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DIGITALIZATION AND USE OF ARTIFICIAL INTELLIGENCE: KEY ASPECTS OF MODERN ENTERPRISE MANAGEMENT

Eraliev Alisher Abdukhalilovich
Senior Lecturer of the Andijan Machine-Building Institute
Andijan City, Uzbekistan

Abstract

This article covers the current topic of digitalization and the use of artificial intelligence in the management of modern enterprises. The importance of introducing automated systems, big data analysis and the use of artificial intelligence to improve business efficiency and profitability is emphasized. The emphasis is placed on the fact that digitalization and artificial intelligence are becoming key aspects of enterprise management in Uzbekistan, which helps companies improve demand forecasting, optimize production processes and improve resource management. The introduction of automated systems allows enterprises to significantly reduce the time and resource costs of performing routine tasks. Process automation helps optimize production processes, reduce errors and increase overall productivity. Automated systems cover a wide range of tasks: from inventory management and logistics to document processing and personnel management.

Keywords: Artificial intelligence, optimize, management, enterprise, automate, forecast, information, analysis.

Introduction

The modern world is changing rapidly, and enterprise management does not remain aloof from these transformations. One of the most pressing topics in this area today is digitalization and the use of artificial intelligence. This area includes the introduction of automated systems, big data analysis and the use of artificial intelligence to improve the efficiency and profitability of business. Digitalization and the use of artificial intelligence are becoming key aspects of managing modern enterprises in Uzbekistan. These technologies help companies increase efficiency, reduce costs and improve the quality of products and services. AI-based enterprise management systems are being actively introduced in Uzbekistan, which allows for more accurate demand forecasting, optimization of production processes and improvement of resource management.

Level of study. Many outstanding scientists around the world are engaged in the study of artificial intelligence. Here are some of them:

1. Jens Bartels is a German scientist known for his achievements in the field of machine learning and deep learning.
2. Jörg Denk is a German researcher who specializes in machine learning and neural networks.
3. Jörg Hermann is a German scientist working in the field of artificial intelligence and machine learning.
4. Jörg Schmidt is a German specialist engaged in research in the field of artificial intelligence and machine learning.

Here are some outstanding Russian scientists engaged in research in the field of artificial intelligence:

1. Dmitry Vetrov is a professor and head of the Center for Deep Learning and Bayesian Methods at the National Research University Higher School of Economics. He is the first Russian scientist elected as a member of the European Laboratory Society for Learning and Intelligent Systems (ELLIS).
2. Alexander Kuleshov - President of the Skolkovo Institute of Science and Technology (Skoltech), actively involved in the development of artificial intelligence for industry and business.
3. Mikhail Gelfand - Professor at Moscow State University, researching neural networks and machine learning.

These scientists have made significant contributions to the development of artificial intelligence technologies and continue to work on new discoveries and applications.

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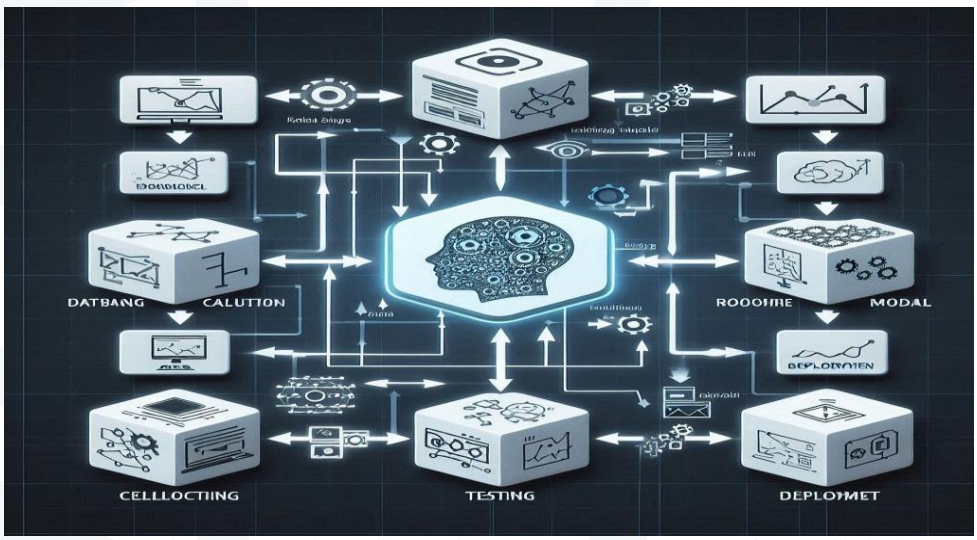

Figure -1. Diagram showing the development of artificial intelligence

This diagram illustrates the key stages and trends in the development of AI, from its beginnings in the 1950s to today. Hopefully, this will help you visualize the dynamics of AI technology development.

Implementation of automated systems. Automation of processes allows enterprises to significantly reduce time and resource costs for performing routine tasks. Implementation of automated systems helps to optimize production processes, reduce errors and increase overall productivity. Automation systems can cover a wide range of tasks: from inventory management and logistics to document processing and personnel management.

The XXIst century is considered the information age, and the flow of information is increasing every day. The importance of information in enterprise management is very high. Collection, processing, analysis and decision-making on them is the main function of leaders. Artificial intelligence plays an important role in this process, and its use is a challenge of the time.

In modern business, data plays a key role. Big data analysis allows enterprises to obtain valuable insights that help make informed management decisions. With the help of machine learning methods and artificial intelligence, it is possible to identify hidden patterns, predict trends and optimize business processes. This allows companies to be more flexible and adaptive to changes in the market.

Artificial intelligence opens up new opportunities for businesses to improve efficiency and profitability. Artificial intelligence can be used to automate complex tasks that require analyzing large amounts of information and making decisions in real time. For example, in the field of customer service, Artificial intelligence can help improve the quality of service by implementing chatbots and an AI-based support system.

Benefits of digitalization and artificial intelligence.

The benefits of digitalization and the use of artificial intelligence in business management are obvious. They include:

- Increased productivity by automating routine processes.
- Improved decision-making quality thanks to big data analysis.
- Reduced operating costs and increased profitability.
- Increased business flexibility and adaptability to market changes.
- Increased customer satisfaction due to improved service quality.

Acceleration of processes. Automation of processes such as receiving, placing, shipping and inventory of goods can significantly reduce the time required to complete

these operations. This speeds up the turnover of goods and increases overall warehouse productivity.

Reduction of costs. Automation of warehouse operations helps reduce labor costs, as many processes become less labor-intensive. In addition, inventory optimization reduces the costs of storing and moving goods.

Improved data analysis. Automated systems collect and analyze large amounts of data, which allows for more efficient planning and forecasting of inventory needs. This helps make informed management decisions and improve strategic planning.

Increased transparency. Automated systems provide transparency of all warehouse operations. This allows for up-to-date information on inventory status at any time, which increases the level of control and manageability of processes.
Implementation of such systems requires an initial investment, but their effect on efficiency and cost reduction usually makes these investments economically justified. Automation of warehouse inventory management allows companies to be more competitive and flexible in changing market conditions.

Quality control: Using artificial intelligence to analyze data and control product quality, which will allow for timely detection of defects and improvement of quality.

Quality Control: Using Artificial Intelligence to Analyze Data and Improve Product Quality
In today's globally competitive environment, product quality control is becoming a critical aspect of enterprise management. One of the most effective tools for achieving a high level of quality control is the use of artificial intelligence. The introduction of artificial intelligence allows not only to promptly identify product defects, but also to significantly improve quality at all stages of the production process.

Data analysis using artificial intelligence. Artificial intelligence has the ability to process and analyze huge amounts of data in real time. This allows enterprises to obtain accurate and up-to-date information on the condition of products, identify potential defects and the causes of their occurrence. Data analysis involves collecting information from various sources: sensors on production lines, quality control systems, customer reviews, etc.

Defect detection. Using artificial intelligence for quality control allows for the timely detection of product defects. Machine learning algorithms can analyze data and identify anomalies that indicate potential problems. This allows companies to quickly respond to emerging defects, eliminate them at early stages and prevent low-quality products from reaching end consumers.

Quality improvement. Artificial intelligence helps not only in detecting defects, but also in preventing them. Data analysis and machine learning help optimize production processes, identify bottlenecks, and implement improvements that improve product quality. For example, AI can recommend changes to production equipment parameters, which helps reduce defects and improve process stability.

Forecasting. One of the key benefits of using AI in quality control is the ability to predict. AI algorithms can predict the occurrence of defects based on the analysis of historical data and current conditions. This allows enterprises to take preventive measures and minimize risks associated with product quality.

Process automation. AI can automate many quality control processes, which reduces labor costs and increases efficiency. For example, AI systems can automatically check products for defects using computer vision, image analysis, and other technologies. This speeds up inspection processes and provides more accurate results.

Benefits of using AI for quality control

1. Increased accuracy of defect detection: Eliminates the human factor and increases the accuracy of inspection.
2. Cost reduction: Automate processes and reduce labor costs.
3. Improve product quality: Optimize production processes and prevent defects.
4. Increase customer satisfaction: Minimize defects and improve product quality, which increases customer trust and satisfaction.

The use of artificial intelligence for data analysis and product quality control is becoming a necessary tool for modern enterprises. The implementation of such technologies allows not only to promptly identify defects, but also significantly improve product quality, reduce costs and increase customer satisfaction. This makes artificial intelligence a key factor in the success of quality management in enterprises.

Inventory management: Implementation of automated systems for inventory management, which will improve the accuracy of accounting and reduce costs.
Implementation of automated systems for inventory management can significantly improve efficiency and reduce costs at enterprises. Here are the main advantages of such systems:

Increase in accounting accuracy. Automated systems allow you to more accurately track the quantity and condition of goods in the warehouse. This eliminates the human factor and reduces the likelihood of errors during inventory.

Inventory optimization. The system can analyze demand and supply data, which allows for optimal inventory management and avoiding surpluses or shortages of goods. This helps maintain the required inventory level and reduce storage costs.

Acceleration of processes. Automation of processes such as receiving, placing, shipping and inventory of goods allows for a significant reduction in the time required to perform these operations. This speeds up the turnover of goods and increases overall warehouse productivity.

Cost reduction. Automation of warehouse operations helps reduce labor costs, as many processes become less labor-intensive. In addition, inventory optimization reduces the costs of storing and moving goods.

Improved data analysis. Automated systems collect and analyze a large amount of data, which allows for more efficient planning and forecasting of inventory needs. This helps make informed management decisions and improve strategic planning.

Increased transparency. Automated systems provide transparency of all warehouse operations. This allows for up-to-date information on the status of inventories at any time, which increases the level of control and manageability of processes.
The implementation of such systems requires initial investment, but their effect on efficiency and cost reduction usually makes these investments economically justified. Automation of warehouse inventory management allows enterprises to be more competitive and flexible in changing market conditions.
Digitalization and the use of artificial intelligence are becoming an integral part of modern enterprise management. The implementation of automated systems, big data

analysis and the use of artificial intelligence allow companies not only to increase efficiency and profitability, but also to remain competitive in the market. Therefore, the study and implementation of these technologies are becoming a priority for managers and executives of modern enterprises.

To summarize the above, we can say that the modern world is changing rapidly and enterprise management is also undergoing significant transformations. One of the most pressing topics today is digitalization and the implementation of artificial intelligence. This area includes the use of automated systems, big data analysis and the use of artificial intelligence to improve the efficiency and profitability of enterprises. Digitalization and artificial intelligence are becoming key aspects of modern enterprise management in Uzbekistan. These technologies help to increase efficiency, reduce costs and improve the quality of products and services. In Uzbekistan, enterprise management systems based on artificial intelligence are being actively introduced, which allows for more accurate demand forecasting, optimization of production processes and improvement of resource management. Digitalization and the introduction of artificial intelligence are becoming essential tools for modern enterprises, ensuring their competitiveness and successful functioning in the long term. The introduction of such technologies requires investment, but their advantages make these investments justified and strategically important.

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