

ANALYSIS OF THE DEVELOPMENT FACTORS OF THE PASSENGER AIR TRANSPORT MARKET IN THE TOURISM SECTOR

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Introduction. Travel and tourism in 2023 has become particularly relevant and in high demand around the world. The pent-up demand caused by long-term travel restrictions due to the COVID-19 pandemic has led to a sharp increase in visits from various countries, reaching almost 90% of the level of international tourism in 2019. The recovery of the tourism sector can be very important for countries and cities that are particularly dependent on tourism, which can further contribute to economic recovery. It is important to note that the impact of the recovery in demand depends on many factors, including the global pandemic situation, economic and political conditions. Businesses and industry players need to be ready to adapt to change and adopt strategies that take account of changing market conditions. As the pandemic has affected different regions differently, there may be a shift in tourist travel patterns in the future as people choose destinations with lower health and safety risks. In addition to the factors mentioned above, the demand for air transport may affect its prices, as well as the prices of fuel and raw materials, the cost of which has increased due to the war in Ukraine. In 9 months of 2023, passenger air transport reached 88.5% of the level of 2019 [1], which indicates the existing demand, which, according to forecast data, will grow significantly – in 2024 it will reach 9.4 billion passengers [2]. Therefore, the analysis of the development of the passenger air transport market is of particular importance, taking into account both global factors of influence, such as the pandemic, the war in Ukraine, and local factors related to the activities of representatives of the aviation industry, regulatory policy and the level of safety.

Analysis of recent research and publications. The problems of passenger air transport research are reflected in the scientific works of leading foreign and domestic scientists, who study both the theoretical foundations of the development of the aviation industry [3; 4; 5], and also various aspects of the aviation industry – the use of airspace as a component of the aviation industry [6], the state and performance indicators of the aviation industry of Ukraine [7], the development of the aviation industry in conditions of global challenges [8], the business activity of passenger air transport [9], competition issues [10; 11; 12]. In the work of Lee H. et al [13], a study of the demand for passenger air transport from the perspective of the effects of the COVID-19 pandemic is carried out, where the authors focus on the limitation of supply and the drop in demand and forecast the development of the market based on the simulation of different scenarios. Eric Eduardo de Almeida and Oliveira A. [14] consider research into flight speed important for passenger air transport, where its importance has been demonstrated using econometric tools, as well as determinants such as aircraft age, airport occupancy and fuel costs. At the same time, the reports of the leading international organisations dealing with air transport issues, including passenger issues – the International Air Transport Association (IATA), the International Civil Aviation Organisation (ICAO), the European Organisation for the Safety of Air Navigation (Eurocontrol) – are of great importance to the scientific community. The European Aviation Safety Agency (EASA) and organisa-

tions dealing with various components of the aviation industry – the International Telecommunication Union (ITU) on telecommunications standardisation, including various aspects of aviation communications, the International Union of Railways (UIC), the European Consumer Organisation (BEUC), etc.

Objectives of the article. Since the issues of the development of the air transport market in modern conditions are becoming particularly relevant, especially in the field of passenger air transport, the purpose of the article is to study the factors of the development of passenger air transport in the field of tourism, taking into account the current state and possible trends.

In the course of the study, the following scientific methods were used: literature review (analysis of available scientific publications and literature to obtain information on the research questions), analysis (to understand the depth of the study and understand its structure and properties), synthesis (to combine various elements), and grouping (to form a comprehensive approach to assessing passenger air transport based on common characteristics).

The main material of the study. In 2023, the tourism sector showed a steady recovery trend. Many countries also saw an increase in tourist spending, in particular, in Italy by 16% compared to the level of outbound tourist spending in 2019, the United States by 13%, and Germany by 11% [15]. International tourist arrivals in most regions of the world did not reach the level of 2019, with only the Middle East showing a 22% increase (Figure 1).

Along with the recovery of tourism, the aviation industry has also begun an active recovery after the onset of the pandemic and the introduction of sanctions and travel restrictions. In recent years, this industry has been characterised by positive changes, where in 2022 the most popular destinations in the field of air transport will be China, the USA and India, where, according to forecast data, global air passenger traffic will reach 2.6 billion passengers [16].

According to global OAG data [17], the busiest routes in 2023 were Kuala Lumpur – Singapore Changi (4.9 million seats), Cairo – Jeddah (4.8 million seats), Hong Kong – Taipei (4.6 million seats), Seoul Incheon – Osaka Kansai (4.2 million seats), Seoul Incheon – Tokyo Narita (4.15 million seats), and before the 2019 pandemic, a significant share of the routes popular in 2023 did not belong to this group.

Along with the positive developments, it is worth paying attention to the level of losses in global passenger traffic (Figure 2).

Looking at the dynamics of the projected decline in world passenger traffic, it can be seen that in 2024 it will almost reach the level of 2019 (94%) and in 2027 it will range from 114% (pessimistic forecast) to 131% (optimistic forecast). Obviously, the growth of air passenger traffic will depend on a large number of factors, some of which are predictable and some of which are not. However, with the help of econometric tools, as emphasised by foreign researchers [14], it is possible to approximate the forecast data as realistically as possible.

According to the ACI World [2023] analysis, the largest share of passenger traffic in the regional distribution in 2023 will be in the Asia-Pacific region (34% of world traffic), where this trend will be observed in 2024 – 35%. Furthermore, the highest growth rates in 2024 (compared to 2019 levels) will be observed in Africa (10.6% growth) and Latin America (10.5%).

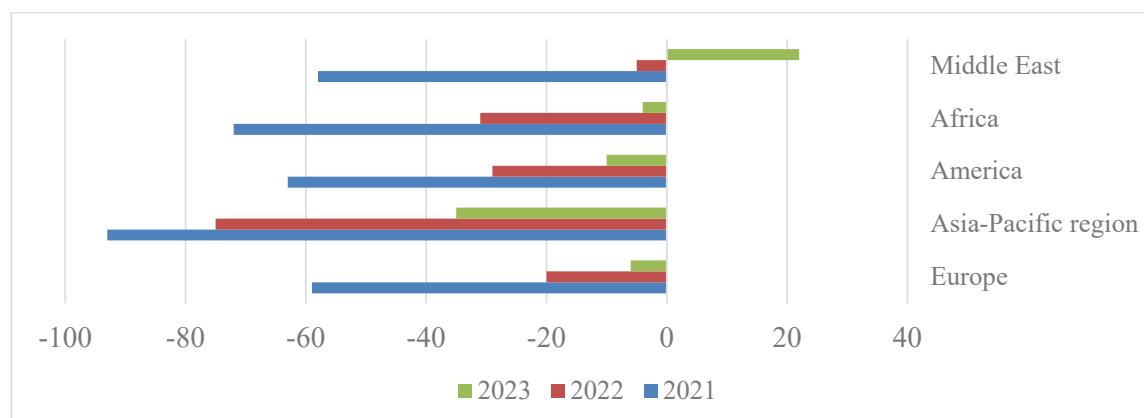


Figure 1. Dynamics of international tourist arrivals by regions of the world, % compared to 2019

Source: compiled on the basis of data from [15]

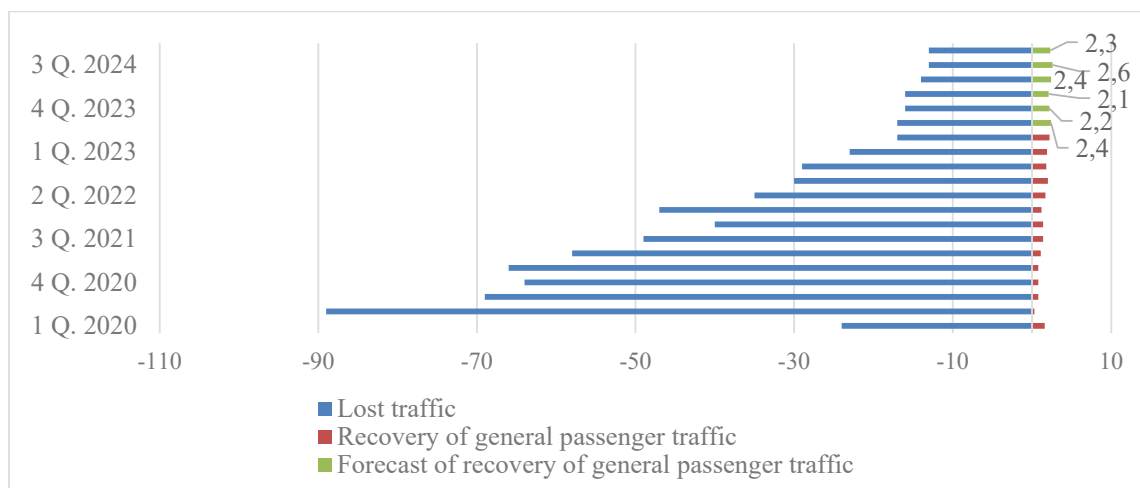


Figure 2. Dynamics of the level of losses and recovery of global passenger traffic, %

Source: compiled on the basis of data from [2]

Increased demand for travel and tourism meant that infrastructure was not ready for the strong growth in 2023, as evidenced by the fact that flights in Europe, a popular tourist destination, were delayed by 400% with an average delay time of more than 19 minutes [18].

When discussing passenger traffic in Ukraine, it's important to note that the country's airspace is closed due to the outbreak of war and no flight programmes are in operation. At the same time, border cities and their respective airports are reporting an increase in demand. In Poland, for example, the number of passengers rose by 30% in the first nine months of 2023 compared to 2022, and the country's 15 airports handled 40.4 million passengers. The most significant growth was recorded by Rzeszów Airport, which is geographically closest to Ukraine, with an increase of 50% in 9 months of 2023 [19].

Looking at passenger air transport in Ukraine before the start of the war, the main indicators for 2011–2022 are shown in the Table 1. As can be seen from the above data, the increase in the number of passengers using the services of airlines occurred gradually in 2015–2019, where global events such as the pandemic led to a decrease in the number of international tourists in 2020 by 65.8%, domestic – by 56%. The cancellation of quarantine restrictions and the opening of borders led to an increase in international tourist demand in 2021 by more than 100%, and domestic demand by 42.3%. When estimating the number of passengers in 2022, the period from 1 January to 23 February was taken into account. 2022 and, accordingly, this affected the volume of passengers.

Table 1

Dynamics of the number of passengers carried by domestic transport, thousand people

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Number of international passengers	6328,5	6820,9	6900,3	5828,6	5679,6	7475,3	9614,9	11450,5	12547,1	4287,7	8622,3	886,2
Number of domestic passengers	1176,3	1285,4	1210,1	646,6	624,7	802,5	941,4	1082,9	1158,6	509,8	725,8	95,3
Total passengers	7504,8	8106,3	8110,4	6475,2	6304,3	8277,8	10556,3	12533,4	13705,7	4797,5	9348,1	981,5

Source: compiled on the basis of data from [20]

In other words, local and global events have a significant impact on passenger air travel, so it is important to conduct an in-depth analysis of the factors that affect both tourist flows and correlated passenger flows. Forecasting the development of the passenger air transport market in the tourism sector is a complex task, as it is influenced by many factors, such as economic, political, technological and socio-cultural changes.

Analysis of the development of the passenger air transport market includes an assessment of various aspects affecting this industry. In particular, it is important to consider the following factors when making such an assessment:

- Total market volume and dynamics;
- competition between airlines;
- technological innovations;
- passenger demand and preferences;
- impact of global and local events;
- regulation and legislation;
- sustainability and environmental aspects;
- digital technologies and online platforms.

Analysing these aspects will help to understand trends and identify opportunities and challenges for the development of the passenger air transport market. In today's conditions, it is important to respond quickly to changes in the external environment, where the transformation processes of digitalisation are particularly important for the aviation industry. In particular, digital technologies are transforming the way reservations are made, the way passengers are served and the way the airline industry as a whole operates. Digital technologies allow passengers to easily compare prices, schedules and services of different airlines, and to obtain information on the cost of tickets, including ancillary costs, enabling them to make more informed decisions. Airlines can use digital technologies to effectively manage resources, schedules and infrastructure, use analytics tools to collect and analyse passenger data to provide personalised services and offers, create loyalty programmes and reward passengers for their spending.

Conclusions. The passenger air transport market has been characterised by positive changes over the past two years due to the lifting of quarantine restrictions worldwide and the effect of pent-up demand. According to various forecasts, starting from 2024, the number of passengers using airline services will exceed the pre-pandemic level and will grow annually, just as global tourist flows will grow in general. At the same time, local events, such as the war in Ukraine, have a negative impact not only on the country where the war is taking place, but also on neighbouring countries and others for which security and defence issues are extremely important. Other factors, such as innovative technologies, online platforms, and passenger demand, which dynamically responds to changes in both the external and internal environment, also play an important role in the development of the passenger air transport market. Hence, in further research, it is important to focus on the economic impact of these factors on the passenger air transport market.

REFERENCES:

1. IATA (2023) Passenger Demand Recovery Continues in August. Available at: <https://www.iata.org/en/press-room/2023-releases/2023-10-04-01>
2. Airport Council International (2023) Global passenger traffic expected to recover by 2024 and reach 9.4 billion passengers. Available at: <https://aci.aero/2023/09/27/global-passenger-traffic-expected-to-recover-by-2024-and-reach-9-4-billion-passengers>
3. Abysova M., Shorina T., Chenbai N. & Skyba I. (2021) Aviation industry management: objective and subjective risks. *E3S Web of Conferences*, vol. 258. DOI: <https://doi.org/10.1051/e3sconf/202125802001>
4. Vasigh B., Fleming K. & Tacker T. (2018) *Introduction to air transport economics: from theory to applications*. Routledge.
5. Nashinets-Naumova A. Yu. (2013) Pravove rehuliuвання informatsiinoi bezpeky v tsyvilnii aviatsii: mizhnarodno-pravovyi aspekt [Legal regulation of information security in civil aviation: international legal aspect]. *Visnyk NTUU "KPI". Politolohiia. Sotsiolohiia. Pravo – Bulletin of NTUU "KPI". *Politology. Sociology. Right*, vol. 3 (19), pp. 150–160. (in Ukrainian)*
6. Yermolenko-Knyazeva L. S. & Vykhrystiuk M. S. (June 23-24, 2022) Vykorystannia povitrianoho prostoru Ukrainy yak skladova haluzi aviatsii [Use of the air space of Ukraine as a component of the aviation industry]. *Modernizatsiia vitchyznianoї pravovoi systemy v umovakh svitovoi intehratsii: materialy Mizhnar. nauk.-prakt. konf. Kropyvnytskyi: LA NAU*. (in Ukrainian)
7. Petryk V. L. (2020) Analiz stanu svitovoho rynku tsyvilnoi aviatsii ta prohnoz yoho rozvytku v umovakh nestabilnoho popytu na aviaperevezennia [Analysis of the state of the world civil aviation market and the forecast of its development in conditions of unstable demand for air transportation]. *Biznes Inform – Business Inform*, no. 3 (506), pp. 112–119. (in Ukrainian)
8. Prushkivska E., Prushkivskyi V. & Koptev O. (2023) Tendentsii rozvytku aviatsiinoi promyslovosti v umovakh hlobalnykh vyklykiv [Development trends of the aviation industry in conditions of global challenges]. *Adaptive Management: Theory and Practice. Series Economics*, no. 15(30), 14 p. (in Ukrainian)

9. Mykhalchenko O. (2023) Dilova aktivnist pasazhyrskykh aviakompanii Ukrainy ta shliakhy zrostantia yikh instytutsionalnoi konkurentospromozhnosti [Business activity of passenger airlines of Ukraine and ways of increasing their institutional competitiveness]. *Ekonomika ta suspilstvo – Economy and society*, no. 52, 9 p. DOI: <https://doi.org/10.32782/2524-0072/2023-52-79> (in Ukrainian)
10. Slobodianyuk A. M., Salkova I. Yu. & Mogilevska O. Yu. (2023) Konkurentsia na mizhnarodnykh aviarynkakh: upravlinnia biznes-modeliamy [Competition on international airline markets: management of business models]. *Kyivskiy ekonomichnyi naukovyi zhurnal – Kyiv Economic Scientific Journal*, no. 2, pp. 61–68. DOI: <https://doi.org/10.32782/2786-765X/2023-2-8> (in Ukrainian)
11. Cai D. L., Xiao Y. B. & Jiang C. (2021) Competition between high-speed rail and airlines: Considering both passenger and cargo. *Transport Policy*, no. 110, pp. 379–393.
12. Kölker K., Lütjens K. & Gollnick V. (2024) Analyzing global passenger flows based on choice modeling in the air transportation system. *Journal of Air Transport Management*, no. 115. DOI: <https://doi.org/10.1016/j.jairtraman.2023.102530>
13. Li X., de Groot M. & Bäck T. (2023) Using forecasting to evaluate the impact of COVID-19 on passenger air transport demand. *Decision Sciences*, no. 54(4), pp. 394–409. DOI: <https://doi.org/10.1111/dec.12549>
14. de Almeida E. E. & Oliveira A. V. (2023) An econometric analysis for the determinants of flight speed in the air transport of passengers. *Scientific Reports*, no. 13(1).
15. UNWTO (2023) International Tourism to End 2023 Close to 90% of Pre-Pandemic Levels. Available at: <https://www.unwto.org/news/international-tourism-to-end-2023-close-to-90-of-pre-pandemic-levels>
16. ReportLinker (2023) Air Passenger Transport Market Outlook 2022–2026. Available at: <https://shorturl.at/IKPU4>
17. OAG (2023) The busiest flight routes of 2023. Available at: <https://shorturl.at/giyAU>
18. RBC-Ukraine (2023) Zatrzymki aviareisiv v Yevropi pobilshalo na 400%: v chomu prychny [Flight delays in Europe increased by 400%: what are the reasons]. Available at: <https://shorturl.at/nqrRU>
19. RadioTrek (2024) Zavydiaky ukrainsiam "ozhyla" nadvazhlyva haluz u Polshchi [Thanks to Ukrainians, an extremely important industry in Poland "revived"]. Available at: <https://shorturl.at/oFLO6>
20. State Aviation Administration of Ukraine (2023) Zvit pro diialnist Derzhavnoi aviatsiinoi sluzhby Ukrainy za 2022 r. [Report on the activities of the State Aviation Service of Ukraine for 2022]. Available at: <https://shorturl.at/horBX>

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ:

1. IATA. Passenger Demand Recovery Continues in August. 2023. URL: <https://www.iata.org/en/pressroom/2023-releases/2023-10-04-01>
2. Airport Council International. Global passenger traffic expected to recover by 2024 and reach 9.4 billion passengers. 2023. URL: <https://aci.aero/2023/09/27/global-passenger-traffic-expected-to-recover-by-2024-and-reach-9-4-billion-passengers>
3. Abysova M., Shorina T., Chenbai N. & Skyba I. Aviation industry management: objective and subjective risks. *E3S Web of Conferences*. 2021. Vol. 258. DOI: <https://doi.org/10.1051/e3sconf/202125802001>
4. Vasigh B., Fleming K. & Tacker T. *Introduction to air transport economics: from theory to applications*. Routledge, 2018.
5. Нашинець-Наумова А.Ю. Правове регулювання інформаційної безпеки в цивільній авіації: міжнародно-правовий аспект. *Вісник НТУУ «КПІ». Політологія. Соціологія. Право*. 2013. Вип. 3 (19). С. 150–160.
6. Єрмоленко-Князева Л.С., Вихристюк М.С. Використання повітряного простору України як складова галузі авіації. *Модернізація вітчизняної правової системи в умовах світової інтеграції* : матеріали Міжнар. наук.-практ. конф. м. Кропивницький, 23-24 червня 2022. Кропивницький : ЛА НАУ, 2022. С. 422–424.
7. Петрик В.Л. Аналіз стану світового ринку цивільної авіації та прогноз його розвитку в умовах нестабільного попиту на авіаперевезення. *Бізнес Інформ*. 2020. № 3 (506). С. 112–119.
8. Прушківська Е., Прушківський В. & Коптев О. Тенденції розвитку авіаційної промисловості в умовах глобальних викликів. *Adaptive Management: Theory and Practice. Series Economics*. 2023. № 15(30). 14 с.
9. Михальченко О. Ділова активність пасажирських авіакомпаній України та шляхи зростання їх інституціональної конкурентоспроможності. *Економіка та суспільство*. 2023. № (52). 9 с. DOI: <https://doi.org/10.32782/2524-0072/2023-52-79>
10. Слєбодяник А.М., Салькова І.Ю., Могилєвська О.Ю. Конкуренція на міжнародних авіаринках: управління бізнес-моделями. *Київський економічний науковий журнал*. 2023. № (2). С. 61–68. DOI: <https://doi.org/10.32782/2786-765X/2023-2-8>
11. Cai D.L., Xiao Y.B., Jiang C. Competition between high-speed rail and airlines: Considering both passenger and cargo. *Transport Policy*. 2021. № 110. P. 379–393.
12. Kölker K., Lütjens K., Gollnick V. Analyzing global passenger flows based on choice modeling in the air transportation system. *Journal of Air Transport Management*. 2024. No. 115. DOI: <https://doi.org/10.1016/j.jairtraman.2023.102530>
13. Li X., de Groot M., Bäck, T. Using forecasting to evaluate the impact of COVID-19 on passenger air transport demand. *Decision Sciences*. 2023. No. 54(4). P. 394–409. DOI: <https://doi.org/10.1111/dec.12549>
14. de Almeida E.E., Oliveira A.V. An econometric analysis for the determinants of flight speed in the air transport of passengers. *Scientific Reports*. 2023. No. 13(1).
15. UNWTO. International Tourism to End 2023 Close to 90% of Pre-Pandemic Levels. 2023. URL: <https://www.unwto.org/news/international-tourism-to-end-2023-close-to-90-of-pre-pandemic-levels>

16. ReportLinker. Air Passenger Transport Market Outlook 2022–2026. 2023. URL: <https://shorturl.at/IKPU4>

17. OAG. The busiest flight routes of 2023. 2023. URL: <https://shorturl.at/giyAU>

18. РБК-Україна. Затримок авіарейсів в Європі побільшало на 400%: в чому причини. 2023. URL: <https://shorturl.at/nqrRU>

19. РадіоТрек. Завдяки українцям «ожила» надважлива галузь у Польщі. 2024. URL: <https://shorturl.at/oFLO6>

20. Державна авіаційна служба України. Звіт про діяльність Державної авіаційної служби України за 2022 р. 2023. URL: <https://shorturl.at/horBX>

UDC 656.7:338.48

JEL L93, O18

Olena Sushchenko, Doctor of Economic Sciences, Full Professor, Professor at the Department of Tourism. **Oleksii Pohuda**, Postgraduate student, Simon Kuznets Kharkiv National University of Economics. **Analysis of the development factors of the passenger air transport market in the tourism sector.**

The article analyses the factors that determine the development of the passenger air transport market. It analyses the dynamics of international tourist arrivals in the regions of the world in 2019–2023 and identifies the busiest routes in the world in 2023. Also, it provides an analysis of the actual and forecast level of global traffic losses and the pace of its recovery. It was determined that according to the optimistic forecast, passenger traffic in 2027 should exceed the level of 2019 by 31%. It was also identified that the impact of global and local events has had a negative impact on both the tourism sector and the aviation industry. The surge in demand for air travel in Europe in 2023 caused flight delays by 400% during peak periods. The article examines the dynamics of the number of passengers who used the services of domestic airlines in Ukraine in 2011–2022. The paper outlines the most significant factors influencing the volume of passenger traffic, based on the actual state of the industry and current trends. It defines that the use of digital technologies will have advantages for both tourists and airlines.

Key words: air transport, passenger air transport market, tourism, tourist flows, flight routes, digital technologies.

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JEL L93, O18

Сущенко Олена Анатоліївна, доктор економічних наук, професор, професор кафедри туризму. **Погуда Олексій Андрійович**, аспірант, Харківський національний економічний університет імені Семена Кузнеця. **Аналіз факторів розвитку ринку пасажирських авіаперевезень у сфері туризму.**

Стаття присвячена аналізу факторів, що визначають розвиток ринку пасажирських авіаперевезень. Здійснено огляд наукової літератури у проблематиці розвитку ринку пасажирських авіаперевезень, в результаті чого визначено, що ключовими питаннями, які хвилюють наукову спільноту є використання повітряного простору, стан та показники діяльності авіаційної галузі, ділова активність пасажирських авіаперевезень та розвиток авіаційної галузі в умовах глобальних викликів. Проведено аналіз динаміки міжнародних туристичних прибуттів у регіонах світу протягом 2019–2023 рр., на основі чого визначено регіони-лідери у туристичних прибуттях. Зазначено найбільш завантажені маршрути у світі у 2023 р. Наявність туристичного попиту вплинула і на попит на пасажирські авіаперевезення, де у роботі акцентовано увагу на рівні фактичних та прогнозних втрат світового трафіку, а також оцінці темпів їх відновлення. Відповідно до прогнозних даних було зазначено, що за оптимістичним прогнозом у 2027 р. пасажиропотік перевищуватиме рівень 2019 р. на 31%. Встановлено, що у 2023 р. найбільший пасажиропотік був характерним для Азійсько-Тихоокеанського регіону, що має всі передумови залишитися лідером і у 2024 р. Поряд з цим, за темпами приросту лідирували країни Африки та Латинської Америки. Визначено, що вплив глобальних подій, таких як COVID-19 негативно вплинув як на туристичну сферу, так і авіаційну індустрію, що призвело до суттєвого скорочення кількості туристів та пасажирів. Стрімке зростання на туризм та послуги авіакомпаній у 2023 р. виявили слабкість у транспортній інфраструктурі, де у Європі затримки рейсів досягли 400% у пікові періоди. Окрему увагу приділено оцінці кількості пасажирів, які скористалися послугами вітчизняних авіакомпаній в Україні протягом 2011–2022 рр. із аналізом зростань та скорочень пасажиропотоку. Окреслено найбільш значущі фактори, які впливають на обсяги пасажирських перевезень, спираючись на фактичний стан індустрії та сучасні тенденції. Визначено, що використання цифрових технологій матиме переваги як для туристів, так і безпосередньо авіакомпаній.

Ключові слова: авіаперевезення, ринок пасажирських авіаперевезень, туризм, туристичні потоки, польотні маршрути, цифрові технології.