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Model for the introduction of space tourism into the classification of tourism

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Abstract. Space tourism is an area with high potential that allows humanity to explore space and gain new experiences. With the development of technology and the improvement of space infrastructure, space tourism has become a reality that opens up new prospects for both tourists and the entire tourism industry. This study considers the potential of space tourism, its impact on the traditional tourism industry, as well as the possibility of introducing space tourism into the classification system of tourist destinations. The main purpose of the study is to analyze the possibilities of integrating space tourism into the criteria for classifying such types of tourism as the duration of the trip, the purpose of the trip, and the vehicles used. The uniqueness of the study lies in the fact that, for the first time, based on primary indicators, space tourism was formally introduced into the classification of tourism. The practical significance of the study lies in its use for the development of the tourism industry, adaptation to modern technologies, and new destinations. The research methodology is a content analysis of research by private suborbital companies such as Virgin Galactic, Blue Origin, and SpaceX. The main results indicate that the development of space tourism, to better structure and understand new destinations, requires updating the classification system.

Keywords: tourism, space tourism, types of space tourism, classification of tourism.

Introduction

As a complex social and economic phenomenon, Tourism today reaches an unprecedented level of development around the world. The development of tourism as the largest type of economic activity in the world will continue. In an attempt to adapt to the changing market, the travel and tourism industry has been forced to restructure and refocus its efforts. The growing global consciousness opens up great opportunities for this industry [1].

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At a time when travel is undertaken for various purposes, and space tourism is becoming more popular, the ways people spend their free time are becoming more diverse. Tourists' motives are usually focused on adventure, education, cultural immersion, and recreation. It is important to determine the demand for passenger space flights. Despite the evolution in this direction, numerous factors contribute to the slowdown in the development of public space tourism. One of the factors slowing down this process is the lack of knowledge and understanding of the true potential of the market [2].

Space tourism provides a unique opportunity to satisfy tourists' desires, such as the search for unusual experiences, the thirst for change, and the desire for exciting experiences. Many adventure tour subforums are excellent examples of this, while space tourism can easily be included in this field due to its inherent elements of danger. But the risk factor in space tourism is greater than in any other type of tourism [3].

The space economy was estimated at about US$350 billion in 2018. By the 2040s, the scale of the space industry is projected to range from 1 1.1 trillion to.2.7 trillion. According to a report by Northern Sky Research (2021), the revenue from orbital tourism is recorded to be US$3,385 million. It is estimated that this figure will grow to US$6,605 million by 2029 [5]. The United Bank of Switzerland estimates that the space tourism sector within the space economy will be worth 4 billion US dollars by 2030 [6]. The suborbital segment looks dynamic, with an estimated cumulative annual growth rate (CAGR) of 24.5% over the decade 2021-2031. The estimated cost of an individual suborbital flight ranges from $95,000 to $200,000. The estimated cost of an individual orbital flight is $50 million. The market for this industry is already very busy, and rich people are lining up to pay millions of dollars for a ticket. You can make good money on the first wave of space tourism. Later, these companies will probably lower the price of tickets so that more people can afford them [4].

In the work on market research, it is argued that most people, including residents of industrialized countries, want to travel into space as much as possible. They evaluate this in terms of the possibility of buying space travel. The vast majority of the population considers the concept of space tourism to be futuristic. However, the changes in the market in recent years and the organization of commercial space tourism services in accordance with the number of investments made indicate that today's main business goal is the organization of commercial space tourism services [7]. Space tourism is the fastest and most successful way to start using the endless resources of space to solve many of our problems on earth.

Literature Review

Modern concepts of space tourism are deceiving due to misconceptions about the legality and reality of commercial space tourism. Space tourism, that is, human space travel for the purpose of leisure, seems to be the next step in the development of tourism has immense potential and is becoming an impetus for the space economy [8].

The research on outer space as a possible tourist destination, its future, problems, and sustainability, is therefore returning to the agenda of researchers and public opinion.

Following simple sources, Cohen developed the typologization of tourists by distinguishing four tourist types ranging from the "organized mass" to the "existential" tourist [9]. UNWTO developed a statistical typology by trip purpose (leisure, business, other), type of stay, and accommodation, still applied in international practice [10].

Crouch & Laing illustrated space tourism as simultaneously belonging to adventure, luxury and astro-tourism without proposing a suitable algorithm for application to the UNWTO matrix [8]. Dickenson et al. made the first estimate of the carbon footprint of a single suborbital tourist and advocated for it to be placed under the "high-impact tourism" category. The Space Studies Board (2022) mapped the "space tourist personas" (explorer, prestige seeker, enthusiast, scientific dilettante), but not whether or not they align with official statistics [11].

A review of core sources and foreign sources today has shown that there remain research gaps on the integration of space tourism into the generally accepted classification of tourism without harming its rational framework, i.e., there is no single classification that has been adopted by statistical agencies.

Most research assigns space tourism the status of an "edge-case" without a definite incorporation mechanism into the UNWTO typology. There is no empirical model yet that synthesizes risk, motivation, and cost into one scheme of classification.

Methodology

Using an integrated approach to the research issue of "how to formalize the signs of space tourism so that they can be added into the current UNWTO classification of tourist destinations without compromising its logical structure". We started the research by conducting data collection and research materials. Hypothesis presented: Space tourism is a hybrid species and can be accurately positioned in an expanded classification using three cross-factors: distance from Earth (Low-Earth Orbit, Sub-Orbital, Translunar), leading motivation (adventure, luxury, scientific-educational), and transport module (reusable rocket, spaceplane, high-altitude balloon).

The stages of the study are shown in Figure 1.

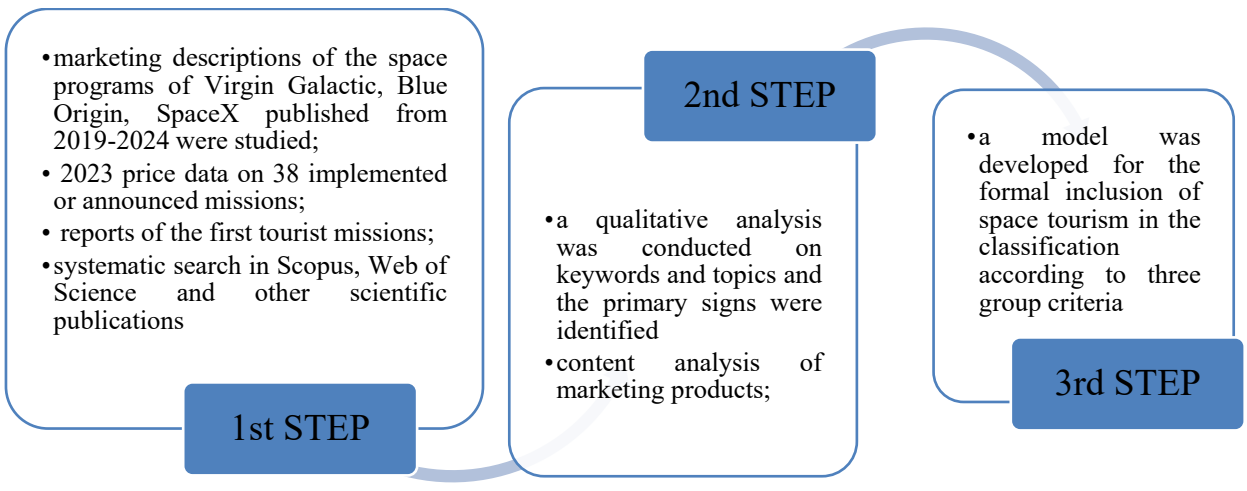

Figure 1 Stages of the study

Note: Complied by the authors

To the extent of the first stage of the study, marketing presentations of Virgin Galactic's, Blue Origin's, SpaceX's space programs launched between 2019-2024 were analyzed; Price details from 2023; a systematic literature search in Scopus, Web of Science, and other scientific publications.

During the second stage of the research, topics and keywords were qualitatively examined, and the key indicators were identified, analyzed through the content analysis of marketing communications. During the third stage, a model was developed for formal inclusion in the classification on the basis of three group criteria, such as distance, motivation, and transport.

The uniqueness of the study lies in the fact that for the first time, based on primary indicators, space tourism was formally introduced into the classification of tourism.

Results and discussion

The average annual growth rate (CAGR) of the space tourism industry is 15-20%, respectively. This indicates a significant expansion of space tourism activities as the main industry of the near future. Relatively precisely, from the "innovation period", which is currently considered expensive, the range of services grows, and as the industry develops, prices for services fall, becoming such a mass market occupation as the aviation industry today [26]. This sequence can be seen in Table 1.

Table 1. Stages of space tourism development [7]

Stages	A travel product	Price and volume
The Pioneer Stage	The product will be closer to adventure travel than a comfortable hotel vacation. Placement at the station in Earth orbit will be safe, but it is not comfortable for tourists.	The number of consumers will be very small; their number is only in the range of one hundred to one thousand per year. Travel prices will be higher-over 5 50,000.
The mature phase	During this period, the demand grows from thousands of passengers a year to hundreds of thousands. Tickets for an overnight stay in orbit will be cheaper, and flights will be made from different airports.	Orbital units turn from simple groups of ready-made modules into large structures for hundreds of guests. This, in turn, makes it possible to offer different types of Orbital entertainment.
Mass	Ticket prices will drop to the equivalent of several thousand dollars.	The number of consumers reaches hundreds of thousands to millions (or billions) per year

Note: Complied from the source [7]

Nowadays, only a few individuals go into space every year. But by 2030, that number will exceed 1,000 as technology evolves and costs decrease. With the increasing frequency of flights, space travel will transform from an ultra-exclusive entertainment into a luxurious adventure

accessible to a wider audience. This means that companies should start preparing for a future in which space travel will become more affordable and widespread [27].

Space tourism covers a wide range of types, offering participants unique and interesting experiences. The current situation with space tourism can be determined by two main types of activities related to it: Ground-based space tourism and air-based space tourism. The types of space tourism are shown in the 2nd table.

Table 2. Types of space tourism [9, 17, 24]

The main types of space tourism	Subspecies	Special features	The possibility of implementation
Terrestrial space tourism	Astronaut training and space camps; Cosmodrome Tours		
Air-based space tourism	Orbital space tourism	Long-term flights around the Earth provide a unique opportunity to enjoy the view of the planet from space. As well as a stay on the space station, where tourists can experience life in zero gravity and participate in scientific experiments.	Available since 2001
	Suborbital space tourism, including «point-to-point flights»	Short-term space flights, when a spacecraft rises above the Earth's atmosphere, allow passengers to experience weightlessness.	Possible from 2021
	Lunar expeditions	Travel to the moon, where tourists can explore its surface and experience life in zero gravity.	Planned
	Mars and beyond	Travel to Mars, where tourists can explore its surface and experience life in zero gravity.	Planned

Note: Compiled from sources [9, 17, 24].

Ground-based space tourism. Packages of services, such as astronaut training and space camps, combine many activities related to space and its exploration. They give the tourist a broader view of space exploration, providing a complete environment. In space camps, tourists take part in all aspects of astronauts' lives. Eating freeze-dried space food, training on partial gravity simulators, studying aspects of flight control, and doing various jobs just like real astronauts would do. For example, cosmonaut training in Zvezdny Gorodok gives tourists access to various simulators, such as Mir, Soyuz-TM, and Navigation. The program also includes

flights on centrifuges and work experience in a low-pressure chamber, as well as star navigation in a planetarium, walking tours, and museum visits in Star City. There are also a number of experimental and practical activities related to space. Just by looking at the night sky, stars, planets, comets, and meteorites, tourists get an idea of space and the universe. The services provided for this kind of observation can also be considered space-related tourism. Air-space tourism is divided into two types: orbital and suborbital space tourism. Orbital space tourism is travel to near-Earth orbit. In 2001, the world's first space tourist, American Dennis Tito, was launched on a Soyuz rocket from the Baikonur Cosmodrome in Kazakhstan to the International Space Station. South African Mark Shuttleworth in 2005, Gregory Olsen, and Charles Simoni twice in 2007 and 2009 became orbital space tourists [7].

Orbital space tourism was supposed to begin in 1986, but the Challenger Shuttle exploded during takeoff. All astronauts on board, including Christa McAuliffe, were killed. The schoolteacher was supposed to become the first civilian member of the space shuttle crew in the history of NASA [8]. From that day on, flights of non-astronauts into space were discontinued.

The Soyuz spacecraft is used in all current launches of orbital space tourism. In addition, Soyuz is used to deliver all astronauts, including US astronauts. The Soyuz is designed for three people, but it is a very reliable device. Soyuz is ready to offer tourist flights in its spare seat, but it cannot comprehensively carry out orbital space tourism due to the need to transport state cosmonauts into space. The revenue of the commercial space industry from suborbital space tourism is projected to reach $1.1 billion by 2032. Ninety percent of all space flights are expected to be accounted for by suborbital flights. Today, Blue Origin's investments have paid off, and the company is successfully performing suborbital trips[10].

Suborbital space tourism is a trip to an altitude of more than 100 km, which is the Karpman line [11]. The Karpman line corresponds to the boundary of outer space. A suborbital space tourist is someone who pays to reach a"height (Pocket line) sufficient to observe the curve of Planet Earth and the darkness of space"[12]. On May 5, 1961, Alan Shepard became the first person to make a suborbital flight into space. Thus, he became the first American to fly into space. Shepard's mission began at Cape Canaveral. His Freedom 7 Mercury capsule rose to an altitude of 187.42 km, and then fell into the Atlantic Ocean. In 1996, the X Prize competition was launched to encourage the development of low-cost space flights necessary for the development of the commercial market. 26 teams from all over the world took part in the competition. The award was given on October 4, 2004, to the Scaled Composites team, who completed a manned suborbital flight on a SpaceShipOne spacecraft for two weeks [13]. Suborbital space tourism involves approximately 5 minutes of flight in microgravity during descent to the Earth. Occasionally, before the microgravity effect is lost, the travelers will buckle up again to reach back to the Earth's surface near the point they departed [23]. Suborbital space tourism is now the latest technology improvement, having experienced three major test stages and successfully taking off in 2021 by Blue Origin and Virgin Galactic [12]. Suborbital flights like those offered by Blue Origin and Virgin Galactic are currently expensive. However, as technology improves, significant price reductions are expected (Figure 2).

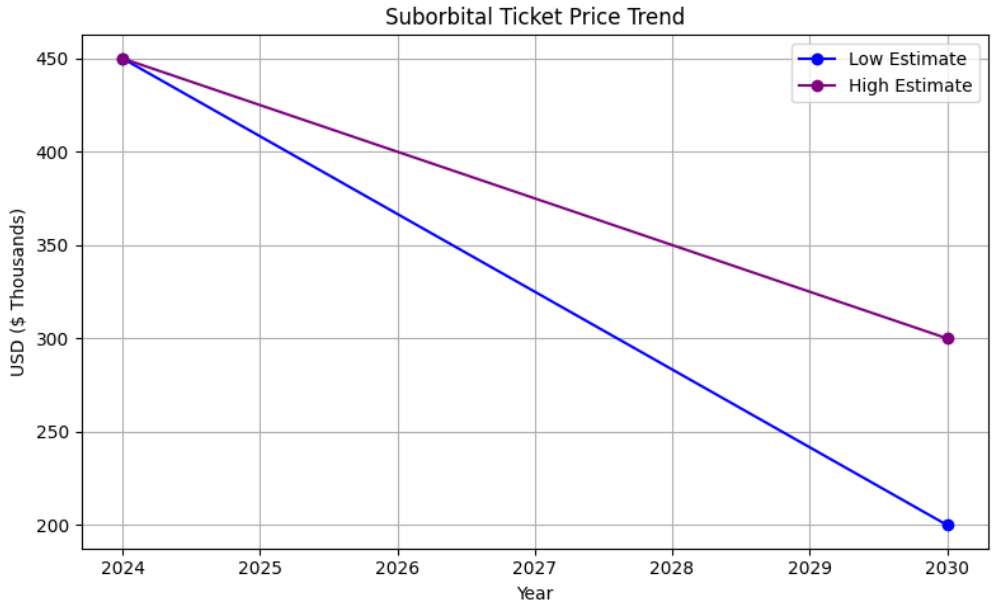

Figure 2 Suborbital ticket price trend

Note: Compiled from the source [28]

Blue Origin's New Shepard rocket is fully automated, while Virgin Galactic's VSS Unity spacecraft requires two pilots to operate. The New Shepard rocket has completed 15 test flights without a crew and an emergency test. Since July 2021, 31 people have flown over the Pocket line thanks to Blue Origin [24].

Virgin Galactic performed its first commercial suborbital flight, SpaceShip 2, in June 2023. VS Unity completed six flights in 2023. Only 20 people have made suborbital flights for the first time. All of the suborbital flights conducted in 2023 were done above an altitude of over 80 kilometers, but below 100 kilometers.

75 suborbital tourists went to space in 2023. 9 of them also had orbital flights. Among the 67 individuals, 34 flew over 100 km, and 33 flew over 80 km [14].

Suborbital point-to-point space travel is the future of commercial space tourism and involves traveling both horizontally and vertically. This type of suborbital travel is faster than a normal commercial airline flight and could be commercially viable by 2030 [15]. High-speed aircraft flying at 60,000 feet will be a new step towards suborbital point-to-point spaceflight. They are currently being developed by Virgin Galactic with partners Rolls Royce and NASA. On 5 May 2020, NASA reached an agreement with Virgin Galactic and the Spaceship Company under the Space Act to develop a vehicle capable of performing suborbital point-to-point space travel. SpaceX is also suggesting intercontinental space travel on its Starship rocket from ocean-floating spaceports [16]. Dawn Aerospace has designed Aurora for suborbital space travel on the same date from some of the existing airports. And other types of space tourism are just being planned. Modern technology promises to make mass flights to the moon for the same money as during the Apollo era. Private companies are eyeing lunar tourism, and some of them are making real progress in providing this service [17].

The biggest feature of tourism in general is that it is connected with various branches of science, with various sectors of the economy. Space tourism, as a type of tourism is also

associated with such types of tourism as adventure tourism, ecotourism, and sports tourism. Tourists are in demand for more individual and unusual adventurous activities, and this allows tourism to diversify every day. As a rule, enterprising tourists tend to look for innovative and risky opportunities, and to live this, they do not think about money for too long. The first space tourists also came from this group of people [18].

There is a close and complementary relationship between adventure recreation and adventure tourism [19]. What we call adventure recreation is “recreational activities that encompass elements of danger that are typically performed, perceived, or occur in natural settings where the results are inconclusive and those results are influenced by participants”[20].

"Adventure tourism is an outdoor tourism activity with a wide range of activities resulting from the participant's interaction, preparation, and management of the tourist experience; involving elements of risk, mainly commercially carried out and carried out in natural conditions, away from the participant's usual destination" [3].

Table 3. Correspondence of space tourism to the attributes of adventure tourism [20]

Elements of adventure tourism	Space tourism
Presence of risk elements	High risk
Be commercial, for a price	High price
Distance from the place of residence	100 km from the Earth's surface
Implementation in natural conditions	Space
This is an outdoor tourist activity	Space flight centers

Note: Compiled from the source [20]

According to Table 3, it can be said that space tourism, with all its elements, belongs to the field of adventure tourism. If we compare the concepts of adventure recreation and adventure tourism, we can see that adventure tourism is considered in outdoor recreation or adventure centers, and that there is a complementary relationship between adventurism and outdoor recreation. The element of adventure tourism carried out outdoors is only an addition to adventure tourism, and it is more appropriate for it that we specifically highlight the tourist's desire to take risks and seek adventure [20]. There is no question of where a tourist will seek adventures. Whether it's underwater or in space. Even the word "adventure" is defined as "danger" or "probability of harm": risk, danger; an enterprise associated with luck" [21].

We can divide the activity of adventure tourism into three parts. Over time, the scale of adventure tourism, focused on traditional adventure holidays, will expand.

Table 4. Adventure tourism activities

Ground level	Water-based	On an air basis
cross-country skiing, downhill skiing, skiing, snowboarding	underground rafting, caving	hot air balloon trip
guided glacier walk	traveling by ship	hang gliding

mountain bike	scuba diving with and without it	gliding
car safari	surface rafting, river and sea kayaking	helicopter jump
roller rope descent, flexible rope jumping, fixed rope descent	jet bike, jet boating	

Note: Compiled from the source [16]

In all the actions included in Table 4, there is always a risk and uncertainty of the result, regardless of the execution environment. The skills and actions of the participants can affect the results in adventure tourism. If we add the concepts of knowledge seeking and etiquette to adventure tourism, the types of adventure tourism will cover an even larger area.

We can add space tourism to adventure tourism as a fourth medium of realization, space. Thus, adventure tourism will be based not on 3, but on 4. Because space tourism covers land-air-space. From this point of view, space tourism is more than adventure tourism. It can also act as a separate one under the guise of tourism.

To include space tourism in the existing tourism classification system, several prismatic criteria need to be considered (Figure 3):

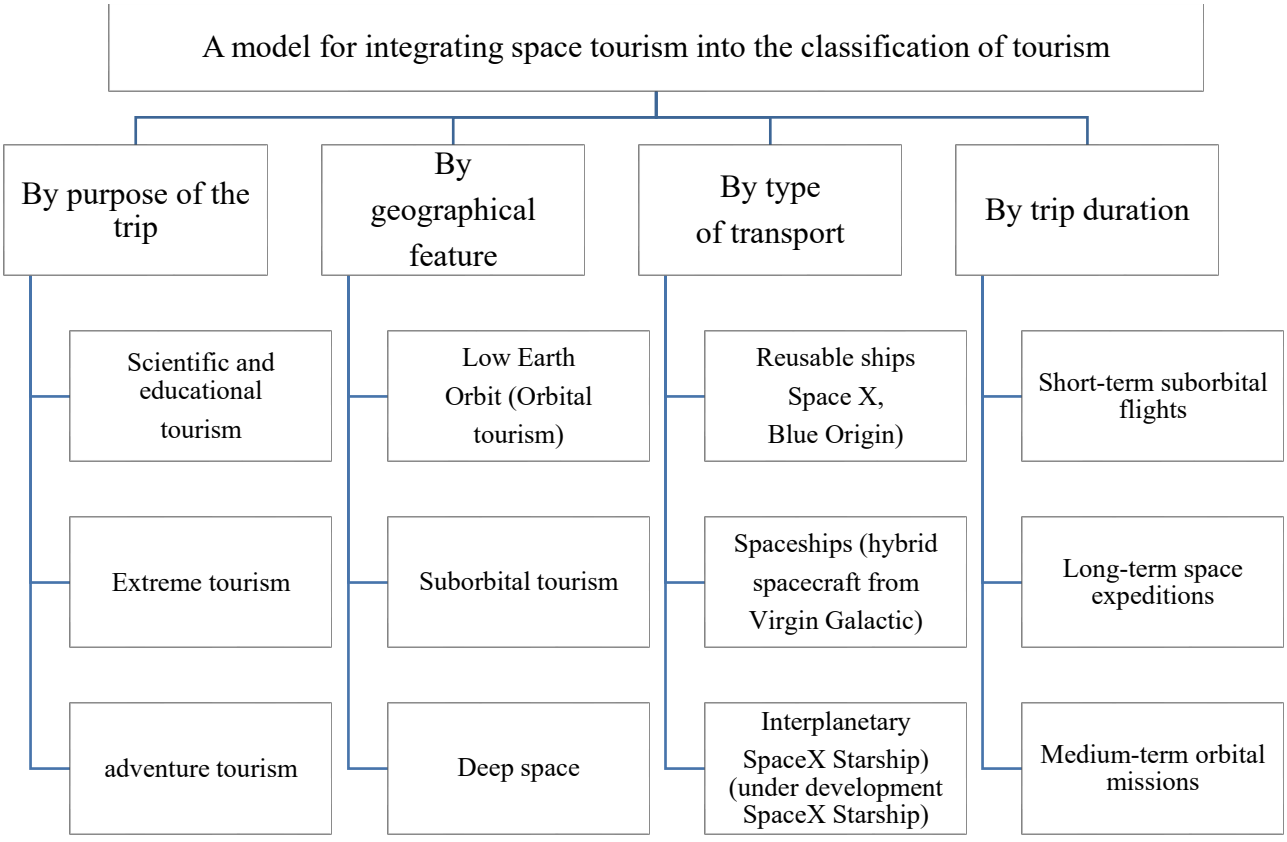

Figure 3 The model of integration of space tourism in the classification of tourism

Note: Compiled from the sources [1, 24, 25, 26]

According to the purpose of the trip, space tourism can be divided into: scientific and educational tourism, entertainment tourism, and extreme tourism. Scientific and educational tourism is a space travel aimed at gaining new knowledge, participating in scientific experiments, and conducting research. This type of tourism includes expeditions to space stations, space exploration, and space bodies. To date, private missions to the International Space Station (ISS), during which tourists can participate in scientific research, are available only to a small number of people.

We call extreme tourism high-risk space travel, which includes space travel or participation in long-term missions to other planets. Spacewalks for people with exceptional physical and psychological fitness, flights to the Moon, Mars or other planets in order to explore new territories and study emergency situations are examples of extreme tourism. With the development of technology and the increasing number of missions to distant planets, this type of tourism is becoming possible for a small group of people who are ready for extreme challenges. Of all these, orbital and suborbital tourism are available to tourists. Recreational tourism is a space travel in order to get a unique experience, for example, to see the Earth from space or to be in zero gravity. Suborbital flights allow tourists to enjoy watching the image of the Earth from space in a short time and feel weightlessness, are excellent examples. Space entertainment tourism may be available to a wide range of people as the cost of flights decreases and commercial space companies develop.

Geographically, we have divided space tourism into low-Earth orbit, suborbital tourism and long-range space flights. Flights up to 2,000 km above the surface include missions to the ISS and other low-orbit space stations. Examples: a flight to the ISS for short-term accommodation and participation in scientific programs, photo and video filming. In the coming decades, it is planned to launch commercial orbital hotels and stations for tourists, which will open up new opportunities for low-orbit tourism. Suborbital flights take place at an altitude of about 100 km, where the spacecraft leaves the atmosphere but does not complete a full orbit around the Earth.

Deep space missions are trips beyond Earth's orbit to other planets or moons. Deep space exploration in the future will allow tourists to participate in multi-month or even multi-year missions to explore distant planets.

According to the type of transport, space tourists use new types of transport - space rockets and ships, which distinguishes them from traditional road, rail or aviation trips. According to the criterion of trip duration, space tourism can be conditionally divided into short-term suborbital flights, medium-term flights and long-term space flights. Flights that last several hours and return to Earth after a short stay at altitude are called short-term suborbital flights. Virgin Galactic flights, where travelers spend a few minutes in space before returning to Earth. This type of tourism was one of the first commercial offerings and will be widely available in the coming decades.

Medium-term orbital missions are flights to space stations lasting from several days to several weeks. ISS missions or future commercial space hotels where tourists can survive in zero gravity. In the future, there may be accessible space stations for a wide range of tourists who can stay for several weeks.

Long-term space expeditions include flights to the moon, Mars or other planets, which can last from several months to several years. NASA's missions to explore the Moon and Mars for extended stays on other planets. In the coming decades, such missions will be available to a small number of tourists who are ready for long trips and training.

Conclusion

Technological progress in the development of new spacecraft such as reusable rockets and space planes will undoubtedly open up new possibilities for space travel. Existing companies such as Virgin Galactic and Blue Origin are expected to be available to a wider audience in the coming years. With the growing interest in space exploration and commercial flights, space tourism may become massively accessible.

The study considered the possibility of including space tourism in the tourism classification system according to three main criteria: travel objectives, geographical location, modes of transport and duration of the trip. The proposed integration model makes it possible to structure this type of tourism and highlight its features, which contributes to a deeper understanding of the rapidly developing area.

This classification and the proposed model are of practical importance for the tourism industry, as they allow adapting the existing infrastructure and regulatory framework to include space tourism. This study shows the need for further study of the problems of environmental sustainability, safety, and economic efficiency in the future, pursuing the goal of creating a mutually compatible system of space tourism and types of Tourism. Thus, space tourism not only expands the boundaries of travel ideas but also serves as a catalyst for scientific and technological progress, opening up new perspectives for society. Given its rapid development, further research in this area remains relevant from a scientific and practical point of view.

Contribution of the authors

Kozhanazar Arna Sharkhanbekkyzy – review of literature, collection of statistical information, analysis of the collected data, interpretation of the results of the work, critical review of the structure of the article, design of the article, translation into Russian and English.

Tleubayeva Aitolkyn Tleubaykyzy and **Mithat Zeki Dincer –** approval of the final version of the collection of references, analysis of the collected data, critical review of the content of the article, and approval of the final version of the article for publication.

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References

1. Risteski M., Dimoska T. Future types of tourism – space tourism. Available at: https://www.academia.edu/1245806/FUTURE_TYPES_OF_TOURISM_SPACE_TOURISM (accessed 20.03.2025)

2. Chang E. From aviation Tourism to suborbital space tourism: A study on passenger safety and business opportunities //Acta Astronautica. -2020. -No177. -P. 410-42, DOI: http://dx.doi.org/10.1016/j.actaastro.2020.07.020

3. Maccannell D. The Ego Factor in Tourism //Journal of Consumer Research. -2002. -No29. -P.146-151, DOI: http://dx.doi.org/10.1086/339927

4. Dabhade O., Jumale A., Patil A., Heramb W. The Future of Space Tourism: An In-depth Literature Review. Available at: https://www.researchgate.net/publication/381458481_The_Future_of_Space_Tourism_An_In-depth_Literature_Review (accessed 10.03.2025)

5. Paladini S., Saha K. The quest for sustainability in lower orbit: Conceptual models for space tourism//International Tourism Research, 2022, No 25(3), DOI: https://doi.org/10.1002/jtr.2568

6. Overlin M., Iannucci S., Wilkins B., and others. Reinforcement learned adversarial agent (ReLAA) for active fault detection and prediction in space habitats//Nature. -2023.-No 15.-P. 1-9, DOI: https://www.nature.com/articles/s41526-023-00252-9

7. Cole S., Space tourism: prospects, positioning, and planning //Journal of Tourism Future. -2015, DOI: https://doi.org/10.1108/JTF-12-2014-0014

8. Friel, M. Tourism as a driver in the space economy: New products for intrepid travellers. Current Issues in Tourism.-2020. No23(13). -P.1581–1586

9. Prince S., Cohen's Model of tipologies of tourists, the Sage International Encyclopedia of travel and tourism, 2017, DOI: 10.4135/9781483368924.n109

10. Ешенкулова Г.И., Баимбетова А.Б., Гиззатжанова А.Г., Муканов А.Х., Есенбаева А.Е., Подсухина О.В., Основы туризма.-Астана. -2018. -55с.

11. Chang Y. The first decade of commercial space tourism //Acta Astronautica. -2015. -No.108. -P. 79–91, DOI: https://doi.org/10.1016/j.actaastro.2014.12.004

12. Van C. The real value proposition of suborbital space tourism and travel. Available at: https://www.nsr.com/the-real-value-proposition-of-suborbital-space-tourism-travel (accessed 10.01.2025)

13. Chang E. From aviation Tourism to suborbital space tourism: A study on passenger safety and business opportunities //Acta Astronautica.-2020. -No.177. -P. 410-420, DOI: http://dx.doi.org/10.1016/j.actaastro.2020.07.020

14. Chang Y.W., Chern, J.S. A study and discussion on the cost issue of suborbital and orbital space tourism //Journal of Tourism and Hospitality. -2018. -No.7(1). -P.1–5, DOI: https://doi.org/10.4172/2167-0269.1000334

15. Суборбитальные космические полеты. Available at: https://www.april12.eu/suborbit/suborbit.html (accessed 10.01.2025) [in Russian].

16. Bentley T., Page S., Laird I. "Safety in New Zeland Adventure Tourism Industry: The Client Injury Experiences of Adventure Tourism Operators"//Journal of Travel Medicine, 2000, s.239-246, DOI: http://dx.doi.org/10.2310/7060.2000.00072

17. Webber D. Point-to-point suborbital space tourism: some initial considerations//Acta Astronautica. -2010.- No.66.-P.1645-1651, DOI: https://doi.org/10.1016/j.actaastro.2009.09.024

18. Berger E. Enthusiasm for point-to-point travel may be premature, space official says, Available at: https://arstechnica.com/science/2020/06/key-u-s-space-official-says-point-to-point-space-travel-a-ways-off/ (accessed 23.04.2025)

19. Thangavelu M. Lunar tourism: a catalyst for the development of the lunar economy // The 70th International Astronautical Congress (IAC).- Washington.- USA.- 2019.- P.1.

20. Bukley A., Mendel W., Brent M. Space Tourism- From Dream to Reality. -The future of human Spaceflight. -2002.-P. 231-238, DOI: http://dx.doi.org/10.1007/978-94-015-9880-4_31

21. Musselman B., Winter S., Rice S., Keebler J., Ruskin K. Point to point suborbital space tourism and willingness to fly//Annals of Tourism Research Empirical Insights. -2024. -No 5, DOI: https://doi.org/10.1016/j.annale.2024.100119

22. Blue Origin New Shepard. Available at: https://www.blueorigin.com/new-shepard (accessed 03.03.2025)

23. Ruban D. Regional Economics. Theory and Practice. -2018. -No.16(4). -P. 775–788.

24. Ефимова Е. Космический туризм: новейшая отрасль экономики. Экономика XXI века. -2024, DOI: 10.26794/2220-6469-2024-18-2-6-16 [in Russian].

25. Schweinsberg S., Fennell D. Space Tourism: A Historical and Existential Perspective//Sustainability. - 2024. -No16. -P.2-14, DOI: https://doi.org/10.3390/su16010079

26. Tran B., Attorney P. Space tourism market growth: How many people will travel to space in 2025-2030? Available at: https://patentpc.com/blog/space-tourism-market-growth-how-many-people-will-travel-to-space-in-2025-2030-key-stats (accessed 08.05.2025)

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Туризм классификациясына ғарыш туризмін енгізу моделі

Аңдатпа. Ғарыш туризмі – бұл адамзатқа ғарышты зерттеуге және жаңа тәжірибе алуға мүмкіндік беретін әлеуеті жоғары сала. Технологияның дамуымен және ғарыштық инфрақұрылымның жетілдірілуімен ғарыш туризмі туристер үшін де, бүкіл туристік индустрия үшін де жаңа перспективалар ашатын шындыққа айналды. Бұл зерттеу ғарыш туризмінің әлеуетін, оның дәстүрлі туристік индустрияға әсерін, сондай-ақ туристік бағыттарды жіктеу жүйесіне ғарыш туризмін енгізу мүмкіндігін қарастырады. Зерттеудің негізгі мақсаты – сапардың ұзақтығы, сапардың мақсаты және пайдаланылған көліктер сияқты туризм түрлерін жіктеу критерийлеріне ғарыш туризмін интеграциялау мүмкіндіктерін талдау. Зерттеудің бірегейлігі – алғашқы көрсеткіштер негізінде ғарыш туризмін туризм классификациясына ресми түрде енгізілуінде. Зерттеудің практикалық маңыздылығы туризм теориясында кеңейтілген классификацияны қолдану мүмкіншілігі болып табылады. Зерттеу әдістемесі Virgin Galactic, Blue Origin, SpaceX сияқты ғарыштық компаниялардың зерттеулерінің мазмұнын талдауға негізделген.

Түйін сөздер: туризм, ғарыш туризмі, ғарыш туризмінің түрлері, туризм классификациясы.

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Модель включения космического туризма в классификацию туризма

Аннотация. Космический туризм – это уникальная отрасль, которая позволяет человечеству исследовать космос и получать новые впечатления. Эта сфера открывает новые возможности для путешественников и всей индустрии туризма. Таким образом, исследования, направленные на интеграцию космического туризма в классификацию туристских направлений, позволяют оценить потенциал космического туризма и его влияние на традиционную туристскую индустрию. В данной статье анализируются возможности расширения классификации туризма в соответствии с такими критериями, как продолжительность поездок, цель путешествия и вид используемого транспорта, с учетом уникальных особенностей космического туризма.

Уникальность исследования заключается в том, что впервые на основании первичных показателей космический туризм был формально внедрен в классификацию туризма. Практическая значимость исследования заключается в применении расширенной классификации в теории туризма. Методология исследования основана на контент-анализе, исследовании частных суборбитальных компаний таких, как Virgin Galactic, Blue Origin, SpaceX.

Основные результаты указывают на необходимость обновления устоявшейся системы, что, в свою очередь, позволяет лучше структурировать и понимать новые направления туризма.

Ключевые слова: туризм, космический туризм, виды космического туризма, классификация туризма.

References

1. Risteski M., Dimoska T. Future types of tourism – space tourism. Available at: https://www.academia.edu/1245806/FUTURE_TYPES_OF_TOURISM_SPACE_TOURISM (accessed 20.03.2025).

2. Chang E. From aviation tourism to suborbital space tourism: A study on passenger safety and business opportunities. Acta Astronautica. 177, 410–420 (2020). https://doi.org/10.1016/j.actaastro.2020.07.020

3. Maccannell D. The Ego Factor in Tourism. Journal of Consumer Research. 29, 146–151 (2002). https://doi.org/10.1086/339927

4. Dabhade O., Jumale A., Patil A., Heramb W. The Future of Space Tourism: An In-depth Literature Review. Available at: https://www.researchgate.net/publication/381458481 (accessed 10.03.2025).

5. Paladini S., Saha K. The quest for sustainability in lower orbit: Conceptual models for space tourism. International Tourism Research. 25(3) (2022). https://doi.org/10.1002/jtr.2568

6. Overlin M., Iannucci S., Wilkins B., et al. Reinforcement learned adversarial agent (ReLAA) for active fault detection and prediction in space habitats. Nature. 15, 1–9 (2023). https://doi.org/10.1038/s41526-023-00252-9

7. Cole S. Space tourism: prospects, positioning, and planning. Journal of Tourism Future. (2015). https://doi.org/10.1108/JTF-12-2014-0014

8. Friel M. Tourism as a driver in the space economy: New products for intrepid travellers. Current Issues in Tourism. 23(13), 1581–1586 (2020).

9. Prince S. Cohen's model of typologies of tourists. The Sage International Encyclopedia of Travel and Tourism. (2017). https://doi.org/10.4135/9781483368924.n109

10. Eshenkulova G.I., Baimbetova A.B., Gizzatzhanova A.G., Mukanov A.Kh., Esenbaeva A.E., Podsukhina O.V. Osnovy turizma [Fundamentals of Tourism]. Astana, 2018. 55 p. [in Russian]

11. Chang Y. The first decade of commercial space tourism. Acta Astronautica. 108, 79–91 (2015). https://doi.org/10.1016/j.actaastro.2014.12.004

12. Van C. The real value proposition of suborbital space tourism and travel. Available at: https://www.nsr.com/the-real-value-proposition-of-suborbital-space-tourism-travel (accessed 10.01.2025).

13. Chang E. From aviation tourism to suborbital space tourism: A study on passenger safety and business opportunities. Acta Astronautica. 177, 410–420 (2020). https://doi.org/10.1016/j.actaastro.2020.07.020

14. Chang Y.W., Chern J.S. A study and discussion on the cost issue of suborbital and orbital space tourism. Journal of Tourism and Hospitality. 7(1), 1–5 (2018). https://doi.org/10.4172/2167-0269.1000334

15. Suborbital'nye kosmicheskie polety [Suborbital space flights]. Available at: https://www.april12.eu/suborbit/suborbit.html (accessed 10.01.2025). [in Russian]

16. Bentley T., Page S., Laird I. Safety in New Zealand adventure tourism industry: The client injury experiences of adventure tourism operators. Journal of Travel Medicine. 239–246 (2000). https://doi.org/10.2310/7060.2000.00072

17. Webber D. Point-to-point suborbital space tourism: some initial considerations. Acta Astronautica. 66, 1645–1651 (2010). https://doi.org/10.1016/j.actaastro.2009.09.024

18. Berger E. Enthusiasm for point-to-point travel may be premature, space official says. Available at: https://arstechnica.com/science/2020/06/key-u-s-space-official-says-point-to-point-space-travel-a-ways-off/ (accessed 23.04.2025).

19. Thangavelu M. Lunar tourism: a catalyst for the development of the lunar economy. The 70th International Astronautical Congress (IAC). Washington, USA, 2019. P. 1.

20. Bukley A., Mendel W., Brent M. Space Tourism – From Dream to Reality. The Future of Human Spaceflight. 231–238 (2002). https://doi.org/10.1007/978-94-015-9880-4_31

21. Musselman B., Winter S., Rice S., Keebler J., Ruskin K. Point-to-point suborbital space tourism and willingness to fly. Annals of Tourism Research Empirical Insights. 5 (2024). https://doi.org/10.1016/j.annale.2024.100119

22. Blue Origin New Shepard. Available at: https://www.blueorigin.com/new-shepard (accessed 03.03.2025).

23. Ruban D. Regional economics. Theory and Practice. 16(4), 775–788 (2018).

24. Efimova E. Kosmicheskii turizm: novejshaya otrasl' ekonomiki [Space tourism: the newest branch of the economy]. Ekonomika XXI veka [Economy of the XXI Century]. (2024). https://doi.org/10.26794/2220-6469-2024-18-2-6-16 [in Russian]

25. Schweinsberg S., Fennell D. Space Tourism: A Historical and Existential Perspective. Sustainability. 16, 2–14 (2024). https://doi.org/10.3390/su16010079

26. Tran B., Attorney P. Space tourism market growth: How many people will travel to space in 2025–2030? Available at: https://patentpc.com/blog/space-tourism-market-growth-how-many-people-will-travel-to-space-in-2025-2030-key-stats (accessed 08.05.2025).

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