

Key trends in the development of airports on the market of air transport services

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Abstract. Airports as part of the transport system are an important component of local, national and regional infrastructure. At the same time, the airport is not a simple provider of services for public and business needs, the activities of which are regulated exclusively by the state. At the present stage of global economic development, the airport becomes an independent commercial complex with its own business goals and development strategy aimed at increasing and improving the economic efficiency of operation. At the same time, modern economic realities dictate the need to develop innovative measures aimed at forming the competitive advantages of Ukrainian airports, attracting private investors in their development, which will contribute to the effective development of the air transport industry. Currently, the above issues have a small number of works, despite the importance of solving the tasks for the air transport of Ukraine, which determines the relevance of the study of this issue and the formation of sound conclusions based on key trends in the development of airports on the market of air transport services.

1. General forecasts of airports development on the market of air transport services

Airports are the gateway to regional business development, and thus are one of the most important components of local, national and regional infrastructure. At the same time, the airport is not a simple provider of public services, the activities of which are regulated by the state; it is an independent commercial complex with its own business goals and development strategy aimed at growth and economic efficiency of operation in changing market conditions.

Despite the fact that the world's international airports have a number of common characteristics, each of them operates in its own, unique competitive environment. Airports also actively and closely cooperate with their partners in the aviation business - airlines, air traffic control services, freight agents, logistics companies, regional and local authorities, etc.

To analyze the complexity of the airport business, it is necessary to take into account a number of factors:

- passenger traffic growth;
- airport infrastructure capacity;
- financial results;
- cash flows;
- employment;

- capital investment;
- ownership structure;
- relations with airlines;
- competition among airports;
- cooperation in aviation areas of activity that are subject to regulation and control by the state.

Thus, the particularly noticeable growth of passenger and freight traffic is in the Middle East, Asia and the Asia-Pacific region, which are developing rapidly (Figure 1) [1].

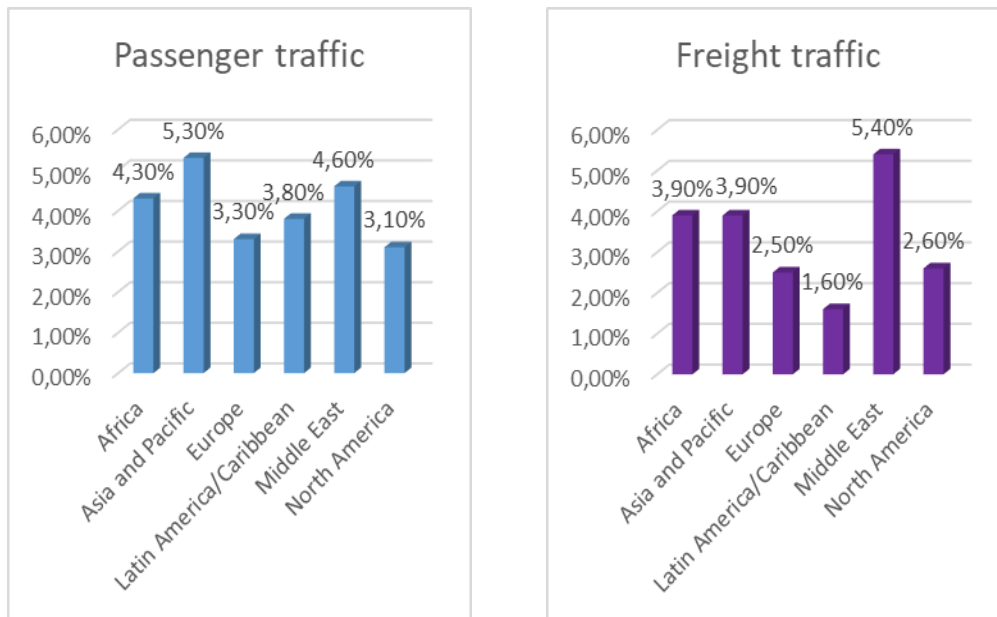


Figure 1. Projected annual growth of total passenger and freight traffic by region up to 2045

As a result, in these regions there is a boom in the construction of new airports and a significant increase in investment in the infrastructure of existing air complexes. However, in many developed countries, plans to expand airport infrastructure are hampered by political resistance, driven primarily by concerns about environmental degradation. It should be noted that if the airports of these regions fail to address the shortage of infrastructure in the near future, the world economy may face the impossibility of further expansion.

International airports, acting as both infrastructure monopolies and economic agents, are the most efficient in the world economy in measuring productivity. In general in 2036, aviation will provide 98 million jobs and generate USD 5.7 trillion in GDP, a 110 per cent increase from 2016 (Figure 2) [2].

This means that airport workers make a greater contribution to the global economy than workers in other sectors, as airports are the key players in the aviation market. This situation is due to several factors:

- the airport business is capital intensive;
- the development of air transport is carried out mainly in highly developed countries, where labor productivity is traditionally higher than in developing countries;
- airport employees are highly educated experts, have specific knowledge and skills;
- the aviation sector has traditionally been a center of research and development and implementation of scientific developments.

Airports have both direct and indirect effects on the world economy. Indirect influence is manifested primarily through the promotion of world trade and specialization of countries in those sectors where they have a competitive advantage. According to ICAO and IATA estimates, approximately 30% of all

trading companies in the world today depend on the stable operation of civil aviation. Airports, as part of the air transport communications system, promote the integration of companies and the expansion of markets.

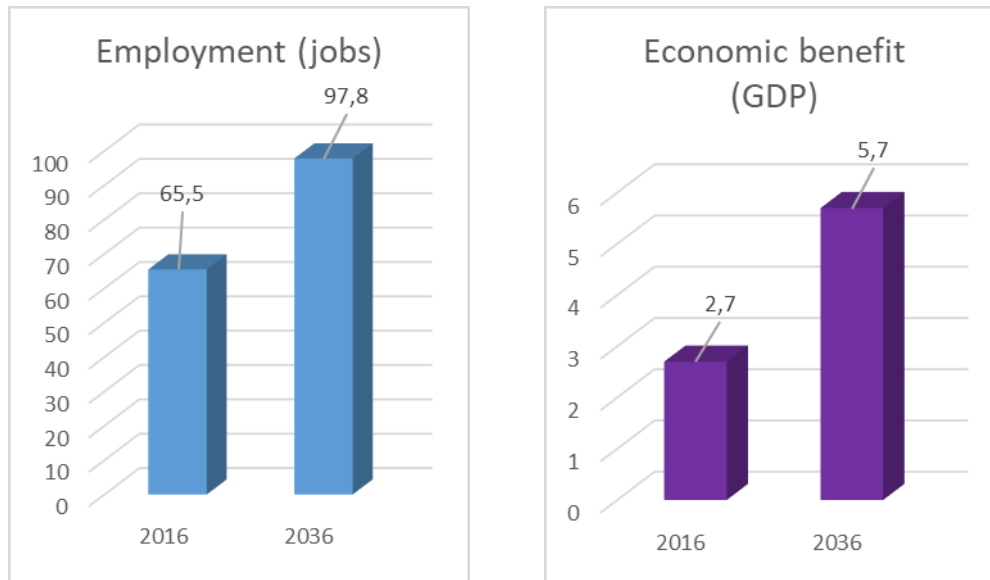


Figure 2. Total aviation global employment (million) and GDP (trillion) impact: history and forecast

The airport business is capital intensive and requires significant investments in infrastructure development. The construction and reconstruction of airport production infrastructure is financed both by aviation market participants (the airports themselves, as well as by airlines) through various fees, and by public authorities within the framework of the public investment system. At the same time, airports, in contrast to road or rail modes of transport, fully cover infrastructure costs. Studies by international organizations ICAO and IATA show that airports in the global economy produce net value added, i.e. fully cover their costs (including infrastructure support), and paid taxes create a net contribution to national wealth [3].

According to the Airports Council International (ACI) World Airport Traffic Report, there are currently 17,678 commercial airports in the world, in other words those which receive airliners, cargo and business aircraft. If we count all airports, aerodromes and airfields, both civilian and military throughout the world, the figure rises to 41,788. The United States have the highest density of airports in the world [4]. Let's consider the best airports according to passenger's view in 2019 (Figure 3) [5].

As can be seen from Fig. 3, the world's leading airports are based in economically developed countries in Asia, the East and Europe. It should be noted that the position in the ranking, according to its experts, is significantly influenced by three main indicators of the airport: On-time performance, Service Quality, Food and Shops. Thus, the airports of Singapore, India and Greece have the best development of non-aviation services infrastructure and the highest quality of aviation services, and the airports of Russia, Japan and Brazil are characterized by a high degree of efficiency, which positively affected their positions in 2019.

At the same time, the world's leading countries are taking measures to develop airports:

- projects to increase passenger traffic;
- construction of new and expansion of existing terminals;
- establishing links between airports and cities;
- connecting the airport to the railway network;
- improving runways, etc.

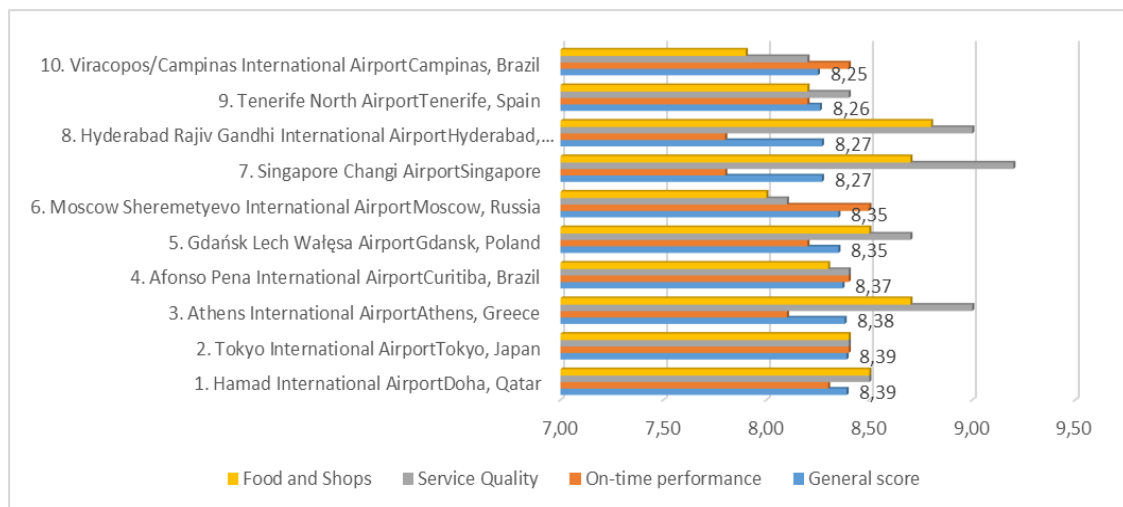


Figure 3. Top-10 airports in the Global Airport Ranking 2019

One of the most important features of the airport business in the world is its strict regulation by international organizations and government agencies. In this area of transport, perhaps to the greatest extent, there is a need for strict control by states over compliance with norms and standards. Due to cases of illegal interference in aviation activities, the world community is constantly taking new steps to strengthen aviation security and flight safety. Following the high-profile terrorist attacks (September 11, 2001, a number of terrorist acts in 2015 and 2016), the attention of public authorities, professionals and society as a whole to aviation security has become unprecedented [6; 7].

According to experts, a multi-level approach to the implementation of aviation security measures should be based primarily on working with passengers, and then on the equipment. For example, if a passenger is identified as a potential threat, he or she should be screened by the more staff and the most sophisticated equipment. Passengers who are expected to have a lower level of threat (for example, if they participate in a program for passengers who frequently use air transportation services) are checked only luggage with using an X-ray machine.

2. Factors of airport development on the market of air transport services

The operation of airports is impossible without cooperation with airlines. Airlines and airports simply cannot exist separately. Despite the fact that the structure of their businesses is different and they have different owners, the basic interests of attracting new passengers and increasing passenger and freight turnover coincide. After all, passengers are the main source of income for both airlines and airports. Accordingly, each party should develop and strengthen the factors that lead to an increase in air traffic, as well as, if possible, eliminate or curb the factors that reduce the growth of air traffic (Table 1).

Table 1. Factors affecting air traffic (state / airlines / airports)

Factors	Stimulating growth	Inhibition of growth
General economic conditions in the country	<ul style="list-style-type: none"> - production growth / GDP; - development of trade, foreign trade relations; - growth of personal income; - population growth; - easing of currency restrictions; - market liberalization 	<ul style="list-style-type: none"> - decline in production / GDP; - decline in imports / exports; - devaluation of the national currency; - increase in the cost of travel; - high customs duties on the import of new aircraft

Factors that depend on the activities of airlines	<ul style="list-style-type: none"> - modernization of aircraft fleet; - increase of fuel efficiency of aircraft; - reducing the cost of borrowed capital; - reducing the cost of services; - improvement of technologies; - development of the route network; - high frequency of flights on the main routes; - developed network of representative offices / sales agents 	<ul style="list-style-type: none"> - increase of operating costs; - low economic efficiency of the existing fleet of aircraft; - difficulties in updating the fleet of aircraft; - underdeveloped communications; - difficulties in attracting investors, high bank interest rates, large lease payments; - undeveloped network of overhead lines
Factors that depend on the activities of airports	<ul style="list-style-type: none"> - availability of a network of airports (hubs and regional) in the country / region; - state support of airport business; - development of non-aviation services at airports; - high-quality transport connections between airports and nearby cities; - a sufficient number of airlines served by airports; - ability to receive and service aircraft of different types 	<ul style="list-style-type: none"> - lack / insufficient number of airports in the country / region; - underdeveloped infrastructure of airports (number of runways and their characteristics, outdated equipment, lack of modern terminals, etc.); - lack of ability to receive and service heavy long-haul aircraft of the new generation; - the presence of a monopoly airline; - congestion of airports; - underdevelopment of non-aviation services

Thus, the level of development of the airport and its competitiveness are determined, first of all, by passenger and cargo flows generated by it, which lead to revenue growth, mainly due to non-aviation activities. The growth of passenger traffic, in turn, involves the management of modern concepts and methods of a comprehensive process of providing services at the airport.

The level of infrastructure development, as well as the available equipment that allows to receive all types of aircraft and serve the maximum number of airlines and passengers, has a direct impact on increasing the level of competitiveness of the airport. The transformation of Ukraine's leading airports into major transit hubs is impossible without large-scale ground infrastructure upgrade programs. These programs should be financed both from the state budget and from private investors [8].

The investment attractiveness of airports increases with the growth of revenues, primarily due to the non-aviation sector. According to this indicator, Boryspil International Airport is the leader in Ukraine.

In addition to the traditional services provided by airports in Ukraine and around the world, in the area adjacent to the airport, it is necessary to create a number of companies that provide additional services to both passengers and legal entities: airlines and consignees / shippers. These services are not directly related to the main activities of the airport, but international and domestic experience shows that with the proper organization of business profits from non-core activities may exceed profits from aviation activities. The ratio of profits from aviation and non-aviation destinations in the world's leading airports is as follows: 100% = 33% aviation and 67% non-aviation.

At the same time, in today's fierce competition and changing market situation, companies must not only focus on the internal state of affairs, but also develop a long-term strategy of behavior that would allow them to respond to changes in the environment.

In this context, the development of a strategy for the competitiveness of Ukrainian airports is the basis of strategic management and the creation of future value for shareholders, which is a promising area for further research.

In our opinion, the strategy of developing the competitiveness of Ukrainian airports should be a "model of action" with dynamic development necessary to achieve the goals and objectives by coordinating and allocating airport resources capable of ensuring timely and quality organization of passengers, cargo, luggage and other services. meet consumer demands and the requirements of a competitive air transport market.

The above strategy should include a system of priorities for upgrading the ground infrastructure, improving aviation security, developing the airport complex and aviation base, technical re-equipment, strengthening the logistics component, optimizing the route network and streamlining service technologies.

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