

UDC 164

THE MOST IMPORTANT INNOVATIONS IN LOGISTICS

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Abstract. The article presents the most important innovations in logistics. The goal of this paper is an indication of the innovations in Logistics. The article is based mainly on the literature regarding the innovations in Logistics.

Keywords: innovations; innovations in logistics; supply chain.

More and more companies, including logistics companies, are looking for innovative solutions. It is related to global trends, such as reduction of the levels of product production, pressure on cost reduction, shortening the product life cycle and adapting the product to the customer. The aim of this paper is to consider innovative solutions in logistics.

The greatest stimulus for the implementation of innovative solutions in logistics is the possibility of shaping the desired level of speed, certainty and security of supplies of various types of goods, while maintaining the cost optimization policy [6]. The dynamism of the global logistics services industry creates good conditions for the development of new technologies and the search for better and better logistics solutions [5]. Modern logistics uses practically all the innovations that have appeared in recent years. For most companies from the TSL industry operating on the market, implementing technical, technological and organizational innovations is a standard and determinant of the so-called best practices, i.e. best practices in business. Innovative solutions in logistics cover practically all spheres of its activity: from handling equipment, through material flow control, to the development of systems for the implementation of logistics processes and the creation of business cooperation rules [2].

Dan Gilmore, Editor in Chief of Supply Chain Digest, has compiled a list of the ten most important innovations in the history of the supply chain. These solutions are now standard solutions and relate to both technology and the organization of material flows. The list includes: [4]

1. Toyota production system – Toyota's approach to car production, the application of the Just on time philosophy and strictly applied quality control revolutionized the automotive industry. The Toyota production system was the basis for the development of the supply chain concept and Lean manufacturing.

2. ECR and CPFR (Continuous Planning Forecasting and Replenishment) – a system aimed at efficient replenishment of stocks, in which production is driven by demand at the point of sale. The final recipient should be supplied with the right product, in the right place, at the right time, in the right quantity and quality.

3. Container standardization – was the first significant achievement in the field of logistics, which had a significant impact on integration processes [5]. Thanks to the standardization of loading units, it is possible to use reloading and handling equipment as well as standardized means of transport for transporting containers [3].

4. Optimal Order Quantity – A mathematical model for inventory management in the supply chain, allowing you to minimize variable costs by determining the optimal order quantity.

5. Ford assembly line – the use of a moving production line and the introduction of a three-shift system of work completely changed the way of producing goods [7].

6. Bar code – initiated the process of automatic product identification, which influenced the flow of information in the supply chain [Coffee, 2009].

7. FedEx Tracking System – has laid the foundations for modern supply chain transparency.

8. DPR – a production process planning system that enables the coordination of planning and resource delivery.

9. The 3M Central Transport Control System – an approach to transport that allows you to combine planning functions with other resources in the company and group them, which increases the efficiency of transport and optimizes costs.

10. Taylorism – assuming maximum work intensification with effective use of time and cost reduction.

K. Gourdin emphasizes that each implemented innovation, the purpose of which is to improve the quality of services provided in the existing logistics chains, should be characterized by the following features: certainty, delivery time, functionality, communication, honesty. The supplier is obliged to meet all customer expectations following the order. It is necessary to clarify the operating time affecting the costs. The possibilities of technical cooperation and the supervision of the flow of cargo, payment, and information should also be considered. In addition, it is essential to reliably present the possibilities

and fulfill the contract in accordance with declarations [1].

Nowadays, innovation is the fundamental determinant of the increase in the attractiveness of goods and services, conditioning the development of the market and export, and determining the company's position in the environment. Innovations concern virtually every functional area of the enterprise. Summing up, innovations in logistics are an opportunity to gain a competitive advantage, and their introduction in the organization is currently perceived as a condition for remaining on the market.

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