DECISIONS ON INFORMATION TECHNOLOGIES INNOVATIONS IN LOGISTICS MANAGEMENT

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Nowadays, in the situation when the global environment is heavily influenced by new modern challenges regarding logistics activities and international trade, the usage of advanced innovative approaches to implementation of information technologies in logistics and supply chain management is often considered a universal solution to all problems. Automation and using various pieces of software and hardware makes it possible to easily resolve some issues related to warehousing, inventory management, transportation of different scale, planning of logistics, coordination of supply chains, etc. However, with the availability of technology, many managers are paying too much attention to using innovations just for the sake of being innovative but not to solve real problems, which defines the urgency of research on proper management and decision making in this field of activity.

In fact, there are a lot of factors influencing a decision to implement or not to implement an innovation in logistics. They include the cost of implementation, availability of technology, the possibility of integration of the innovative technologies with existing computer and automation infrastructure in the facility, and availability of learning for personnel. This creates a lot of challenges for managers in terms of making the right decision on whether it is needed to implement something new. For example, using artificial intelligence and augmented reality can help to improve the picking of the products in a warehouse but at the same time, this solution may be inefficient and too expensive for a small warehouse. In this case, better utilization of space and proper mathematic approaches to optimize paths can be much more efficient than using complex technology and hardware needed for augmented reality. Currently, we can see a lot of examples of using each of these types of innovations in logistics. Barcode scanners, RFID chips, and a lot of other technology are used in warehouses and manufacturing facilities for decades and they are efficient not being innovative today.

In general, it is possible to classify innovations in logistics into three categories: robotics and automation, complex software and hardware solutions, and managerial techniques. A methodological approach to decision making can be proposed to improve the reliability of the choices in this field. It includes evaluation of the current state of technology in the logistics facilities of the company (warehouses, workshops, transportation hubs, etc.); market analysis; analysis of possible implementation scenarios using decision trees and mathematical modeling; planning of implementation and learning activities for staff. This will allow minimizing potential issues in the process of innovation implementation in logistics management.

Further research regarding this perspective may include developing of practical recommendations to implement particular innovations in various conditions of the business environment.