity of internal systems (ERP, SCM), and improved use of demand data. Barriers that slow progress include significant supply and market complexity, elongated supply chains, and lack of internal resources to manage competing priorities.

- Cloud deployment is clearly the top technology that is changing how supply chains operate, with AI second.

- Very few companies (9%) are at the most immature or the most mature stage of B2B integration supporting overall procure-to-pay/order-to-cash processes. The majority have begun to adopt some level of automation or some level of integration but have a way to go for full digital maturity.

78%
of respondents said B2B digital integration has improved the overall performance of supply chains

40%
of respondents reported significant improvements of B2B digital integration

Current Dynamics for Supply Chains and B2B Integration

In this research paper, we will argue that digital transformation and automated B2B integration is driving dramatic changes in the supply chain. Transformation efforts and digital supply chain maturity correlate highly with improved revenue and profit performance, as illustrated in **Figure 2**.

FIGURE 2
Digital Maturity Correlation with Business Performance
(% of respondents)
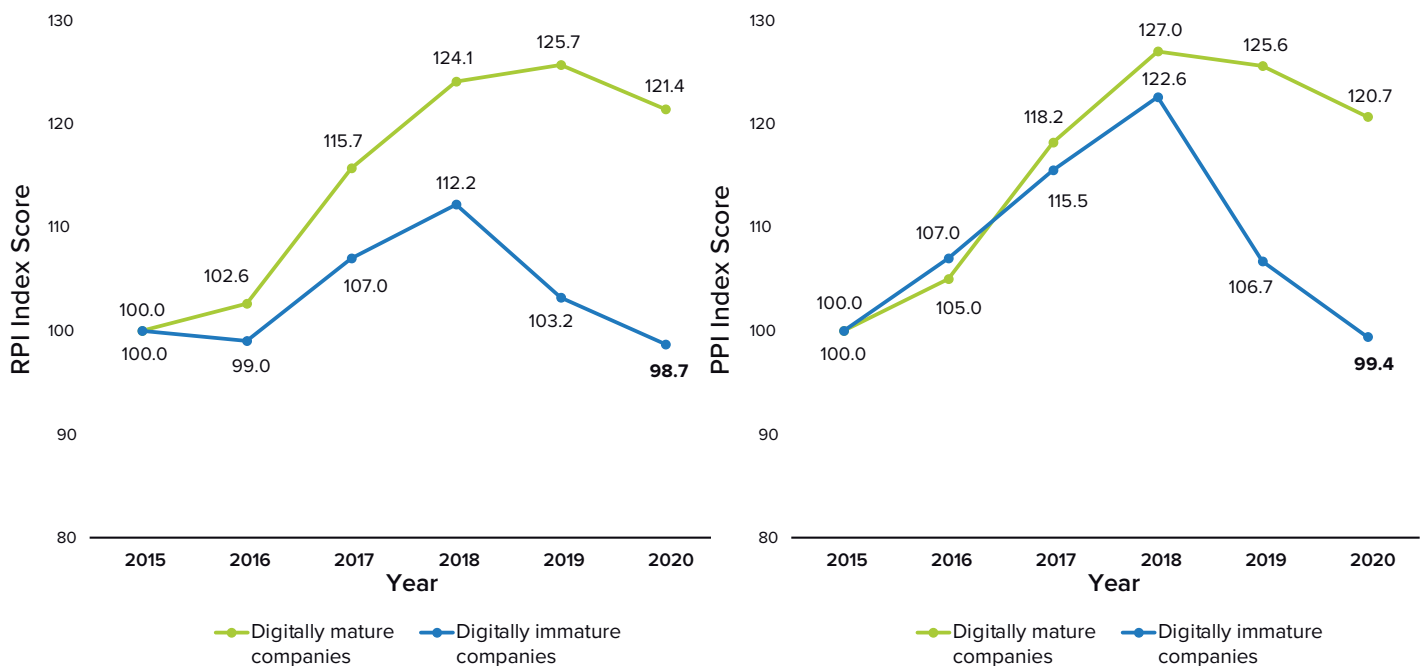
Source: IDC, 2022

Digital supply chain maturity correlates highly with improved revenue and profit performance

The supply chain has clearly emerged as a critical function for companies to realize their business aspirations, and it has become a competitive weapon in the modern digital economy. Advanced supply chain capabilities can support more efficient and effective current approaches as well as new models that translate directly to business performance that is tangible and measurable. One need look no further than the last three years and the supply chain disruptions that have created major challenges for companies, industries, and, of course, consumers. On the heels of 2021, 2022 has been yet another tough year and has brought out both the best and the worst in supply chains.

The importance of the supply chain to business success in the modern digital economy means transitioning a functional area that has traditionally been viewed as a cost center to one that must be leveraged as an "opportunity center" — and supported/funded accordingly. In addition to functional excellence, this means having the ability to collect, consume, and disseminate data-driven insights in real time both within the supply chain and to adjacent functions like sales and marketing. In IDC's *Supply Chain Survey*, 2022, one of the biggest gaps was the adoption of modern digital technologies that enable companies to adapt to changing and emerging business models. In correlation studies that IDC has done, the companies that are more progressed in their digital transformation journey tend to outperform those that are less progressed in both revenue and profit.

Over the past few years, we have characterized the supply chain as moving from older analog processes to newer digital processes. Although most new supply chain application investments are cloud-based, sizable on-premises capabilities remain that must be maintained and curated. Managing hybrid environments will be necessary for at least another decade. Although systemic supply and demand disruptions appear to be accelerating the transition to modern cloud-based applications, some temperance is required with current high inflation rates and the specter of a global economic recession. In recessionary times, companies tend to try to "make do" with what they have. While IDC does not yet expect IT investment growth in supply chain to decline, we are seeing companies attempt to better address integration challenges across existing application areas, something we have referred to as "connective tissue," or the DNA for today's modern, integrated supply chain.

Digital Transformation Maturity Assessments

The use of modern, predominantly cloud-based technology tools to enable advanced supply chain capabilities and related performance is now broadly accepted as best-in-class. Although significant legacy on-premises tools remain, the leading edge of growth is clearly to the cloud and digitally enabled tools. As we noted in **Figure 2**, page 7, this approach correlates highly with superior business performance.

There are hierarchically different ways to look at supply chain maturity. The following sections highlight two of these approaches. The IDC supply chain model looks at resiliency quite broadly across dimensions, including strategy, people/culture, key supply chain business processes, and the deployment of technology. The second, the B2B maturity model, looks at B2B integration specifically across purchase-to-pay and order-to-cash.

> " The supply chain is evolving toward being more of an opportunity center rather than a cost center"
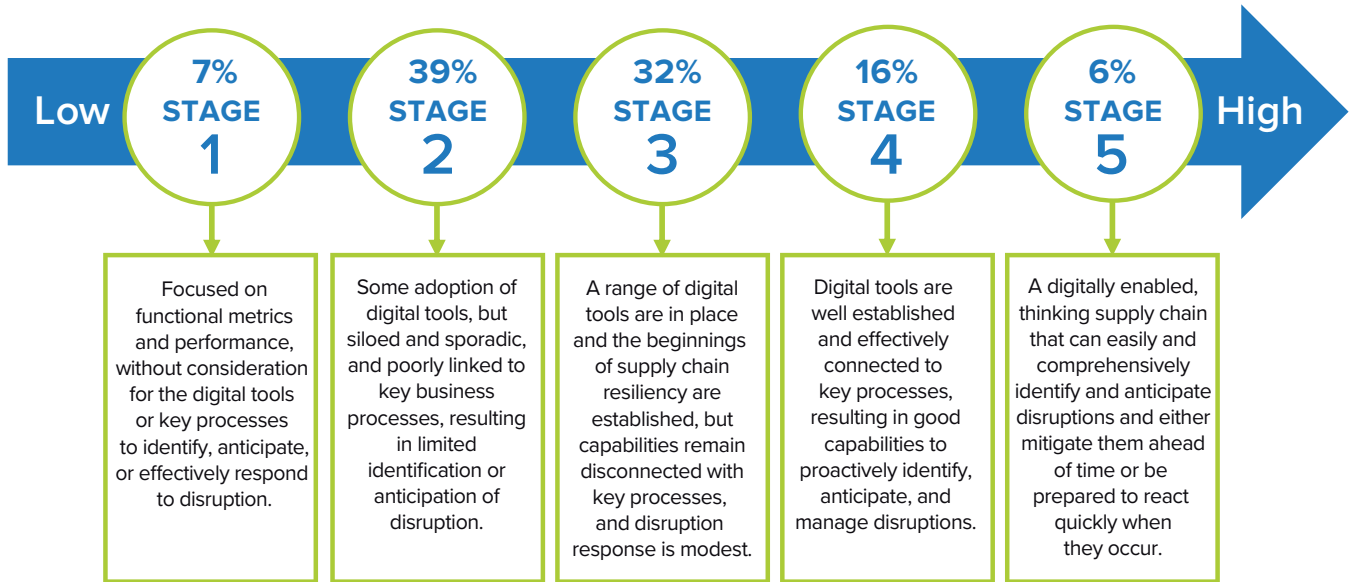
IDC Supply Chain Resiliency Model

In early 2022, IDC conducted a survey against a set of supply chain maturity indices, yielding a quantitative maturity progression across five broad stages:

- **Ad hoc:** In terms of supply chain resiliency, organizations at this stage are characterized as being "resistant" and reflect largely disconnected efforts within their supply chain. Supply chains at this stage are likely to have poor visibility capabilities and a very limited ability to be agile, and intelligence/analytics rely highly on manual spreadsheets.

- **Opportunistic:** In terms of supply chain resiliency, organizations at this stage are characterized as being "reactive" and predominantly reflect an efficiency mindset. Supply chains at this stage are likely to have some limited visibility capabilities and the ability to be agile within a constrained set of parameters, and intelligence/analytics still rely heavily on manual spreadsheets.

- **Repeatable:** In terms of supply chain resiliency, organizations at this stage are characterized as being "responsive" and represent the middle stage of resiliency. We see supply chains at this stage of maturity with modern supply chain management tools in place, though integration among those tools lags and there is still common use of manual spreadsheets.

- **Managed:** In terms of supply chain resiliency, organizations at this stage are characterized as being "predictive" and represent the initial leadership level of maturity. Supply chains at this stage are likely to have extensive visibility capabilities and the ability to be agile within a wide range of parameters. We do still see some spreadsheet use, though it is more as a complement to (rather than a poor substitute for) purpose-built supply chain tools.

- **Optimized:** In terms of supply chain resiliency, organizations at this stage are characterized as being "prescient" and represent the leadership level of maturity. Supply chains at this stage have comprehensive visibility capabilities and the ability to be agile within all parameters. We see almost no spreadsheet use, other than for occasional pilot projects.

The self-reported results of 500 companies are illustrated in **Figure 3** (next page). Only about a quarter of these organizations are at the highest levels of digital supply chain resiliency maturity, indicating there is still significant progress to be made and value to be realized by utilizing modern processes and digital technologies. Conversely, almost half of respondent organizations are at the lowest two stages of maturity, with supply chains that are either competitively neutral or a source of competitive disadvantage.

FIGURE 3

IDC Supply Chain Resiliency Maturity Model
(% of respondents)

Low	7% STAGE 1	39% STAGE 2	32% STAGE 3	16% STAGE 4	6% STAGE 5	High
	Focused on functional metrics and performance, without consideration for the digital tools or key processes to identify, anticipate, or effectively respond to disruption.	Some adoption of digital tools, but siloed and sporadic, and poorly linked to key business processes, resulting in limited identification or anticipation of disruption.	A range of digital tools are in place and the beginnings of supply chain resiliency are established, but capabilities remain disconnected with key processes, and disruption response is modest.	Digital tools are well established and effectively connected to key processes, resulting in good capabilities to proactively identify, anticipate, and manage disruptions.	A digitally enabled, thinking supply chain that can easily and comprehensively identify and anticipate disruptions and either mitigate them ahead of time or be prepared to react quickly when they occur.	

n = 500; Source: IDC's *Supply Chain Resiliency MaturityScape Benchmark,* 2022

Although supply chain resiliency is critical in today's disruptive environment, companies have often found it difficult to detail the business case fully and justify its return on investment — and to build the necessary internal capabilities. However, both the pandemic and subsequent disruptions have revealed persistent "cracks" in the supply chain and presented organizations with a unique opportunity to transform their supply chain and become truly resilient. Disruption has been occurring across the breadth of the supply chain, and the capabilities and tools necessary to better manage risk, both proactively and reactively, must span that width. The emergence of cloud platforms that integrate the disparate elements of supply, demand, and fulfillment are helping, as are the ecosystems and multi-enterprise supply chain commerce networks that many forward-looking companies are using to great effect. IDC provides a view of the worldwide multi-enterprise supply chain commerce network market in its MarketScape document *IDC MarketScape: Worldwide Multi-Enterprise Supply Chain Commerce Network 2021 Vendor Assessment* (IDC #US48202217, September 2021).

## Supply Chain B2B Maturity Model

It is the view of IDC that B2B integration maturity is a critical element of overall supply chain transformation. We would argue that supply chains that aspire to be truly resilient must have modern, integrated B2B capabilities. In the survey that underpins this paper, we asked respondents specifically about the levels of sophistication of integration capabilities to support their purchase-to-pay and order-to-cash end-to-end processes. Based on their responses, we have grouped the companies into four distinct levels.

- **Level 1:** Mostly focused on unstructured communication but slowly moving toward other portal and web-based electronic data interchange (EDI) solutions

- **Level 2:** Has a range of structured communications, such as web EDI and other portal solutions, but also has begun to adopt automated message-based integration

- **Level 3:** Mostly focused on message-based integration, with some remaining manual structured communication and the beginnings of real-time systems integration

- **Level 4:** Extensive automated real-time or message-based integration; manual communication is nonexistent

Based on the definitions above, companies self-assessed their maturity as shown in **Figure 4**.

FIGURE 4
B2B Integration Maturity
(% of respondents)

| Level 1 | Level 2 | Level 3 | Level 4 |
| 4% | 32% | 59% | 5% |
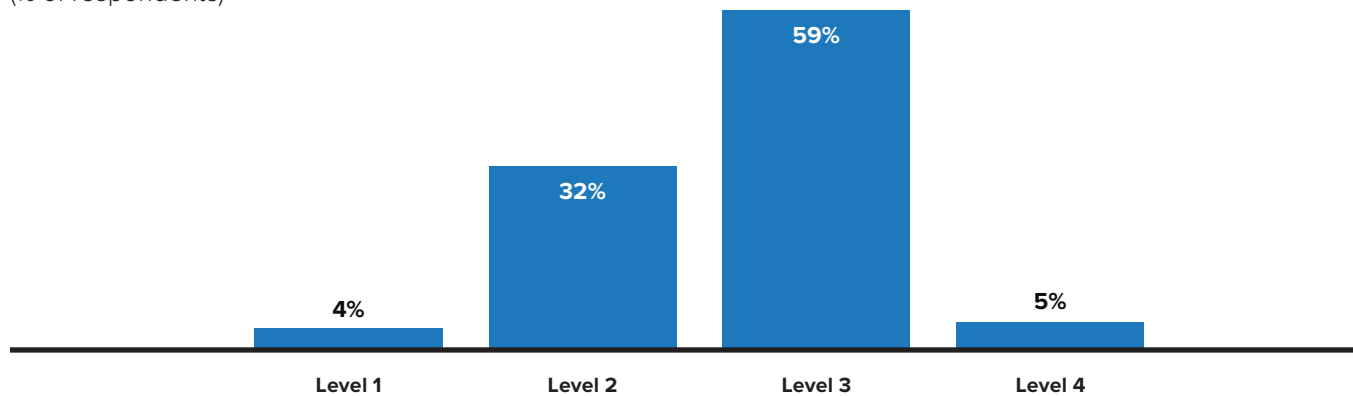
n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

Although the levels of B2B integration skew to the more mature end of the scale than the overall supply chain resiliency levels do, there remain significant levels of progress to be made for most companies, with only 5% reporting to be the most mature. As noted in **Figure 2**, page 7, the clear correlation between overall digital maturity and measurable business results means that if a lack of supply chain maturity doesn't entail leaving revenue and profits "on the table" now, it soon will.

Clear Benefits of How B2B Automation Can Drive Supply Chain Transformation

If the correlation cited in **Figure 2**, page 7, is too broad, let's focus specifically. When asked about the level of improvements made to their supply chain by automating a range of different collaboration documents, 8 out of 10 survey respondents cited some level of improvement, ranging from the cost of handling and sharing information to staffing efficiencies to improvements in key performance indicators. When asked about metrics, for example, the

8 out of 10
cited some level of improvement ranging from the cost of handling and sharing information to staffing efficiencies to improvements in KPIs

companies that said their B2B integration was automated saw, on average, a 10% reduction in order cycle times and a 7% reduction in the time taken to respond to unforeseen disruptions versus companies that remain largely manual or paper-based.

TABLE 1

B2B Integration Maturity Drives Supply Chain Benefits

Q: To the best of your knowledge, how much has sharing each of the following items of information digitally improved your organization's supply chain?

|	Significantly Improved Supply Chain Performance	Some Improvement to Supply Chain Performance	Sum of Top 2 Results
Sharing product catalog digitally	42%	42%	84%
Sharing price information digitally	44%	38%	82%
Sharing customs documents digitally	49%	31%	80%
Sharing invoices digitally	42%	36%	78%
Sharing purchase orders digitally	43%	36%	79%
Sharing advanced shipment notices digitally	44%	40%	84%

n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

Table 1 illustrates six kinds of documents and the degree to which survey respondents cited either significant or some level of improvement in their supply chain. All of these documents play a critical role in supply chain operations, but two are particularly interesting. Manufacturers frequently tell IDC that customs documents are a source of bottlenecks in their supply chain. In the In IDC's *Supply Chain Survey,* 2022, 58% of manufacturers told us that they had experienced transportation issues in 2022, with a significant number of those issues resulting from port delays. Not all were document-related, of course, but 49% of companies said that sharing customs documents digitally significantly improved supply chain performance. This will certainly help to alleviate a key area of recent supply chain disruption. The advanced shipment notice (ASN) is the other document of particular interest: A digital ASN means quick communication and confirmation of a shipment to a customer or to a customs agency. At a time when speed and agility are more important than ever, the ability to quickly know the precise status of shipments is critical.

With the current levels of supply chain complexity, global reach, and partner/supplier diversity, it is becoming abundantly clear that the old ways of doing things simply will not suffice. Even if companies are successfully using manual or limited digital tools for B2B data exchange, they are usually accomplishing this by employing significant labor resources. In an environment where labor is increasingly expensive (if you can even find the skills you need), "throwing labor at the problem" seems like a solution from a bygone time.

In **Figure 5**, we illustrate the specific benefits cited by survey respondents for B2B integration. Clearly, cost is a major focus, particularly given the prior comment about companies' using labor as a Band-Aid for poor processes and technology. We also see speed in the form of faster time to market, which is particularly poignant at a time when supply chain disruptions have put a lot of pressure on predictability, timeliness, and speed in general. Interestingly, while improved supply chain visibility remains a notable benefit, it takes a back seat to both cost- and speed-related benefits.

FIGURE 5
Digital B2B Integration Benefits by Region
(% of respondents)
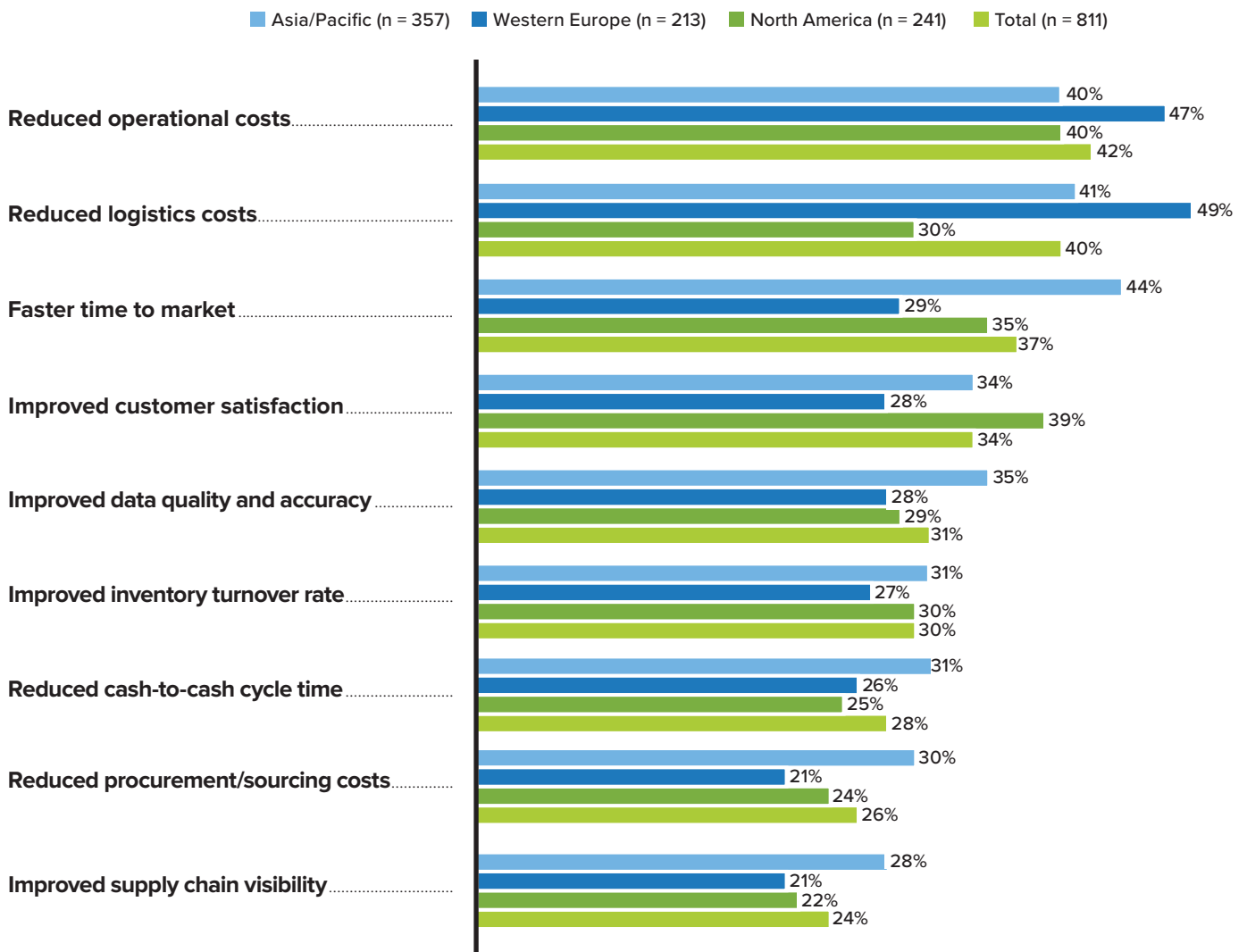
n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

We see some differences by region. Companies in Europe, the Middle East, and Africa (EMEA) tend to be more focused on operational and logistics cost reductions, driven in part by skyrocketing energy costs in that part of the world and a greater emphasis on sustainability. IDC has found that companies in EMEA are particularly receptive to engagements that offer improved efficiency and lower waste. Asia/Pacific (APAC) tends to be a bit more focused on accelerating time to market, in part because their B2B customers often have long lead times and significant fulfillment distances. Interestingly, improved customer satisfaction is a top two priority only for companies in North America. For them, customer satisfaction remains a critical priority, in part because shortages and unreliable supply have plagued this region since late 2019.

Looking at the same survey question for different industries, we see priorities that align with current problems or with emerging business opportunities. In automotive, for example, reducing operational costs is the top priority, given the complexity of assembly and the increasing reliance on suppliers for drop-in components. Automotive is also increasingly adopting more adaptive inventory models rather than traditional just-in-time inventory models, and improved data quality and accuracy is critical for this evolving approach. In the consumer packaged goods industry, where fulfillment and fulfillment costs are a big part of the cost of goods sold, we see reducing logistics costs as the top priority. In high tech, the short life cycle of new products increases pressure to get products to market (and to full production) quickly, meaning that faster time to market is their top priority.

Digital Document Sharing

B2B integration has been something of a protracted journey. Although automation is more progressed today than it was 10 years ago, there remains a significant opportunity for many companies, as noted in **Figure 4**, page 11. Even today, when asked about the percentage of collaborative operations with customers that are expected to be done in the future (three years hence) via advanced automated real-time system integration (API-based synchronous integration), the percentage is 36% for order-to-cash and only 17% for procure-to-pay. The relatively low number for the latter is somewhat surprising, though the persistence of manual direct-procurement processes across most industries is likely part of the reason. Certainly, companies expect to increasingly share procure-to-pay documents digitally, though again, not to the degree that one might anticipate in the current supply chain environment.

FIGURE 6

Plans to Share Digitally

(% of respondents)

Q: Which of the following items of information do you expect to increasingly share digitally in the next three years?

■ Asia/Pacific (n = 357)   ■ Western Europe (n = 213)   ■ North America (n = 241)   ■ Total (n = 811)

	Asia/Pacific	Western Europe	North America	Total
Purchase order	39%	46%	37%	40%
Shipping status	37%	35%	40%	37%
Invoice	34%	42%	32%	35%
Price information	32%	40%	32%	34%
Inventory inquiry	32%	30%	32%	31%
Forecast/planning schedule	31%	27%	27%	28%
Advance ship notices	28%	29%	29%	28%
Logistics service request/response	29%	24%	30%	28%
Returns	27%	23%	29%	27%
Payment remittance advice	28%	29%	22%	26%

n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

As shown in **Figure 6**, regionally, EMEA companies are the most aspirational in their expectations for sharing information digitally over the next three years. EMEA's country complexity, e-invoicing mandates, and sustainability efforts are behind this push. APAC and North America are quite similar in their views.

TABLE 2
Industry Priority Document

Industry	Document Type	Increasingly Share in 3 Years
Automotive	Purchase order	47%
Life sciences	Purchase order	45%
Retail	Purchase order	43%
Consumer packaged goods	Shipping status	41%
High tech	Forecast/planning schedule	38%
Heavy manufacturing	Purchase order	41%

n = varies by industry; Source: IDC's *OpenText Supply Chain Research,* July 2022

Quickly looking across industries (see **Table 2**), the purchase order was cited by four out of six as their highest-priority document to digitize. For CPG it was shipping status, and for high tech it was forecast/planning schedule; these are consistent with the priorities of those industries. The purchase order is the most common document, so industries looking for efficiency and waste reduction will tend to look there first. CPG is focused first and foremost on customer satisfaction, so shipping status must be the top priority. Likewise, high tech is focused on time to market and time to volume, so efficient sharing of forecast and planning schedules is paramount.

Technologies That Will Change How Supply Chains Operate

No discussion of B2B integration is complete without addressing and assessing the technologies that underpin maturity. We asked respondents about a handful of technologies, and the results are illustrated in **Figure 7**, next page. Although artificial intelligence usually sits atop the ranking, here deployment via cloud is the clear front-runner, both overall and in all regions. Smaller companies view cloud as even more important than larger ones do, which makes sense given the role cloud can play in democratizing technology and offering scalable B2B integration to companies of any size. Looking at industries specifically, the dominance of cloud persists.

The benefits cited for cloud are varied, with 49% of survey respondents saying it helps improve visibility, 45% that it improves data sharing and collaboration, and 43% that it offers more robust security and data protection. The latter point is an almost 180-degree shift from where opinions were even five years ago; cloud, and the cloud providers, have largely demonstrated that their facilities are more secure than company-owned datacenters.

4 out of 6
cited purchase order as highest-priority document to digitize

49%
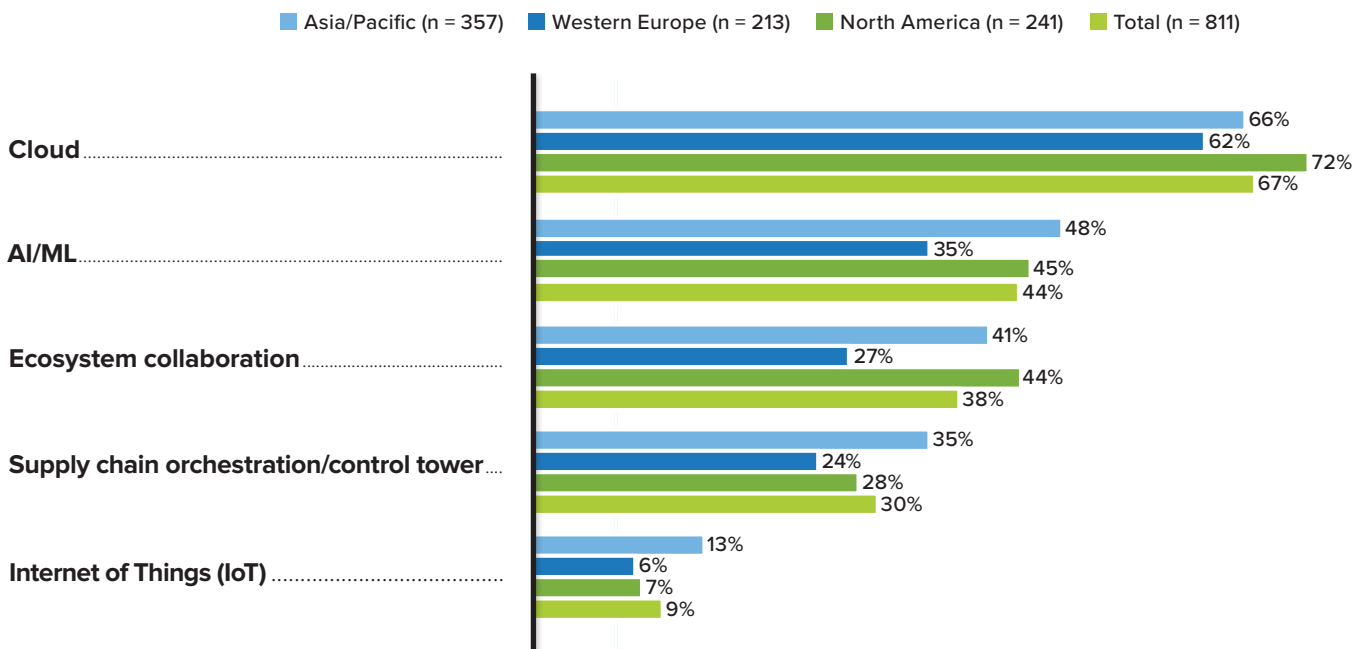of respondents said cloud helps improve visibility

Although the technological capabilities to automate B2B integration do not hinge exclusively on cloud, the reality is that almost all new application development for the supply chain is taking place in software-as-a-service (SaaS) applications.

The role for artificial intelligence and machine learning (ML), and advanced analytics more broadly, is also important to the maturity of B2B integration. While 44% of companies said they are using AI/ML to generate more predictive or prescriptive insights from across their supply chain operations, the remainder of companies are not, with 17% saying they use only basic analytics. Whether with B2B information sharing specifically or with supply chains more broadly, the ability to leverage all available data is rapidly becoming table stakes and a potential source of competitive disadvantage for companies that fall behind.

FIGURE 7
Technology Impact
(% of respondents)

Q: Which of the following technologies are most likely to drive change in the way you integrate and execute your supply chain in the next two years?

Asia/Pacific (n = 357)   Western Europe (n = 213)   North America (n = 241)   Total (n = 811)

Technology	Asia/Pacific	Western Europe	North America	Total
Cloud	66%	62%	72%	67%
AI/ML	48%	35%	45%	44%
Ecosystem collaboration	41%	27%	44%	38%
Supply chain orchestration/control tower	35%	24%	28%	30%
Internet of Things (IoT)	13%	6%	7%	9%

n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

As we close the discussion on technology, it is worth remembering the crucial importance of supply chain visibility and how limited it is for many companies. At IDC, we have noted that resiliency = visibility + intelligence/analytics + agility. Seeing what is happening is the first step to knowing how and where to respond. It is notable that in this survey, only 19% of companies reported having advanced or comprehensive visibility, and 36% said they have only basic visibility.

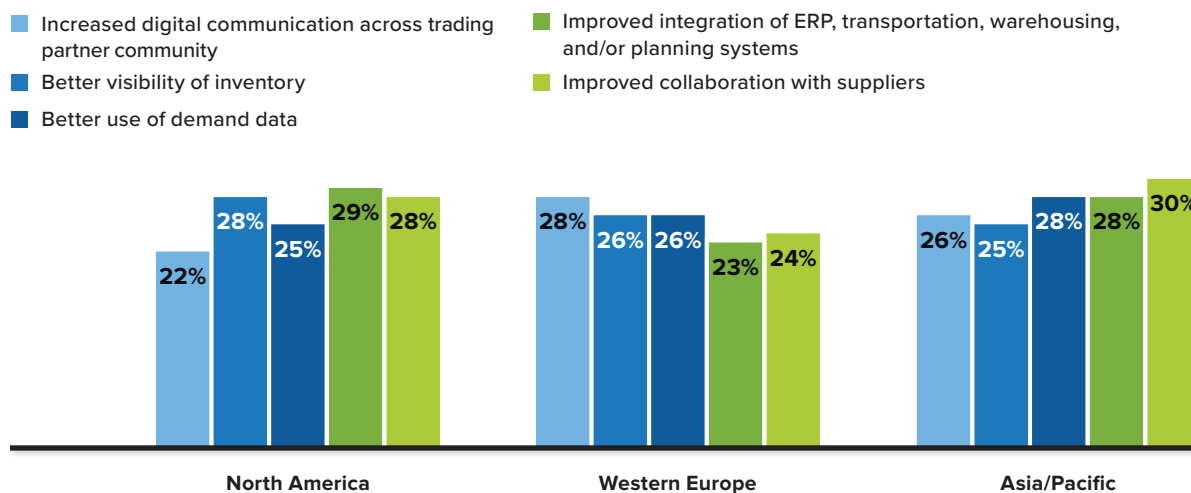resiliency = visibility + intelligence|analytics + agility

Looking Forward

Not new news, certainly, but the last few years have been tough on global supply chains. Disruption now seems a constant companion, with supply chains moving from one crisis to the next. Just as some light began to show at the end of the global pandemic tunnel, Russia invaded Ukraine and added a further layer of chaos to the supply chain. At IDC, we have observed with some frequency over the last year that disruption is not only about the pandemic — it is also about the specter of cybersecurity, severe weather caused by climate change, global shipping constraints caused by chronic labor and skills shortages, and rising input costs (inflation). The conflict in Eastern Europe seems likely to impact both cyberactivity and input costs. How must companies address these changes, and what is the future role for supply chain transformation and B2B integration?

There is little question that efforts to improve supply chain collaboration have been met with success. There is also little question that there is still significant progress to be made and capabilities to be aspired to, in both the extent to which collaboration reaches across the entire supply chain and the efficiency of that reach.

FIGURE 8

Supply Chain Transformation and B2B Integration Priorities

(% of respondents)

Q: Which of the following would you prioritize to improve integration across your supply chain operations over the next two years?

Legend:
- Increased digital communication across trading partner community
- Better visibility of inventory
- Better use of demand data
- Improved integration of ERP, transportation, warehousing, and/or planning systems
- Improved collaboration with suppliers

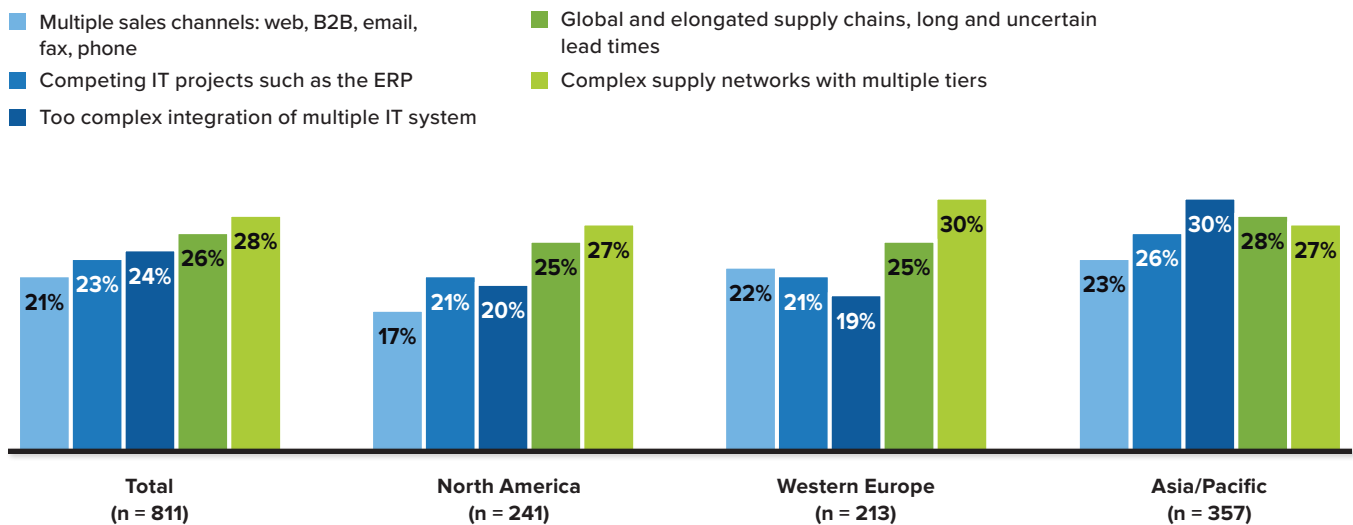|	North America	Western Europe	Asia/Pacific
Increased digital communication across trading partner community	22%	28%	26%
Better visibility of inventory	28%	26%	25%
Better use of demand data	25%	26%	28%
Improved integration of ERP, transportation, warehousing, and/or planning systems	29%	23%	28%
Improved collaboration with suppliers	28%	24%	30%

n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

Even the companies that IDC would judge to be the most effective in their industries in collaborating with suppliers freely admit that there are improvements to be made. Whether it's improving communications across trading partners or better connecting ERP systems to the edge supply chain systems, respondents to the survey identified a range of priorities. As illustrated in **Figure 8**, page 18, companies in APAC view improved collaboration with suppliers as their top priority; EMEA organizations are looking for increased digital communication across trading partner communities; and North American respondents want improved integration of ERP and supply chain systems. These priorities make sense within the context of the current environment for supply chains, where disruptions are constant and people resources are becoming harder and harder to find. Indeed, ever-growing complexity in the supply chain has companies of all sizes and in all industries looking for ways to simplify their processes and automate where appropriate. At IDC, we have noted the role of technology and automation as *task replacement* rather than *job replacemen*t; given the mechanical and often repetitive nature of B2B collaboration, it seems an ideal candidate for automation.

FIGURE 9

Supply Chain Transformation and B2B Integration Barriers
(% of respondents)

Q: What are the barriers that your organization has identified that could disrupt the improvement efforts of B2B integration?

- Multiple sales channels: web, B2B, email, fax, phone
- Competing IT projects such as the ERP
- Too complex integration of multiple IT system
- Global and elongated supply chains, long and uncertain lead times
- Complex supply networks with multiple tiers

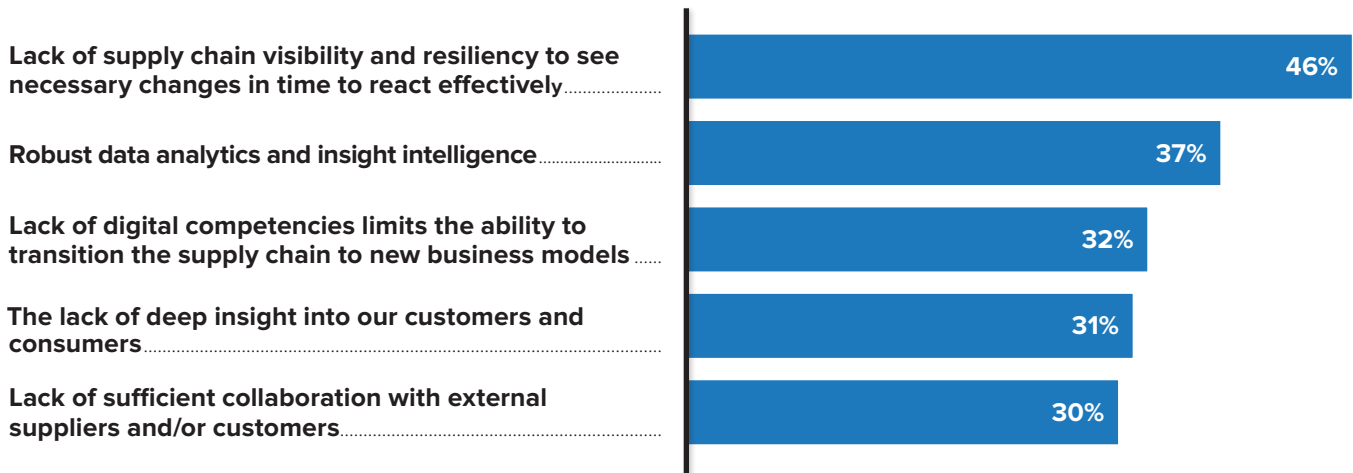|	Total (n = 811)	North America (n = 241)	Western Europe (n = 213)	Asia/Pacific (n = 357)
Multiple sales channels	21%	17%	22%	23%
Competing IT projects	23%	21%	21%	26%
Too complex integration	24%	20%	19%	30%
Global and elongated supply chains	26%	25%	25%	28%
Complex supply networks	28%	27%	30%	27%

n = 811; Source: IDC's *OpenText Supply Chain Research,* July 2022

Of course, there are barriers, as shown in **Figure 9**. Broadly, these align with the prior comment about complexity. Complexity cries out for technology and automation, yet complexity makes this same automation tricky and fraught with implementation challenges. Fortunately, companies don't have to figure this out for themselves, as there are a number of well-considered, capable vendor tools available in the marketplace.

As the global pandemic exposed, and the Russian invasion of Ukraine reinforced, the supply chain is a complex, intertwined global entity. Even some of the recent aspirations for nearshoring don't change the reality of this global reach. Proclamations of "Made in America" simply expose a broad naivete: It is not made in America,

it is assembled in America. Parts and components still come from international suppliers. While complex supply networks or the IT systems that support them are viewed as barriers to efforts to better integrate B2B processes, complexity is among the main reasons supply chains must be undaunted in progressing their efforts.

FIGURE 10
Supply Chain Future Gaps
(% of respondents)

Lack of supply chain visibility and resiliency to see necessary changes in time to react effectively	46%
Robust data analytics and insight intelligence	37%
Lack of digital competencies limits the ability to transition the supply chain to new business models	32%
The lack of deep insight into our customers and consumers	31%
Lack of sufficient collaboration with external suppliers and/or customers	30%

n = 1,109; Source: IDC's *Supply Chain Survey*, March 2022

Indeed, the responses to a question in the IDC's *Supply Chain Survey*, 2022 — in which we asked what current gaps, if not closed, would present major problems for manufacturers and retailers moving forward — show a recognition of the importance of supply chain resiliency generally, and the necessary digital competencies specifically. If we come back around to the central research hypothesis of this paper, that digital transformation must affect the way that supply chains are run from both an IT and a business process perspective, the survey responses are quite clear that that is the case.

It has been a recurring refrain over the last few years from the many companies IDC speaks with: that when considering supply chain transformation, *"we were working on the right things; we just weren't going fast enough."*

46%
of respondents say there is a lack of supply chain visibility and resiliency to see necessary changes in time to react effectively

Essential Guidance

Digital B2B integration remains aspirational for many companies. In the survey that underpins this paper, only 5% of respondent companies met the criteria for the most mature level and have completely automated their B2B backbone. A further 59% have mostly banished manual processes and paper-based documentation, but that leaves 36% with their feet firmly planted in the old ways of communicating and collaborating. As the survey results show, digital B2B integration offers substantial benefits in cost, speed, and visibility, and companies that are more progressed in their digital journeys tend to outperform companies that are lagging.

Companies across geographic regions show similar levels of B2B maturity, and while the cited benefits of automation vary slightly, there is more consensus than diversion. Organizations in EMEA and North American are slightly more cost-focused, while in APAC they are more about speed. Industry differences tend to be in terms of the priority documents to share. In automotive, life sciences, and retail, the purchase order was cited as the highest-priority document to digitize; for CPG it was shipping status, and for high tech it was forecast/planning schedule. Yet regardless of the specific document, all industries that have automated B2B integration are seeing corresponding improvements in their supply chain operations.

Supply chains now operate in an inherently more disruptive environment, that is quite clear. Although IDC has written about the need to be able to predict potential disruptions, the reality is that it is more important to be prepared for them. If companies cannot predict a disruption, they had better be prepared to respond quickly once something goes wrong. Nobody predicted that a ship would get wedged across the Suez Canal, yet some companies were able to minimize the effects by understanding the impact and responding quickly. They were able to do this because their processes were automated and they were able to quickly and easily collaborate with alternative suppliers, shortening the time it took to respond to an unexpected disruption. Indeed, this is a good example of how companies that can quickly consume and disseminate data (and the insights from that data) will outperform competitors that cannot.

As the supply chain world becomes more uncertain, companies are struggling with the complexity of supply chain integration and with competing priorities. While most would agree that a resilient supply chain must be collaborative at scale given the underlying complexity, the precise path to get there can be daunting. The good news is that there are a number of vendors offering digital B2B integration capabilities that are both willing and able to help. It is IDC's view that digital B2B integration represents the backbone of a digital-first, resilient supply chain and should be a top priority for those companies that remain encumbered by manual paper-based processes.

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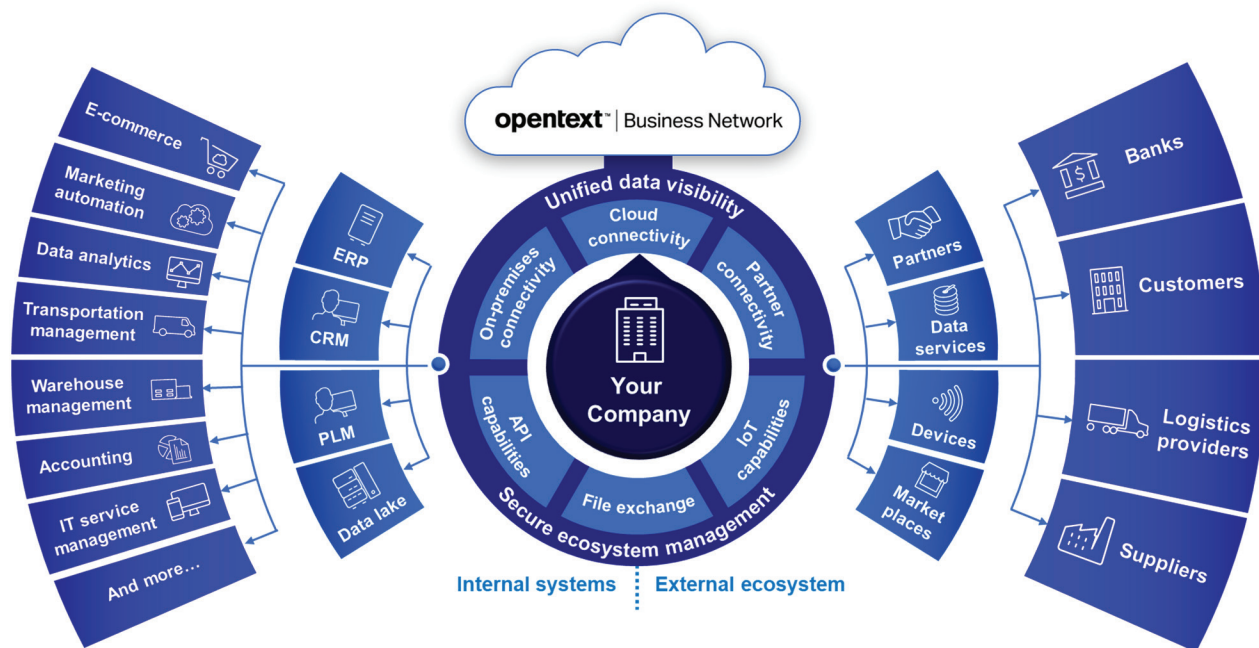
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As a program vice president, Simon Ellis is responsible for providing research, analysis, and guidance on key business and IT issues for manufacturers. He currently leads the supply chain strategies practices at IDC Manufacturing Insights, one of IDC's industry research companies that addresses the current market gap by providing fact-based research and analysis on best practices and the use of information technology to assist clients in improving their capabilities in critical process areas. Within the supply chain practice, Simon is directly responsible for the research in the supply chain planning strategies practice while also managing the supply chain execution strategies practice. These supply chain practices specialize in advising clients on supply chain network design, sales, and operations planning (S&OP), global sourcing (profitable proximity and low-cost sourcing), transportation, logistics, and more. He also supports IDC Retail Insights IT strategies practices.

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