



CROSS-BORDER DATA TRANSFERS & SUPPLY CHAIN MANAGEMENT



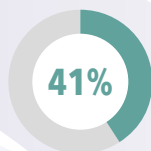
Cross-border data transfers are integral to international supply chains, which depend upon the seamless movement of information across borders to optimize sourcing, finance, logistics, risk mitigation, and responsiveness. For most products and services, the supply chain process involves many phases, parties, and countries. It also involves potentially disruptive external factors—including weather conditions, raw material, and input shortages, geopolitical threats, or emergent health crises.¹ With 94 percent of Fortune 1000 companies reporting supply chain disruptions from COVID-19 in early 2020,² the global pandemic has further highlighted the complex and integrated nature of supply chains and the role of data transfers in risk mitigation and response.³



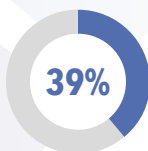
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Supply-chain operators depend on data transfers and on cross-border access to industrial cloud infrastructure for sourcing, logistics, financial operations, and productivity enhancement, among other business software-driven applications. In every sector of the economy, cross-border information is helping to streamline supply-chain processes in a variety of ways. Digital technologies such as data analytics, artificial intelligence (AI), and blockchain support freight scheduling, sourcing, and inventory management; promote safety and fight counterfeiting; increase efficiency and resilience; reduce costs; and minimize disruption. For instance, AI solutions help predict demand along supply chains more accurately. Companies also use blockchain to quickly trace goods when they need to recall products.

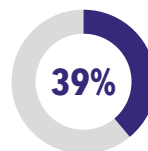
The Top 5 Technology Priorities for Supply Chains Are All Data-Management Related⁴



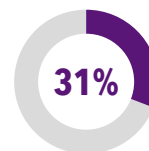
Data Analysis



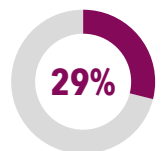
IoT



Cloud Computing



Info Security



Predictive Analytics



CROSS-BORDER DATA TRANSFERS AND SUPPLY CHAIN INTEGRATION

Manufacturing, logistics, and retail industries can benefit from comprehensive process innovation and digital transformation by adopting technologies such as software-as-a-service, Internet of Things (IoT), AI and machine learning, real-time sensing technologies, and advanced analytics. Integrating these technologies can enhance the value chain within a company's cross-border operations and optimize production plans, supply and demand prediction, lead times, and store inventory management.

Japanese electronics leader Panasonic and US software company Blue Yonder co-develop integrated solutions to improve warehouses' efficiency in package sorting. Customers' out-of-stock information is sent in real-time across various locations from the retail store to factories, warehouses and store personnel, allowing for timelier shelf replenishment, improvements in production and shipping plans.⁵



CROSS-BORDER DATA TRANSFERS AND INVENTORY MANAGEMENT

Overstocking has historically been a strategy employed by companies to prevent sourcing or merchandise shortages that could negatively impact production or sales. This approach, however, ties up financial resources that could be invested in other areas and even causes companies to lose money if perishable or other products are not timely sold.

Data gathered from a variety of sources and geographies can help companies optimize their inventory levels and avoid unnecessary surpluses. AI solutions can leverage a vast amount of publicly available data gathered around the world to help predict how certain events—such as extreme weather and road conditions—may impact supply, production, and delivery.⁶

French logistics leader Geodis launched "GEODIS e-Logistics" in June 2020. The platform uses digital technology to provide a real-time overview of all available inventory, in-store, in warehouse or in transit, worldwide. It also provides for the management of orders no matter the sales channel, and determines the most appropriate supply source, delivery method and returns options.⁷



CROSS-BORDER DATA TRANSFERS AND DEMAND FORECASTING

Data analytics tools can be used to examine a vast amount of data that influenced past product demand. AI algorithms can be trained to use that information, combined with other data points to predict when a combination of factors will impact future demand. AI solutions can help companies reduce forecasting errors by 20 to 50 percent; and reduce lost sales caused by product shortage by up to 65 percent.⁸

36 percent of supply chain professionals say that optimizing inventory management to balance supply and demand is a top driver for using analytics.⁹



DATA TRANSFERS AND TRANSPORTATION/SHIPPING/MAINTENANCE

Breakage or malfunctioning of vehicles, vessels, and equipment used to load cargo can delay delivery and generate financial losses. 90 percent of the African continent's commerce transits through ports.¹⁰ Technologies that heavily rely on data flows—such as Internet of Things (IoT), data analytics, AI and blockchain—can help optimize predictive maintenance, avoiding or greatly minimizing supply chain disruptions due to transportation delays. Predictive maintenance triggers an intervention when it is really needed and not just when it is pre-planned.

Leading Swiss logistics company Kuehne + Nagel launched its own online platform to instantly optimize every shipment, based on the route, transit time, and cost. The logistics platform connects shippers to 20 countries and can instantly compare data from sailing schedules and rates around the world between 2,220 port pairs, 7,500 service loops, and 54 underlying carriers. This process now takes seconds rather than days, without compromising on service levels and competitive rates.



CROSS-BORDER DATA TRANSFERS AND PRODUCT TRACKING / TRACEABILITY

Tracking products through the various steps of their supply chain or tracing back their origin once they reach their destination can be done transparently, safely, and quickly using blockchain. This technology helps manage product recalls very efficiently, increasing consumer safety and reducing costs. Blockchain solutions rely on cross-border data to trace every phase of a product supply chain and can quickly and precisely identify the origin of a problem to help avoid untargeted “bulk” product recalls.

Supply chain management is extremely important to product safety, for example, in the pharmaceutical sector. The ability to track pharmaceutical products through supply chain channels, which often includes participants located in more than one country, helps advance product safety.

In response to the need for global coordination to address the COVID-19 pandemic, the World Health Organization (WHO) developed a platform to provide real-time tracking to support the planning, implementation and resourcing of country preparedness and response activities. The platform is used by over 125 countries to review and monitor the status of public health actions; highlight country resource needs (financial, supplies, and personnel) and support planning, prioritization, and monitoring of response efforts and enable real-time reporting.¹¹

CONCLUSION

Cutting-edge technologies are boosting the safety, efficiency, and resilience of supply-chain management. Policies that promote the free flow of data in privacy-protective ways will enable digital technologies to support further innovation in the supply-chain sector and foster economic development globally.

Endnotes

- ¹ According to the 2016 Global Climate Catastrophe Report, the supply chain industry faces an average of 260 major natural disasters annually.
- ² Erik Sherman, "94% of the Fortune 1000 are seeing coronavirus supply chain disruptions: report," Forbes, 21 February 2020. Available at <https://fortune.com/2020/02/21/fortune-1000-coronavirus-china-supply-chain-impact/>.
- ³ <https://www.bsa.org/news-events/news/bsa-urges-governments-to-support-it-infrastructure-in-covid-19-response-efforts>
- ⁴ Geodis white paper https://geodis.com/sites/default/files/2019-03/170509_GEODIS_WHITE-PAPER.PDF
- ⁵ JDA and Panasonic partner to co-innovate on integrated digital supply chain technology solutions. Available at: <https://news.panasonic.com/global/topics/2019/64993.html>
- ⁶ Building a Smarter Supply Chain: The power of AI and blockchain to drive greater supply chain visibility and mitigate disruptions. Available at <https://www.ibm.com/downloads/cas/EY75BG4R>
- ⁷ GEODIS launches "GEODIS e-Logistics" to help brands grow their online sales <https://geodis.com/dk/en/press-release/geodis-launches-geodis-e-logistics-help-brands-grow-their-online-sales>
- ⁸ McKinsey & Company, "Smartening up with Artificial Intelligence (AI)—What's in it for Germany and its Industrial Sector?" Available at <https://www.mckinsey.com/~media/McKinsey/Industries/Semiconductors/Our%20Insights/Smartening%20up%20with%20artificial%20intelligence/Smartening-up-with-artificial-intelligence.ashx>
- ⁹ Logility Survey Reveals the Top Supply Chain Priorities for Advanced Analytics <https://www.logility.com/press-release/logility-survey-reveals-the-top-supply-chain-priorities-for-advanced-analytics/>
- ¹⁰ Report: African Logistics: Time for revolution. Available at: <https://www.theafricaceoforum.com/en/ressources/time-for-revolution/>
- ¹¹ COVID-19 Partners Platform & Supply Portal. Available at <https://covid-19-response.org/>

About the Global Data Alliance

The Global Data Alliance (globaldataalliance.org) is a cross-industry coalition of companies that are committed to high standards of data responsibility and that rely on the ability to transfer data around the world to innovate and create jobs. The Alliance supports policies that help instill trust in the digital economy while safeguarding the ability to transfer data across borders and refraining from imposing data localization requirements that restrict trade. Alliance members are headquartered across the globe and are active in the advanced manufacturing, aerospace, automotive, electronics, energy, financial and payment services, health, consumer goods, supply chain, and telecommunications sectors, among others. BSA | The Software Alliance administers the Global Data Alliance.