Recurrency

2022 Annual Supply Chain Report

Report Snapshot

Executive Summary

The global supply chain crisis has been at the forefront of scrutiny over the past two years. COVID-19 exposed its vulnerabilities and compromised multiple links, rendering it unreliable.

As pandemic woes begin to lift, the global supply chain remains fractured at its core. This whitepaper aims to dial in on the most turbulent trends and broken links as a result of the supply chain breakdown.

The challenge distributors face is how best to adapt amidst uncertain change. Many argue that those who will win –– have already won. Innovation is on its heels and for those who have not yet been weeded out, the key will be to adopt forward-thinking practices or otherwise perish.

Context

By analyzing insights gathered from third-party data, we explore four main areas of concern:

1. Lead Times,
2. Input Costs Consumer Pricing and Inflation,
3. Vendor Selection & SourcingSupply Sourcing,
4. FreightShipping Costs.

In conclusion, distributors are offered innovative solutions to stabilize supply and demand and continue to remain a competitive force.

Key Takeaways

The bedrock of our economy, the global supply chain, is a mess. In a two-year trend, lead times are increasing, inflation is on the rise, supply sourcing is becoming more globalized, and shipping costs are astronomical.

The world is evolving and distributors must adopt future trends such as automation, artificial intelligence, and smart data solutions to stay afloat and conquer markets.

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Supply Chain Rewind:

An ongoing pandemic has rendered our supply chain unreliable at best. Two years ago, in early 2020, the economy faced a global shutdown. Factories temporarily or permanently shuttered their doors. In direct response to stunted production, workers lost their jobs en masse. The backlog of orders grew. Production times increased. Delays were inevitable.

Container Conundrum

China, the center of global manufacturing, effectively closed down. An estimated five million people in Wuhan, China were laid off during the first two months of the pandemic. The world, now locked up at home, embraced e-commerce. Online orders boomed, but there was no one to make or fill orders.

Furthermore, China was sending its container ships, stocked with USD 2.5 billion worth of PPE, to all parts of the world. Receiving ports were backed up, and in the end, China – one of the world's most robust suppliers – was left without any remaining containers.

E-Commerce Rises

The impacts of COVID-19 were felt near and far. As consumers darted to the supermarket for a final shop before hunkering down for months on end, they were greeted with empty shelves. Supply and demand were truly volatile.

Failure of Lean Production

Lean production, a commonly accepted practice as a way to keep lead times down, backfired. E-commerce took the industry by storm and human behavior is arguably forever changed. Between a supply and demand logistics nightmare, "just-in-time" was now late. Very late.

Broken Links Crumble the Supply Chain

As a result, the price of the global shipping network skyrocketed. The fundamental elements that influence our supply chain, such as lead times, consumer pricing & inflation, supply sourcing, and shipping costs, fell like dominos, wreaking economic havoc across the world.

Lead Times:

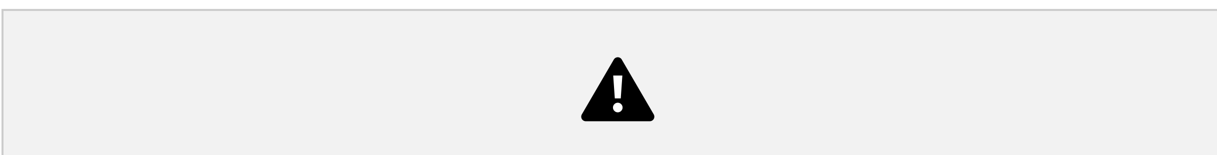
Lead times, the amount of time taken from start to finish of production, are at record highs and are not anticipated to go down anytime soon. This increase stems from a storm of distribution bottlenecks, port congestion, lack of raw materials, and labor shortages.

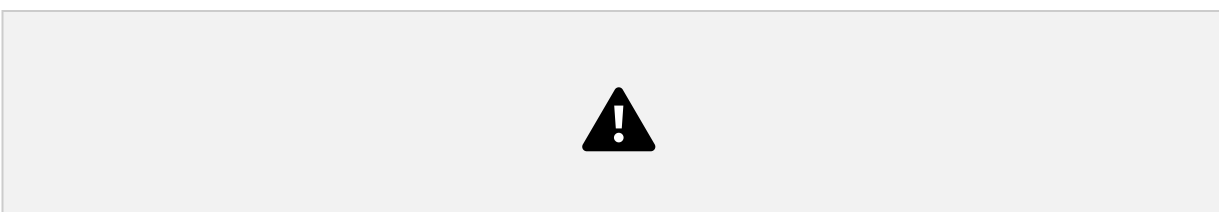
New Order Growth

According to the Manufacturing ISM® Report On Business®, for the 23rd consecutive month, there has been reported economic growth in the manufacturing industry. New orders for April clocked in at 53.5 percent, a 0.3 decrease, compared to 53.8 percent in March. Even with this nominal contraction, supplier delivery times have not recovered.

Slowed Supplier Delivery

With growing economic activity, supplier delivery times have slowed, yet again, to continue a troubling 74-month trend. The majority of industries are falling captive to this trend. According to ISM®, "[o]f 18 manufacturing industries, 16 reported slower supplier deliveries in April."





Longer Lead Times

Increased new orders and slower delivery times, paired with supplier challenges spurred on by supply chain disruptions, have led to ongoing longer lead times. Capital Expenditures, Production Materials, and Maintenance, Repair and Operating Supplies all set record average lead time highs in April, as shown in the chart below.

ISM® reports that "[t]he average commitment lead time for Capital Expenditures in April was 173 days, an increase of one day compared to March to match the all-time high set two months ago. CapEx lead times have increased in nine of the last 12 months, for a net gain of 25 days since May 2021 (148 days). Average lead time in

April for Production Materials increased by four days, to 100 days, a new record. Production Materials lead times have increased in nine of the last 12 months, for a net gain of 15 days since May 2021 (85 days). Average lead time for Maintenance, Repair and Operating (MRO) Supplies increased one day, to 49 days."

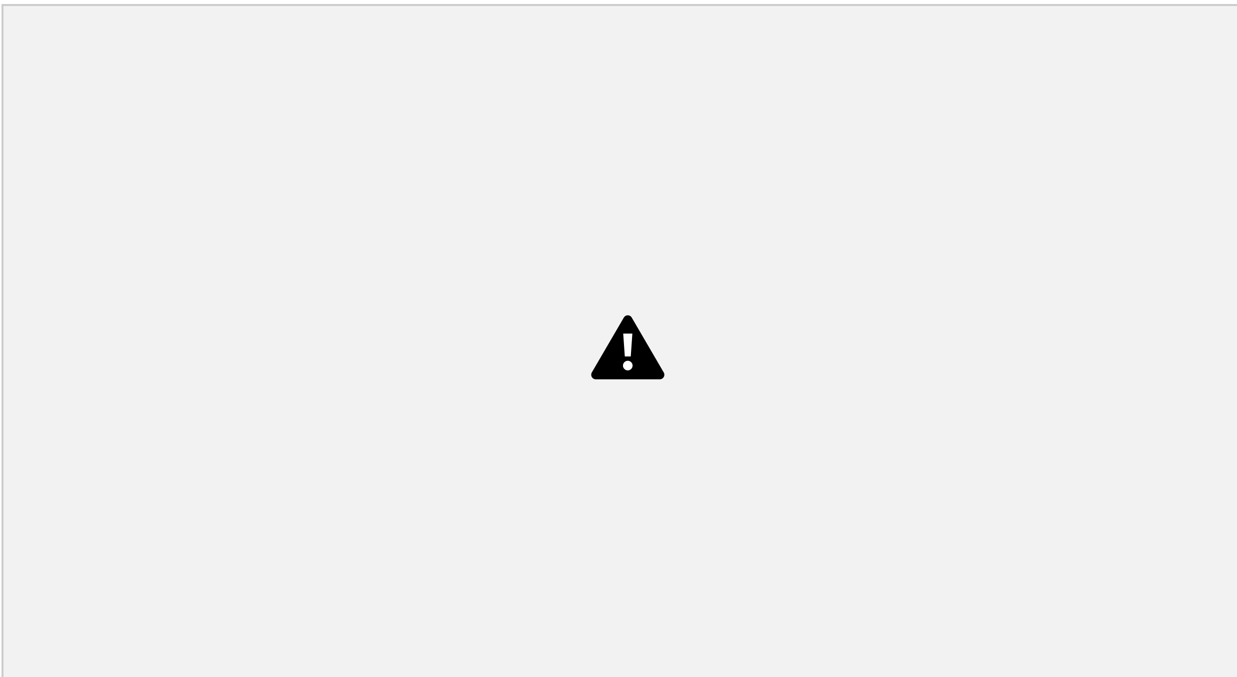
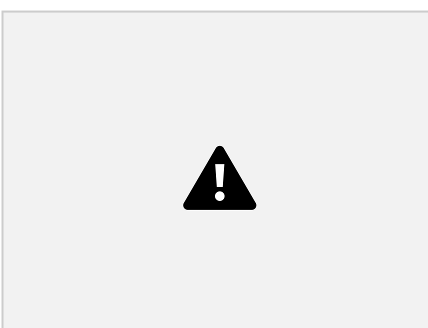


Chart plotted from data provided by the Institute for Supply Management® (See below.)



Since the pandemic, lead times have steadily risen, month over month. Longer lead times have a direct negative impact on both the manufacturers' output and revenue. While this connection is clear, what other impacts do longer lead times cause?

Consumer Pricing & Inflation:

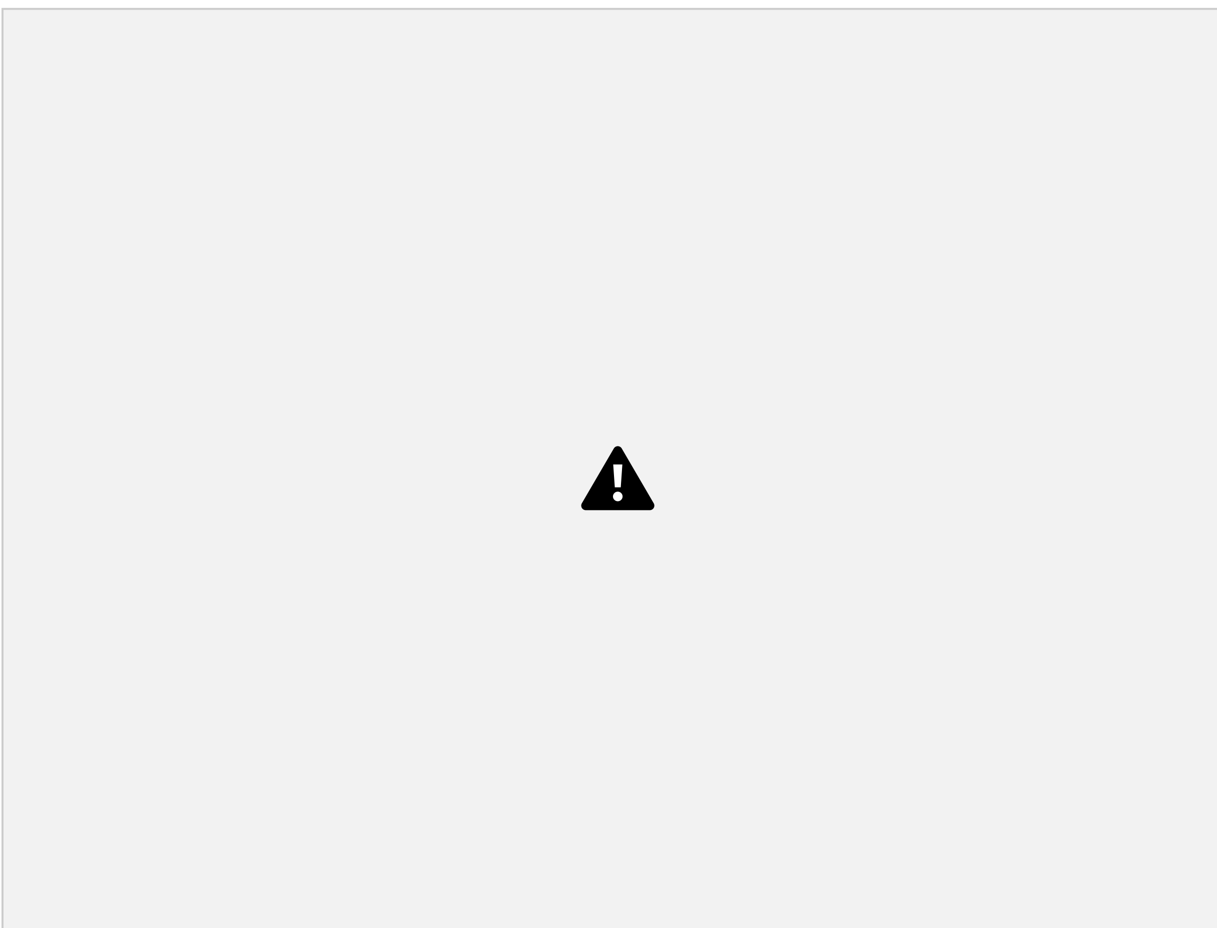
In addition to supply chain delays and longer lead times, increased production costs have been passed on from distributors to retailers to consumers.

With ongoing supply chain disruptions, retailers are hiking up prices to cover the incurred costs of production and shipping delays. These higher prices are then passed on to consumers.

After the initial shock of the pandemic back in March of 2020, consumer spending halted. A year later, it rebounded – with a vengeance. As the demand for consumer goods skyrocketed, the supply chain struggled to keep up. Throughout 2021 and into 2022, prices continued to climb.

The Pandemic Sparks Inflation

According to the Consumer Price Index Summary, released by the U.S. Bureau of Labor Statistics, the Consumer Price Index rose 1.2% in March on a seasonally adjusted basis. Over the last 12 months, the index increased 8.5 percent, making it the largest 12-month period increase since May 1981.



Inflation Soars

We are now amongst one of the highest inflationary climates of our time. While the ideal rate of inflation, according to Federal Reserve policymakers, is around 2% a year, prices have climbed much higher than the prescribed 2%. Due to shortages of both goods and labor, prices — much like lead times — are at an all-time high.

Demand Causes Price Surges

Retailers are raising prices, yet shelves are still empty. In early 2021, prices began to rise and have been steadily climbing since. The surge in prices is a response to consumer demand. As people have been spending more time at home, they've decided to take on renovation projects and convert their homes into classrooms, offices, and gyms. In response to these projects, the e-commerce industry has boomed faster than production can keep up with. Warehouses battle stockouts and distributors struggle to accommodate deliveries. Simply put: demand is up; supply is down.

Sparse Supply & Repercussion of Stockouts

With demand on the rise, the supply chain is severely strained. Between labor shortages, lack of distributors, and delayed container ships, these disruptions continue to worsen. Stockouts churn customers faster than any other single element. Online consumers are switching brands at an unprecedented rate. A survey conducted by McKinsey & Company shows that the number one driving factor in deciding where to purchase –– was determined by if the items were in stock.

What implications does this have for a business? One short-term response to solving stockouts, caused, in part, by inflationary supply and demand imbalances, is to work with new suppliers.

Supply Sourcing

As lead times continue to grow and inflation drives up material prices, relying on sourcing materials and goods from a single supplier is becoming more unreliable. While single-source procurement may have previously been good practice in manufacturing or supply chain management, the global economy has grown significantly, making this an outdated strategy.

Risks of Single-sourcing

Should a manufacturer opt to purchase from a single supplier, they run the risk of availability of supply and supply chain disruptions.

> Availability of Supply: By conducting business with only one supplier, the purchaser is left in a vulnerable position of reliance. If the elected supplier faces challenges stocking and distributing inventory, this translates directly to the purchaser who is forced to absorb the problem. As a result, the purchaser faces longer lead times, which could have negative business impacts, such as stockouts, and even churn customers.
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> Supply Chain Disruptions: Supply chain disruptions are why one should reevaluate the choice of sourcing strategy. Any interruption in the supply chain has long-lasting effects. If part of the supply chain is fractured at the supplier site, the only solution for the purchaser is to wait until it is resolved.

A Case for Dual- or Multi-sourcing

In an abstract from the Journal of Purchasing and Supply Management, the co-authors state that "[s]ingle sourcing, a powerful approach in a stable environment, can amplify a firm's exposure to risk (e.g., supplier's default) in the presence of uncertainty." The pandemic has stripped the global supply chain of all certainty and reliability, thereby arguing the ineffectiveness of single sourcing.

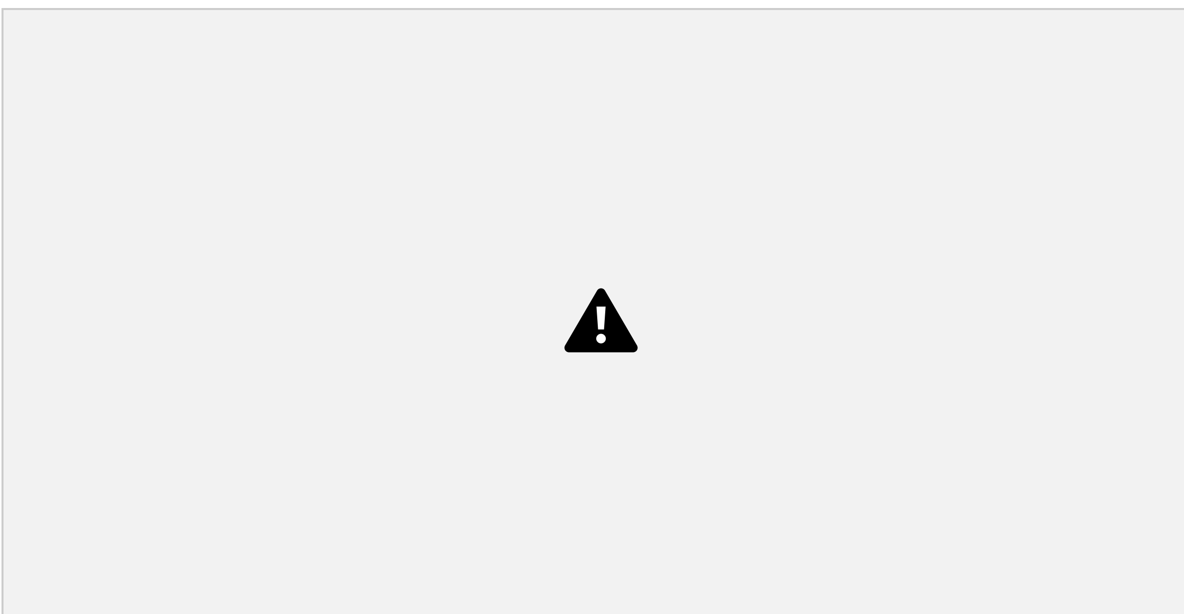
As disruptions persist, dual- or multi-sourcing is a strategic option that can combat the limitations accompanied by single-source procurement. Advantages include reduced supplier dependency and increased flexibility.

Reduced Supplier Dependency: During the pandemic, companies saw manufacturing challenges, accompanied by reduced productivity and labor shortages. By maintaining relationships with more than one supplier, one can avoid having to rely on a supplier who has increased prices or delivery times.

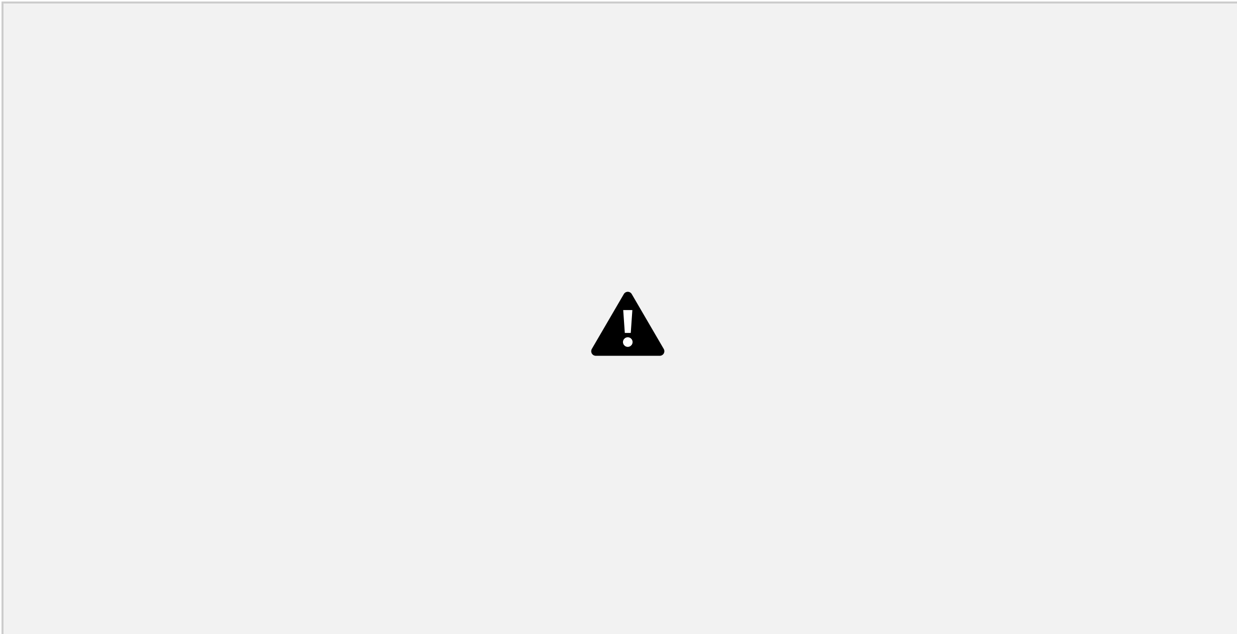
Increased Flexibility: The supply chain is in a fragile state. Reliance on suppliers who continue to have perpetually long lead times will not help it improve. Dual- and multi-sourcing provide the opportunity to diversify one's supplier portfolio, therefore reducing disruptions to the supply chain.

Shift in Global Suppliers

An interesting observation has surfaced as the result of both dual-sourcing and following the supply chain crisis to its epicenter, China. Once the powerhouse of supply, purchasers are leaving China. In 2019, a QIMA survey reported that 96 percent of respondents listed China among their top three sourcers. A year later, in 2020, the number dropped to 75 percent.

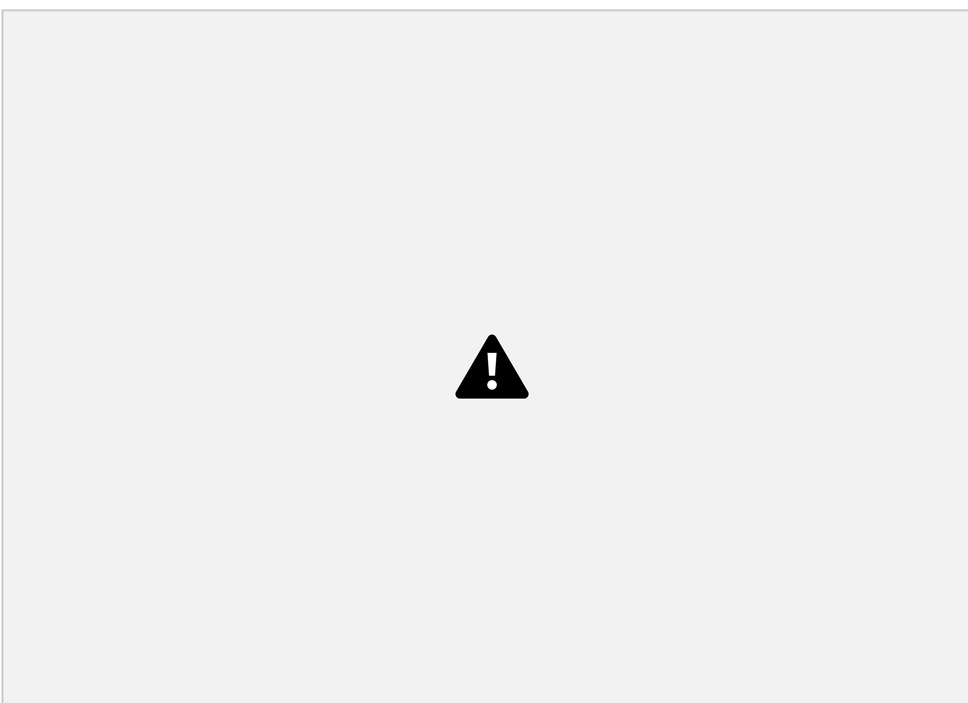


When asked where countries sourced products, North America, Vietnam, and Latin America all saw rises, while China decreased.



Between trade war tariffs and increased supplier diversity, the ubiquitous “Made in China” stamp may no longer be so prevalent. The decline in reliance on China highlights the issue of single-sourcing. Between lockdowns, bottlenecks, and supply shortages, companies simply didn’t have the privilege to rely on a single source.

Asian countries like Vietnam, Bangladesh, Thailand, Indonesia, and Malaysia are all emerging as supply centers.



(Chart made from data table below)

Shipping Costs:

As we grapple with the idea of new economic supply leaders and sourcing material from different countries, rising shipping costs must be scrutinized. Maritime shipping accounts for up to 80 percent of all goods transported.

Spike in Container Freight Cost

In early 2020, the cost of global container freights began to climb, escalating to a record peak of over USD 10,800 in September 2021. After a nominal dip in cost, the market rate continues to hover north of USD 9,000.

What Does This Tell Us?

It seems as though every link of the global supply chain is broken. As the pandemic curtails, the damage it caused to the supply chain is irrevocable, unless substantial changes are made.

Many businesses were wiped out by the pandemic but big-box retailers like Walmart and Target, along with e-commerce tech giant, Amazon, are raking in historical earnings, even as the global economy waivers.

The pandemic exposed the fragility of the supply chain. Companies that had already embraced e-commerce were able to pivot and reposition themselves as market winners.

For those who are still in the game, the question becomes: *how can you win?*

The Way Forward: Automation and Smart Data

Distributors' livelihoods are at stake. Inventory takes longer to procure, sourcing materials at the global scale lengthens lead times, materials are more expensive, and consumers expect better service than ever before. Pressure is being applied from every angle, and one misstep can lead to the dissolution of a company.

Amazon is virtually unscathed by the pandemic. In April 2021, a year after the pandemic, Amazon reported USB 108.5 billion in first-quarter sales, compared to USD 75.5 billion in Q1 of 2020. Why? When online orders flooded in, Amazon's advanced cloud computing power was able to intake and process orders. Many companies without forward-thinking capabilities fell victim to manual and inefficient processes that further backlogged orders, causing profits to plummet.

Automation Via Artificial Intelligence

The future of distribution will rely heavily on artificial intelligence (AI). Many retailers and distributors have already adopted applications that feature the use of AI, such as smart checkout systems or service robots. The use of such applications is not expected to disappear any time soon. As our technological world continues to advance, artificial intelligence is leading the way for distribution. To stay relevant and competitive, distributors must adopt AI.

AI in Distribution

The use of artificial intelligence automates workflows and helps to scale business operations while increasing profit margins. Every department stands to gain from automating tasks with AI.

> **Sales & Customer Service**: Equipping sales teams with AI-powered technology can increase output tenfold. By harnessing the power of artificial intelligence, representatives can gather a slew of helpful information, in real-time, such as recent orders, product availability, cost, delivery date, etc. Instantly accessing this information during a sales call helps representatives relay accurate recommendations, close more sales — *faster*, and ultimately improve customer satisfaction.
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> **Purchasing & Inventory Management**: Preventing stockouts and overstocks is one of the most challenging aspects of inventory management. AI has made great strides in improving the accuracy of purchase orders. With the assistance of artificial intelligence, distributors gain a more precise understanding of when it's time to order new inventory or when to liquidate stale products. This precision is made possible by algorithms that monitor pricing, economic conditions, seasonality of items, weather, and several other variables.
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> **Operations**: Many operations tasks can be automated with AI, in turn, speeding up the process and increasing sales. From reporting to task management, artificial intelligence plays a crucial role in propelling operations teams forward. By transitioning from manual to automatic, the rate of human error decreases as data is being self-collected and analyzed to offer accurate business insights.

Automation Via Smart Data Solutions

Data is growing at a pace faster than the technologies embraced by the majority of distributors can keep up with. With exception to the ERP industry, the past 20+ years have been a whirlwind of technological advancement, innovation, and data growth. As the world relents to change, distributors must follow suit.

Restructuring Big Data

Companies amass and store data. The problem is that the data, known as big data, is unfiltered and can't tell businesses anything they don't already know. To restructure data into usable forecasts, it should be filtered down into manageable data sets that focus on qualitative measures. These new data sets are called smart data, which provide distributors with keen insights and analysis to help make data-driven decisions.

The Future of Distribution

Regardless of company size, automation made possible via artificial intelligence and smart business solutions play a crucial role in the future success of companies. Distributors must adapt to the evolving industry to remain competitive and profitable.

About Recurrency

Recurrency is the leading ERP Automation Platform that empowers distributors to grow organic revenue, increase profit margins, and increase your team's productivity.

Legacy enterprise resource planning (ERP) systems that exist to help distributors manage their purchasing, inventory, sales, order processing, and accounting are decades behind. For the most part, ERP systems are painfully slow, difficult to use, and soul-crushingly manual.

We enable customers to leverage insight of their ERP data without building and maintaining data science teams, and automating time consuming, antiquated sales and forecast workflows.

Recurrency's goal is to reverse ERP stagnation by building streamlined and intelligent tools that optimize your ERP, complete with fast, powerful automation features like dynamic pricing and demand forecasting. Using Recurrency can boost a distributor's organic revenue and profit margins while preventing stockouts, deadstock, and saving time. Most importantly, Recurrency is fully integrated with the customer's legacy system, so deploying Recurrency in production can be done in as little as one day.

Founded in San Francisco and supporting a fully-remote team across the United States, Recurrency is a fast-growing and venture-backed team of talented technologists going all-in on building the next great platform company.