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INNOVATIONAL TECHNOLOGIES FOR THE TRAVEL INDUSTRY: SECURITY AND SUSTAINABLE DEVELOPMENT

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Introduction. World experience and practice of economic, social and political stability of developed countries confirms the strategic role of tourism for the development of economies of many countries. There are key success factors: the geographical position of the state, its natural and climatic resources, historical sights, cultural achievements allow to ensure the economic security of the state during the changes. It can be possible due to tourism (especially for countries where tourism is the main source of the formation of the gross national product). And also for countries with significant opportunities for the development of tourism, which will improve their socio-economic situation in the state. At the present stage, innovative technologies play an important role in the development of the tourism sector, which arise and are spreading in related industries. They allow to ensure sustainable development of tourist enterprises. They help solve a large number of organizational, managerial, technical and environmental problems. Minimize the impact on the environment of tourists, to interest them in the rational use of natural resources. Take care of preserving the cultural heritage. The global financial crisis of 2008 actualized the role and importance of innovative technologies. In the works by M. Tuhan-Baranovskyi, N. Kondratiev, J. Schumpeter and others, as early as the beginning of the twentieth century it was proved that innovations in crisis conditions allow creating prerequisites for sustainable development, especially for Ukraine.

The tourist potential of Ukraine in the international arena is quite high: resorts and recreational areas in the state make up almost 9100000 Ha (15% of the territory), and the operational reserves of mineral waters ensure their use in the amount of more than 64 thousand cubic meters per day. Historical and cultural resources of Ukraine: there are more than 130 thousand monuments on state records in the country, including more than 57 thousand monuments of archeology, more than 51 thousand monuments of history, almost 6 thousand monuments of monumental art more than 16 thousand monuments of architecture, urban planning, landscape art and landscaping. In Ukraine operate more than 60 historical and cultural reserves, including about 15 have national status. The UNESCO World Heritage List includes seven domestic sites [1]. However, with the popularization of tourism within the framework of Euro-2012, Euro-2017, this branch for Ukraine remains promising. Without hindering, on a number of strengths (convenient geographical (geographical) location, a large number of historical monuments, a rich national cuisine, etc.) its role and significance for the Ukrainian economy is not significant.

Analysis of the latest publications. The issues of introducing and evaluating innovations in the tourism industry of Ukraine are dealt with V.S.Novikov, V.K. Fedorchenko, I.M. Minich, V.A. Zinchenko, etc. However, in most cases, when researching innovative technologies in the tourism industry confine theirselves to Internet technologies, in our opinion, points to the promise of research in this field.

The purpose of the article is to study the essence of innovative technologies in the tourism industry that ensure the sustainable development of enterprises in this field.

Statement of the main material. Tourism is the sphere of the economic complex that provides a tenth of the world's gross product. This industry is developing at a rapid pace and is currently one of the important sectors of the economy, allowing the creation of new jobs. It needs to raise funds for the development of individual regions, to improve the standard of living not only in the territory of tourist destinations, but in the country as a whole.

The world tourism industry has experienced a real boom in the jubilee year of 2000 and keeps the growth rate of the number of tourists and receipts from tourism in the following years of the 21th century.

Tourism has boasted virtually uninterrupted growth over time, despite occasional shocks, demonstrating the sector's strength and resilience. International tourist arrivals have increased from 25 million globally in 1950 to 278 million in 1980, 674 million in 2000, and 1186 million in 2015 [2].

The phenomenal success of tourism is also due to the fact that it is based on satisfying the constant aspirations of mankind to know the world around them. This knowledge through tourism has made the increase in many countries the living standards of the population, the development of transport, information and other technologies, globalization in general. In particular, in 2015 (Fig. 1) shows a positive trend in the growth of tourist trips and revenues from them.

Figure 1.Tendencies of tourism development

International tourism receipts grew by 4.4% in real terms (taking into account exchange rate fluctuations and inflation) with total earnings in the destinations estimated at US$ 1260 billion worldwide in 2015 (euro 1136 billion).International tourist arrivals worldwide are expected to increase by3.3% a year between 2010 and 2030 to reach 1.8 billion by 2030, according to UNWTO's long-term forecast report Tourism Towards 2030. Between 2010 and 2030, arrivals in emerging destinations (+4.4% a year) are expected to increase at twice the rate of those in advanced economies (+2.2% a year).The market share of emerging economies increased from 30% in 1980 to 45% in 2015, and is expected to reach 57% by 2030, equivalent to over 1 billion international tourist arrivals. The number of international tourist arrivals (overnight visitors) in 2015 increased by 4.6% to reach a total of 1186 million worldwide, an increase of 52 million over the previous year. It was the sixth consecutive year of above-average growth in international tourism following the 2009 global economic crisis [2]. Thus, there is a shift in consumption patterns – for many consumers tourism is no longer a luxury, but a natural necessity. In some, especially European countries, even such a notion as "the right to tourism" has been formed, is reflected in the Global Code of Ethics for Tourism adopted by the World Tourism Organization [3, p.3].

For example, WTO statistics, say, 2015, testify that Europe still remains the leader of world tourism (the first five places were occupied by European countries) [2].

Table 1

Rating of countries according to tourist visits, 2015 [1]

№	Country	International tourist visiting, million.	Rating
1	France	84,7	1
2	USA	69,8	2
3	Spain	60,7	3
4	China	55,7	4
5	Italy	47,7	5
6	Turkey	37,8	6
7	Germany	31,5	7
8	United Kingdom	31,2	8
9	Russia	26,5	9

Whereas in Ukraine a great potential is lost for a foreign tourist (reason is a complicated domestic political situation). But the reason for this is not only the political and economic situation in the state, and also the presence of other problems. These include: the unsatisfactory state of tourist facilities (abandoned

and dilapidated monuments of the castle and palace culture, the unsatisfactory material and technical condition of cultural and art institutions, the lack of modern security systems, which leads to the loss of certain valuable exhibits from museums, galleries) unsatisfactory state of roads and lack of entrances to many tourist sites; low level of transport services of all types, especially long-distance communication (lack of information on the flight schedule or the difficulty of obtaining it, cancellation of flights, unsatisfactory condition of vehicles); lack of information and marketing support for the promotion of tourism and investment opportunities in the tourism and recreation of certain areas, etc. Now in the world economy, these problems are solved with the help of innovative technologies. In particular, at present five directions of innovative technologies are singled out:

to share or not to share: The most obvious change in the last few years in hospitality is the sharing economy. The face of this movement is Airbnb, which is now valued at $25 billion, but there are many other companies that are playing the game, such as Couchsurfing, Feastly, Knok, Vayable or even Wimdu. While there are some regulatory issues around this new consumer model, it is providing accommodation to travelers who may not otherwise be able to afford it;

keep track of your bag: my biggest concern when I travel is losing my suitcase, and being left stranded for a business meeting whilst in sweatpants. But new innovations are changing this. Why, if we have smartphones, can't we have smart suitcases? Well now we can. Different players are looking at different solutions. While airports like Las Vegas' McCarran Terminal 3 are starting to attach a radio frequency identification chip to suitcases to ensure they don't get lost, Bluesmart has created a carry on suitcase which can be controlled and tracked using an app on your phone;

let's stay connected: we live in a hyperconnected world, where in-flight Wi-Fi was bound to happen – and it did. Although a number of airlines offer internet to passengers, it is not a perfect science and it is most definitely not free. But we have a choice which we didn't have a few years ago. Airlines are also adding power outlets so that passengers can charge their devices throughout their flights and not arrive at their destination with a "dead" phone;

do it yourself: Today, I barely talk to anyone when I go through the airport. With the available technology, I am able to book my flight online, have my boarding pass on my phone, check in with machines, go through automated clearance gates and even validate my boarding pass to board the plane. These innovations have made navigating airports much more efficient – if you are tech savvy. Still, given that security is front of our minds, gate and security agents are present to make sure travelers can have a seamless experience;

guiding your experience: Guidebooks like Lonely Planet used to be the traveler's bible – but have now become irrelevant in a world of websites and crowdsourcing sites which provide us with advice and reviews on hotels, tours and restaurants. Traditional online Travel Agencies like Expedia and Priceline have provided alternatives. But new players are on the market too: Peek puts a tour guide in your phone, while HotelTonight is a last minute hotel booking tool. Other players are also thinking differently about the issue, such as AnyRoad, which helps us connect to incredible guides and avoid travel agencies [4].

The complexity of researching this topic is the lack of interpretation of the notion of "innovative technologies" not only in tourism, but also in other industries.

In our opinion, it is reasonable to understand this term – radically new or improved technologies that significantly improve the conditions for the formation of a tourist product or service or are themselves a commodity. Unlike innovation, innovative technology is a narrow concept, since J. Schumpeter defined five directions for the formation of novelty: the production of a new product, the reorganization, the introduction of a new production method, the development of a new market, the development of a new source of raw materials or semi-finished products [5, p. 48].

Therefore, we consider it expedient to single out the following types of innovative technologies:

On the scope of novelty: new to the industry, new to the country, new to the world, new to the enterprise;

In content: organizational, managerial, information, technological, technical;

Due to occurrence: reactive and strategic;

By potential: radical and modifying.

According to this classification, Internet technologies will relate to information and innovative technologies that can be used in the formation of tourist products by travel companies for:

1) advertising;

2) informing consumers about new products and promotions;

3) the formation of a positive image among tourists about the company;

4) promotion of new types of tourist services (visit via Internet museums not only in Ukraine, but also in the World) [6].

In particular, it should be noted that recently the last service has spread and is interesting for many target groups, in particular schoolchildren, during the lessons using the Internet they can visit museums that are located in another country and get acquainted with the achievements of world culture and art. Today it is possible for: the National Museum of Taras Shevchenko in Kiev, the Kiev-Pechersk Lavra, the Louvre in Paris, the Hermitage in St. Petersburg, the Metropolitan Museum in New York (www.panotours.ru., Http://rzd.ru/steams , Http://tours.kremlin.ru, (www.armchair-travel.com), (www.virtualtravel.cz), (www.sphericalimages.com), (www.googleartproject.com), (www.everyscape. Com), etc.). There are also interesting virtual tours, when you can not only visit individual museums, but also see monuments of culture, nature. In this direction, the offer of companies Google and "Russian Railways", which offer to travel on the route Moscow-Vdavivostok, which passes through two parts of the world, 12 regions and 87 cities, is interesting. You can simultaneously look at Baikal, Khekhtsirsky spine, Barguzinsky mountains and the like. Also, Google launched a new service Hotel Finder, developed on the basis of the product ITA Software. The purpose of this service is to find the hotel by the parameters entered by the user. The new service allows you to search for hotels by location, price, number of stars, reviews and availability of accommodation discounts. Users can view photos of selected hotels, find out their addresses and phone numbers, and book a room by clicking on the link to Google partner sites (for example, Priceline or Travelocity). While the service is distributed only to the US territory, information about the location of hotels is taken from the cartographic service of Google Maps. The project is declared experimental, later on its basis plan to launch a full-fledged version [7].

The next trend in the use of information and innovative technologies is the combination of the efforts of a travel company, an insured, a transport company, a tour desk, hotels, catering establishments to create information tourism products that will allow the consumer to choose a service via the Internet, and to create competitive goods, prices, investment and Marketing policy.

At the same time, information technologies in the tourism industry that will be used to organize the hotel and restaurant business, in our opinion, should be better attributed to organizational management.

In recent years, the use of "smart house" technologies has become widespread in the organization of the hotel business, which makes it possible to use all available resources more rationally (water, electricity, heat, etc.), because everyone knows that hotels are one of the largest consumers of these Resources. Therefore, in 2010 in the United States, the Sustainable Suite Design Competition, organized by the U.S. Green Building Council and ASID (American Association of Interior Designers), was held for the first time. The competition task for interior designers was the creation of hotel room projects that corresponded to modern concepts of responsibility in relation to the environment, and at the same time would become a new positive experience for clients. The focus was on water consumption, the environment, energy efficiency, materials, internal environment [6]. In our opinion, such technology allows to increase the efficiency and productivity of the hotel business management system and creates prerequisites for its competitiveness, since it allows to combine safety, comfort and technical capabilities.

Restaurant business combination of information and innovative technologies allows not only to retain the main customers, but also to attract new ones. In particular, the result of a successful combination of innovative solutions and information technologies is the following:

1) the creation of an electronic menu has allowed the administration to improve the efficiency of communication between customers and employees. At the same time, the process of updating and updating the menu is accelerated. Customers can choose wine from the wine list of the institution at the price, year, region, bouquet, and then to it – a dish from the local menu; To calculate the calorie content of certain dishes; When choosing dishes immediately see the final order check; Waiting for the order to play games, read news, wander the Internet;

2) development of QR-code – a two-dimensional barcode – has opened new unlimited opportunities for interaction of companies and consumers on-line. The abbreviation QR is translated from English as "quick access", and the matrix code itself can hold a huge amount of information in the form of text, numbers, URLs, calendars, diagrams, images. The speed of QR-code recognition is very high, it can be placed on any media, starting from cash receipts and menus and ending with various signs. In a bright square you can encode the history of the restaurant, origin, age, authorship, unique interior details, pictures. Visitors will be pleased to learn the menu of the institution with detailed information about each dish, the composition and origin of the ingredients, the stages and methods of processing, the livelihood and calorie content. According to the QR code, the restaurant can show its customers about promotions, lotteries,

drawings, activate various loyalty programs, arrange voting, interactive polls and quickly get feedback about the restaurant from customers. In particular, QR codes are introduced for the chain of restaurants "Fest" ("Kriyvka", "Chocolate workshop", "Masonic lodge", "Mazoch-cafe", "Jewish inn", "House of legends", "Kerosene lamp", " At Diana "," Tram "," Varjati "); Fast food establishments (Kumpel, Chelentano, Potato House, Yappi, Point); Nightclubs "Positiff", "Metro"); As well as hotels "Leopolis", "Georges", "Eurohotel", "Swiss", "Dniester", "Opera", "Lake District", "Citadel Inn", having their own restaurant facilities [9].

The next direction is the use of modern automated systems for organizing security in hotels and restaurants, management of engineering infrastructure, warehousing, etc., allows not only to streamline the management process, but also to rationally use all available resources. In particular, the introduction of RFID (Radio Frequency Identification). A door lock with radio frequency identification, in which case the guest enters the room and other rooms of the hotel without a key. Such an innovative mechanism is becoming increasingly popular in hotels around the world due to the fact that its opening does not require a key. To access the room, the guest can use a mobile phone of any brand and do not waste time searching for the lost key. Also use the Connectivity Panel (remote panel audio, video connectors, media hub). A very convenient device that allows a guest to connect their equipment. Depending on the model, the guest can:

connect your laptop or other device via HDMI / VGA input;

using Bluetooth, listen to music from your phone through the TV speakers;

display picture and sound from a camcorder or camera to your TV HD-quality;

the presence of in-room iPod / iPhone docking station (docking iPod / iPhone) to listen to music and charge your device at the same time. [10]

The technical innovative technology include the introduction of humanoid robots that created by Japanese scientists to reduce the impact of human emotions on the quality of the organization of hotels and restaurants. These works are created to solve the problems of crowded that allow organize work efficiently [11]. In 2009, work to improve hotel service personnel were invited by MTech addition REX Room Expeditor for mobile vehicles Apple iPhone / iPod [12]. This could also include the use of WI-FI - technologies in hotels and restaurants, DVD-players and plasma panels. In particular, if you wake up in the night «Royal Suite» and want to go to the bathroom, you do not have to wander in the dark. At the end of the bed there is a small button. Press it – and the trail starts to the bathroom dimly lit underfoot. And nowhere no wires - they are securely hidden under the floor and furniture legs. [8] In particular, in 2014 Chain Hilton Hotels & Resorts Opens First Hotel in Kiev Hilton Kyiv. Two innovative technologies were introduced in this hotel: they introduced a system of automated mini-bars on the basis of the hotel, and for the first time used additional external sensors of Smart Trey to control dry products located outside the mini-bars. This is a fully automated system with "smart" infrared sensors, which allows real-time control of food consumed by hotel guests. This technology helps management to control the use of the content of the mini-bar without the direct involvement of the hotel staff in monitoring, remotely receiving information on the central computer. This innovation allows you to reduce the cost of working time for this procedure up to 60%. An automatic key accounting and storage system is also installed – KeyWatcher. The use of such a system is the norm for hotels of this level. With the help of the KeyWatcher® system, the hotel provides control of the most important mechanical keys used by authorized employees in a time-confirmed hotel management.

The popcornmakers created the Disturb Me Installation for the White Hotel in Brussels you see above. The animated presentation, in which colored lights cascade over a hotel room bed (it's cooler than it sounds), shows the potential for all white rooms. Of course, the room wouldn't have to be stark white for this light show to work, but the contrast between day and night makes the spectacle extra awesome.

The next technology is the use of terminals for booking seats and different hotels. Portal Prohotel.ru is not only a social network for specialists of the Horeca segment, but also a convenient booking platform. The site for the reservation of the portal "Prohotel.ru" contains a large, regularly updated catalog of hotels all over the world, so that the user does not have problems with the choice of the hotel facility. You can book the apartments directly on the portal's website. To do this, just go to the "Hotels" (Prohotel Reservation Service). The booking system asks the user to enter the name of the country and city, and then gives out all the options. Based on the description and photos of hotel apartments, the user can book the apartments he likes. Thus, the new technical and technological solutions that are offered today to consumers of the service sector allow to expand the opportunities for tourism and create the prerequisites for the emergence of new types of tourism.

For example, Experiential Tourism (Catering to the imaginations of experience-seekers). Implications – Personalized, customizable or theme innovations that stimulate imagination or cater to fantasies are

enticing consumers looking for uncommon experiences. The addition of an unconventional 'experience' piques interests and raises the perceived value of a good or service.
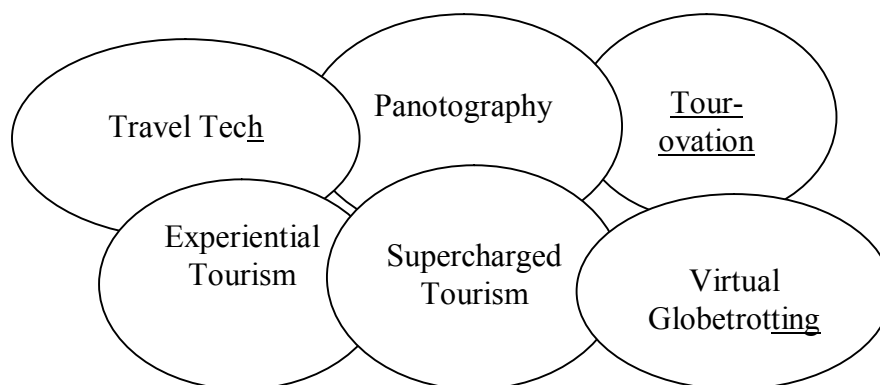

Figure 2. New technologies in the development of tourism

Tour-ovation (New technology helps globe-trotters navigate foreign countries). Implications – Gone are the days when travelers must tote around heavy guidebooks or schedule inconvenient tours just to ensure they maximize their trips. Technology has given tourists many more options to explore foreign lands, and these innovations also help to promote tourism in any given place. From social media to virtual guidebooks and more, innovative travel technology is not only changing the landscape of the tourism industry but can mean new opportunities for local establishments to expose themselves to foreign vors.

Panography (Panoramic and 360-degree imaging create unprecedented visual experiences). Implications – Technology in panoramic imaging has created a whole new market for amazing 360-degree visual experiences. Now consumers can get a full-circle experience regardless of whether they are physically present or not. This kind of technology is revolutionizing the tourism industry in particular, providing travelers with an unprecedented way of documenting their globe-trotting. However, it can be also applied to industries in which events are a large part – for example, giving at-home consumers access to 360-degree views of fashion runway shows, concerts and more.

Conclusions. Thus, we can conclude that innovative technologies in the tourism industry is a requirement of the time, they allow not only to improve the quality of services, but also to rationally use all available resources for both tourists and owners of the tourist business. As the NTP develops, innovative technologies in the tourism industry will also develop that allow new opportunities for innovators and make tourism accessible to different categories of the population.

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Innovational Technologies for the Travel Industry: Security and Sustainable Development. The article explores theoretical and practical aspects of the development of innovative technologies in tourism at the present stage. Systematization of the basic directions of innovative technologies is carried out, at the present stage they allow to receive a synergetic effect in tourism due to introduction in related industries. The authors' approach to the systematization of innovative technologies is proposed.

Keywords: tourism, innovative technologies, sustainable development, innovation, competitive advantage.

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Інноваційні технології в туризмі: безпека та сталий розвиток. Світовий досвід і практика економічної, соціальної та політичної стабільності розвинених країн світу підтверджує стратегічну роль туризму для розвитку економік багатьох держав. Наявність ключових факторів успіху: географічне положення держави, її природно-кліматичні ресурси, історичні пам'ятки, здобутки культури дозволяють забезпечувати економічну безпеку держави в час змін. Це стає можливим завдяки туризму. На сучасному етапі для розвитку туристичної сфри важливу роль відіграють інноваційні технології, які виникають і набувають поширення у суміжних галузях. Вони дозволяють забезпечувати сталий розвиток туристичних підприємств. Досліджено теоретичні та практичні аспекти розвитку інноваційних технологій у туризмі на сучасному етапі. Здійснено групування основних напрямів систематизації інноваційних технологій, які на сучасному етапі дозволяють отримувати у туризмі синергетичний ефект за рахунок упровадження у суміжних галузях .Запропоновано авторський підхід до систематизації інноваційних технологій.

Ключові слова: туризм, інноваційні технології, сталий розвиток, інновація, конкурентна перевага.

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Инновационные технологии в туризме: безопасность и устойчивое развитие. Мировой опыт и практика экономической, социальной и политической стабильности развитых стран мира подтверждает стратегическую роль туризма в развитии экономик многих государств. Наличие ключевых факторов успеха: географическое расположение государства, ее природно-климатические ресурсы, исторические памятки, достижения культуры позволяют обеспечивать экономическую безопасность страны в период изменений. Это становится возможным благодаря туризму. На сегодня для развития туристической сферы важную роль играют инновационные технологии, которые возникают и распространяются в смежных сферах. Они позволяют обеспечивать устойчивое развитие туристических предприятий. Исследованы теоретические и практические аспекты развития инновационных технологий в туризме. Проведена группировка основных направлений систематизации инновационных технологий, которые на сегодня позволяют получать в туризме синергетический эффект за счет внедрения в смежных сферах. Предложен авторский подход относительно систематизации ынновационных технологий.

Ключевые слова: туризм, инновационные технологии, устойчивое развитие, инновация, конкурентное преимущество.