

Industry 4.0 and Digitalization: New Technological Trends in Logistics

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Abstract

The digitalization process that starts with Industry 4.0, has brought about significant changes in the operations of businesses operating in various industries. Just like all industrial systems, the logistics industry has also been impacted by the process of digitalization. Industry 4.0 adds value to the logistics sector in terms of innovation and sustainability. Industry 4.0, which will evaluate simultaneous operations together with all processes of supply and logistics; The production processes of smart factories will be managed in an integrated manner with suppliers, warehouses, market shelves or vehicles. Thanks to smart machines, stock levels, supply chain malfunctions, damaged products, and changes in demand will be constantly monitored, and thus all business processes will be coordinated on-site to ensure efficiency. The ability of the logistics sector to compete with other countries depends on how well it adapts to new technologies and digitalization. The logistics sector, which focuses on customer needs, must go the way of digitalization to cope with the increasing number of competitors, the growth in product variety, faster access to information, reducing costs, and increasing profitability and efficiency. New digital technologies such as IoT, big data, robotic process automation, wearable sensors, digital twins are used in the process of goods, information and services from production to the final consumer. This study addresses the digitalization process of the logistics sector, discussing the advantages and disadvantages brought about by digitalization and mentioning various trends used in the sector.

Keywords: Industry 4.0, Digitalization, Logistics