IDC WHITE PAPER

A MODERN, CONNECTED CLOUD ENVIRONMENT OPTIMIZES SUPPLY CHAIN COLLABORATION — AN ASIA/PACIFIC PERSPECTIVE

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A Modern, Connected Cloud Environment Optimizes Supply Chain Collaboration — An Asia/Pacific Perspective

Introduction

The supply chain has traditionally been thought of as a "support" organization that works in the background to ensure that products are planned, made, and fulfilled to customers and consumers.

This is changing. The supply chain is now perceived by manufacturers and retailers as a strategic tool for business performance and growth — and is moving from a cost center to an opportunity center.

This IDC White Paper explores this growing importance and the critical role played by cloud and SaaS applications in enabling the necessary speed and resiliency for the supply chain to meet and exceed expectations and requirements:

- Digital transformation is at the center of an automated, resilient supply chain that can react and adapt to all internal and external threats, with the ability to be resilient to external disruption the most important goal. Asia/Pacific companies are discovering with the current COVID-19 pandemic that their supply chains lack resiliency, with 88% of them expecting supply disruptions to significantly affect their supply chains and, by extension, their business performance.
- The adoption of cloud and SaaS enables a multi-enterprise ecosystem where companies can exchange information and transactions far faster and more flexibly than in traditional point-to-point engagements.
- According to IDC's recent 2020 supply chain survey, 82% of global companies are taking part in these multi-enterprise ecosystem networks, with a sizable subset of those participating in more than one. Asia/Pacific companies are slightly less likely to be engaged with their ecosystem than the global average at slightly over 78%.
- The connection to product life-cycle management (PLM) and digital visualization enables seamless collaboration among supply chain and ecosystem participants in a secure and

AT A GLANCE

KEY STATS

» The number 1 change driver in supply chains for Asia/Pacific companies is "use of new technology."

» 88% of Asia/Pacific manufacturers expect supply chain disruptions to significantly affect them.

» Asia/Pacific manufacturers see higher levels of supply chain disruption as a result of COVID-19 compared with their global peers.

WHAT'S IMPORTANT

» Asia/Pacific manufacturers must catch up with their global peers in cloud adoption across most supply chain use cases.

» The focus for Asia/Pacific supply chains is end-to-end visibility and visibility in supply chain planning.

KEY TAKEAWAYS

» Work on your supply chain transformation to prepare for tomorrow because leaders are moving quickly.

» Invest in the necessary technologies and use cases to make your supply chain even more transparent, collaborative, and resilient.

effective way. 67% of global companies say their supply chain and PLM capabilities are tightly integrated, with Asia/Pacific companies even more likely to be integrated at 69%.

- The ability to be resilient and flexible to new business models means being able to quickly ingest large volumes of data and turn it into productive actions either internally or with suppliers and customers. IDC believes that none of these are possible without the extended ecosystem collaboration that a supply chain network enables, and the underlying cloud and SaaS applications and infrastructure to conduct business at the speed of the network.

In This White Paper

This IDC White Paper, sponsored by Dassault, explores the growing importance of the supply chain in supporting new business models for manufacturing companies and the critical role played by cloud and SaaS applications in enabling the necessary speed for the supply chain to meet and exceed expectations and requirements.

Challenges and Opportunities in the Supply Chain

The supply chain continues to undergo almost unparalleled levels of change. The older measures — productivity, quality, forecast accuracy, and service — still apply of course, but we now see cloud and digital supply chain transformation about to change everything. In the various surveys IDC has fielded since 2018, four broad observations have come to the fore:

- After years of being relegated to support status, the supply chain is now perceived by manufacturers and retailers as a strategic tool for business performance and growth — from a cost center to an opportunity center.
- Digital technology is a significant driver of change in the supply chain, reflecting both the potential for driving transformation and the lack of full clarity into true potential.
- Cloud and SaaS applications are rapidly becoming the default choice for supply chain organizations. In IDC's 2020 survey, more than three-quarters of Asia/Pacific respondents said they believe these are important or very important to how they run their supply chain today — higher than the global average. Three years on, that perspective increases to almost 83%.
- More broadly, the use of new technology is identified by both Asia/Pacific and global companies as the top driver of change in their supply chains (see Figure 1).

Supply Chain Resiliency

Over the past decade, supply chains have transformed into globalized operations, in part to leverage low-cost labor arbitrage opportunities, but also to meet the growing demand for products in those same emerging regions.

While globalized operations can mean diversification of risk, it also exposes companies' supply chains to the impacts of regional problems, particularly where those operations play a significant role globally.

We saw that back in 2011, when flooding in Thailand significantly impacted high-tech electronics manufacturers that could not get the hard-drive components they needed for their products. Some companies diversified supply to reduce the impact of another similar disruption in future, but many did not and they remain vulnerable.

In addition, the move to aggressively implement lean manufacturing techniques across multiple industries means that manufacturers' inventories are often low, and many parts are managed "just in time." You cannot build an automobile with 98% of the necessary parts; you need 100%. At IDC, we have argued that, if not implemented properly, lean principles can result in some brittleness in the supply chain and a reduced ability to respond to unexpected disruptions.

Understanding the multidimensional nature of risk and creating a resilient supply chain is a worthwhile endeavor, particularly in a world where disruptions are likely to occur more frequently and with greater severity. IDC defines resiliency as the ability of a supply chain to ensure and preserve the continuity and consistency of product supply and meet business obligations for product delivery and service to customers in the face of both short-term operational and longer-term strategic disruptions.

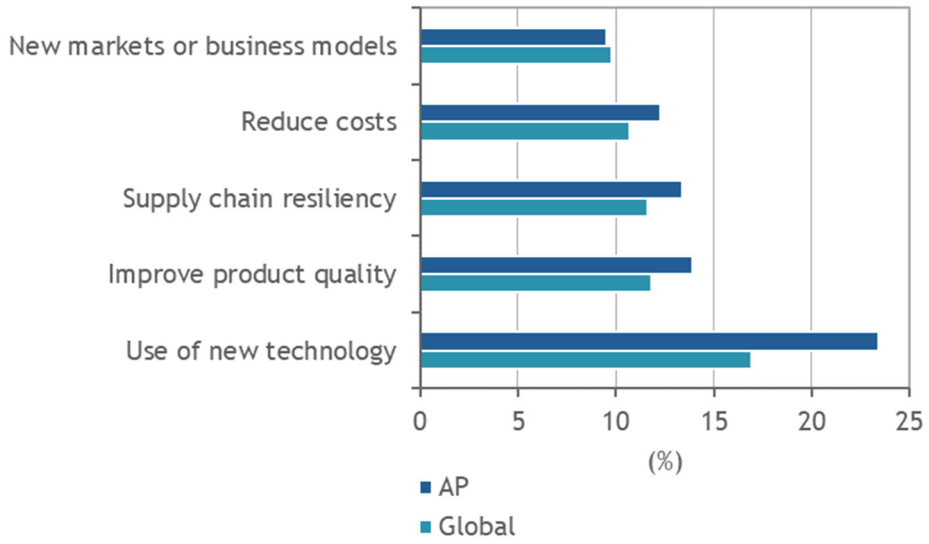
Resiliency is also about the ability to quickly adapt to changing business conditions while maintaining the core purpose and principles of the business. For a manufacturing company whose first principle for supply chain is to be the low-cost provider in its market segment, for example, responding to business disruptions by increasing structural costs over an extended period would not be representative of a business that had high levels of resiliency.

Likewise, a resilient business whose first principle was service would be able to adapt to disruptions without significant impact to service levels. Organizations are recognizing that building in this resiliency is not without its hurdles; this includes the Asia/Pacific region, where risk management coupled with compliance is a key challenge in digital transformation efforts (see IDC's 2019 APeJ Manufacturing Insights Survey).

Cloud and SaaS applications enable resiliency by providing the necessary supply chain visibility (both internal to your supply chain and external to the market) to enable companies to assess risk and risk conditions, and take the necessary steps, either proactively, reactively, or both. There is a compelling argument to be made that the ability to see something ahead of your competition, and to act on it more quickly, is at the core of resilient competitive advantage. It is something that manufacturers in Asia/Pacific place at the top of their main business concerns for their organization, and it is hard to do this without modern visibility tools.

Resiliency is a top priority for Asia/Pacific companies, as illustrated in Figure 1.

FIGURE 1
Global and Asia/Pacific Resiliency Efforts



Q. Which of the following are the most important areas driving change in your supply chain?
Source: *IDC Supply Chain Survey, 2020*; global n = 816, Asia/Pacific n = 157

Digital transformation is at the center of an automated, resilient supply chain that can react and adapt to all internal and external threats, with the ability to be resilient to external disruption the most important goal. Asia/Pacific companies are discovering with the current COVID-19 pandemic that their supply chains lack resiliency, with 88% of them expecting supply disruptions to significantly affect their supply chains and, by extension, their business performance.

In Asia, however, the ability to improve supply chain resilience and mitigate risk has been a top driver in improving manufacturing operations and supply chains for the past three years due to natural disasters and trade tensions. This clearly demonstrates that COVID-19 is a 2020 problem, but there have been continued threats to supply chain continuity over recent times, and inevitably there will be others in the future. In the same survey, when asked about the future of their supply chains and the gaps that are likely to be most problematic if not addressed, lack of supply chain visibility and resiliency to see necessary changes in time to react to them effectively was cited as the top challenge both globally (21% of companies) and to a greater extent in Asia/Pacific (25%).

Conversations that IDC has had with these manufacturers suggest that they view cloud and SaaS applications as inherently "more nimble and flexible" than their on-premises predecessors. Cloud is simply better suited to the resilient supply chain that they require, rating consistently as an important technology for manufacturers in China (84%), ASEAN (85%), and India (85%).

Supply Chain Multi-Enterprise Ecosystems

The adoption of cloud and SaaS enables a multi-enterprise ecosystem where companies can exchange information and transactions far faster and more flexibly than in traditional point-to-point engagements. It has long been IDC's view that multi-enterprise networks will be central to the future of the supply chain and that the best-in-class supply chain of the future will need to be

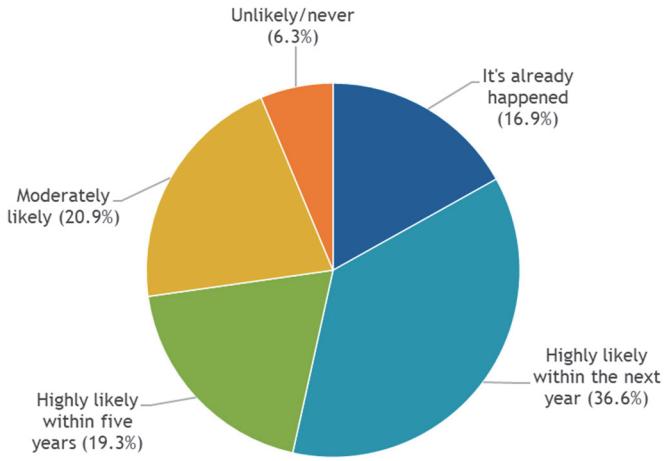
highly collaborative from the initial stages of product design through to post-sale service. The reality is that supply chains rely on suppliers and enablers more today than at any time in the past, and the definition of "core competency" continues to narrow. What manufacturers consider core competency today is much less broad than even five years ago. Although we may call them manufacturers, many companies in the manufacturing industry are now little more than a brand engine with all of the traditional manufacturing operations done through partners. It becomes quite clear that the ability to navigate efficiently and effectively through a partner network is critical to supply chain and broader business performance.

In IDC's recent 2020 supply chain survey, 82% of global companies said they are taking part in these multi-enterprise ecosystem networks, with a sizable subset of those participating in more than one. Asia/Pacific companies are slightly less likely to be engaged with their ecosystem than the global average at over 78%, except for India, with 94% of respondents indicating that they participate in at least one online B2B commerce ecosystem and engineering/PLM networks being the most common of these. Multi-enterprise ecosystems are simply not possible without the cloud-based networks that enable connectivity and collaboration among partners. These networks also enable n-tier visibility in ways that were not previously possible.

Supply Chain–Enabled New Business Models

When asked about the challenges they face, most manufacturers talk about the threats from changing or emerging new business models, many of these only possible with modern, digital supply chain capabilities. IDC's 2020 supply chain data suggests that globally, 54% of companies expect their business to be disrupted by emerging digitally native businesses with agile and resilient supply chain capabilities. Asia/Pacific companies view their business as slightly more vulnerable at 57%, and it is seen as a significant problem (see Figure 2).

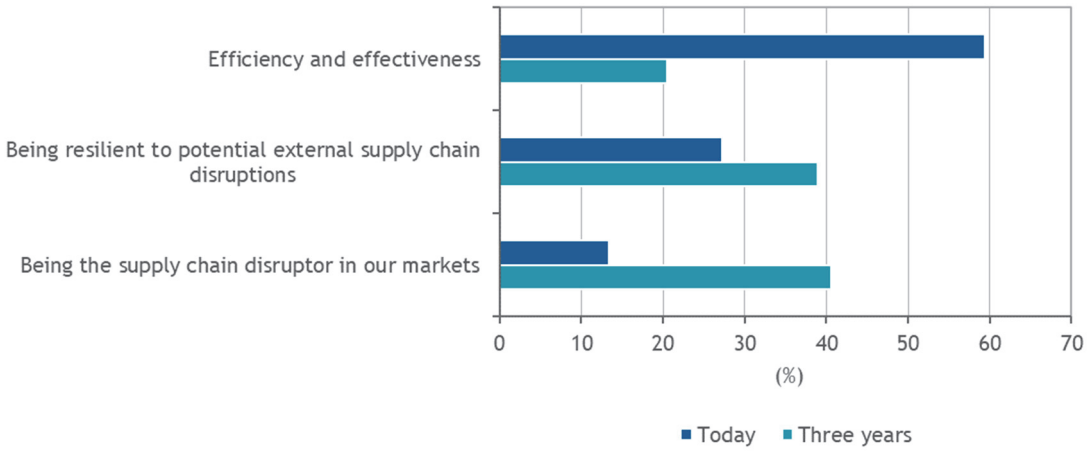
FIGURE 2
Business Disruption Globally



Q. How likely is it that a digitally native (business model based on supply chain digital competencies) competitor could emerge in your industry and gain a competitive advantage?
Source: *IDC Supply Chain Survey, 2020*; n = 816

Given the expectations for competitive disruption, the goal for future supply chain transformation must be focused on the ability to be both resilient to external disruption and to be in a position to seize on new business models as the disruptor as opportunities arise. The view of companies globally, both today and in three years, is illustrated in Figure 3. Asia/Pacific companies are significantly less likely to view efficiency as important in three years, with being the supply chain disruptor the priority for most organizations as they continue to focus on new market opportunities and business models.

FIGURE 3
Transformation Goals Globally



Q. What would you view as the strategic priority for digital transformation of the supply chain at your company, both today and in the future?
Source: *IDC Supply Chain Survey, 2020*; global n = 816, Asia/Pacific n = 157

The ability to adapt to or adopt new business models, both globally and in Asia/Pacific, is critical for manufacturers. These models will obviously change by industry or even by company. In consumer-facing industries, for example, the ability to customize at scale is an important supply chain capability if companies are going to be able to support consumer demand for personalization (both of product and shopping/delivery experience). The ability to scale is a major focus for Asia/Pacific companies, and the ability of the supply chain to manage high volume data sources and quickly turn them into decisions must be an enabler and not a drag on innovation. Additionally, in Asia/Pacific, IDC sees that new data-enabled revenue models based on leasing, servitization, yield, and productivity are being considered. The always-on aspect of cloud/SaaS is necessary to drive the data availability needed to support these revenue streams. With the inherent low latency of cloud applications, on-premises tools are likely to be outdated and cumbersome.

IT and Integration Concerns

In terms of IT concerns, there are a number of issues for organizations, particularly around managing mixed infrastructure and the balance between integration and functionality:

- **Managing mixed IT infrastructure.** Cloud adoption is growing, but on-premises applications are still widely used, so companies will be faced with the challenge of managing both for the foreseeable future. This is particularly true for companies where

multiple generations of on-premises applications exist and persist. Technical debt and legacy infrastructure have been a concern for Asia/Pacific manufacturers for the past few years. This infrastructure challenge may prove to be a hurdle when integrating supply chain applications with on-premises manufacturing applications and will need to be addressed in these cases.

- **Frequency of updates.** The other challenge for companies, both IT and supply chain, is how best to manage the frequency of updates to their cloud and SaaS environments. If the significant benefit to cloud is its ability to quickly adapt to changing business conditions with regular functionality updates, the flip side is in the requirements for companies to quickly assess the impact of those changes on their other systems and business processes. This is an emerging capability, but for now many companies are struggling with accepting or rejecting version changes in their cloud applications.
- **Integration versus functionality.** Cloud typically requires a level of standardization that traditional on-premises applications did not have. There are advantages and disadvantages with a standardized versus customized approach. Though most companies have concluded that the integration and speed advantages of cloud offset the necessity of accepting a more standard set of capabilities, there will always be exceptions where a more customized, fit-to-suit on-prem tool is preferred. In the main, however, companies are finding that cloud applications have the essential functionality and any missing capability is either less important than the benefits of easier integration or can be found in third-party bolt-on micro apps. In some cases this is more desirable with the rise of citizen developers and with data scientists having access to the necessary no-code or low-code tools to develop their own applications, something that IDC foresees occurring sooner rather than later.

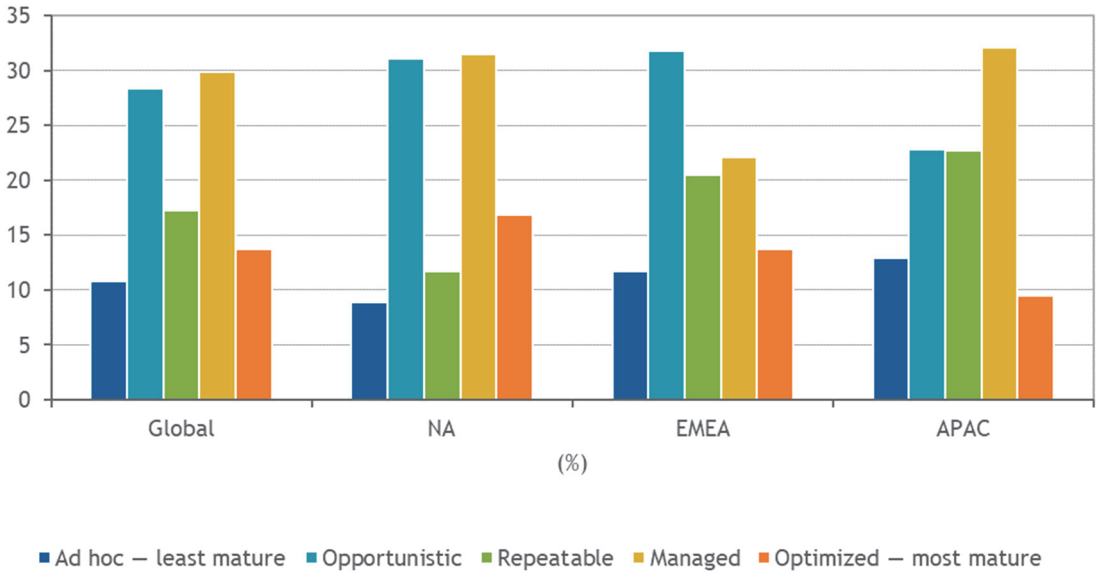
The ability to design and scale the distribution of these capabilities throughout the organization, and potentially the supply chain, enables collaborative efforts not only in transaction management and product design, but in application capability as well.

Evolving from a Supply "Chain" to a Collaborative Supply "Ecosystem"

The supply chain's ability to support business requirements from initial product design through to post-sale support requires a number of capabilities, including speed, nimbleness, and resiliency. These capabilities don't just happen, and many established supply chains are finding themselves poorly positioned to compete in a fast, highly disruptive environment.

FIGURE 4

Supply Chain Transformation by Region



Q. Which of the following statements best describes the state of digital transformation in your supply chain?
Source: *IDC Supply Chain Survey, 2020*; n = 816

Broader efforts to digitally transform the supply chain are underway, but as noted in Figure 4, they are not progressing quite as quickly as we might have wished for. Asia/Pacific companies particularly are a little below the global average when considering the two most mature phases of transformation (managed and optimized), and there are still significant numbers of companies in the two least mature phases (ad hoc and opportunistic) as well. IDC believes that companies that lag behind in their supply chain transformation efforts are more likely to experience business model disruption from both existing competitors and digital-native new market entrants.

IDC defines a multi-enterprise supply chain commerce network as any platform that facilitates the exchange of information and/or transactions among disparate parties pertaining to the supply chain or to supply chain processes. In today's fast-paced, highly analytical supply chain, the use of networks to facilitate commerce and collaboration can be the difference between meeting and missing supply chain performance goals.

The ultimate goal of these ecosystem networks is to support the seamless many-to-many interactions that run throughout a supply chain. Ecosystem networks enable manufacturers, partners, suppliers, and customers to communicate, collaborate, transact, and optimize their interactions and operations. Manufacturers are on a path to reach this goal, but as with all transformations, much work still needs to be done.

Table 1 summarizes ecosystem network adoption by region.

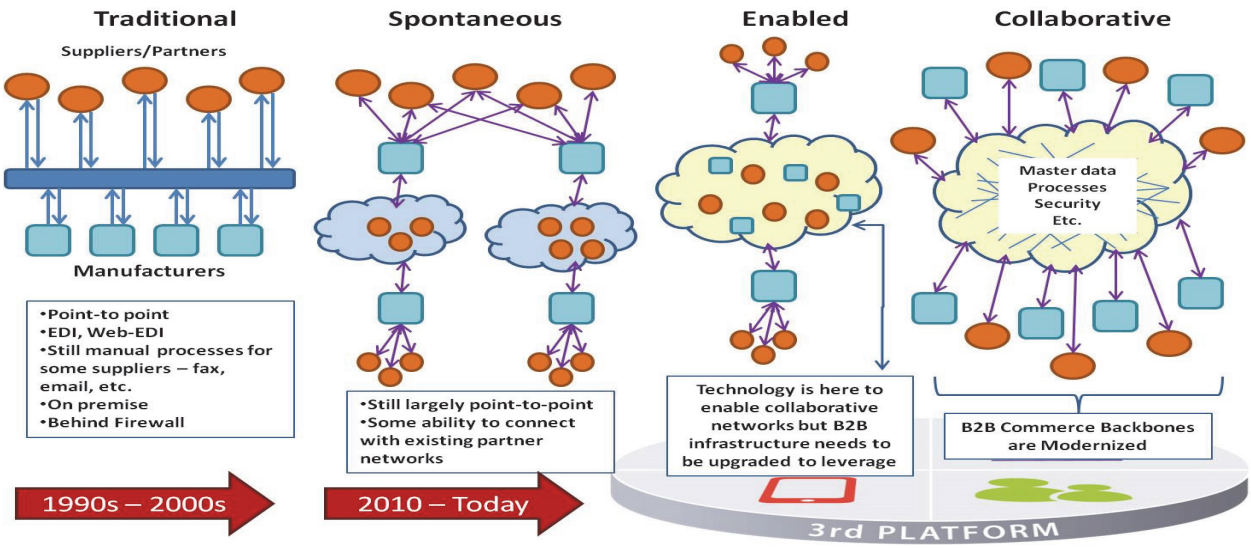
TABLE 1
Ecosystem Adoption by Region

	Global	North America	Europe	APAC
Yes, we currently participate in at least one B2B commerce network	81.2%	85.0%	77.3%	78.2%
No, we do not currently participate in any B2B commerce networks	18.8%	15.0%	22.7%	21.8%

Q. Please indicate whether you currently participate in B2B commerce networks (online, cloud-based trading hubs or marketplaces for B2B transactions).
Source: *IDC Supply Chain Survey, 2020*; n = 816

Figure 5 highlights the phases through which ecosystem networks have passed over the past 15 years. It shows how participants have interacted and visualizes how modern digital technologies have laid the groundwork for the emergence of collaborative commerce networks.

FIGURE 5
Ecosystem Network Progression



Source: IDC, 2020

Cloud Provides the Platform for Ecosystem Networks

Cloud provides the necessary platform for collaborative commerce, as it moves beyond the firewall and creates a platform for many-to-many interactions among manufacturers, partners, suppliers, and customers. While most manufacturers have dipped their toe into cloud computing in the supply chain with private clouds, replacing the VANs of the past, the hybrid and public cloud infrastructure lays the groundwork for collaborative commerce networks. The cloud provides many benefits, including reduced cost, greater scalability and elasticity, and increased agility. Additionally, cloud services have evolved to address many of the security and reliability concerns voiced by manufacturers.

Ecosystem networks offer manufacturers a practical application for large volumes of data within their supply chain operations. As we like to say at IDC, these commerce networks essentially become "dig sites" for the vast array of manufacturing data that passes through them each day. In early phases of commerce networks, this data was locked away in silos that existed behind the firewall, and EDI was the main conduit to send information back and forth between trading partners. With the rise of Big Data technologies for capturing and mixing all forms of data together and more importantly analytic tools for "mining" that data, the value of the commerce network becomes exponentially greater than the one-to-one data sharing that occurred with traditional EDI. Essentially, Big Data benefits from the "network effect" of commerce networks. Suddenly, manufacturers have insight into a range of data and information that can be aggregated and analyzed as never before, and manufacturers can make informed business decisions based on that information, and enable workflows that allow operational visibility, agility, and responsiveness to ensure supply chain resilience.

Extending Ecosystem Networks

We are also seeing the extension of ecosystem networks beyond traditional supply chain boundaries. We noted earlier the importance of considering the supply chain from initial product design to post-sale service. As we extend the notion of supply chain back to design and forward to post-sale support, the linkage between service systems and PLM becomes critical — design for "mass" personalization, for example, and how the supply chain must be able to support these initiatives by seamless connections to suppliers and customers.

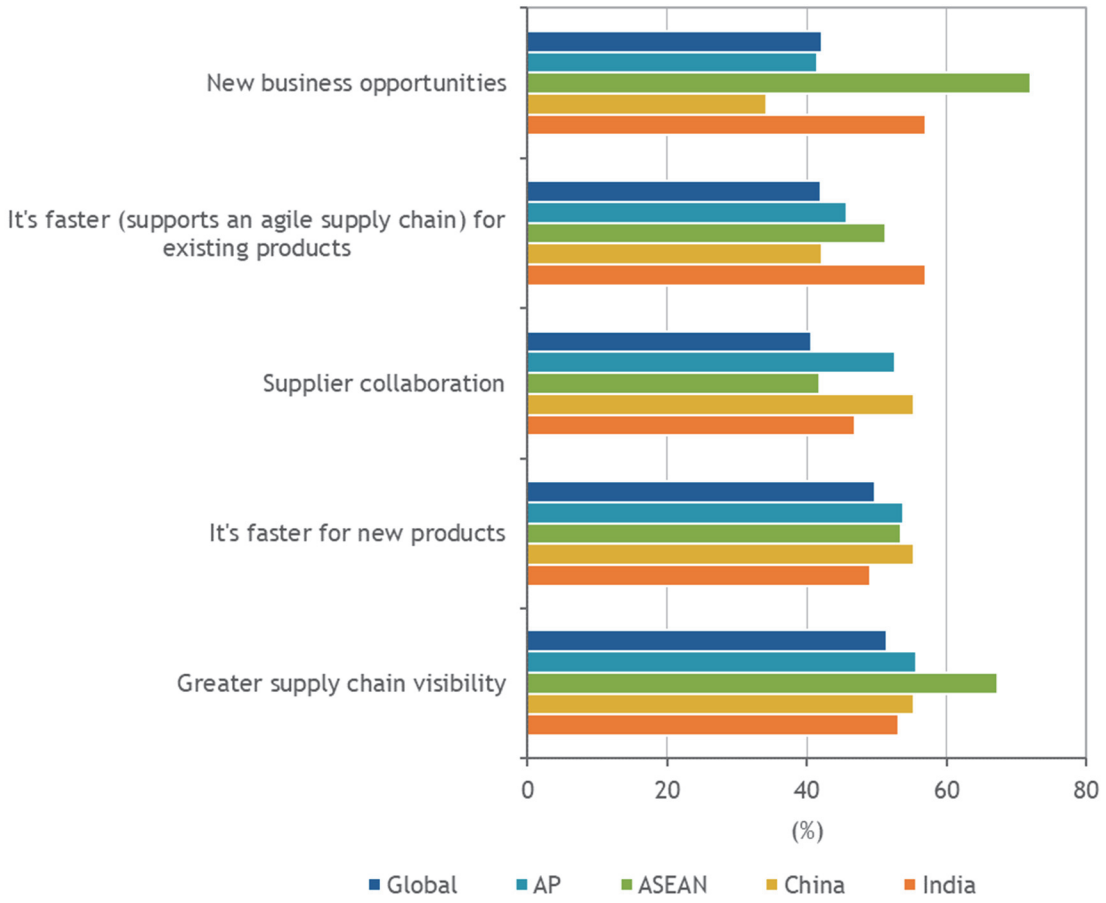
Many global manufacturers feel their product innovation pipeline is insufficient for the future, that they simply cannot generate enough new product ideas internally that they must leverage partners. There is no better way of doing this than connecting to various and varied ecosystems as a way to both incubate and commercialize new ideas. Collaborative development is being further combined with social listening, for example, to ensure the voice of the consumer is implemented in industries such as FMCG and fashion. The driver for this is not only the need for new product ideas internally, but to ensure that the iteration of design to accommodate customer requirements is met at the rate of demand in these fast-paced fields.

The connection to PLM and digital visualization enables seamless collaboration among supply chain and ecosystem participants in a secure and effective way. This collaboration is essential to prevent issues and complications during the supply chain execution and post-sale service phases. 67% of global companies say that their supply chain and PLM capabilities are tightly integrated; Asia/Pacific companies are even more likely to be integrated at 69%. Within the region, Indian companies are more likely to integrate PLM with their supply chains, with 80% indicating this compared with their ASEAN and China-based counterparts.

Extending ecosystem networks brings many benefits to the participating companies, as illustrated in Figure 6. For manufacturers in Asia/Pacific, greater supply chain visibility is the most cited benefit, with new product introduction speed a close second. Visibility aligns well with our earlier discussion about supply chain resiliency, and the need for more robust new product capabilities is an important opportunity for most businesses.

FIGURE 6

Benefits of Ecosystem Networks



Q. What have been the benefits of participation in a B2B commerce network?
Source: *IDC Supply Chain Survey, 2020*; n = 816

Benefits of Cloud, SaaS, and Ecosystem Networks

In this paper, we have argued that the modern supply chain must be fast and resilient, and be able to easily adapt to and adopt new business models that the broader business requires to remain competitive and achieve necessary performance — and it must do this both as an initiating disruptor or in reaction to an external disruption.

Being resilient and flexible to new business models means being able to quickly ingest large volumes of data and turn them into productive actions either internally or with suppliers and customers. At IDC, we would argue that none of these are possible without the extended ecosystem collaboration that a supply chain network enables and the underlying cloud and SaaS applications and infrastructure to conduct business at the speed of the network.

Companies operating in traditional collaboration models, with multiple generations of legacy, on-premises technology are not going to the able to adequately adapt to changes, either internal or external, and they are not going to be able to efficiently or effectively take advantage of opportunities upstream and downstream. Their systems and forms of collaboration will simply be too slow, and they will be beaten to the markets by more nimble competitors. It is worth

reiterating a point made earlier about business model disruption. In the IDC 2020 supply chain survey, a large percentage of companies felt that their business was ripe for disruption (see Table 2 by region).

TABLE 2
Business Disruption

	Global	North America	Europe	APAC
It's already happened	16.9%	17.5%	12.9%	18.3%
Highly likely within the year	36.6%	35.7%	33.6%	39.3%
Highly likely within five years	19.3%	18.7%	21.2%	19.1%
Moderately likely	20.9%	20.1%	21.8%	21.6%
Unlikely/never	6.3%	7.9%	10.4%	1.7%

Q. How likely is it that a digitally native (business model based on supply chain digital competencies) competitor could emerge in your industry and gain a competitive advantage?
Source: *IDC Supply Chain Survey, 2020*; n = 816

Without major improvements in how companies run their supply chains, business model disruption will have a significant impact on future business success. 58% of Asia/Pacific companies expect disruption from a new market entrant within 12 months, increasing to 77% within five years. Disruption is more likely in India within 12 months and least likely in China. This doesn't even take into account the current levels of disruption in the supply chain from COVID-19 or subsequent supply or demand shocks (and there will be others). The 2020 supply chain survey also offers some insight into the benefits of cloud and SaaS applications as enablers of ecosystems. Table 3 shows the level of current and short-term future adoption of cloud and SaaS applications. The majority of global companies expect the adoption of cloud and SaaS applications across the supply chain to be above 90% within the next 12 months.

TABLE 3
Asia/Pacific Supply Chain Cloud and SaaS Adoption

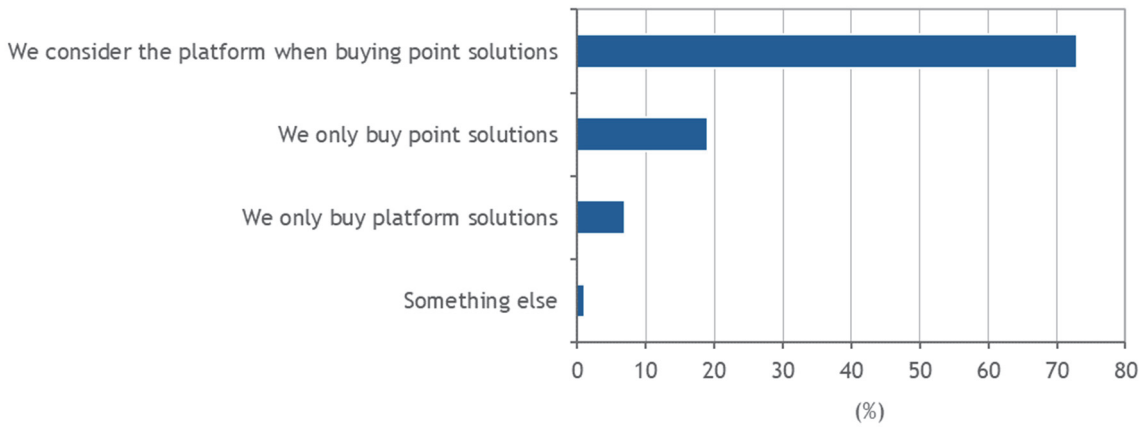
	Cloud/SaaS Already	Cloud/SaaS Within 12 Months	No Plans
Demand planning	44%	48%	8%
Supply planning	49%	41%	10%
S&OP	35%	47%	18%
Warehouse management	50%	43%	7%
Transportation management	46%	43%	11%

Q. Please indicate your plans for deploying each of the following elements of your organization's supply chain via a cloud application (multiple questions).
Source: *IDC Supply Chain Survey, 2020*; Asia/Pacific n = 157

In Asia/Pacific, less than half the manufacturers are in the cloud already and are behind other regions in cloud adoption of the most current supply chain technologies. Over the next 12 months, Asia/Pacific manufacturers have plans to increase cloud adoption rapidly, at a pace of 5 to 15 percentage points across the various applications. As we noted earlier, cloud/SaaS applications are rapidly becoming the default choice for supply chain organizations, with almost 85% of Asia/Pacific respondents believing that these are important or very important to how they run their supply chain today. India's rate of current adoption is often significantly higher than ASEAN or Chinese manufacturing adoption in the applications listed in Table 3, with the exception of warehouse management. However, across Asia/Pacific, plans for adoption of cloud/SaaS over the next 12 months are greater than those in North American and European organizations, indicating that cloud is the future for the supply chain in the region.

It seems quite clear that cloud/SaaS are the future for the supply chain. It's also important to recognize the importance of the ecosystem and the supply chain platform that helps to enable the ecosystem. We have already outlined some of the specific benefits of ecosystems, so there is no need to repeat them here, but in a survey conducted in late 2019, the ability for the supply chain platform to enable industry ecosystems clearly favors cloud-based supply chain platforms (see Figure 7). This does not mean that supply chains have stopped investing in point solutions where necessary, but the shift to platforms is quite clear and compelling.

FIGURE 7
Investment in Platforms



Q. What is your organization's approach to selecting technology or applications for your supply chain?
Source: *IDC Digitally Enabled Thinking Supply Chain Survey, 2019*; n = 150

Essential Guidance/Actions to Consider

We introduced this paper by observing that the view of the supply chain is changing and that it is now perceived by manufacturers and retailers as a strategic tool for business performance and growth and is moving from a cost center to an opportunity center. We have also explored the growing importance of cloud and SaaS applications in enabling the necessary speed and resiliency for companies to compete in the current marketplace and leverage the many ecosystem opportunities presented to them. There's every reason to believe that the pace of supply chain change will accelerate and that the supply chain of the future will be in a constant

state of flux. Companies that can build supply chain flexibility and resiliency quickly will be better positioned to support their consumers/customers and therefore grow their businesses more effectively. The reality is that even today's leaders, if they do nothing to enhance their supply chains, will not be leaders in the future.

IDC offers the following guidance:

- Assess your supply chain application maturity and determine whether moving to the cloud/SaaS will enable the speed and resiliency that may currently be missing.
- Consider participating, or increasing participation, in marketplace relevant ecosystems for your business.
- Prepare today because though supply chain transformation remains behind the average in terms of maturity, leaders are moving quickly as they believe there to be an early mover advantage. The reality is that transformation is happening now, and there are many use cases that can be adopted now. The key is for companies to prepare today.
- Assess how likely it is that your business will be disrupted, either by natural causes such as COVID-19 or by digitally enabled competitors that can accomplish things with their supply chains that you cannot.

There's little doubt that supply chains must transform or be disrupted by competitors that are more advanced in their digital transformation. Supply chain transformation is a story of both opportunity and challenge — an opportunity for those companies well on the way in their transformation journey, but a challenge for those that have not yet started.

About the Analysts

Stephanie Krishnan, Research Director, IDC Manufacturing Insights Asia/Pacific

Stephanie Krishnan is research director for IDC Manufacturing Insights Asia/Pacific. Her focus is on Industry 4.0, addressing business collaboration and trade ecosystems and the supply chains of industrial organizations.

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Simon Ellis 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.

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