Breaking Down Silos in Supply Chain Execution

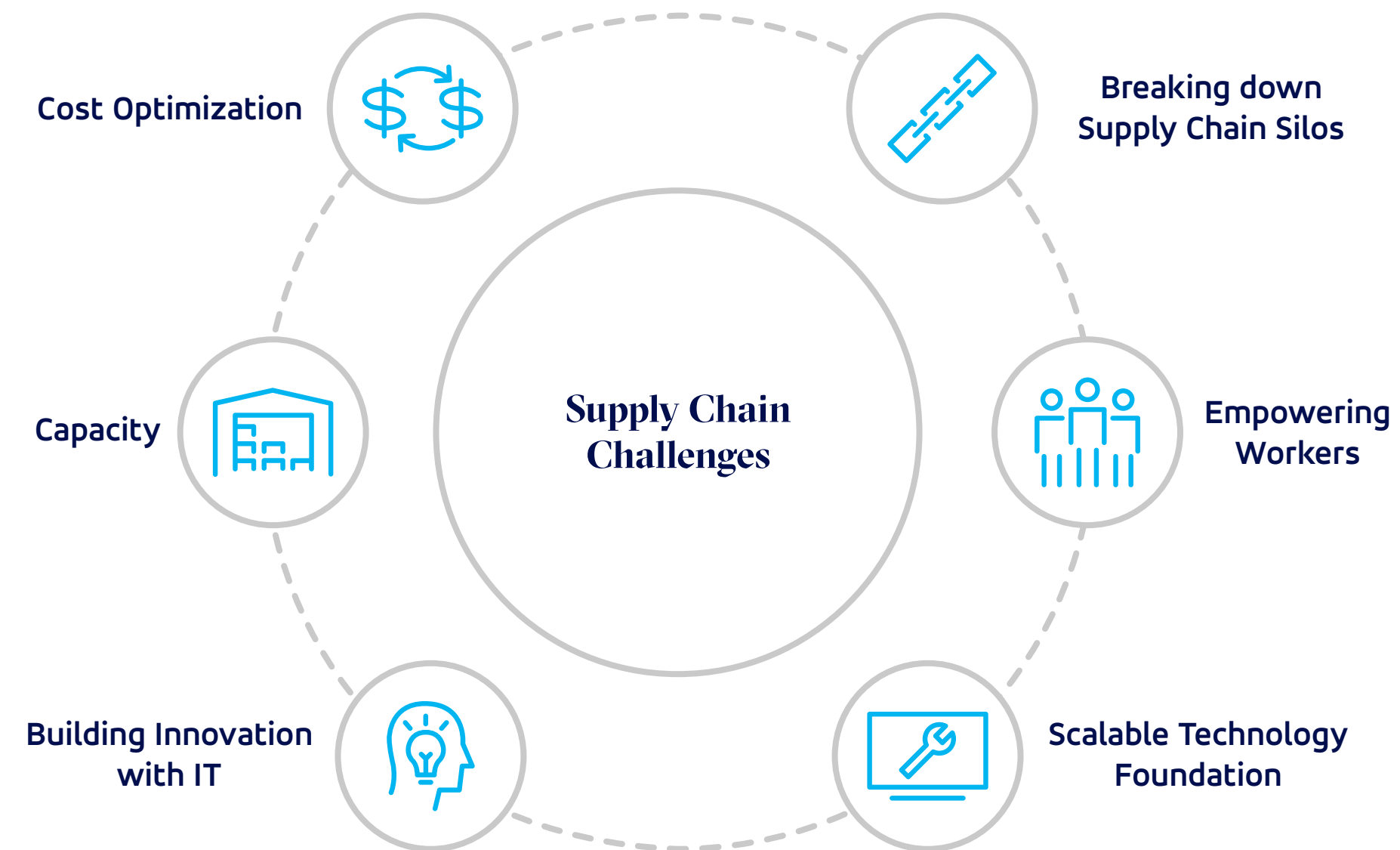BlueYonder   EY   Microsoft Azure

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Introduction

Supply chain execution has emerged as a major topic of conversation in light of the global pandemic. From consumers struggling to get hold of household items to auto manufacturers delaying operations due to semiconductor chip shortages, the concern surrounding supply chains has touched all sectors of the market. And while the COVID pandemic may have been the largest and most prominent trigger for our current woes, global supply chains have been functioning on a knife's edge for some time already. The arrival of COVID-19 merely proved to be a tipping point, exacerbating every challenge simultaneously.

Seemingly every industry has found itself scrambling, trying to patch holes and come up with quick fixes to alleviate what they can right now. Whether it is finding new suppliers and vendors, transforming brick-and-mortar stores into micro-distribution centers, or increasing visibility into shipment tracking, businesses are exploring every avenue to relieve pressure and keep goods moving.

From the hundreds of massive container ships waiting to exchange TEU (twenty-foot equivalent unit) containers at the Port of Los Angeles to the stalled trucking yards and clogged curbside pickup spots outside the local store, solving supply chain execution challenges has become a top priority for an economy already weary from unprecedented and seemingly unending change. In this eBook we will explore how Blue Yonder, EY, and Microsoft address supply chain execution challenges and how leaders can further explore how to identify and break down silos, investing in innovation and using data-driven intelligence to not only overcome supply chain issues but also to build agility and resilience for future disruptions.

Cost Optimization

Breaking down
Supply Chain Silos

Capacity

**Supply Chain
Challenges**

Empowering
Workers

Building Innovation
with IT

Scalable Technology
Foundation

Capacity

Capacity, or the ability to ship, store, and manage volumes of physical goods, has become a major concern for businesses and logistics providers. The risks of not understanding capacity can range from increasing costs and lost goods to missed deliveries and increasing inefficiencies. Whether it is understanding capacity needs, estimating future capacity, or optimizing capacity based on the latest forecasts, organizations must align multiple internal and external systems to truly understand what volume of goods they can support across their supply chain journey.

Identifying current capacity

Perhaps the largest obstacle for most organizations facing logistics challenges is simply understanding their current capacity. Organizations must be able to track the movement of their products into the hands of customers, from warehouse to last-mile distribution. To gain visibility into current capacity, organizations need an end-to-end execution platform to help drive flexible, fully autonomous distribution networks. They will need to invest in IT systems that can accurately gauge and manage capacity and enable prescriptive decision-making and automation. Businesses should seek to reimagine their logistics networks with flexible, multi-modal delivery models, leveraging real-time data for dynamic pricing and capacity metrics across the traditional supply chain network.

Eliminating waste

For businesses looking to move goods around, empty space is a wasted opportunity. For warehouses, the cost of operations remains largely unchanged regardless of inventory, so underutilized capacity directly translates to higher distribution costs. Similarly, any extra capacity going unused on trucks means additional waste. Organizations must work with their logistics partners to better understand the level of waste that is being generated across their fleet by failing to maximize capacity.

While most Logistics Service Providers (LSPs) have invested in technology systems that provide some degree of visibility into warehouse and transportation capacity, they can risk falling short by not considering these in a holistic manner to truly see how much capacity goes unused across the entire end-to-end supply chain, not just portions of it.

Finding new capacity

Organizations lacking current capacity to support their product storage and shipping needs will need to find additional capacity at the lowest price, fast. With a large network of third-party suppliers and vendors, doing so requires comparing numerous potential partners, which can be both time consuming and inefficient.

Digital Freight Management (DFM) is a segment of the transportation market that addresses this need by matching shipper demands to carrier capacity through a digital marketplace. DFM enables shippers to quickly find and select drivers that meet their route and schedule needs. As part of the DFM sector, many LSPs are offering "Trucking as a Service" (TaaS), which includes service segments such as telematics, business analytics, and digital freight brokerages. Transportation businesses that offer real-time pricing and capacity availability further enhance the decision-making process.

30%
of LSPs are looking to acquire DFM platforms, with 24% wanting to build their own[1]

43%
of LSPs and retailers are looking to utilize DFM platforms in the coming decade, with 15% already integrating them into their operations[1]

1. Supply Chain Visibility Report 2020

💲 Cost

> "When moving goods between manufacturers and warehouses to the end customer, whether it's a retail store or wholesaler, transportation is typically the single biggest cost component."
>
> **Chirag Modi**, Corporate Vice President, Industry Strategy, Blue Yonder

> "We're already seeing an 8-10% increase in transportation cost rates, in terms of ocean cost rates we're seeing double-digit growth, and all of these are going to have a net impact in terms of the amount of money an end customer is paying for any single product."
>
> **Vivek Chhaochharia,** Managing Director, EY

Every business wants to save money, but not if it means losing capabilities or efficiencies, especially across a system as complex as global supply chain execution. Understanding costs and gaining visibility into how dollars are spent is critical for leaders to make accurate decisions. Should a business invest in more warehouse space? Or spend more on trucking capacity to free up warehouse space? Answering such questions means looking at cost through multiple lenses while also considering the broader impacts that will affect every component of the supply chain journey.

Understanding cost

It is critical for businesses to understand where their dollars are going, especially when the decision of where to spend money can eliminate potential future supply chain issues. From understanding costs across investments, transportation, procurement, or storage, organizations must holistically understand their cost centers to make accurate decisions. Because of the scale of supply chains, even small percentage shifts can amount to huge monetary impacts down the supply chain. For example, transportation accounts for 3-5% of annual costs for most businesses, which can amount to tens of millions of dollars for large organizations. Eliminating even 10% of transportation costs through intelligent capacity planning can save a business millions of dollars every year.

Minimizing cost

In order to minimize transportation and storage costs, organizations will need real-time visibility into pricing and the ability to purchase capacity at the optimal rate. With some LSPs offering dynamic real-time pricing, which effectively enables businesses to submit orders based not just on price, but also on broader KPIs such as on-time delivery and tracking compliance, organizations must ensure their systems can connect to, and integrate with, such dynamic pricing systems.

Maximizing value

When buying transportation or warehousing capacity, it is critical for organizations to determine how to best utilize the available space for their chosen transportation format, be it shipping containers or pallets. Introducing automated systems to intelligently arrange packages offers a powerful opportunity to maximize the value of purchased capacity. Doing so requires having systems that can refer to known product packaging sizes and organize the shipment based on those, in the most space-efficient way possible. Doing so with the added context of where each package will ultimately go adds an additional layer of efficiency, making it critical to integrate such systems within the broader supply chain system.

Supply Chain Silos

> "Most organizations are organized in their own unique silos. The merchandising person does his or her job, the planning team does their job, the distribution team does their job, and the transportation team does their job, and they all buy their solutions in a vacuum."

Chirag Modi, Corporate Vice President, Industry Strategy, Blue Yonder

> "Working in silos, you can optimize your individual functions, but you will always lose some efficiencies between the cracks, so now people want to look at distribution as a whole."

Vivek Chhaochharia, Managing Director, EY

Supply chains are complex. The typical strategy to reconcile complexity has been to isolate systems into consumable and manageable silos. For quite some time, this strategy worked as each individual component of the supply chain could aspire to its own internal efficiencies and productivity. However, such an approach is far from efficient, as we now have the technology to move beyond silos and understand entire complex systems holistically. Unfortunately, while the technology to break down silos across supply chains exists many organizations have yet to make the investments and transformation journeys to truly embrace it.

Limited cross-functional visibility and collaboration

One of the largest barriers to overcoming supply chain silos and complexity is the lack of consistent visibility across disparate systems and organizations. For a single product to make it from the manufacturer to the end customer, there are a vast number of organizations, places, people, vehicles, and warehouses that the product must go between, and each node of the journey has typically operated as its own silo. To gain visibility across the supply chain, these individual silos must be broken down and connected through a unified, data-driven system.

Individual teams across the supply chain have also largely worked in silos, contributing to further inefficiency and limited insights. For these teams to collaborate effectively, they need visibility across functions and a single source of truth to pull data from. Warehouse managers must understand their shipping partners' activities and plan accordingly, and trucking managers must be able to ensure they can find the right trucking capacity to support warehouse operations efficiently. Operating as distinct entities is no longer functional, and businesses who fail to adopt these collaborative models will see increased costs and reduced efficiency.

Unclear chain of leadership

Until recently, each node of the logistics network has had its own priorities, challenges, and long-term goals. Without a mechanism for centralized decision-making, there is immense difficulty in identifying and ordering these variables across the network, rendering this approach highly inefficient. Warehouse managers may want to prioritize one area, whereas the trucking managers may want to prioritize another that may be in direct conflict. While both perspectives could be valid on their own, the siloed approach does little to remedy the health of supply chains as a whole. A top-down approach is needed, and leaders must make decisions on what should be prioritized using the latest available data.

19%

of respondents felt that achieving end-to-end visibility is far too complicated a task to achieve[1]

60%

of LSPs have found that end-to-end visibility yields the best ROI in their current supply chain execution processes[2]

38%

of respondents see lack of industry collaboration as the biggest barrier to end-to-end visibility in logistics[1]

1. Supply Chain Visibility Report 2020
2. The State of Supply Chain Execution 2021

Empowering Workers

"Users have to become equally digitally savvy to be able to understand and leverage these advanced solutions appropriately. If we are not training the users and upskilling them to take advantage of this, usage adoption might fall off."

Vivek Chhaochharia, Managing Director, EY

50%
of respondents are employing flexible working hours as a strategy to overcome labor challenges such as turnover and talent retention[1]

62%
of respondents are deploying warehouse labor management to overcome labor challenges such as turnover and talent retention[1]

Workers are the unnamed heroes of the supply chain world, from the warehouse worker moving goods around or the truck driver logging millions of traveled miles per year. As in every industry, the COVID-19 pandemic has had far-reaching impacts, and supply chain leaders must pay special attention to ensure a healthy and effective workforce is available to solve the problems that technology cannot. Whether this means defining new hiring and training strategies or creating incentive programs to attract and retain new workers, businesses must prioritize empowering their workforce to help overcome supply chain execution challenges.

Adapting to worker changes

In addition to the supply chain turmoil exacerbated by the COVID-19 pandemic, we've seen tremendous disruption with regard to the availability of labor. With 63% of supply chain leaders indicating that the availability of labor has negatively impacted their operations in the past 12 months, it is critical for organizations to find, hire, train, and retain talent. While it was expected that older generations, such as Baby Boomers, would begin retiring within the next few years, the COVID-19 pandemic accelerated this faster than expected. As a result, strategies such as providing cafeteria, gym, health, and other amenities are not enough to entice new workers to join and stay on board. In addition, an increasing number of workers are enduring mental health challenges, which businesses must support. From attracting new workers to hiring and training them, businesses will need to better understand worker expectations and determine new strategies to maximize the value and well-being of their workforce.

Streamline processes

Automating business processes can significantly increase the overall speed of getting work done. Legacy processes should be examined to eliminate wasteful steps or find new opportunities to improve efficiency. With greater technology-driven connectivity, interactivity, and newly-defined employee roles, modernized processes can be defined to create increasingly autonomous supply chains. Orders from multiple siloed systems can be managed automatically through intelligent routing and automated approvals, reducing human-based bottlenecks across complex process-oriented work streams. In addition, new technologies such as Robotic Process Automation (RPA) can be deployed to simplify and automate overly repetitive and burdensome tasks, ensuring workers can focus on delivering value rather than completing what they perceive to be busywork.

Augment, not replace

Automation has typically been seen as a force that replaces human workers, however the primary goal for many organizations is not to simply replace workers, but rather augment and enhance their capabilities. The usage of robotics to transport goods across large warehouse spaces can help warehouse workers improve efficiency while limiting injuries or fatigue. The automation of highly process-oriented and time-consuming tasks with RPA technologies allows employees to focus on where they can provide the most value. RPA can help employees' mental health and productivity by circumventing the need for human participation in tasks that are often considered boring or mindless and repetitive. By empowering workers with automation, new opportunities for efficiency and streamlining processes can reduce complexity and modernize legacy processes.

1. The State of Supply Chain Execution 2021

Scalable Technology Foundation

Cloud platforms, such as Microsoft Azure, offer businesses the greatest opportunity to improve agility, resiliency, and innovation across nearly every sector of their organization. For most, the cloud has been seen as a daunting and unfamiliar new world. However, it is critical to overcome such doubt and take advantage of what the cloud has to offer, especially with regard to holistically understanding highly complex ecosystems such as supply chains. For supply chain execution, cloud adoption means taking advantage of a globally distributed IT system that can connect every aspect of the supply chain to a centralized data environment with rich microservices for analysis, optimization, and visibility.

Scalability on-demand

Traditionally, IT solutions have been deployed on an as-needed basis, typically on premises. While this has worked in the past, organizations migrating and deploying their solution in the cloud have shown that a new distribution model is critical for fueling efficient, modern logistics. Businesses that have engaged in transforming their brick-and-mortar storefronts to micro-distribution centers, for example, stand to see their potential warehouse space grow exponentially as more stores are added. It is unrealistic and expensive to build individualized deployments for each store, but by leveraging the cloud organizations can deploy a proven defined model across multiple stores at scale and with ease. Moving to the cloud not only enables businesses to remain agile by quickly scaling their IT environment and supporting infrastructure, but to do so at a lower cost than going the traditional on-premises route.

Enriched data ecosystem

With every node in the logistics network generating its own set of data, it is crucial for organizations to define a strategy that connects all this information into a unified data environment. With this unified data approach, businesses can gain data-driven visibility into individual warehouses or trucks or see the entire network as a whole. In addition, access to a unified data environment ensures business leaders can make decisions with confidence, knowing that the information they have access to is available to everyone within their organization. Being able to deploy analytics on top of an interconnected and enriched data foundation provides modern businesses with an immense opportunity for finding efficiency, reducing waste, and generating new avenues for innovation.

Embrace unprecedented growth

With countless organizations moving their critical systems to the cloud, we've seen tremendous innovation and growth across a number of industries. The ability to decouple IT capabilities from needing to own physical IT infrastructure has opened the door for many businesses wanting to bring resilience, security, and agility into their workstreams. From high availability and disaster recovery to identity management and real-time analytics, organizations have found substantial advantages to moving their operations to the cloud. Given the scale and complexity of global supply chains, the cloud is the ideal path for any business looking to achieve new levels of proficiency across supply chain execution.

36%
of LSPs indicated that a lack of available resources is the biggest challenge to adopting new technologies[1]

30%
of LSPs indicated that there is a perceived lack of return on investment for adopting new technologies[1]

1. Supply Chain Visibility Report 2020

Sustainability through IT Innovation

With cloud-based innovations driving greater adoption of complex IT capabilities, other technology innovations, such as robotics, AI-driven insights, and ESG analytics, have also become more accessible. For the supply chain, these new technologies offer opportunities to better understand and drive efficiency, sustainability, automation, and optimization through visibility and high-volume data analysis. With the cloud, new models for innovation and sustainability can be defined, trained, and distributed at scale, enabling new technologies to be adopted across each step of the supply chain.

Sustainability

Businesses are finding themselves increasingly under scrutiny for the environmental impact of their daily operations. For many organizations, a substantial part of their carbon footprint is directly tied to their supply chain operations, meaning optimizing supply chains around carbon emissions is becoming a priority. The challenge for many businesses, however, is that to reduce carbon emissions and drive sustainable efficiency, you must first understand your existing carbon footprint and what aspects of your operations contribute to it. Visibility across the supply chain is critical to understanding where energy efficiency strategies can be implemented. Leveraging technologies like the cloud enables businesses to look at their environmental impacts holistically, using data to paint a big picture while also being able to deep-dive and look at individual warehouses, trucks, ships, and more.

Robotics

From automated flying drones to movable shelving and visual recognition sorting robots, new disruptive technologies have already made tremendous impacts across supply chains. In warehouses, robots have been used to quickly move physical goods around, intelligently sort goods, and organize products faster and at a larger scale. Deploying such systems has always been seen as complex, costly, and difficult to scale. However, with cloud-based orchestration, opportunities to introduce robotics are more attainable than ever before.

IoT

Internet of Things (IoT) provides multiple avenues for businesses to enhance their supply chain visibility, either through advanced logistics tracking, automated inventory management, and/or production tracking. Through IoT, businesses can generate tremendous amounts of real-time data that can be fed into a unified cloud environment that transforms raw data into actionable intelligence. Holistically, IoT can provide real-time insights across entire fleets of vehicles, warehouses, and production facilities, enabling organizations to understand the health of their supply chain at a moment's notice.

AI/ML

Beyond the artificial intelligence (AI) and machine learning (ML) components of robotics and IoT, AI and ML offer new ways to understand complex data sets and uncover opportunities for optimization and efficiency. From intelligently managing inventories in real-time to monitoring and optimizing warehouse efficiency, AI-powered automation can reduce complexity more quickly and accurately than typical human workers while also looking at a system holistically.

$99b

Omdia expects the global AI software market to balloon from $17 billion in 2019 to $99 billion in 2026[1]

50%

Gartner indicates that by 2023 around 50% of product-centric enterprises will have invested in real-time transportation visibility systems[2]

88%

of businesses worldwide plan to increase investment in robotics or automation[3]

1 Omdia Artificial Intelligence Software Market Forecasts, 2020

2 Gartner Predicts the Future of Supply Chain Technology, 2021

3 McKinsey, Industrial Robotics: Insights into the Sector's Future Growth Dynamics, 2019

Blue Yonder + EY + Microsoft

Overcoming supply chain complexity requires more than just the right applications and technologies. A true partnership with the right balance of industry expertise, global scalable infrastructure, and integrated point solutions is needed. This is why Blue Yonder, EY, and Microsoft have come together to offer the most comprehensive and future-ready supply chain solutions to support the global supply chain industry. With Blue Yonder's comprehensive supply chain orchestration solutions built on Microsoft's global IT infrastructure and implemented with industry expertise and best practices by EY, businesses can execute with confidence. Whether you are looking to transform your storefronts into micro-distribution centers, or you want the agility to respond to new disruptions, Blue Yonder, EY, and Microsoft can provide the foundation for any business to take control and manage their supply chain execution with visibility, insights, and industry best practices.

Blue Yonder

Transformative growth, consistent profitability and a reimagined customer experience starts and ends with the supply chain. At Blue Yonder we've created an end-to-end digital supply chain platform purpose-built to fulfill your potential. It's automated, orchestrated, intelligent, and highly predictive. It's built to reimagine the entire customer experience, delivering across any channel, every time, in every situation.

Ernst & Young

EY's Supply Chain Reinvention Framework is a suite of asset-backed solutions enabled by advanced technologies such as data analytics, machine learning, robotics and artificial intelligence. This suite of solutions extends from end-to-end supply chain strategy to strategic architecture, operational excellence, and supply chain resilience. We can help you harness the creativity and intelligence of your entire supplier ecosystem, increase collaboration, and ultimately serve your customers better.

Microsoft

Microsoft Azure is essential to delivering the globally-scaled infrastructure, agility, and reliability needed for modern supply chain execution. Seamlessly scale your infrastructure foundation as your supply chain needs change, even during unforeseen spikes in demand. Operate with confidence knowing that Azure powers everything from mission-critical business applications to governments, life and safety services, financial services and much more.

Learn more

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