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Technology Trends in Distribution and Logistics Industry for 2021

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Abstract

Technological advancements and innovations are originating big waves of change across industries, and the distribution and the supply chain is one of the most impacted sectors. Currently, this industry relies heavily on manual processes where large amounts of data are stored in different ways and different places. This is why the logistics industry is more likely to get benefited the most from the digital transformation.

Industry Insights

The global logistics industry makes possible the trade of entrepreneurial activities between two or more parties. It is facilitated by various means, such as transporting, storing, and delivering goods through various chain networks. These networks are B2B, B2C, or C2C.

- Currently, a majority of logistics companies across the globe use cargo transportation services by land, air, and water.
- This industry acts as the backbone of international trade with a worth of over [5.5 trillion](#) euros.
- As of 2018, [Germany](#) was noted to be the leading logistics market all across the globe.
- [China's Railway Corp.](#) was found to be the [third](#) main logistics company as per the freight revenue.

The trends in the logistics industry depend on major changes occurring as a result of innovations powered by technology. The next generation of logistics management solutions will be more customer-centric and sustainable. Various advancements like automation in logistics processes will help the industry bring out a significant increase in productivity while boosting the efficiency in the workflow.

But it must also improve the transparency and traceability of the supply chain, which is vital to maintain a flexible and dynamic relationship between all the stakeholders involved in the process. Below are top technology trends to watch for in the distribution and logistics industry in 2021 and beyond, that will contribute to a bright future of the industry.

1. Internet of Things

The Internet of Things has great potential of transforming the logistics industry since it helps us establish a connection of physical devices that monitor and transfer data using the internet, with no human intervention. In logistics, IoT can enhance visibility at every step of the supply chain while improving the efficiency of inventory management.

With the integration of IoT technology into the logistics and supply chain industries, business owners can improve and enable efficiency, transparency, real-time visibility of goods along with condition monitoring and fleet management.

Looking at such fascinating benefits and promising results, almost [56%](#) of supply chain leaders are planning to invest in sensors and the internet of things (IoT).

2. Artificial Intelligence

The global artificial intelligence (AI) software market will hit [126 billion USD](#) by 2025. This is why it is catching the attention of many industries, including distribution and logistics. [51.3%](#) of supply chain leaders believe that AI is the future of the industry.

AI-based algorithms in combination with machine learning can support companies to proactively deal with demand fluctuations. For instance, managers can use AI-based forecasting solutions to plan supply chain processes and finding ways to reduce operating costs.

Also, self-driving AI and smart road technologies are helping them in delivery service automation since AI-based cognitive automation technology facilitates the user with intelligence to automate administrative tasks and accelerating information-intensive operations.

3. Robotics

By harnessing the power of robotics into logistics, you can increase the speed of supply chain processes along with its accuracy. It also helps in reducing human errors while offering more uptime, leading to increased productivity as compared to human workers.

For instance, you can use physical robots like collaborative robots (“co-bots”) and autonomous mobile robots (AMR), to pick and transport goods in warehouses and storage facilities. Not only this, but they also save you a lot of time by performing repetitive and mundane tasks.

4. Blockchain

Blockchain can be implemented in the distribution and logistics industry to bring security through an irrefutable decentralized ledger system and to address all the pressing challenges related to traceability.

It helps in getting transparency of transactions in the entire logistics process. Besides, smart contracts powered by blockchain technology help in quicker approval and clearance as they reduce the processing time at checkpoints.

Since blockchain can make a huge impact on the distribution and logistics industry, [40%](#) of supply chain leaders showed their interest to invest in it.

5. Big Data and Data Analytics

Data analytics offer actionable insights to help you improve warehouse productivity along with performance management and optimal utilization of logistical resources. You can optimize routes and enhance delivery planning with the data obtained from monitoring position and weather along with fleet schedules.

It also helps you with the analysis of market data to support the further optimization of supplier pricing, inventory levels, and generation of risk management reports. Advanced analytics can act as a powerful tool for the distribution and logistics industry since it helps in identifying anomalies while offering predictive maintenance solutions.

6. Cloud Computing

Cloud-based SaaS solutions can be used by logistics companies to implement pay-per-use models that usually require low capital investment. It will help them minimize the risk and cost of maintaining the IT infrastructure while addressing communication hurdles and allowing them to share data in a secure way.

Cloud integration is also the key to seamless data collection from management systems that will assist in analysing overall logistic processes. The best part: cloud-integrated logistics brings universal accessibility; it is not confined to any physical space.

7. Elastic Logistics

Elastic logistics is the gateway for companies to handle supply chain operations with increased efficiency when there is a fluctuation in demand. You can upscale or downscale the supply chain operations as per the market demand. It eventually helps you tackle all the major challenges, such as underutilization of vessels, constraints on warehousing, and overstocking.

Endnote

The distribution and logistics industry faces mounting pressures because of the ever-changing customer expectations, shifting towards product variety and personalized services. Emerging technologies, such as the IoT, robotics, and AI, create a dilemma for the adopters while choosing them since all of them have their own benefits. With time, technology is all set to progress. Hence, it is important for companies to be proactive in decision-making to help them build a strong brand image.