

APPLICATION OF ARTIFICIAL INTELLIGENCE IN LOGISTICS MANAGEMENT

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Abstract

The application of artificial intelligence (AI) in logistics management is considered and analyzed.

Keywords: artificial intelligence, AI, logistics, management, logistics management.

Анотація

Розглянуто та проаналізовано застосування штучного інтелекту (ШІ) в логістичному менеджменті.

Ключові слова: штучний інтелект, ШІ, логістика, менеджмент, логістичний менеджмент.

Nowadays, one of the most promising and leading developments is artificial intelligence (AI). Today it is sufficiently developed to be used in many areas in general. Every day its work is being improved more and more. Most processes will become much easier with its use. The use of artificial intelligence in logistics management will be a good solution because in this area the most important thing is accuracy, speed and result. Route optimization, computerization of warehouses, forecasting of demand for products, and so on, can be ensured thanks to it in a matter of minutes. The first companies to successfully implement this resource will significantly reduce the competitiveness of other companies. The amount of work will decrease, and the demand for products will increase.

For logistics, it is important to lay routes for transporting goods from point A to point B correctly. This will help reduce fuel costs and transportation time. No less important is that it can check the condition of roads or weather conditions in real time. That is why new routes will be more convenient and organized. And as a result, transportation time is reduced along with fuel costs, which is one of the tasks of logisticians [1].

The number of accidents also depends on logistics services, namely on delivery, because it will be necessary to lay new routes. Sometimes it is not very convenient, because you travel or drive through settlements, or bypass them, and this all takes more time. The solution to this problem can be unmanned cars with artificial intelligence, for example, like the autopilot in Tesla cars. These car models have many different sensors that can recognize obstacles, use maps, and due to this the number of accidents decreases, and the efficiency of delivery will increase [2].

In addition to the fact that artificial intelligence can be used to improve the operation of warehouses, it is also possible to implement automatic control of such stages as sorting, packaging and shipping of goods. Moreover, the ability of AI to predict demand and supply thanks to the information provided to them in the form of reports is also quite valuable, since the goods will be provided at the right time and this will save it. In addition, automatic warehouse management will help to effectively use space, due to the ability of artificial intelligence to design different locations of goods in it, which is why the necessary product will be easier to find.

Based on statistics from various sources, in general, many companies have encountered fraud more than once. That is why, in order to avoid this and increase the security of information in various logistics processes or reports, AI can be implemented. It is able to automatically detect various divisions or unauthorized transactions. Moreover, many companies suffer losses due to various hacker attacks, the consequences of which can be fatal. Therefore, the idea of implementing this industry is quite useful, because artificial intelligence can also cope with this [3]. Equally important, the use of AI can also help avoid shortages or surpluses of goods, which will lead to reduced storage costs and timely delivery.

Also, the main thing in the work of logistics managers is that they must be in touch almost all the time in order to quickly respond to the requests of various clients and satisfy their needs, but this is not always possible, because absolutely every employee of the company has a very busy schedule and many clients. The solution to this problem can be an artificial intelligence chatbot that will respond to client requests. Thanks to this, the

time that managers spend on performing work tasks will decrease and the level of customer satisfaction will increase.

The most important thing is that no matter how difficult the logistician's work is, they must, like other managers, always make informed decisions, because their job is to manage many processes. Thanks to the ability of artificial intelligence to analyze various situations, it will lead to a reduction in management errors and ensure faster operation of various processes of logistics chains and an increase in the level of work, which will certainly come in handy for the logistician manager.

Conclusion

In conclusion, it can be noted that artificial intelligence is currently developing, and every day it becomes better and better. Thanks to its implementation in various divisions of the company, it is possible to increase the efficiency of most management processes, provide the ability to automatically manage warehouses, reduce costs and time to complete tasks.

However, the more artificial intelligence is implemented, the fewer people work for the enterprise, but the probability of errors and time for decision-making becomes less. Although it cannot completely replace the work of managers, it can greatly help with their work. There are many factors that become easier due to AI, though there are also some disadvantages. Therefore, one can conclude that the use of AI is a really good prospect that will help meet modern requirements and provide competitive advantages. Despite the fact that it is used not every day yet, in the future almost every company will seek help from AI.

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