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DIGITAL LOGISTICS

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Abstract

The advent of digital technology has transformed the way businesses operate, and the logistics industry is no exception. The integration of digital tools and techniques has given rise to digital logistics, a paradigm shift that is revolutionizing the supply chain management landscape. Digital logistics refers to the use of digital technologies, such as IoT, artificial intelligence, blockchain, and analytics, to optimize and streamline the logistics process. This article will explore the concept of digital logistics, its benefits, and its implications for the logistics industry.

Keywords: digital logistics, globalization, international organizations, logistic companies, digital platforms.

Introduction

Logistics is an essential component of today's global economy. It is central to international business, supply chain management, transportation, e-commerce, inventory management, production planning, and facilitating processes that enable companies to achieve a competitive edge in terms of time, cost, and value-added components. In recognition of this, over the past two decades, the logistics field has grown rapidly, and a tide of change is sweeping across its landscape. As part of phenomena such as globalization and a worldwide economic shift from production to service and knowledge activities, the logistics landscape is shifting from its focus on physical activities to encompass new digital technologies that govern the speed at which orders can be satisfied, the quality of the customer service, and the level of automation in processes. Indeed, in contrast to conventional logistics practices, digital logistics involves using the new enabling technologies such as the Internet, web-based tools (EDI/B2B), enterprise resource management (ERP), management execution system (MES), Global Positioning System (GPS), warehousing and material handling systems, radio frequency identification (RFID), and information and communication technologies to optimize the logistic portfolio of a trading enterprise, including both inward-bound and outward-bound flows.

Background of Digital Technologies in Logistics

There are various concepts that justify the strategic logic of the development of state management, the economy, and individual enterprises in the era of the digital economy. All of these concepts converge mainly to the understanding of the forming of the digital model of the economy, which is characterized by the generation of electronic processes and goods, the digital nature of processes (production and movement of goods, payment, financing, control),

the events that lead to the digital transformation of physical objects (goods, consumer, supplier, infrastructure of their movement and promotion) of the economy, the development and use of digital economic transport and logistics services. The digital era puts forward a number of new goals and objectives to the economy, state management, individual companies, including logistics.

Nowadays, practically all spheres of human life experience the influence of digital technologies, and logistics is no exception. Logistics has a huge impact on business, and to a large extent determines its effectiveness and success. Digital technologies significantly change the nature and logic of the functioning of logistics systems, which is associated with the development of their new elements, the transformation of the existing ones, change priorities in the field of logistics technologies, qualitative characteristics and capabilities. Using the features of digital networks, it is possible, on the one hand, to more flexibly and rationally use the existing infrastructure and increase the efficiency of functions, and on the other hand, to create qualitatively new logistical systems, to solve logistical problems, bypassing existing restrictions or significantly weakening the existing limitations. All this significantly expands the range of application of logistics in various fields of social life.

Objectives of the Research

This article offers an up-to-date and comprehensive review of the impact of digital technologies on logistics. In so doing, it seeks to address the following six objectives:

1. Present a theoretical overview of digital logistics and describe the basics and determinants for the shipping logistics chains.
2. Analyze the consequences and indicators of the new economic geography in relation to logistics services.
3. Analyze the international pattern of comparative advantages and asymmetries in the development of logistics services.
4. Describe the process of internationalization of the logistics services market, with particular attention to the recent years' trade-creating versus trade-diverting role of logistics services.
5. Discuss and provide an empirical-based evaluation of the impact of ICTs on the logistics sector as a facilitator of international trade.
6. Draw some concluding remarks.

Many agencies have begun actively restructuring their manufacturing and enterprise fashions to put together for these changes. Their intention is to end up greater patron oriented and competitive. Supply chain administration will be a key element and driver for attaining this, so grant chain managers will have to deal with an even greater degree of complexity in the future. Both a wider product portfolio and their wider diversification, a variety of parts, greater low-priced motion of goods, greater suppliers, greater interfaces alongside the price chain and taking into account the character necessities of new markets are needed.

Infrastructure tasks for the digital transformation of transport have a big influence on logistics for industry, commerce and humans in the digital world. The foundation of digital transport will be the digital railway, in which, via the use of progressive technologies, it will be economically practicable and quickly adequate that it will be feasible to make bigger the

potential of current and new railways with the aid of at least 50% in environmentally most beneficial ways, whilst additionally lowering the price of transportation by way of 50%.

For the improvement of digital production-related logistics, it is critical to take into account the position of digital technologies, the place manufacturing and advertising except a calculated provide chain to and from the purchaser will be successful, given the improvement of staff abilities associated to the records and conversation science infrastructure in business. Equally essential are the monetary and monetary problems that are crucial for the improvement of logistics from the viewpoint of the digital economy. With the improvement of digital logistics, there has been a sharp enlargement of their areas of application. All current standardization companies are already transferring in the direction of the formation of requirements in these summary languages

The traditional logistics industry has long been plagued by inefficiencies, bottlenecks, and lack of visibility. The manual processes, paperwork, and limited visibility have led to delays, increased costs, and decreased customer satisfaction. Digital logistics addresses these challenges by leveraging digital technologies to create a more agile, responsive, and customer-centric logistics ecosystem. Digital logistics enables real-time tracking, monitoring, and analysis of shipments, allowing for proactive decision-making and improved supply chain visibility.

One of the primary benefits of digital logistics is increased efficiency. Digital technologies, such as automated workflows and robotic process automation, can automate many manual tasks, reducing the risk of human error and increasing productivity. Additionally, digital logistics platforms can optimize routes, reduce fuel consumption, and lower emissions, resulting in cost savings and a reduced carbon footprint. For instance, companies like UPS and FedEx are using digital logistics to optimize their delivery routes, reducing fuel consumption by up to 20%.

Another significant benefit of digital logistics is improved customer experience. With digital logistics, customers can track their shipments in real-time, receive timely updates, and have greater control over their delivery experience. This increased transparency and visibility have led to higher customer satisfaction rates, with companies like Amazon and Zappos achieving near-perfect customer satisfaction scores. Moreover, digital logistics enables companies to offer customized delivery options, such as same-day or next-day delivery, which are highly valued by customers. Digital logistics also presents significant benefits for supply chain management. Digital platforms can provide real-time insights into inventory levels, demand patterns, and supplier performance, enabling companies to make data-driven decisions and improve their supply chain resilience. Additionally, digital logistics can facilitate collaboration and communication among supply chain partners, reducing errors, and improving response times to disruptions. Furthermore, digital logistics can improve security and reduce the risk of fraud and theft. Digital platforms can track shipments in real-time, enabling companies to quickly identify and respond to potential security breaches. Moreover, digital logistics can facilitate the use of secure payment systems, reducing the risk of fraud and financial losses.

Despite the benefits, digital logistics also presents several challenges. One of the primary challenges is the need for significant investment in digital infrastructure, including hardware, software, and talent acquisition. Additionally, digital logistics requires a cultural shift towards

a more digital and data-driven mindset, which can be challenging for traditional logistics companies. Furthermore, the increased reliance on digital technologies raises concerns about cybersecurity and data privacy.

To overcome these challenges, logistics companies must develop a clear digital strategy, invest in digital talent and infrastructure, and prioritize cybersecurity and data privacy. Governments and regulatory bodies must also play a crucial role in encouraging the adoption of digital logistics, by providing incentives, setting standards, and promoting public-private partnerships.

Conclusion.

In conclusion, digital logistics is transforming the supply chain management landscape by increasing efficiency, improving customer experience, and improving supply chain resilience. While it presents several challenges, the benefits of digital logistics far outweigh the costs. As the logistics industry continues to evolve, it is essential for companies to prioritize digitalization, invest in digital infrastructure, and develop a digital mindset to remain competitive in the digital age. The future of logistics is undoubtedly digital, and companies that fail to adapt to this new reality risk being left behind. The integration of digital technologies will continue to play a critical role in shaping the logistics industry, enabling companies to respond to changing customer needs, improving supply chain resilience, and driving growth in an increasingly competitive market. As the logistics industry continues to evolve, one thing is clear – digital logistics is not just a trend, but a necessity for survival in the modern logistics landscape.

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