

## **INTEGRATING MODERN TECHNOLOGIES INTO SUPPLY CHAIN**

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Supply chains in today's world are becoming increasingly complex and dynamic. This is increased global competition and because of rapid advancement of technology.

Integrating modern technologies into the supply chain management represents a necessity for companies in order to remain competitive. Below the main trends and challenges of this process are mentioned:

1) artificial intelligence (AI) is involved in the entire supply chain, not only in inventory optimization and demand forecasting, but also in resource management and logistics in general. Machine learning algorithms and data analytics allow companies to adapt to variable market conditions, predict customer needs, and optimize production processes. The application of AI also helps automate routine tasks, which frees up resources for more strategic actions [1];

2) internet of things (IoT). The Internet of Things plays a key role in increasing transparency and efficiency in supply chains. Sensors and special devices connected to the network can help companies track the movement of goods. But this is not their main function, with their help it is possible to control the storage conditions and the condition of the equipment. This does not only enable rapid response to problems, but also prevents loss and damage to goods;

3) blockchain technology. With the help of this technology, the company will provide itself transparency and security to the supply chain.

The decentralized and impossible to change nature of blockchain ensures data reliability, allowing all supply chain participants to monitor and confirm transactions.

This is extremely significant for international shipments, where participants may be located in different jurisdictions and documentation is often at risk of tampering or loss.

The logistics supply chain may face some problems, even in spite of the potential benefits:

- cultural and organizational obstacles: work processes and corporate culture also require the introduction of new technologies. Some employees may experience resistance to new systems and procedures [2];

- data security: as the volume of data transmitted and stored in logistics chains increases, the risk of information leakage increases. Companies should pay special attention to data security and protection against cyber-attacks and information leaks.;

- integration of legacy systems: many companies face the problem of integrating new technologies due to the use of outdated information systems. This can require significant investment in infrastructure upgrades and staff retraining;

- training and supporting staff: employee training and a support system are essential to the successful implementation of new technologies. Management must actively support the change process and provide resources for training.

In conclusion, it is necessary to say that integrating modern technologies into the supply chain represents not only an opportunity to improve efficiency and reduce costs, but also a necessity to remain competitive in a rapidly changing business world. Properly harnessing the potential of these technologies requires not only technical skills, but also managerial flexibility and a willingness to change. Companies that can successfully overcome the challenges of integrating technology into their supply chains will gain a significant advantage in the marketplace [3].

## References

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