

ANALYSIS OF THE CURRENT STATE OF THE ORGANISATION OF TRANSPORT SERVICES FOR THE DELIVERY OF GOODS BY AIRLINES IN THE WORLD

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The Strategy for the Development of Aviation Transport of Ukraine for the period up to 2030 presents ensuring the optimal unit cost for effective competition and, accordingly, the attractiveness of domestic airports in the regions in the international air transport markets for both passengers and cargo as the main direction of development of this industry [1].

Air transport is an important factor influencing economic development around the world, providing connectivity and appropriate communication between the most remote regions and countries around the world. It encourages the growth of global economic cooperation, facilitates international trade, creates highly skilled jobs, and encourages and improves international tourism. According to a study conducted by the Air Transport Action Group (ATAG), the aviation sector and related industries provided 21 million jobs worldwide in 1990, and more than 58 million in 2022, and in 2030, according to ATAG forecasts, this figure could reach more than 82 million [2]. The aviation industry (directly and indirectly) accounts for approximately 3.4 % of the world's gross domestic product [2].

According to the results of the aviation industry of Ukraine in 2021, it was the first year of gradual recovery for the enterprises of this industry after a significant drop in all production indicators in 2020, which was caused by the negative impact of Covid-19 and the corresponding restrictions [3]. And in 2022, domestic airlines carried a total of 98,500 people, which is 89.5 per cent less than in the previous year (Table 1.) [3]. The volumes of cargo and mail transported by air in our country decreased by about 22% compared to 2021 and amounted to 64100 tonnes. The significant decline in performance last year was caused, firstly, by the suspension of all Ukrainian airports from 24 February 2022 due to the introduction of martial law in Ukraine and, secondly, by the closure of the country's entire airspace [3].

Table 1. Results of the aviation industry of Ukraine for the specified period of 2022

Indicator	Units of of measurement	Total			including international		
		2021 y.	2022 y.	Percentage by 2021	2021 y.	2022 y.	Percentage by 2021
All passengers transported	ths. people	9348,1	981,5	10,5	8622,3	886,2	10,3
including regular lines	ths. people.	3322,7	423,3	12,7	2608,9	329,3	12,6
Total cargo and mail transported	ths tonnes	81,9	64,1	78,3	81,9	64,1	78,3
including regular lines	ths tonnes	8,9	1,1	12,4	8,9	1,1	12,4
All commercial flights completed	thousands of units	74,1	13,1	17,7	60	11,2	18,7
including regular lines	thousands of units	34,4	4,7	13,7	21,9	2,9	13,2

Analysing the data of the State Statistics Service of Ukraine, it was found that the volume of transportation of all types of cargo has been decreasing by 10% since 2018 [4]. The reason for this, according to ATAG experts, is the weak growth in global trade in 2017 - by only 0.9 %. Weaker

business and consumer confidence, respectively, along with a drop in export orders, also contributed to the deterioration in air cargo traffic.

Until recently, air transport was primarily specialised in the transport of passengers, and mail and baggage, including perishable goods, were the most popular types of cargo transported. However, air transport has begun to perform various relevant functions: scientific, firefighting, environmental protection, assembly, rescue, police, and also to transport only urgent or valuable goods. Accordingly, their volume and number will increase due to the creation of new types and generations of aircraft and helicopters [5, 6].

The current conditions of the air cargo market require transport companies to improve the quality of their services, reduce time spent on maintenance and ensure that they meet the relevant requirements for regularity and safety of transportation. The primary area of practical solution to this problem is the optimisation of certain technological parameters of transport services. Therefore, in order to successfully provide customer service and reduce costs, air transport companies need to implement rational variants of cargo delivery technology, which should be based on modern approaches.

Aviation is the most important element of the transport system of every country. It makes a significant contribution to economic growth, social stability, promotes the inflow of various types of investments, the development of foreign trade, business and tourism relations, as well as the growth of the corresponding population mobility and transport accessibility of certain regions [7, 8].

The Convention on International Civil Aviation stipulates that, since air transport cannot be carried out without pilots and other air and ground personnel, the main guarantee of flight efficiency and safety is always the level of their qualifications, skills and training. [9, 10].

Air freight is the fastest way to transport most types of valuable goods over long distances. Typically, air freight is a multimodal transport that may consist of the shipment of a particular cargo from the sender, the relevant terminal handling at the airport of departure, the actual flight, the relevant terminal handling at the airport of arrival, as well as customs clearance and movement of the cargo to the recipient.

Specified airline lines operate the relevant flights between the designated airports, and therefore the concept of a "flight" may include several relevant cargo movements with possible intermediate transshipments. Different types of aircraft may be used on different routes, which imposes sufficient restrictions on the specific characteristics (size and weight) of the relevant cargo.

Despite the disadvantages of air transport, it remains a fairly profitable means of transporting goods for a significant number of customer companies, enterprises and individuals. This is because it is a versatile means of transporting various types of cargo, which allows for the transportation of goods to any part of the world in a fairly short time and over long distances.

Air transportation by air represents a special specific branch of cargo and passenger movement around the world, which is developing and, accordingly, spreading throughout space and time in accordance with the modern evolution of logistics, both in theoretical and practical terms.

The article establishes that the revival of the market of cargo and mail transportation by air transport in Ukraine by 2022 entailed an increase in demand for transport services at airports and led to an increase in customer requirements for the quality of order fulfilment. The main goal of the airline companies' order fulfilment systems is to take into account the relevant customer requirements to ensure the quality and complete processing of the relevant cargo while rationally using existing resources (warehouses, transport, forklifts, personnel, etc.). Therefore, there is a need to develop new approaches aimed at the rational organisation of transport services for orders through the efficient use of existing resources and optimisation of operating parameters [11-15].

The analysis of developments in theoretical research has shown that the introduction of innovative technologies and modern solutions in solving the problems of building a rational transport service system by airline companies requires large capital investments and significant time. The primary focus is on solutions in the area of rational use of all types of material resources without taking into account the influence of certain random factors. In the existing developments of theoretical foundations for the implementation of modern technologies in the operation of terminal systems,

aviation companies pay considerable attention to the development of appropriate infrastructure in terminal and airfield systems; including the solution of the optimisation problem of the processes of cargo delivery and removal to airport terminals, but without determining the rational values of technological relevant parameters of the systems under study.

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