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THE ROLE OF DIGITAL PLATFORMS IN ORGANIZING GLOBAL FREIGHT TRANSPORTATION

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This paper explores the role of digital platforms in organizing global supply chains and improving the efficiency of freight transportation. Key topics include optimizing the interaction of freight transportation participants, digitalizing business processes, reducing costs in supply chains, and reducing transportation times through process automation.

Today's human activity is inextricably linked with digital technologies. In most countries of the world, almost all economic processes now require modern information technologies and solutions. Over the past few decades, many digital innovations have been developed, some of which have radically changed the rules of running business and approaches to organizing and managing business processes.

In the processes of organizing and managing freight transportation, digitalization primarily involves the implementation of modern information solutions for collecting, processing and exchanging all types of data related to the process of organizing and fulfilling transportation orders. First of all, this is information about the cargo, its transportation conditions, vehicle, route, driver working hours, total transportation time, etc. And in the modern world, customers expect the carrier to provide this information in real time [1]. Technologies such as artificial intelligence, the Internet of Things, Blockchain, Big Data and Analytics have long determined the competitive advantages of companies in the transportation industry.

One of the directions of development of digital technologies is the use of platform solutions that allow to organize optimal interaction of all participants in transport processes [2]. Digital platforms are rapidly gaining

popularity and offer convenient functionality for publishing and searching for transport offers.

The main functionality of such platforms includes the following:

1) shippers can find available transportation options depending on the specifications of their cargo, quickly compare prices and services from different carriers;

2) ordering a freight transportation service is much simpler and more automated than placing orders using traditional methods;

3) the ability to track cargo movements in real time;

4) electronic document flow between participants in the transportation process;

5) the presence of an evaluation and rating system that helps customers make decisions when choosing a transport service provider.

Digital platforms are a powerful tool, especially for small and medium-sized businesses that cannot afford large investments in complex and expensive specialized technological solutions [3].

The use of such digital platforms can bring significant benefits to companies, some of which are shown in Fig. 1.

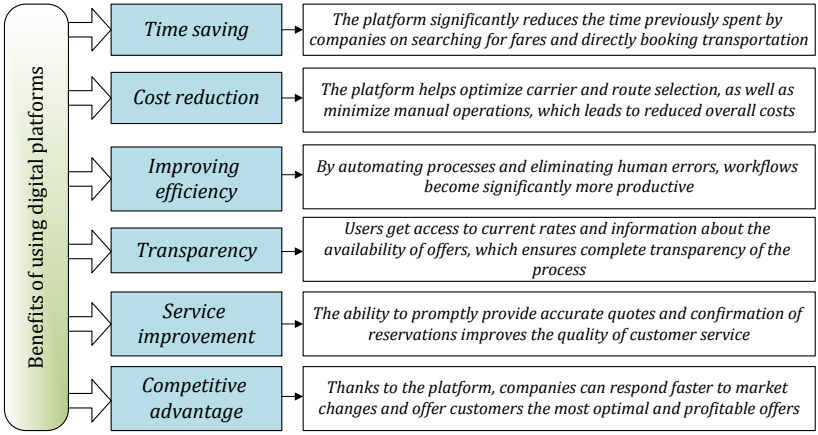

Fig. 1. The benefits of using digital platforms

The main digital platforms used by road freight transport participants include TIMOCOM, Trans.eu, Teleroute, Wtransnet, 123Cargo, Sennder, Eurosender, Transcount and Cargoffer. In the rail freight sector, the following digital platforms are in great demand: RailData, Rail Freight Forward Digital Platforms (RFF Digital Platforms), Digital Platform Rail (DP-RAIL), Railwhere, Transporeon and Digital Automatic Coupling (DAC).

In the field of air cargo transportation, the level of digitalization is even higher than in other modes of transport, since many processes are standardized by IATA. In addition, the transition to electronic air waybills was announced by IATA quite a long time ago, which contributed to the development of electronic document management and the development of information technologies in the industry as a whole. Major digital services in this industry include Cargo.one, WebCargo, CargoAI, CHAMP Cargosystems and CargoSphere.

Typically, supply chains involve multiple modes of transport, so digital platforms for organizing multimodal transportation are a very convenient service. Such services include Digital Transport & Logistics Platform (DTLP), MLH Logistics, Global Shipping Business Network, CargoWise, Infor Nexus, LOGINK.

Along with the advantages of using platform services, there are threats to supply chain participants, primarily related to cyber threats. These include the risk of hacking into accounts of carriers or shippers, using their data, substituting or destroying information about the cargo, attacking the platform with viruses to block it, forging electronic documents in unencrypted information transmission channels. The risks also include manipulation of information, namely reviews and ratings on such platforms, theft of commercial information, the presence of hidden payments, and blocking funds by the platform.

Conclusions

The use of digital platforms by transport companies, shippers and even government agencies can significantly increase the efficiency of the processes of organizing and managing global supply chains. The modern digital world offers the latest information technologies every day that can significantly affect both the organization of business processes and the approaches to doing business in general.

References

1. *Демченко, Є. Б., Дорош, А. С., Сковрон, І. Я. Сучасні інформаційні системи на ринку вантажних перевезень України. Транспортні системи та технології перевезень.2022. (23), 79. https://doi.org/10.15802/tstt2022/261660.*

2. Molchanova, K. Organization of Aviation Enterprises' Interaction Based on the Digital Platform. Virtual Economics. 2021. 4(1). P. 77-97. https://doi.org/10.34021/ve.2021.04.01(4).

3. James Miller. Digital Freight Platforms Driving Smarter and More Efficient Global Shipping Operations. GetTransport. URL: https://blog.gettransport.com/news/digital-freight-platforms-evolution.