

January 2021

RESEARCH & INSIGHTS

Authors: Darryl Judd


Business Insights: 2021 – What’s In Store for Supply Chains?

For many, 2020 was a long and difficult year. A year in which the world’s resilience was tested on every level – personally, professionally and mentally, we learnt to adjust, overcome and move forward during periods of unprecedented change.


In 2021, we usher in not just a new year, but a year in which all hopes are pinned on the success of a vaccine rollout and a return to some form of normal.

Looking back, global supply chains and logistics professionals all across the world demonstrated just how far the sector has evolved from trucks and warehouses, to being a globally connected lifeline when homes everywhere faced lockdowns, border closures and massive airline groundings.


Seven Supply-Chain Trends to Watch in 2021




Stronger AI




Wider adoption of blockchain




End-to-end IoT




Layered technologies




Robotic automation



Smart contracts



Agile supply chains



www.LogisticsExecutive.com
info@logisticsexecutive.com

SOURCES: SupplyChainBrain

Whilst the future is always uncertain, perhaps now more so than ever, to the backdrop of a global pandemic that shattered our many 'norms' and comforts. The importance of supply chains and their re-emphasized necessity has set in motion trends and innovations that will reshape entire supply chain outlooks for years to come. Here are some of the key trends that we expect to see in 2021.

eCommerce Acceleration

In 2020, adoption of digital commerce accelerated by multiple years in just a few months. The eCommerce trends such as social commerce, evolution of omni-channel commerce, in-store transformation, and touch-less services will shape the 2021 innovation roadmap.

In 2020, a year in which storefronts went digital by necessity, kitchen tables turned into conference rooms, and how we live, work, and shop have been generally turned upside down. What hasn't changed for businesses, however, is the importance of providing an outstanding customer experience.

According to McKinsey, over 75% of U.S. consumers have changed shopping behaviour and changed to new brands during the COVID-19 pandemic. The top three reasons for shopping for a new brand were value, availability and convenience. The most important filter for discretionary spend is safety. The ability to offer eCommerce, contact-less payments, click and collect, and express home delivery are all requirements in order to compete in the next normal.



Delivery services have become all the rage. The likes of Uber Eats, Deliveroo, Talabat and Instacart have fundamentally changed the way people get restaurant food or receive grocery store deliveries. FedEx, UPS and Amazon all found themselves straining to meet demand during the pandemic. As a result, partnerships with last-mile delivery companies increasingly make sense as retailers seek to leverage their physical stores to fulfil locally placed online orders.

Fulfillment hubs will eclipse storefronts. With leased storefronts in malls likely to underperform due to a lack of foot traffic, retailers are starting towards converting them into fulfillment hubs. There's remarkable synergy in using these spaces for eCommerce— in some cases, transforming them into mini-distribution centres— particularly when paired with last-mile delivery services.

Reportedly in the US, Amazon is engaged in talks with mall operators to take over empty space as retailers like Sears and J.C. Penney vacate, as it eyes this model to expand its footprint and same-day delivery network further. Apple is another retailer that recently

started taking advantage of its retail stores, turning them into distribution centres for faster shipping of products to consumers.

Expect also that premium private label brand online sales will increase, creating a new vertical in the D2C sector. Customers are turning to luxury private label brands for superior products and better shopping experiences.

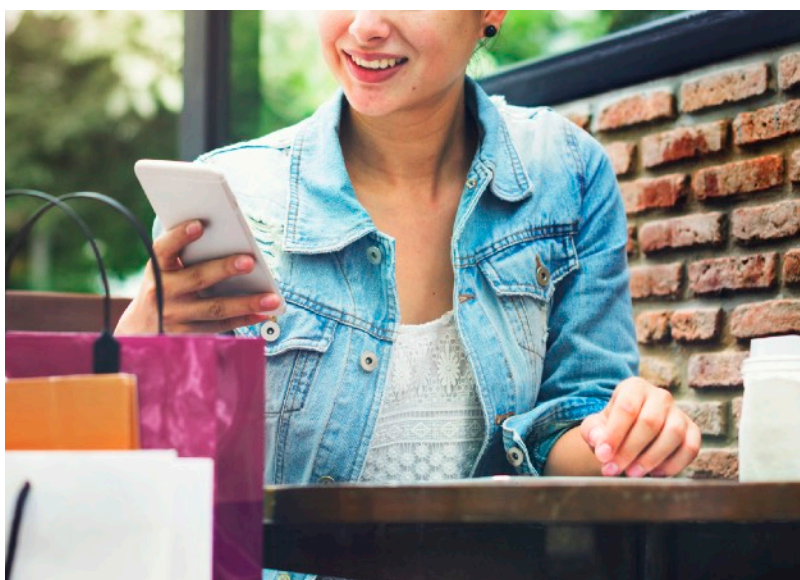
Either way, eCommerce is going to exponentially continue to rocket in 2021. New studies project that the worldwide retail eCommerce sales will reach new highs in 2021 on the back of 265% growth, from \$1.3 trillion in 2014 to \$4.9 trillion in 2021.

Importance of Omni-Channel

The events of 2020 permanently cemented the widespread adoption of eCommerce as customers became more comfortable with buying online. Mass mobile technology penetration and familiarity with communication channels like mobile chat and texting will drive consumers to do even more from their phones in 2021. By the end of 2021, industry leaders expect mobile phones will be the device of choice for almost 73% of eCommerce sales.

The change in consumer behaviours that we saw in 2020 won't just be temporary. Expect long-term changes in customer behaviour as customers adapt to a new reality. With increased social distancing meaning an omnichannel approach is now a necessity for retail store owners due to space constraints in store

Trends such as social selling through video content, selling direct-to-camera via livestream, Shoppable video, touch-less/contactless transactions, curbside pickup, enhanced multi-channel attribution tools (where the customer journey is tracked start to finish to better understand shopping characteristics and interests) and community building sales channels will be increasingly prevalent in 2021.



Expect that retailers and brands will still push their in-store apps and enhance features to improve the customer experience and drive sales across online and offline merchandising. For retail store owners transitioning to a more open and less socially distanced economy, omnichannel offerings will only become more relevant.

The Rise of Elastic Logistics

Our 2020 experience proved that it's not just enough for supply chains to be lean or have just-in-time processes. Massive demand adjustments and disruptions meant that our supply chains needed to be increasingly more flexible and responsive to market fluctuations. The result being a need for business to adopt a more flexible approach to logistics.

Elastic logistics which encapsulates the ability of the supply chain to easily expand or shrink according to current market demands is more prevalent than before. Alongside technologies such as artificial intelligence that automatically adjust supply chains as needed with minimal disruptions.

The interplay between supply and demand has tipped far in favour of demand. eCommerce, multi-channel marketing, warehouse management software and automation processes in picking and packing all force warehousing and logistics further towards supply-led decision-making. This endless expansion and contraction of warehouse operations based on supply, allows for more reliable financial control. Part of this flexibility also encompasses the ability to forecast risks, costs and demand. With advancements in Artificial Intelligence (AI), most TMSs (Transport Management Systems) employ predictive technologies in their analytical functions. Having such early warning systems helps companies monitor and avert fluctuations in demand and deals with supply-side disruptions such as material shortages.

Elastic logistics provides flexibility to many variables in the supply chain, including sailing schedules, carrier space, container usage, and route optimization. The adjustability helps companies better handle potential issues such as overstocking and unoptimized space in vessels. As a result, businesses can enjoy greater stability and remain competitive despite market fluctuations.

Artificial Intelligence (AI)/Machine Learning (ML) Platforms

In a supply chain where data is king, AI and ML platforms are increasingly important in providing valuable predictions for the business. AI and ML platforms provide the ability to ingest large amounts of historical and real-time data, clean and prepare it, and drive it rapidly via machine learning or AI algorithms and techniques to use in day to day business decision making.

In the supply chain and manufacturing, automation has been a trend for most of the past decade. Most notably, artificial intelligence (AI) has emerged as the primary propellant for automation in the supply-chain industry. All of the leading supply chain software companies are actively embedding AI into existing applications and applying machine learning outputs. For most companies this is a less risky and more cost-effective way to access the capabilities of AI.

Technology gains over the last 7 years, has proven that AI algorithms can perform basic operations automatically, saving enormous amounts of time, eliminating the possibility of

human error and making operations more efficient. In addition, this frees up human capital enabling it to be directed to perform more complex tasks.

According to SCB Contributor, Dan Weinberger the potential of AI is much greater. “AI can be used to identify patterns in data and bring useful insights. This could be used, for instance, to forecast demand in the near future. With the help of AI, operations within the supply chain can become more efficient and accurate”.



Effectively for many organisations, AI/ML applications can provide valuable visibility in present data black spaces not currently covered by existing supply chain applications, and in the 3PL service sector, excellence in supply chain management is how they differentiate themselves. Customised AI/ML application solutions that their competitors do not have makes a lot of sense, when integrated across their wider supply chain applications.

In 2021 it will be likely to see a rise in blended solutions that are partly an application framework and partly an AI/ML platform. As an example, Anaplan, a supplier providing supply chain planning and other business applications, introduced PlanIQ. PlanIQ pulls in data from Anaplan and automatically tests several AI/ML algorithms before selecting the model optimized to generate the strongest forecast for a customer’s unique use case. Underpinning PlanIQ is Amazon Forecast, the same ML technology used by Amazon.com across the majority of its supply chain operations.

Expect to see greater emphasis on augmented reality (AR) and virtual reality (VR) as these technologies are adopted to support virtual operations and to improve the efficiency of supply chains. AR devices allow workers to multitask more effectively or assist in training environments. Companies can also use these devices to enhance product development efforts by predicting potential product uses in a realistic setting.

Robotic Automation

Even prior to Covid-19, robotics was playing a key role in transforming supply chains. In the first half of 2019 alone, North American companies spent \$869 million on more than 16,400 robots.

More and more companies today are using drones and driverless vehicles to streamline logistics operations. Self-driving cars are also likely to be more advanced in 2021, with capabilities to make automated traffic decisions.

Closer to home, two major trends to watch out for in 2021 would be increases in Robotic Automated Storage and Retrieval systems and Robotic Process Automation (RPA).

Goods-to-person automation is quickly coming to market. These “robotic shuttle systems” are a hybrid of traditional shuttle systems and free roaming robots. Offering the benefit of high storage density and a high degree of flexibility due to the dynamic movement of bots, the bot agility removes throughput and sequencing constraints, providing increased productivity potential.

These solutions align with the operational needs of many industries, particularly the same-day fulfillment operators. With the boost in online and the spike in demand especially in e-grocery fulfillment, these solutions will become a major factor in driving fulfillment automation in 2021 and beyond.



Robotic process automation (RPA) is software used to automate high volume, repeatable tasks. The rise of external RPA solutions to enable companies to automate the work inside legacy systems is quickly becoming the norm. Over time enterprise systems develop better automation and users can do their job more effectively, however for legacy systems this is much more difficult. RPA providers fill a gap that would otherwise be costly for organisations to consider or take time to implement. An example is a 3PL that is using RPA to automate the highly manual tasks associated with planning optimization in their legacy transportation management system (TMS). It is also used to examine carrier websites for appointment scheduling. Descartes points out “that for all but the simplest route planning problems, creating the best plan is not as simple as loading data and hitting the ‘optimize’ button. Instead, the best planners go through multiple steps to generate optimal results”. Essentially, RPA can model the steps that the best planners take to produce superior results.

Blockchain

2020 is year in which arguably blockchain found its rightful place in the technology chain. Long debated as either “the biggest breakthrough” or “just hype” the technology is finally starting to prove its worth in various industries; the supply-chain industry being one of these.

Increasingly this digital ledger technology combined with IoT infrastructure is finding its way into applications that are supporting and securing a wide range of supply chain transactions among businesses.



Blockchain is offering the ability to greatly improve supply chains by enabling faster and more cost-efficient delivery of products, enhancing products’ traceability, improving coordination between partners, and aiding access to financing.

One such company to embrace blockchain is US Retail giant Walmart. Initially launched as a food safety initiative Walmart has expanded its blockchain efforts to other parts of the business, including merchandising, sourcing, technology and trade. Additionally in 2020, it piloted a program with the U.S. Customs and Border Protection Agency to facilitate faster flow of goods across borders.

Wider acceptance of blockchain will allow supply chains to become more transparent and informed. We would expect that platform-agnostic blockchain solutions will be in greater demand in 2021 particularly as cryptocurrencies based on blockchain are becoming more common in the supply-chain industry, as more governments recognize cryptocurrencies as legal tenders.

5G (fifth generation of wireless technology)

5G is presently being rolled out around the world offering a revolutionary opportunity in how ports, airports, trucks and trains communicate.

In simple terms, the latency, or the time it takes devices to communicate with each other across wireless networks, will drastically decrease, providing the connectivity speed needed to rejuvenate the supply chain technology from historical to real-time.

With increased deployment of ‘IoT’ connected devices throughout the supply chain and manufacturing process, there is abundance of rich data streams sending real-time information which needs to be catered for and processed. 5G becomes an imperative in managing data transfers at significantly increased speeds and with greater reliability. Expect that as 5G’s global rollout gathers momentum in 2021, that upgraded 5G enabled machines, devices, handing systems and new Supply Chain Management equipment become a major trend in 2021.



In 2020, supply-chain industry stood out for its ability to respond and react to ensure supply during unprecedented times. Lessons learnt from that experience, coupled with renewed importance in the boardroom ensures the future holds great promise. Continued acceleration in the adoption of new technologies and innovations, aligned to changing consumer behaviours and with a focus on helping businesses achieve greater operational efficiency will place supply chain at the forefront of 2021, and beyond.

The discussion does not end here. Tune into our vodcasts or subscribe to **Logistics Executive TV** ([Subscribe Here](#)) for all our business insights and thought leadership. Talk to us about how we can partner with you to:

- Develop a more resilient digital transformation strategy.
- Establish a roadmap to create business-wide automation and digitisation.
- Coach your talent to embrace the increased digitisation as they embrace the new norm.

For more news and features connect to us by subscribing to our regular newsletters - [click here](#)

Contact the author

Darryl Judd - Chief Operating Officer

e: DarrylJ@LogisticsExecutive.com

Phone: +971 4 361 6275

Logistics Executive Group | www.LogisticsExecutive.com