

New Roles in Digital Supply Chains



Using the capabilities that artificial intelligence provides, businesses are reducing the complexity of their supply chains and increasing their responsiveness. Companies are improving their knowledge-intensive operations, such as supply chain planning, client order management, and inventory tracking, with the use of artificial intelligence (AI), machine learning (ML), robotics, and advanced analytics. Walmart employs AI algorithms to improve the efficiency of its supply chain. The firm has built a system called Eden that is powered by AI and helps forecast the demand that customers will have for items. It also guarantees that inventory levels are maintained to satisfy the demand that is predicted. Additionally, to improve the efficiency of its logistics network and cut down on the expenses of transportation, Walmart has adopted machine learning algorithms. Similarly, Amazon has been employing artificial intelligence (AI) for many years to better its supply chain. The firm utilises machine learning algorithms to forecast the demand for its items and to optimise its warehouse operations to speed up the delivery of such products to the company's consumers. Another example of such deployment of AI can be seen in Coca-Cola. The firm has deployed a system driven by an artificial intelligence known as the Dynamic Scheduling System. This system makes use of machine learning algorithms to maximise the efficiency of the company's product manufacturing and distribution. The system takes into account a broad variety of parameters, including things like transportation costs, manufacturing capacity, and inventory levels, in order to ensure that items are delivered to clients on time and at the most cost-effective price feasible. Closer to the world of logistics, AI has been put to use at the world's largest container shipping firm, Maersk. "TradeLens" is the name of the AI-powered system that the firm has created. TradeLens uses machine learning algorithms to improve the flow of commodities throughout their global supply chain. To guarantee that items are delivered to clients in the most timely and cost-effective manner possible, the system takes into consideration a broad variety of criteria, including shipping routes, customs restrictions, and port congestion, among many others.

It does not mean that humans will be rendered obsolete as labourers. In fact, Paul Daugherty and H. James Wilson have written a new book titled "Human+Machine: Reimagining Work in the Age of AI"¹⁵ that dispels the common myth that artificial intelligence systems would eventually replace humans in all areas of business. The fundamental strength of artificial intelligence lies in its ability to complement human capacities; while it will be used to manage specific jobs, including decision-making at a higher level, this technology's ultimate potential will not be realized until it is applied to the supply chain. Both human beings and machines are necessary components of this new environment: The potential of humans and robots working together in jobs such as supply chain planning and inventory management will produce new sources of value for enterprises.

AI, when coupled with advanced analytics, will empower supply chain planners to make decisions with a greater focus on the long-term strategy of their operations and reduce the amount of time they spend on reactive problem solutions. These planners will take the lead in the transition from an outdated operating model for supply chains, which is characterized by a lack of flexibility and a slow pace, to a new dynamic model that features genuine end-to-end segmentation. This necessitates the management of both commercial relationships and exceptions, in addition to the development of different supply chains that are tailored to the requirements of specific client micro-segments. Concurrently, a new role for digital engineers is likely to come into existence. This person will be a highly analytical data scientist who is also proficient in digital technology. They will be responsible for managing, modelling, and modifying the algorithms, alert protocols, and parameters that direct automated decision-making planning systems. The rising demand for human workers who possess the skill set of digital engineers will cause the importance of having strong analytical skills to increase.

The most successful businesses are aware that this shift is on the horizon and have already begun to adapt their supply chain workforces. Research conducted by Accenture Strategy found that 90% of executives believe that the current workforce would become proficient in digital

¹⁵ <https://store.hbr.org/product/human-machine-reimagining-work-in-the-age-of-ai/10163>

technologies such as augmented reality, 3D printing, and automation over the next five years. In addition, ninety-two percent of CEOs who were surveyed claimed that supply chain workforces will be upskilled and enabled to engage and operate smoothly with machines.

In other words, workers in the supply chain are already beginning to adjust to working efficiently with a variety of intelligent technologies, such as robots, cobots, and virtual agents, in order to complete the tasks that will be required of them in the future. These technologies can, for instance, assist reinforce the right procedures on the work floor, monitoring how staff execute jobs and advising them to do so in the most effective way possible. Through the use of AI, Thyssenkrupp can overcome talent mismatches. An augmented reality device made by Microsoft called HoloLens is provided to the elevator technicians employed by the industrial services company so that they can confer with subject-matter experts.

Leaders in the supply chain have a responsibility to prepare their teams for the change that is inevitably coming and is now underway. That includes committing to reskilling individuals and moving them to other parts of the company where they can provide more value and where they will be more productive. A significant consumer goods company implemented machine learning as an adjunct to more conventional methods of forecasting. This led to an improvement in the accuracy of forecasts and the management of inventories, as well as the elimination of the need for manual reviews and calculations, which had previously consumed almost 80 percent of the available time. As a consequence of this, the corporation redirected the efforts of its human workers to give insightful market intelligence.

The following is a list of other methods in which leaders of supply chains can maintain this momentum and enable human workers to collaborate with AI most effectively :

- **Encourage the next generation of workers.** It is time to find unique talent by exploring outside of the supply chain at this point. Data scientists, risk managers, and business development leads are

examples of the kinds of personnel who have the potential to contribute significantly to the supply chain's bottom line. Companies should also make sure that their workplaces reflect the ethos of the new supply chain by integrating mobility, technology, and collaboration tools and by reinforcing new behaviours and mindsets throughout the talent development life cycle. This should be done to ensure that their workplaces are in line with the new supply chain. When it comes to recruitment, performance measures, and career advancement, you need to approach everything through the prism of innovation that is driven by technology.

- **Separate the human and the Robot.** Determine which opportunities may be realized immediately and which can be realized in the medium term and prioritize them according to the individual roles and responsibilities involved. Artificial intelligence (AI) systems will only continue to advance and become more intelligent in their ability to make decisions. As a consequence of this, it is necessary to reorient and retrain human workers so that they may concentrate on high-value endeavours such as improving the customer experience and innovating new products.
- **Put your money where your innovation is.** Think big but start small by mapping opportunities to integrate AI with already existing technology solutions. Think big but start small. Up until this point, technology such as robotics, big data, analytics, and others have been employed in conjunction with people but independently of one another. Increasing the effectiveness of the process is their responsibility. All of that has changed, however, with the introduction of AI systems that can feel, communicate, interpret, and learn. AI has the potential to assist organizations in moving beyond automation and elevating human capabilities, both of which generate new value for the company.

¹⁶ <https://hbr.org/2018/08/new-supply-chain-jobs-are-emerging-as-ai-takes-hold>

As supply chain management continues to evolve and adapt to new technologies and business models, new roles will be created to address the changing needs of companies. Some of the roles that may be created in the future include:

SUPPLY CHAIN ANALYTICS MANAGER:

With the increasing amount of data available in the supply chain, companies will need individuals with the skills to analyze and interpret this data to make informed decisions. Supply Chain Analytics Managers will be responsible for collecting and analyzing data from various sources, such as ERP systems, sensor data, and social media, to identify patterns and trends that can improve supply chain performance.

DIGITAL SUPPLY CHAIN MANAGER:

As more companies adopt digital technologies to manage their supply chains, roles dedicated to managing these technologies will become more prevalent. Digital Supply Chain Managers will be responsible for implementing and managing digital solutions, such as automation and artificial intelligence, to improve supply chain efficiency and visibility.

SUSTAINABILITY AND RESPONSIBLE SOURCING MANAGER:

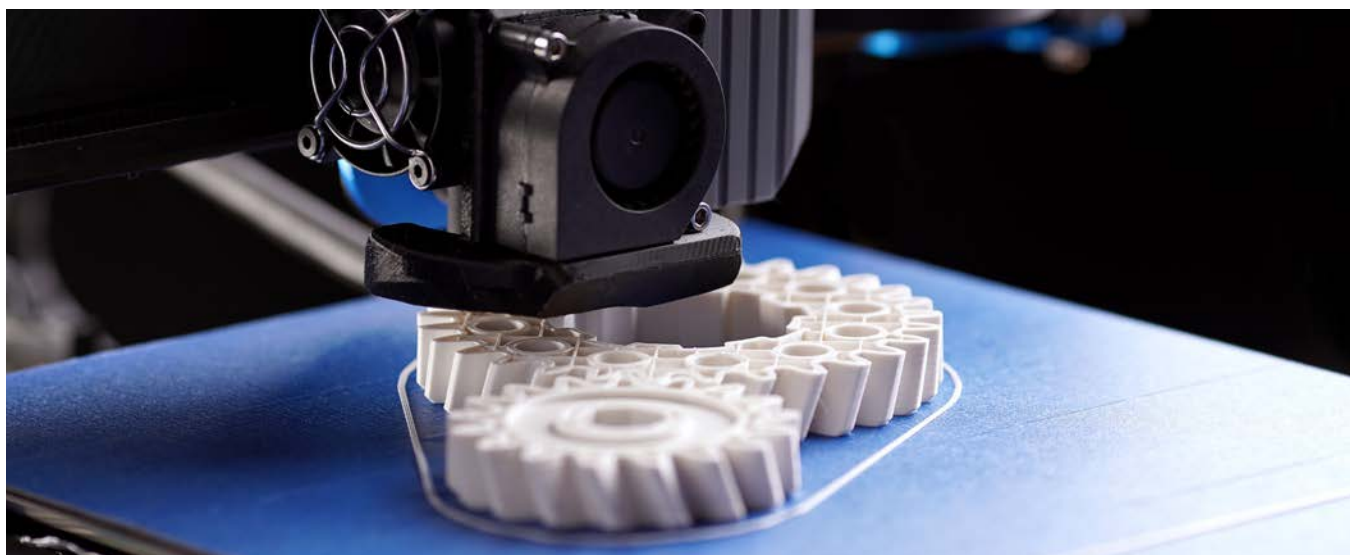
As more companies prioritize sustainability and responsible sourcing, roles focused on these areas will become more important. Sustainability and Responsible Sourcing Managers will be responsible for implementing sustainable practices and ensuring that suppliers meet the company's standards for responsible sourcing.

BLOCKCHAIN COORDINATOR:

Blockchain technology has the potential to revolutionize supply chain management by improving transparency and traceability. Blockchain Coordinators will be responsible for implementing blockchain solutions in the supply chain and ensuring that all stakeholders, including suppliers and customers, can access and utilize the information stored on the blockchain.

3D PRINTING COORDINATOR:

With the increasing adoption of 3D printing in manufacturing, roles focused on managing the integration of this technology into the supply chain will become more important. 3D Printing Coordinators will be responsible for managing the design, production, and delivery of 3D printed parts and products.



SUPPLY CHAIN CYBERSECURITY MANAGER:

As supply chains become increasingly digital, cybersecurity will become a more important concern. Supply Chain Cybersecurity Managers will be responsible for identifying and mitigating cyber risks and ensuring that the supply chain is protected from cyber-attacks.

SUPPLY CHAIN RESILIENCE MANAGER:

As supply chains become more complex and global, the ability to respond to disruptions will become increasingly important. Supply Chain Resilience Managers will be responsible for developing and implementing strategies to ensure that the supply chain can respond quickly and effectively to disruptions, such as natural disasters or pandemics.

SUPPLY CHAIN NETWORK OPTIMIZATION MANAGER:

As companies look to optimize their supply chains and reduce costs, roles focused on network optimization will become more important. Supply Chain Network Optimization Managers will be responsible for analyzing and optimizing the supply chain network to identify opportunities for cost savings and efficiency improvements.

ADVANCED PLANNING AND SCHEDULING MANAGER:

As companies look to improve demand forecasting and production planning, roles focused on advanced planning and scheduling will become more important. Advanced Planning and Scheduling Managers will be responsible for using advanced techniques, such as machine learning, to improve demand forecasting and production planning.

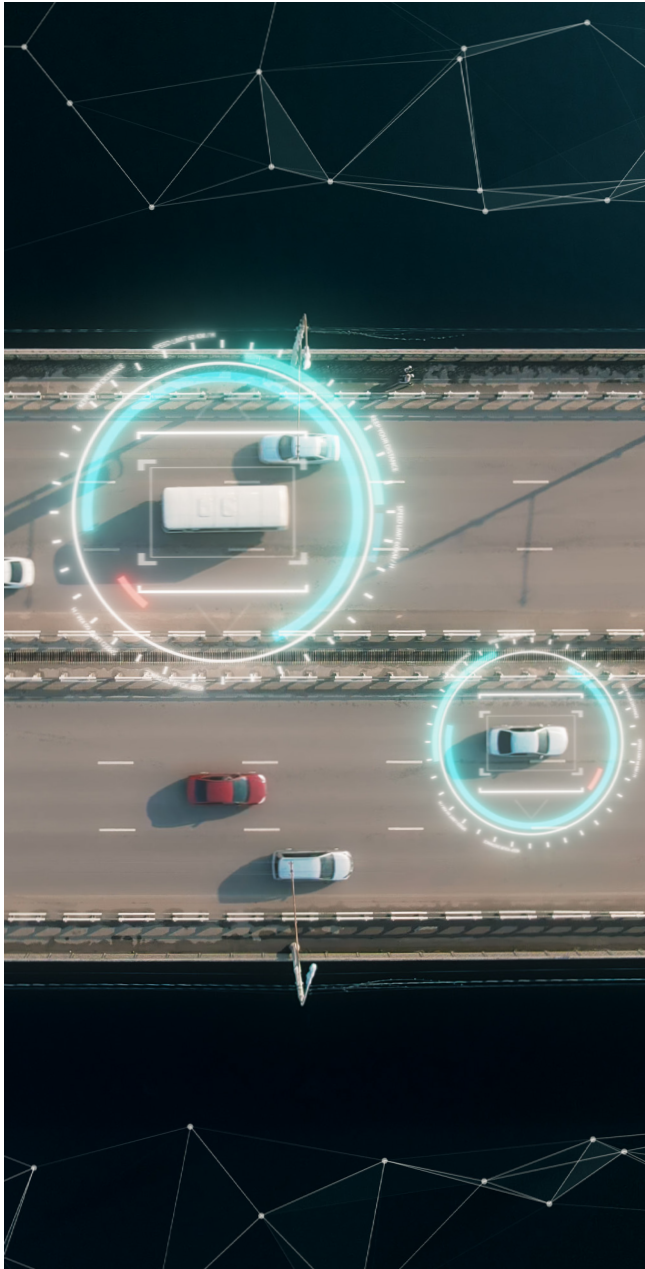
SUPPLY CHAIN TALENT DEVELOPMENT MANAGER:

As the supply chain industry continues to evolve and new roles are created, companies will need to focus on developing the talent needed to fill these roles. Supply Chain Talent Development Managers will be responsible for identifying the skills and training needed for new roles and developing programs to help employees acquire these skills.

SUPPLY CHAIN COMMUNICATION EXPERT

The importance and vulnerability of global supply networks are increasingly acknowledged by business leaders, financiers, and even politicians. Supply chain information professionals will be in high demand as a result of the increased need for more complete supply chain representations.

In today's fast-paced business environment, supply chain communicators must distill the complexities of global supply chains into clear, actionable messages. Of course, they'll require an extensive understanding of the subject matter, but they'll also need to be able to see each supply chain problem from the eyes of many stakeholders. What information is crucial for the CEO to have on the material flow of the company? Supply chain generalists may fill this function at smaller businesses. When it comes to managing, visualizing, and explaining intricate global supply chains, however, team members at big and multinational organizations may devote a disproportionate amount of effort to building key performance indicators, dashboards, and other innovative tools.



TRACEABILITY EXPERT

Companies' lack of control over their supply networks is open knowledge. For a long time, all businesses needed to do was know their immediate superiors and their immediate subordinates, or their suppliers and their customers. The fact that most businesses are unaware of their suppliers' subcontractors increases the likelihood of adverse events. COVID-19 exposed this open secret of the industry. Forty percent of the Fortune 500 companies of the world had supply chains that ended up in a single province of China.

To a large extent, that mentality is to blame for the worldwide interruptions that most businesses are facing right now. Those who do not have complete insight and awareness into their supply chain may not be aware of an impending deficiency at the farthest reaches. Consider the far-reaching effects of the recent worldwide semiconductor shortages, which have hit even the biggest automakers hard.

The growing interest in tracking down sources might provide the solution. The pharmaceutical industry was an early adopter of traceability because of the need for meticulous monitoring of potentially dangerous chemicals and other pharmaceutical items. Companies depending on a growing array of technical tools and people to track their supply chains from raw material acquisition to final customer fulfillment are spreading the practice to the food production industry as well.

Analysts and specialists in the field of traceability will soon be in high demand, and they will require many of the same fundamental abilities as other supply chain professionals. They'll require strong interpersonal skills since they'll be responsible for gathering data from several sources and using that data to serve a wide variety of internal and external partners and clients in real-time.

These roles in supply chain management are based on current trends and predictions of future developments. However, it's important to note that the field of supply chain management is constantly changing and evolving, and new roles may emerge as the industry continues to evolve and adapt to new technologies and business models.



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