



e-ISSN 3083-6018

SOCIAL DEVELOPMENT: Economic and Legal Issues

<https://www.eu-scientists.com/index.php/sdel>



Innovative Data Analysis Technologies in the Development of New Generation Tourism Products

Yuliya Pereguda  ^{1, 2 *}

¹ National University of Life and Environmental Sciences of Ukraine (Ukraine). Associate Professor at the Department of Global Economics, Doctor of Science (Economics), Associate Professor.

² Interregional Academy of Personnel Management (Ukraine). Deputy Head, Professor at the Department of Organization of Tourism Activities of the Educational and Scientific Institute of Management, Economics and Business, Doctor of Science (Economics), Associate Professor.

* **Corresponding Author**, e-mail: julilla.pereguda@gmail.com

ARTICLE INFO

ABSTRACT

Research Article

DOI:

[10.70651/3083-6018/2026.2.01](https://doi.org/10.70651/3083-6018/2026.2.01)

Received:

22 December 2025

Accepted:

25 January 2026

Published online:

5 February 2026

Copyright © 2026
by author



This is an open access journal and all published articles are licensed under a Creative Commons Attribution—NonCommercial 4.0 International (CC BY-NC 4.0)



In the context of digitalization in tourism, innovative data analysis technologies enable the application of new approaches to the formation and promotion of tourism products based on consumer preferences and needs. The purpose of the article was to study the influence of innovative data analysis technologies on the development of a new generation of tourism products. In the work, new generation tourism products are considered as integrated tourism services created to meet the individual needs of visitors in different destinations and allow consumers to get new impressions and experiences using intelligent technologies. Innovative technologies are considered from the point of view of the business analysis function of enterprises in the tourism industry, as a tool for analyzing the preferences and needs of visitors. Innovative technologies of data analysis are based on methods of automated processing of collected and accumulated information in the information systems of enterprises. It is determined that innovative technologies allow tourism operators to collect data about consumers and their consumer preferences from various sources for their further use in the formation of integrated tourism products. To provide a detailed explanation of the prerequisites for the application of innovative data analysis technologies in tourism, the dynamics of the main indicators of tourism development in the EU member states and Ukraine are considered. Trends are identified for the recovery of global tourism in terms of revenue in 2024–2025, an increase in the number of trips to EU member states, an increase in online bookings in the most visited EU countries, and the dominance of demand for non-packaged tourism services provided by tour operators in the EU. In these conditions, innovative data analysis technologies are becoming more important for the formation of personalized integrated tourism products. Further research should focus on the specifics of tourism products in Ukraine.

KEYWORDS

technologies in tourism, tourism product, tourism services, online tourism, smart tourism, virtual tourism, digitalization, digital technologies, hotel business, hospitality industry, competitive advantages, crisis management, hotel industry, anti-crisis management.



e-ISSN 3083-6018

СОЦІАЛЬНИЙ РОЗВИТОК: економіко-правові проблеми

<https://www.eu-scientists.com/index.php/sdel>



Інноваційні технології аналізу даних у формуванні туристичних продуктів нового покоління

Юлія А. Перегуда  ^{1, 2 *}

¹ Національний університет біоресурсів і природокористування України (Україна). Доцент кафедри глобальної економіки, д-р екон. наук, доцент.

² ПрАТ «Вищий навчальний заклад «Міжрегіональна Академія управління персоналом» (Україна). Заступник завідувача, професор кафедри організації туристичної діяльності Навчально-наукового інституту управління, економіки та бізнесу, д-р екон. наук, доцент.

* Автор-кореспондент, e-mail: julilla.pereguda@gmail.com

СТАТТЯ

АНОТАЦІЯ

Дослідниця

DOI:

[10.70651/3083-6018/2026.2.01](https://doi.org/10.70651/3083-6018/2026.2.01)

Отримана:

22.12.2025 р.

Прийнята:

25.01.2026 р.

Опублікована:

05.02.2026 р.

Авторське право

© 2026 автора



Цей твір
ліцензовано на
умовах Ліцензії
Creative Commons
«Із Зазначенням
Авторства –
Некомерційна 4.0
Міжнародна»
(CC BY-NC 4.0).

В умовах цифровізації туризму інноваційні технології аналізу даних дозволяють застосовувати нові підходи до формування та просування туристичних продуктів на основі даних про вподобання, потреби споживачів. Мета статті полягала у вивченні впливу інноваційних технологій аналізу даних на формування туристичного продукту нового покоління. У роботі туристичні продукти нового покоління розглядаються як інтегровані туристичні послуги, створені для задоволення індивідуальних потреб відвідувачів у різних місцях призначення та дозволяють споживачам отримати нові враження та досвід з використанням інтелектуальних технологій. Інноваційні технології розглядаються з точки зору функції бізнес-аналізу підприємств туристичної галузі, як інструмент аналізу вподобань та потреб відвідувачів. Інноваційні технології аналізу даних базуються на методах автоматизованої обробки зібраної та накопиченої інформації в інформаційних системах підприємств. Визначено, що інноваційні технології дозволяють туристичним операторам збирати дані про споживачів та їх споживчі вподобання з різних джерел для подальшого їх використання у формуванні інтегрованих туристичних продуктів. Для детального висвітлення передумов застосування інноваційних технологій аналізу даних в туризмі розглядається динаміка основних показників розвитку туризму в країнах-членах ЄС та Україні. Виявлено тенденції до відновлення глобального туризму за обсягами доходів у 2024–2025 роках, збільшення кількості подорожей до країн-членів ЄС, збільшення онлайн-бронювань в найбільш відвідуваних країнах ЄС та домінування попиту на не пакетні туристичні послуги, які надаються туристичними операторами в ЄС. В цих умовах інноваційні технології аналізу даних набувають більшого значення для формування персоналізованих інтегрованих туристичних продуктів. Подальші дослідження варто зосередити на специфіці туристичних продуктів в Україні.



КЛЮЧОВІ СЛОВА

технології в туризмі, туристичний продукт, туристичні послуги, онлайн-туризм, розумний туризм, віртуальний туризм, цифровізація, цифрові технології, готельний бізнес, індустрія гостинності, конкурентні переваги, кризове управління, готельне господарство, антикризове управління.

1. Introduction

Traditionally, the main types of tourism included mountain, urban, rural, island and coastal tourism [1], the demand for which was formed by tour operators and agents selling tourist services. We will consider next-generation travel products as integrated travel services designed to meet the needs of visitors in different destinations and allow consumers to have new experiences and experiences using intelligent technologies. In the context of digitalization of tourism, innovative data analysis technologies allow us to apply new approaches to the formation and promotion of tourism products based on data on consumer preferences and needs. Innovative technologies make it possible to create virtual tours to destinations, promote the development of sustainable tourism, and support the demand for tourism products in times of crisis.

In the face of the growing level of technology use in tourism after the coronavirus pandemic, the global online tourism market began to grow [18]. Since 2020, the level of application of travel applications and reservations using the websites of hospitality industry enterprises or using online platforms for booking trips has been increasing. In this regard, the global travel sector has undergone profound transformations and new tourism products have begun to appear. This requires a more detailed coverage of the main changes that have taken place in the tourism industry in the context of an increase in the level of application of innovative technologies for the creation of tourism products.

2. Literature Review

Technological changes and globalization have contributed to a more dynamic development of the tourism industry and the emergence of new types of tourist products. A gradual increase in interest in innovations in tourism can be traced from 1996 to 2016. The use of new technologies in the tourism industry allowed enterprises to develop at a faster pace compared to other sectors of the economy. Enterprises in the tourism industry are the most inventive in developing new technologies to create useful products for tourists [15].

In the context of digitalization, the paradigm of “smart tourism” is emerging and developing, which combines new concepts, approaches and methods of doing tourism business [11; 16]. The new publications highlight the challenges of “smart travel destinations”, which are interpreted as “a united network of stakeholders and their technology representations” [3]. The integration of real and virtual elements in this network facilitates the exchange and dissemination of information between its participants [3]. In this context, innovative data analysis technologies are of great importance.

The tourism industry is not limited to the active use of traditional information and communication technologies. Access to data is greatly simplified thanks to the use of “smart” technologies [20]. The problem of “smart management” comes to the fore, which consists in applying an integrated approach to the application of technologies for collection, storage and analytical processing for the further development of personalized travel products [20].

The article by Gabor reveals the connection between innovative technologies and tourism services, innovative products offered in the tourism industry during the last 2010–2023. Tourists’ interest in new types of tourism is only growing, so industry enterprises are forming new products (adventure, medical, hunting, rural, museum, dental tourism, visiting cultural heritage monuments, ecotourism, smart tourism, and others) [10]. The coronavirus pandemic has accelerated the transition to more sustainable types of tourism products [14]. Another study demonstrates how hotel innovation indirectly affects tourism destinations and the hotel business. The use of intelligent travel technology in hotels allows you to create an unforgettable tourist experience of the destination [4]. Another article found that intelligent tourism technologies enable the creation of a positive experience for visitors to heritage sites in India and influence the return of visits to monuments [2]. Instead, a similar study of the experience of tourists in South Korea indicates that visitors to foreign countries attach more value to their own experiences than to the impressions created using intelligent tourism technologies [12]. Smart tourism technologies can improve the tourist experience of visitors to various destinations [21]. Summing up, on the one hand, intelligent technologies in tourism make it possible to improve the visitor experience and provide better tourist services. On the other hand, intelligent technologies cannot replace real travel products with virtual products or services. Next-generation tourism products are

based on the use of intelligent technologies to improve traditional types of services and improve the quality of service.

3. Problem Statement

The rapid digitalization of the tourism industry and the accelerated adoption of intelligent technologies after the COVID-19 pandemic have fundamentally transformed the way tourism products are created, promoted, and consumed. Traditional tourism products are increasingly being replaced or supplemented by integrated, technology-driven services that rely on data analytics, online platforms, and smart systems.

Despite the active development of online booking systems, mobile applications, smart destination concepts, and big data tools, there is still insufficient systematization of how innovative data analysis technologies influence the formation of next-generation tourism products. In particular, the role of business analytics, consumer data processing, and digital platforms in shaping personalized and integrated travel services remains underexplored.

This creates the need for a comprehensive analysis of the prerequisites, tools, and market transformations associated with the use of innovative data analysis technologies in the development of modern tourism products.

4. Methods and Materials

The study is based on a combination of general scientific and special research methods. The theoretical foundation includes the analysis and synthesis of scientific publications devoted to smart tourism, digital transformation in tourism, and the use of innovative technologies in the hospitality industry.

Statistical methods were applied to assess trends in tourism development, including the dynamics of tourist flows, online bookings, and the structure of tourism demand. The empirical base of the study includes data from international statistical sources (Eurostat), global tourism analytics, and national statistics, which made it possible to identify changes in consumer behavior and the growing role of digital platforms.

Comparative analysis was used to examine differences in tourism development across EU countries and Ukraine, while structural analysis helped to identify the main components of next-generation tourism products formed through the use of innovative data analysis technologies.

5. Results and Discussion

Innovative technologies of data analysis by enterprises in the field of temporary accommodation should be considered from the point of view of using the available latest methods of collecting and analyzing information about the demand for tourist products. Such a position allows us to consider innovative technologies as a tool for business analysis, one of the key functions for decision-making in the management of travel companies.

Innovative technologies allow tourism enterprises to collect data on consumers and their consumer preferences from various sources for their further use in the formation of integrated tourism products. According to the State Statistics Service of Ukraine, 29.7% of enterprises in the field of temporary accommodation analyzed "big data" in 2024, 32.9% in 2025. The main sources of information for the analysis of enterprise data were transaction records (information about payments and sales), customer data (location, preferences, customer reviews, information about product purchases), data from social networks, web data from enterprise websites, data collected by employees of enterprises. Additional sources of information were open data from public authorities, data collected from "smart" devices, satellite data, etc. [17].

The emergence of new software and its use by tourism industry enterprises made it possible to collect and systematize data on customers of tourist products: frequency of purchases, main priorities in tourism products. Data collection in the information systems of enterprises allows you to automate the processes of analyzing internal customer data and develop personalized travel products according to customer needs. The emergence of social networks has become one of the main trends in the tourism

industry, which allowed tour operators and agents to promote their own travel products online, collect data on the preferences of consumers of travel products. Based on data from social networks, owners and sales managers analyze the main consumer preferences as prerequisites for the development of new travel products. The development of websites and mobile applications mainly for the purpose of online booking of travel products allows for higher price flexibility (Figure 1). Quite often, the prices on the websites of tour operators and agents, or hotel operators, differ from the prices of their services on online platforms such as Airbnb, Booking.com. Flexible pricing has become one of the new trends in the tourism industry in the context of its high sensitivity to external risks. If price changes on the website require managerial decisions on the part of the head of firms, then on online platforms for the sale of tourist products, prices change more quickly in response to the economic situation and changes in demand.

After the decline in the global tourism market in terms of revenues in 2020–2021, there is a trend towards the recovery of the industry in 2024–2025. The structure of global tourism is changing in response to the development of online platforms: the volume and market share of online tourism, which in 2024 provided 650 billion euros, are growing. USD. income. In the online travel market, the leading companies are Booking Holdings Inc. and Expedia Group, which use fare aggregators and metasearch engines to provide online assistance to consumers in travel products and services. The online platforms of these companies form a digital market for the sale of mainly travel products of the hotel business. One of the largest platforms for short-term and long-term accommodation for families, Airbnb, has carved out its own niche in the field of temporary accommodation. In 2025, Booking Holdings was the leader in terms of revenue in the online market, combining the Booking.com, Kayak and Priceline brands under management.

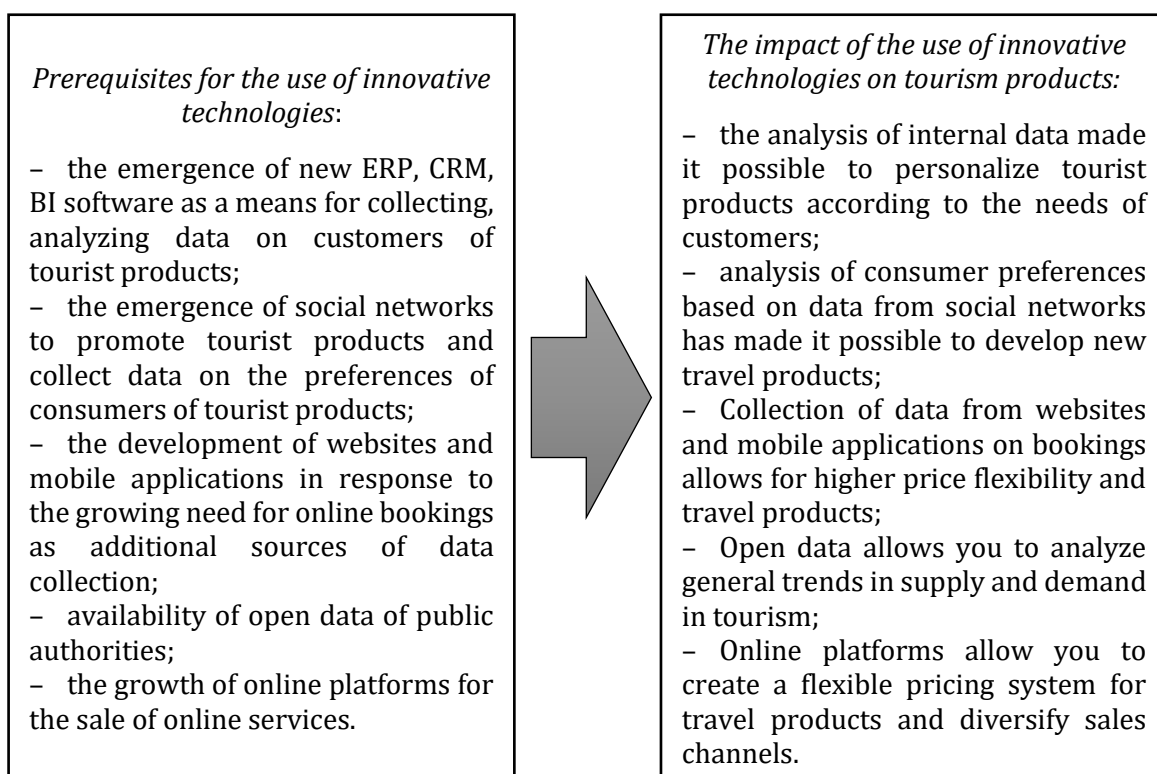


Figure 1. Prerequisites for the use of innovative technologies for data analysis in the formation of a new generation tourist product (author's development)

Source: Developed by the author.

The company topped the ranking of the world's leading online travel agencies in terms of revenue in 2024. For comparison, Expedia Group manages the Expedia, Hotels.com and Vrbo brands, taking the second position in the world in terms of revenue among the leaders of the online tourism market [19]. Leading online travel agencies allow visitors from all over the world to book different types of accommodations in different countries. According to Eurostat, in 2023, the largest number of direct online bookings of personal trips was made by visitors in Germany, France, Poland, Spain and Italy – in countries with a high level of development of tourism products (Figure 2).

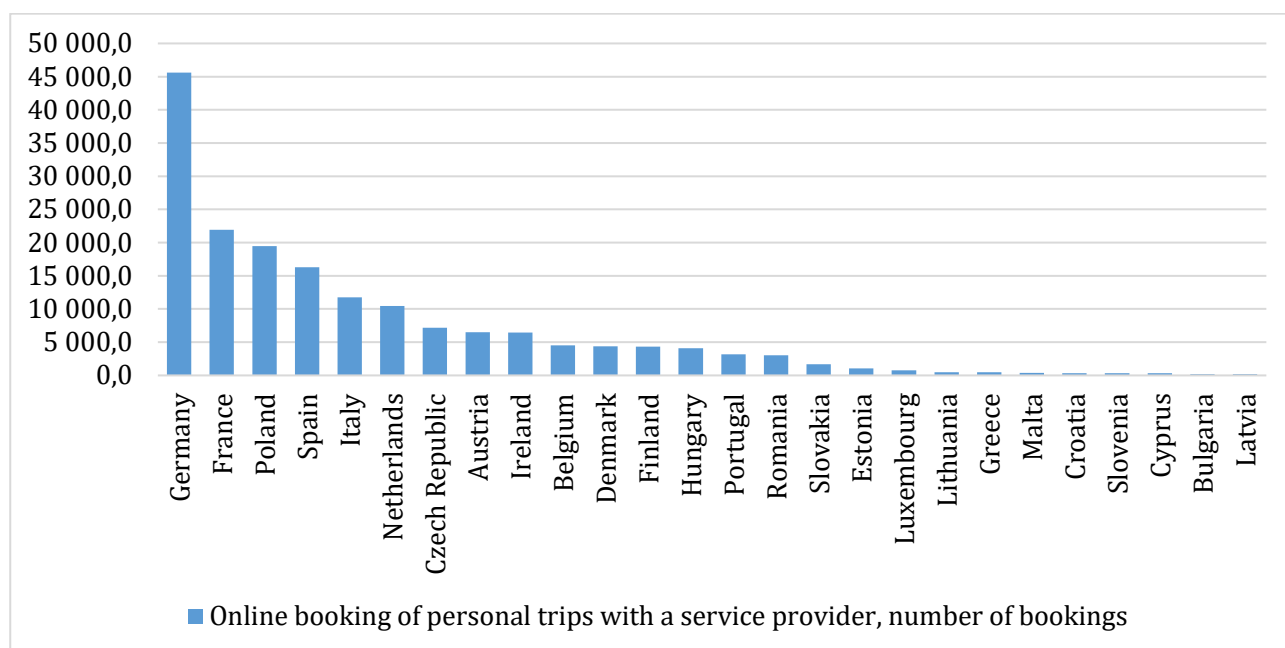


Figure 2. The number of direct online bookings for personal purpose trips in the EU countries in 2023, thousand tons units

Source: Developed by the author based on [7].

The development of online services in the field of tourism allows you to combine different types of trips. In the EU countries, the total number of trips increased from 689.03 million. units in 2020 to 1099.85 million. units in 2024. At the same time, the share of non-package travel prevailed in the structure of travel to the EU, the number of which amounted to 656.47 million. units in 2020, 1065.35 million. units in 2024. At the same time, the number of bookings of trips via the Internet to the EU countries remained not high, amounting to 15.95 million. units in 2020, 15.39 million. units in 2024. Such statistics indicate that self-booking online travel by tourists remains a less common practice, despite the increase in the number of trips over the past five years.

European countries remain one of the most popular destinations for tourists from all over the world. In 2023, the largest number of arrivals was recorded in France (230.7 million people), Spain (104.9 million people), Italy (74.6 million people), Poland (71.8 million people), and Hungary (42.9 million people). Different regions of the United States (89.5 million people), Mexico (65.9 million people), and Turkey (51.4 million people) enjoy a high level of demand [13]. The dynamics of the number of nights spent by residents/non-residents in the ten most visited EU countries by tourists in 2019–2024 demonstrate that traditional types of tourism remain the main ones (Table 1).

Table 1. Dynamics of the number of nights spent by residents/non-residents in tourist accommodation establishments in the most popular EU countries in terms of tourist flows in 2019–2024, million people

Years	2019	2020	2021	2022	2023	2024	Growth rate, %
EU – 27 countries, mln. people	1514,86	1009,52	1245,71	1543,62	1566,64	1569,69	3.62%
Germany	347,69	229,03	235,37	332,79	351,06	354,83	2.05%
France	310,56	212,78	267,87	324,34	321,90	317,04	2.08%
Italy	216,08	143,00	183,05	210,94	212,99	212,21	–1.79%
Spain	170,72	83,78	145,19	180,18	183,13	182,94	7.15%
Netherlands	71,69	64,04	82,48	84,48	83,17	83,82	16.92%
Poland	74,66	44,75	55,67	75,19	75,79	79,26	6.16%
Sweden	47,20	35,37	43,53	48,96	48,32	46,95	–0.51%
Austria	36,50	27,99	26,67	35,59	36,74	37,19	1.88%

Source: Developed by the author based on [5].

Eurostat data on travel destinations to the most popular EU countries in 2024 shows that personal goals, vacations, and leisure remain the main motivations for visitors. Visits to relatives and friends, professional and business trips are less common among tourists (Table 2). Overall, within EU member states, 52.36% of tourists traveled for personal purposes in 2020. In 2024, the figure increased to 65.41% [6]. Economic factors affected the tourism industry, including changes in consumer demand for various tourist products.

Table 2. Number of trips with at least one overnight stay (according to the permanent population aged 15 years and over) made during the reporting year, for the purpose of traveling to the most popular EU countries in terms of tourist flows in 2024, in millions of people

Country	Personal goals	Vacations, leisure and recreation	Visiting friends and relatives	Other purposes	Professional business trips
Germany	240,16	155,04	76,99	8,13	37,00
France	206,48	102,24	91,47	12,78	33,28
Italy	38,70	28,94	9,19	0,56	3,43
Spain	140,86	81,08	49,97	9,81	8,63
Netherlands	43,97	33,85	7,75	2,37	3,55
Poland	63,89	34,43	26,14	3,33	3,64
Sweden	69,09	29,78	33,10	6,21	11,59
Austria	27,53	17,97	7,05	2,51	3,81

Source: developed by the author based on [8].

In European countries, the most popular destinations for personal purposes (leisure) are seaside regions with a share of travel among visitors of 31% in 2022, and urban regions with a share of travel among visitors of 36% in 2022. Rural regions and localities (share 17% in 2022), mountainous areas and zones (15% in 2022), enjoy a lower level of demand (Figure 3).

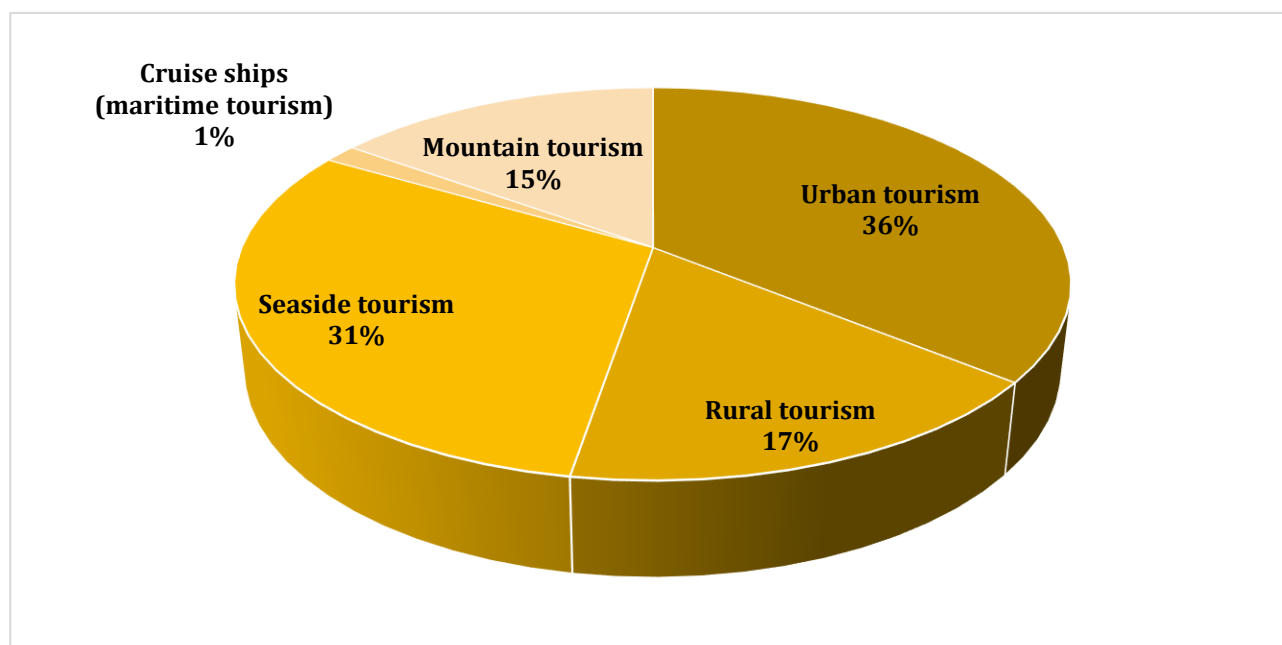


Figure 3. Distribution of the number of trips of more than one night to the EU member states by main types of tourism in 2022, %

Source: Developed by the author based on [9].

In Germany, urban and seaside tourism is widespread to a greater extent compared to rural and mountain tourism. In Spain, urban tourism is the most in demand, while there are fewer trips to seaside, mountainous, rural and other regions. In Poland, there is a similar structure of demand for the main types of tourist products, with a predominance of visits to urban areas and coastal areas. In Austria, both urban areas and rural areas enjoy a fairly high level of demand among tourists, seaside tourism is

developed, and mountain tourism is less widespread. On the other hand, in the Netherlands, the most developed urban and mountain destinations, seaside and rural areas are less in demand. Sweden combines urban, seaside and mountain tourism, rural travel is common. Italy is most popular due to cities and coastal regions (Table 3).

Table 3. Distribution of the number of trips of more than one night to the EU Member States by main types of tourism in the most popular EU countries in terms of tourist flows in 2022, %

Country	Urban tourism	Rural tourism	Seaside tourism	Cruise ships (sea tourism)	Mountain tourism
Germany	20.684	17.370	28.370	1.246	13.480
Spain	6.137	1.810	2.459	0.221	1.750
Poland	6.094	0.366	2.711	0.038	0.460
Austria	5.674	3.084	4.847	0.174	1.581
Netherlands	5.369	2.392	3.336	0.041	5.247
Sweden	3.681	1.099	3.578	0.526	1.778
Italy	2.839	0.536	2.327	0.000	0.475

Source: Developed by the author based on [9].

In Ukraine, collective accommodation facilities are most concentrated in the regions of sea tourism (34% in 2025), regions of mountain tourism (15% in 2025), regions of business activity (14% in 2025), regions of urban tourism (34% in 2025). The leading regions of sea tourism remain Odesa, Zaporizhzhia, Mykolaiv, Kherson regions, mountain tourism – Ivano-Frankivsk, Lviv, Transcarpathian regions, business tourism – Dnipropetrovsk, Kharkiv regions and the city of Kyiv. At the same time, a tendency to combine different types of tourism is emerging in Ukraine: business trips are often combined with visits to cultural sites, hotel and restaurant services, and medical services. The services of recreational, medical, recreation centers and sanatoriums are in increasing demand.

6. Conclusions

The post-COVID stage of tourism development on a global scale and in the EU member states is characterized by recovery trends. With the increasing number of trips between countries, the role of innovative data analytics technologies for the formation of integrated personalized travel services is growing. The integration of individual travel products allows you to create a holistic service of a new generation. At the same time, it is possible to offer comprehensive tourist services according to the individual needs of consumers only based on a detailed study of their needs. The use of new data analysis technologies, which are based on automated methods of processing information accumulated in the information systems of hospitality enterprises and other data sources, allows the formation of integrated tourist services. In the context of digitalization of tourism, innovative technologies should be considered from the point of view of the function of business analysis of enterprises in the tourism industry, as a tool for analyzing the preferences and needs of visitors. Innovative technologies allow tour operators to automate the processes of analyzing data on consumers and their consumer preferences from various sources for their further use in the formation of integrated tourism products. The dynamics of the main indicators of tourism development in the EU member states and Ukraine indicate that consumers prefer non-package tourist services. Self-booking online trips has not become widespread. Such trends mean that integrated tourism products of the new generation are in high demand. Therefore, innovative data analysis technologies will be increasingly used in the activities of travel agencies and other hospitality industry enterprises.

References

1. Azmi, E., Che Rose, R. A., Awang, A., & Abas, A. (2023). Innovative and Competitive: A Systematic Literature Review on New Tourism Destinations and Products for Tourism Supply. *Sustainability*, 15(2), 1187. <https://doi.org/10.3390/su15021187>

2. Balakrishnan, J., Dwivedi, Y. K., Malik, F. T., & Baabdullah, A. M. (2023). Role of smart tourism technology in heritage tourism development. *Journal of Sustainable Tourism*, 31(11), 2506–2525. <https://doi.org/10.1080/09669582.2021.1995398>
3. Del Chiappa, G., & Baggio, R. (2015). Knowledge transfer in smart tourism destinations: Analyzing the effects of a network structure. *Journal of Destination Marketing & Management*, 4(3), 145–150. <https://doi.org/10.1016/j.jdmm.2015.02.001>
4. Elshaer, A. M., & Marzouk, A. M. (2024). Memorable tourist experiences: the role of smart tourism technologies and hotel innovations. *Tourism Recreation Research*, 49(3), 445–457. <https://doi.org/10.1080/02508281.2022.2027203>
5. Eurostat. (2025). *Nights spent at tourist accommodation establishments by residents/non-residents*. Eurostat. <https://doi.org/10.2908/TIN00175>
6. Eurostat. (2025). *Participation in tourism for personal purposes - % of total population*. Eurostat. <https://doi.org/10.2908/TIN00186>
7. Eurostat. (2025). *Trips by booking channel for the main mode of accommodation (from 2020 onwards)*. Eurostat. <https://doi.org/10.2908/TOUR DEM TTACB>
8. Eurostat. (2025). *Trips by purpose*. Eurostat. <https://doi.org/10.2908/TIN00188>
9. Eurostat. (2025). *Trips by type of destination (personal trips only)*. Eurostat. <https://doi.org/10.2908/TOUR DEM TTHD>
10. Gabor, M. R., Oltean, F. D. & Coca, A. (2023). Innovative Tourism Products as Sustainable Solutions for Emerging Economies. *ECONOMICS*, 11(1), 69–83. <https://doi.org/10.2478/eoik-2023-0007>
11. Gretzel, U., Werthner, H., Koo, C., & Lamsfus, C. (2015). Conceptual foundations for understanding smart tourism ecosystems. *Computers in Human Behavior*, (50), 558–563. <https://doi.org/10.1016/j.chb.2015.03.043>
12. Lee, H., Lee, J., Chung, N., & Koo, C. (2018). Tourists' happiness: are there smart tourism technology effects? *Asia Pacific Journal of Tourism Research*, 23(5), 486–501. <https://doi.org/10.1080/10941665.2018.1468344>
13. Organisation for Economic Co-operation and Development. (n.d.). *Tourism flows*. OECD. <https://www.oecd.org/en/data/indicators/tourism-flows.html>
14. Organisation for Economic Co-operation and Development. (n.d.). *Tourism*. OECD. <https://www.oecd.org/en/topics/tourism.html>
15. Pantano, E., & Stylidis, D. (2021). New technology and tourism industry innovation: Evidence from audio-visual patented technologies. *Journal of Hospitality and Tourism Technology*, 12(4), 658–671. <https://doi.org/10.1108/JHTT-01-2020-0023>
16. Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology & Tourism*, (22), 455–476. <https://doi.org/10.1007/s40558-019-00160-3>
17. State Statistics Service of Ukraine. (2025). *Use of information and communication technologies at enterprises: use of internet, business software, cloud computing services, artificial intelligence, information and communication technologies and the environment (2018–2025)*. https://www.ukrstat.gov.ua/operativ/operativ2021/zv/ikt/vikpt_ns.xlsx
18. Statista Research Department. (2025). *Global tourism industry – statistics & facts*. Statista. <https://www.statista.com/topics/962/global-tourism/>
19. Statista. (n.d.). *Online travel agent market size worldwide from 2020 to 2027 (in billion U.S. dollars)*. <https://www.statista.com/statistics/1179020/online-travel-agent-market-size-worldwide/>
20. Tuncali Yaman, T., & Başeğmez, H. (2023). Digital transformation in tourism: An intelligent information system proposition for hotel organizations. In C. Kahraman & E. Haktanır (Eds.), *Intelligent systems in digital transformation* (Lecture Notes in Networks and Systems, Vol. 549, pp. 351–371). Springer. https://doi.org/10.1007/978-3-031-16598-6_15
21. Um, T., & Chung, N. (2021). Does smart tourism technology matter? Lessons from three smart tourism cities in South Korea. *Asia Pacific Journal of Tourism Research*, 26(4), 396–414. <https://doi.org/10.1080/10941665.2019.1595691>