

**PROSPECTS OF USING MODERN TECHNOLOGIES IN ORGANIZING THE  
CIRCULATION OF SECONDARY RESOURCES ON THE BASIS OF THE  
LOGISTICS APPROACH**

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**Abstract:** The article considers the issues of increasing efficiency in logistics through the use of digital technologies. A general trend in the economy of our country is the relevance of the introduction of modern digital technologies, examples of digital technologies are blockchain, the Internet and artificial intelligence. The advantages and disadvantages of introducing digital technologies in logistics companies, possible difficulties in implementation, as well as companies that successfully use these technologies in their activities were studied.

**Keywords:** digital transformation, digital technologies, innovative approach, blockchain, artificial intelligence, digital economy, digital logistics.

**Introduction.** Currently, Uzbekistan is in the process of transitioning to a digital economy. Accordingly, the Decree of the President of the Republic of Uzbekistan No. PF-6079 dated October 5, 2020, "On approval of the strategy "DIGITAL UZBEKISTAN-2030" and measures for its effective implementation" opened a new page in the policy of transition to a digital economy in our country [1].

The Strategy defines the strategic goals, priorities, and medium- and long-term objectives of the Republic of Uzbekistan for the development of the digital economy and e-government, and also serves as the basis for the wider introduction of digital technologies, based on the priority tasks set out in the UN Sustainable Development Goals and the e-Government Development Ranking.

In particular, the implementation of more than 220 priority projects has begun, which include improving the e-government system, further developing the local market for software products and information technologies, establishing IT parks in all regions of the republic, and providing the industry with qualified personnel.

In addition, the "Digital Tashkent" comprehensive program is being implemented, which involves launching a geoportal integrated with more than 40 information systems, creating an information system for managing public transport and municipal infrastructure, digitizing the social sphere, and subsequently introducing this experience in other regions.

**The Importance of Logistics for Business.**

Process Optimization and Cost Reduction Process optimization and cost reduction in logistics are two key factors that help to increase the efficiency of a company and improve its financial results.

One of the important ways to optimize processes in logistics is to use technology and software to automate and improve inventory and warehouse logistics processes. This can include the use of inventory management systems, automated storage and retrieval systems, and unmanned aerial vehicles for the delivery of goods.

Another way to optimize the process is to improve the freight transportation scheme. This can be achieved by using various technologies and approaches, such as routing, cargo optimization, and the use of multimodal transport solutions [2].

Purchasing and inventory management are important logistics functions that ensure the continuity of production and customer satisfaction.

For example, a company produces and sells a popular drink, but for this it needs to purchase sugar, water, and other ingredients. To effectively manage inventory, the company needs to understand the demand for this drink, forecast it, and determine the necessary amount of ingredients to purchase.

To manage inventory more effectively, a company can use a purchasing and inventory management automation system that allows you to track inventory levels, forecast demand, optimize inventory levels, and reduce inventory costs.

In addition, selecting suppliers and controlling the quality of goods and materials are important aspects of inventory management. To do this, the company must have a supplier evaluation and selection system that takes into account not only price, but also the quality of goods, delivery times, payment terms, and other factors.

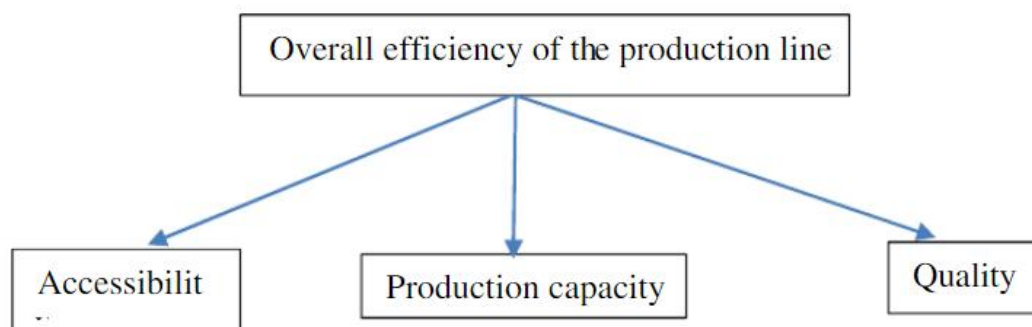
It is also important to control the shelf life of goods and store them properly to avoid loss of quality and damage to the goods. For example, a company can use special storage areas that provide the right temperature and humidity to keep ingredients in perfect condition.

The process value creation flow map solves all the necessary processes in which the least people

are involved. If there is a conveyor with chicken, there should be no pass, as the system and the person

will not process this pass. This is the basis of energy efficiency (Figure 1).

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**Figure 1.** Components of efficiency in the production enterprise.

The Pareto curve (Figure 2) is drawn on the downtime of the equipment, the person came and worked 8 hours on the equipment without waiting until it is set up.

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Overall, effective inventory management can reduce the cost of purchasing and storing goods, ensure the continuity of production, and satisfy customer needs for the right goods and services.

Logistics is an important element of any business. It covers many different aspects that can significantly affect the efficiency and productivity of an organization. Let's take a closer look at the main types of logistics.

The use of modern technologies in organizing secondary resource circulation plays an important role in ensuring environmental safety, optimizing the processes of efficient processing and transportation of resources. Modern technologies help not only to increase economic efficiency, but also to reduce the negative impact on the environment. Below we will consider some examples of such technologies:

**IoT (Internet of Things) and Sensors.** With the help of these technologies, it is possible to track the movement of resources and materials in real time. Sensors and smart tags provide accurate and effective monitoring of the process of processing, collecting and transporting materials [3].

**Blockchain technology.** Blockchain technology allows for the complete traceability of the origin of materials and their recycling process. This technology records all transactions in an immutable and secure manner, creating a transparent system for efficient resource recycling and waste management [4].

Blockchain has the following key features.

1. Decentralized. Data is distributed across multiple nodes in the network, rather than to a central institution or server.
2. Immutable. Once recorded, it is very difficult to change or delete information, making the system secure.
3. Encryption. Encryption is applied to each block of data, which ensures the security and reliability of the data. In addition, blockchain technology is being used in many other areas, such as supply chain management, voting systems, and smart contracts.

Key features.

- The block chain network is not tied to a central server or any governing organization. Data is distributed among several computers (nodes), and all nodes have the same information.
- Once information is written to the block chain, it is almost impossible to change or delete it. This ensures data security.
- Each block in the block chain contains encrypted data, which protects the system and reduces the possibility of entering fake information.
- All operations and transactions in the block chain network are visible to all participants (but personal data is protected).
- Contracts and agreements can be executed automatically through smart contracts, which means that human intervention is minimal.

Blockchain technology is also being used in many areas such as supply chains, voting systems, healthcare, logistics, and more. This technology can be very useful, mainly for building trust, ensuring transparency, and reducing costs.

**Automated contracts (smart contracts).** By creating smart contracts based on blockchain, it is possible to automate processing processes. For example, after a material is processed, the contract can automatically make a payment [5-6].

**Artificial Intelligence (AI).** With the help of artificial intelligence, the process of classifying and recycling materials can be automated. AI algorithms are used to quickly identify and separate different materials, which increases the efficiency of recycling.

**Using 3D Printing (Additive Manufacturing).** With the help of 3D printers, new products can be created from recycled materials. This technology simplifies the process of creating new items from materials such as plastic and metal and reduces waste.

**Automated and robotic systems.** Robotic systems accelerate resource separation and recycling processes, especially in recycling plants. Automated robots can classify, sort, and transport materials for recycling [7].

Waste reduction. By using robotics to accurately and efficiently sort waste, recyclable materials are separated, reducing environmental damage.

**Conclusion.** The logistics approach to the disposal of secondary resources should not only consist of their transportation, but also the separation, storage, processing and recycling of materials without harming the environment. The effective organization of these processes is important both from an economic and ecological point of view.

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