

July 2021

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# RESEARCH & INSIGHTS

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Authors: Mark D Heald

## Business Insights Industry Focus: Technology Trends in the Supply Chain

The growth and requirement of technology in the supply chain is playing a critical role for companies to increase competitiveness, achieve higher service levels and lower overall costs. Applications such as Electronic Data Exchange (EDI), Radio Frequency Identification (RFID), Bar Codes and Enterprise Resource Planning (ERP) are now considered the norm. The rate of transformation globally in both mature and emerging markets is now moving at lightning speed due to the adaptation of technology, lower cost for market entry and increased penetration of smart phone devices which has fundamentally changed consumer buying behavior and flexibility required to adapt within organizations.



Photo Source: Zipline Logistics

## Drivers of Technology

The current competitive environment is a major factor in driving technology as many new start-ups in last mile solutions are finding opportunities to reduce costs and increase visibility throughout the value chain by enhancing existing digital tech and/or creating new asset lite business models that are cloud based and cost effective as a SaaS model.

Within the last few years and more recently with the pandemic we have seen a global shift of growth in Ecommerce spend across different industry sectors including Retail, Food, Pharma, Healthcare & Beauty.

Customer Expectations are changing as individuals and business' expect to receive goods faster and increased flexibility at low to zero cost. Smart manufacturing is also driving customization and customer centric innovation which is ideal for consumers but challenging for 3PLs as the order rate and variability becomes harder to predict volumes. The way to improve and make it easier would be to introduce and evolve tailored technology which in the medium to long term reduces cost, improves visibility across each milestone and increases efficiency throughout the value chain to manage the variations.

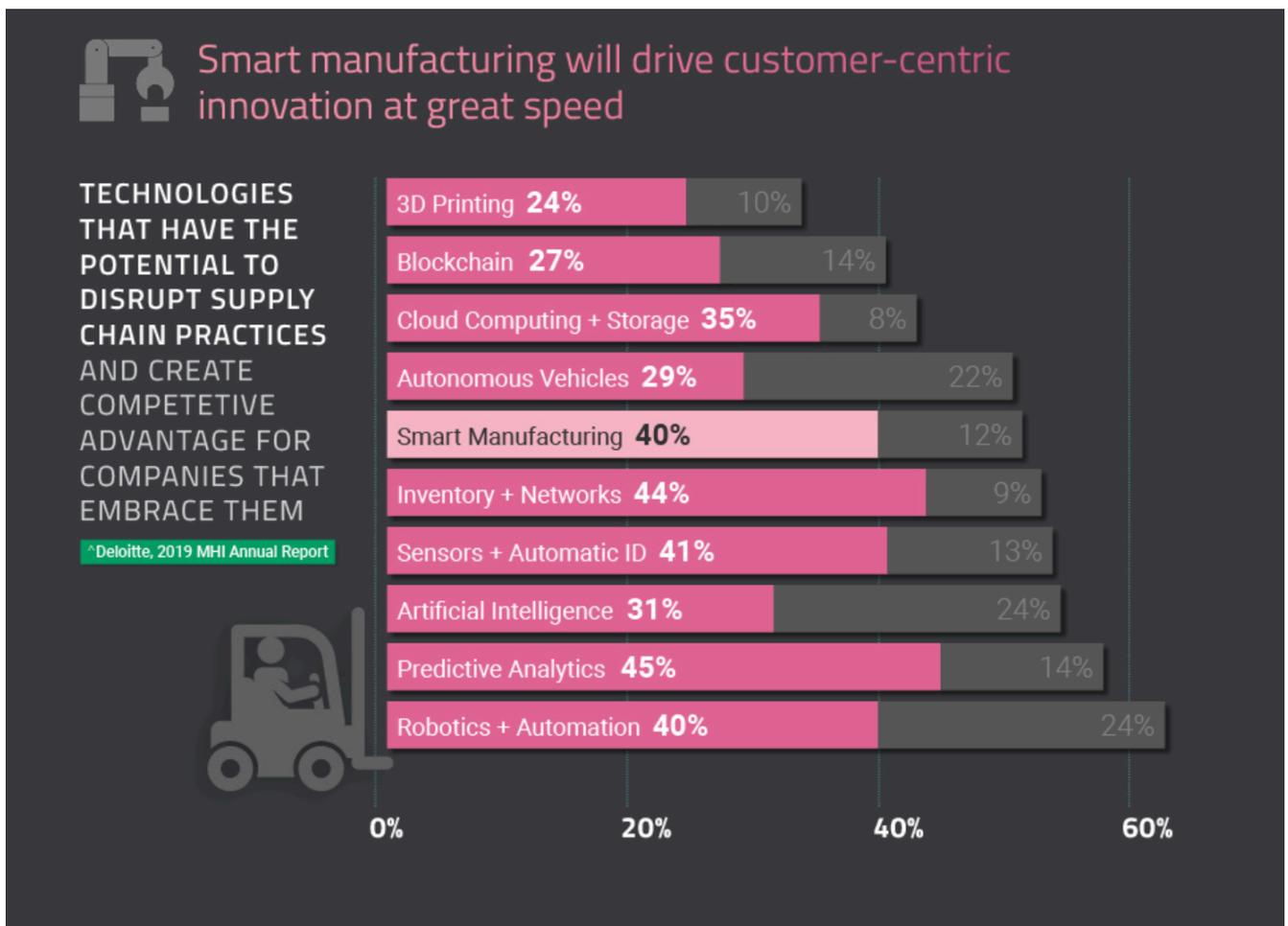


Photo Source: Edge by Ascential

## Leveraging Technology in a Pandemic

The Covid-19 pandemic created soaring demand for consumer products including; toilet paper, electronics, cooking ingredients and hand sanitizers. Health care providers also experienced a surge in PPE and other vital medical supplies including prescribed drugs which were a considerable challenge for on time delivery. Until recently hospitals have had to manage these issues on their own, translating surges into meaningful information regarding on-hand inventory and capacity to manage outbound orders to customer within a competitive lead time and minimize further risk of outbreaks. According to Deloitte 2019, healthcare providers are advancing the use of technology such as blockchain and predictive analysis to determine how rapidly diseases are spreading, precise geographic locations and the required quantity to be supplied at any given time to avoid wastage.

This new technology is leveraging automated, real-time surveillance capabilities providing early warnings, predicting surges and helping organizations plan coordinated responses and resources where they're needed. When local health care providers can predict hospitalization's it minimizes the ripple effect relieving strain on cross-industry supply chains ensuring more responsive care across communities and minimizing further impact to the economy.

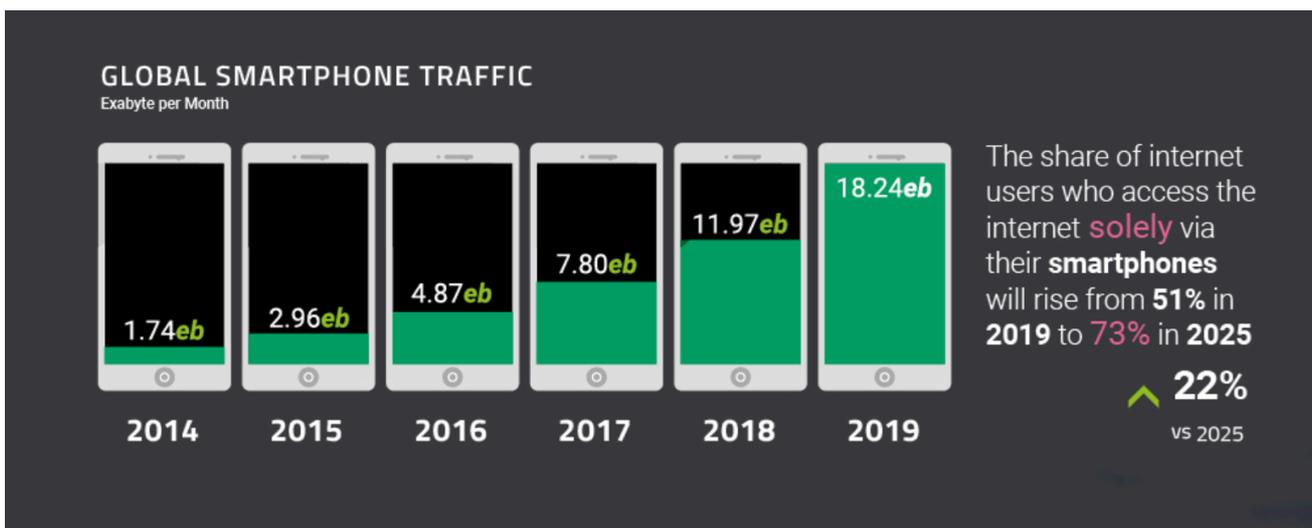


Photo Source: Edge by Ascential

## Last Mile Focus

With the changes in consumer requirements and the redesign of supply chain flows across home food deliveries such as dark kitchens and shop fulfillment or dark stores for direct to consumer (D2C) delivery models in retail we have seen technology evolve to increase competitiveness, reduce time and cost with less touch points and labor required to carry out the same level of effort.

Blockchain technology has improved data accuracy and enabled more precise transport traceability. Users have enhanced visibility of the delivery timeline as well as in-depth

information about the product location in real time. Blockchain allows the supply chain partners to better interact with one another and allow the customer to have a more accurate estimate of the 'goods' arrival with information pertaining to any issues along the journey.

As data collection, sharing and security become more apparent features with blockchain, customers will have increased opportunity to make quicker and more informed decisions about their shipment.

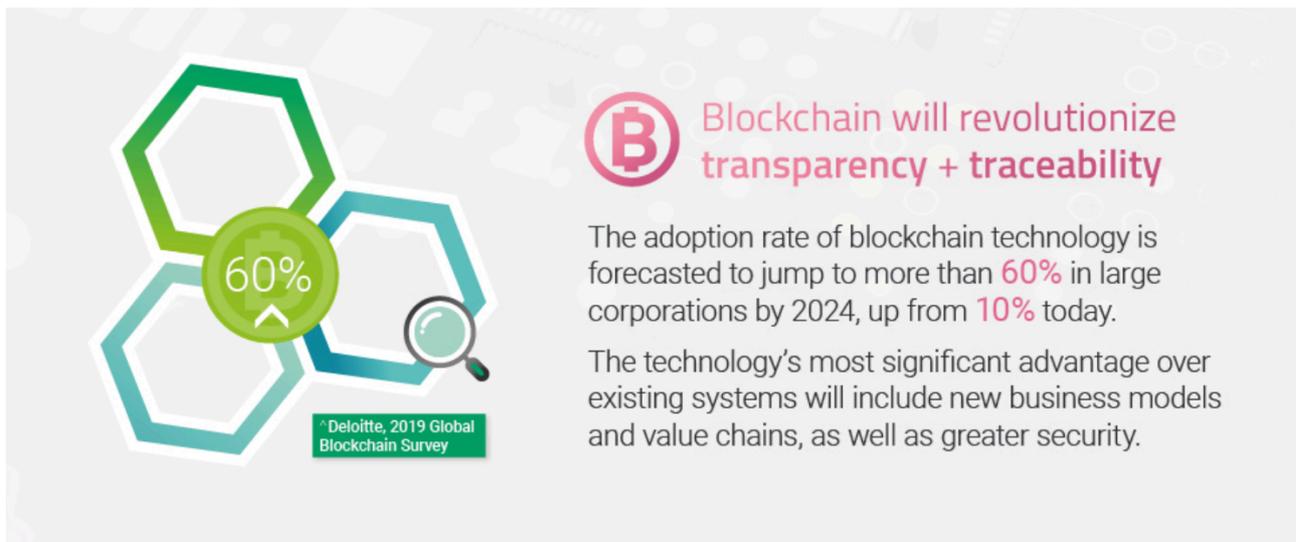


Photo Source: Edge by Ascential

Kuebix.com states that network based platforms such as Transport Management Systems (TMS) and SaaS (software-as-a-service) technologies create a network of local carriers in which a single solution provider can organize hundreds of trucks and packages on the same network. In the transportation and logistics industry, a network-based transportation management system (TMS) allows users to collaborate with a larger scale shipping community for greater efficiencies such as accessing truckload spot quotes in addition to contracted carrier rates. Unlike traditional platforms for managing logistics operations, a network-based TMS connects shippers with an entire ecosystem of other shippers, carriers, brokers, freight marketplaces and 3PLs.

Network-based platforms are useful with the significant growth in Ecommerce. For example, the platform enables real-time changes to deliveries as consumers need and expect to be able to make changes to their delivery moments after placing an order. With network-based platforms, different hubs and partners can interact and accommodate as a customer makes the changes in a 'Live' environment.

According to Bringg.com there is also an increasing number of delivery crowdsourcing apps, like UberRUSH, Postmates, Deliv and Amazon Flex that alert independent drivers when nearby deliveries are available. Many 3PLs are trying to solve their last mile delivery challenges by using these available third-party providers for at least some of their work

particularly around seasonal events or when major promotions are in play. These options can prove to be the fastest, cheapest and most scalable solution because it provides an on-demand, scalable pool of delivery drivers. This is particularly helpful for same day delivery, which is the high-bar customers have set along with the spike in growth of online retail.

Robotic technology such as drones and self-driving cars are quickly being adopted in the transportation industry. The highest cost of delivery is labor, which accounts for nearly 60% of total cost. Robotic deliveries are likely to be faster, less expensive and have less error. The future is here and robots will ultimately take over last mile deliveries. McKinsey believes that autonomous vehicles (AV) and drones will deliver 78% of all products in the future with traditional delivery accounting for only 20% and bike carriers 2%. Amazon has begun to test and implement drone technology for last mile legs in rural areas. Yelp Eat24 is also testing robots in the US with human accompaniment in order to iron out any issues with software.



Photo Source: Logistics Insider

Many of these new systems can be complex in nature and take time to commission depending on maturity and standpoint of the organization, country or region. If a company is lacking maturity, then it is likely to disrupt organisational operations, create a negative impact on the customer experience and likely to create additional cost decreasing profitability. Managers and shareholders of these firms have to plan their roll out strategies with care and over non critical/ off peak periods throughout the calendar year to avoid financial and customer impact. It is also important to keep in mind that the introduction of new technologies is bound to result in significant changes in operations and possibly lead to redundancy of labour through automation, which could result in change resistance amongst employees and a negative impact on morale and culture.

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## ABOUT THE AUTHOR

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**Mark D Heald**  
Director - Ventures and Partnerships

Mark is a highly dynamic, passionate and forward thinking professional with an MBA (Marketing) and BA (Supply Chain) with over 19 years international experience working with top tier companies in Europe, Asia Pacific and the Middle East. His experience across industry includes; Schneider Electric - Electronics Manufacturing, Al Ghurair - FMCG, GSK - FMCH, Novartis - Pharmaceuticals specialising in Supply Chain Management, Cold Chain Management, New Product Introduction & Obsolescence, ERP Implementation, S & OP Chairman, Procurement and Demand Management to maximise the Customer Experience and profitability.

On a personal level Mark has been living in the United Arab Emirates with his family for 6.5 years and is an avid sportsman ranging from Cricket, Triathlons, Tennis, Trail Running and Marathons.

Contact the author:

e: [MarkH@LogisticsExecutive.com](mailto:MarkH@LogisticsExecutive.com)

Phone: +971 4 361 6275

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