APPLICATION OF ARTIFICIAL INTELLIGENCE IN LOGISTICS MANAGEMENT AT INDUSTRIAL MANUFACTURING COMPANIES

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The growth of interest in artificial intelligence (AI) in recent years and popularization of the AI-based software tools like ChatGPT, Microsoft Copilot, Adobe Firefly, and many others made it possible for an average user to utilize this advanced technology from any device and work with text, graphics and other types of data in totally new ways. Moreover, many people nowadays expect some level of AI utilization in desktop and mobile applications. At the same time logistics and supply chain management are well-known to be a field where machine learning has been used for many years for such tasks as demand forecasting, multi-criteria decision making, forecasting of logistics costs [1], visual recognition of products during picking, sorting and transportation, etc. However, the use of AI in logistics-related managerial jobs, reporting, customer relationship management, customer service, supply and procurement organization, remains limited and only started to become a tool for managers in recent 2-3 years [2].

The use of AI could be an especially interesting and promising direction of management development at technologically advanced businesses such as industrial manufacturing companies. Considering the rise of natural language processing using AI and the ability to generate data and make automated decisions, the list of logistics activities that can benefit from it is growing very quickly. In particular, there is an opportunity to utilize AI for communication with customers, transportation optimization, coordination of supply chains, tracking of logistics operations, logistics processes simulations and prediction, reconfiguration of supply chain structures, data analysis and reporting, etc. [3, 4]

Further research must be conducted to investigate the reliability of such solutions, and their technical and organizational implementation with emphasis on the validity of the AI output, as well as legal, ethical, and social issues related to the use of managerial decisions made by or with the help of AI.

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