TECHNOLOGIES OF TOURISM IN THE MODERN URBAN ENVIRONMENT

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ABSTRACT

Development of internal and external, international markets due to introduction of IT technologies is one of fundamental aims of modern world economy. The tourism industry is one of the largest consumers of telecommunications technology, and has one of the highest levels of computer equipment in the business world. This is due to the nature of the information that is used in the travel industry. Firstly, this information is very time-dependent, becouse different dates, events, schedules change very often. Secondly, information on tourist products should be timely accessible from various points of the globe. Thirdly, the tourist product consists of a large number of components - transport, accommodation, entertainment - which also require the rapid delivery of information. Personal computer and the Internet, their availability and reliability, contribute to the penetration of new information technologies in all spheres of society.

The main tasks of introduction of IT technologies in tourism are an increase of competitiveness of tourist agencies and their products, improvement of tourist service, attract customers, increase profits. Examples of e-tourism are the tourist websites, tourist mobile app, online booking, electronic catalogs of travel products, promotion of tourist product through social networks. Saint Petersburg is a perspective direction for the development of an innovative excursion product. The city has unique historical

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and cultural resources that need a modern presentation to the tourists. IT technologies used in the organization of excursions around the city today include 3D tours, QR-codes, individual audio guides, computer applications. Innovative technology in the organization of excursions there may be new forms of excursions: quests, games and theatrical excursions. In this context, combining a popular social network with a mobile application and an innovative form of quest excursion into a single competitive product. The tourist excursion market of St. Petersburg needs to be updated tourist excursion products, forms of excursion display. Developers of excursion programs should take into account the mobility of modern tourists, their passion for gadgets, the desire for individualization. The authors believe that it is necessary to create a unique tourist and excursion offer that will combine the information layer of excursions and innovative technologies. The authors propose the concept of creating an electronic quest-excursion in St. Petersburg through mobile application.

Key words: E-Quest-Excursion, E-Tourism, IT-Technologies, Tourist Application.

1. INTRODUCTION

Tourist industry presently develops stormily. On the prognoses of Euromonitor the amount of the trips accomplished annually will be doubled for period from 2010 to 2020. The main modern trend of tourism is to increase the role of IT-sector in tourist industry [1]. Modern tourism is a global computerized business, which involves the largest airlines, hotel chains and tourist corporations of the whole world.

The modern tourist product becomes more flexible and individual, more attractive and affordable for the consumer. Personal computer, the Internet, their accessibility and reliability, assist penetration of new information technologies in all spheres of society. Such technologies make tourism a leader among other areas in the service sector in terms of productivity growth.

Russian tourism companies and tourism authorities entering the international market face challenges in developing new information technologies, which are a prerequisite for international integration and modern conception of tourist business as the informatively-saturated sphere. In this connection, the analysis of the existent informative systems in tourism, study of basic application of IT domains and development of recommendations for tourism management on the use of the informative systems appears especially actual.

Russian President Vladimir Putin declared at the beginning of June 2017 on the Petersburg international economic forum: "Without the digital economy, we will not be able to pass to the next technological order, and without this transition to a new technological system in the Russian economy, which means that the country has no future. Therefore, this is the number one task in the sphere of the economy, which we must decide" [2].

The Government of Russia worked out approved the Program "The Digital Economy of the Russian Federation". The document notes: "Everyday human life, industrial relations, economic structure and education change with the use of digital technologies. New requirements arise up to communications, computing power, informative systems and services. Configuration of global markets suffers considerable changes under the effect of digitalization" [3].

The development of digital economy forms basic progress of tourist market trends in the whole world, including, and in Russia. In opinion of experts, most meaningful trends are:

- - globalization of tourist business;
- - active development transnational the Internet of resources;
- - convergence of suppliers of travel services and consumers;
- - the appearance of new distribution channels;
- - mass output of offline companies on the Internet;
- - modification of the consumption model: personification of the approach in
- organization of travel;
- - use of mobile applications [4].

It is possible to suppose that technologies that are now created, during 5-10 years most seriously will change the market of tourist services.

Using of information technologies in the management and planning of tourism abroad has a long history. The dataware of tourist business at regional level leans against the various tourist informative and marketing systems and developed telecommunication infrastructure [5]. The Russian market of tourism development stipulated a necessity for the study of theory and practice of management by information technologies, analysis of international experience in the use of computer reservation systems and systems of management of destinations. An enormous amount of foreign researches in area of information and of communication technologies in tourism are based on more than 30-years-old experience of functioning of the various computer systems [6].

Scientific concept of the functioning of a market economy, theory and practice entrepreneurial activity, fundamental works and publications on investigated issue in the periodical press, materials of international, national, regional scientific and practical conferences and seminars served theoretical basis of research. Methods of system and comparative analysis, theoretical and empirical methods (synthesis, induction, deduction); sociological methods (expert assessments), statistical methods (methods of analysis of dynamics and structure of indicators, extrapolations, parametric analysis), modeling and others were used as research tools.

2. MODERN STATE OF E-TOURISM IN RUSSIA

Industry of tourism is one of the largest consumers of telecommunication technologies, and disposes one of the highest levels of computer equipment in the business world. IT technologies and tourism seemed incompatible partners fifteen years ago. In addition, today two concepts are closely linked. New type of tourism appeared. It is called "alternative tourism" or "electronic tourism" [7].

From 2010 to 2016 year, the Russian market of e-tourism grew more than in 10 times: from 70 milliard to 740 milliard of rubles. Partner of analytical agency Data Insight Boris Ovchinnikov announced such data, speaking with the report "Russian Travel Market. Statistics of off-line and on-line" on TravelHub 2017 [8]. Only for 2016 of online sales of tourist services increased by 37% among the Russian customers. The dynamics of tourist market appeared better than expectations, especially at year's end. On the calculations of Data Insight, combination of market growth and the growth in the share of on-line is able to provide the height of e-tourism at the level of 40-60% in a year [9]. Boris Ovchinnikov explains this by increasing the number of people buying tourist services on-line. He adds: "Those who use the Internet from 10-15 years old begin to travel independently". According

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to the Levada Center, the audience with incomes above the average and youth of 18-24 years are the most promising for development of Russian e-tourism. More adult audience in age 25-39 also has good potential [10].

The experts of Data Insight mark that the main drivers of the growth of Russian e-tourism industry are ferrymen, which extend an audience successfully. On-line hotel booking is growing at a slower pace. The sales of railway tickets, tours, direct sales of airlines grow quicker than all. Recently, airlines have concentrated on the direct sale of tickets through their own websites. Such websites have become more convenient and understandable; airlines are present in the searching systems of SkyScanner and Aviasales. The representatives of airlines report that Utair sells 20% tickets through own online-portals, S7 - 40%, "Pobeda" - 70%, "Aeroflot" - 25% [11]. Airlines often suggest to purchasing together with an airline ticket and other tourist services: for example, book a hotel or transfer, rent a car etc.

Mobile applications are one of the most popular innovative technologies that develop in the tourist market and complement tourist services and products. Positive factors in the use of mobile app in the tourism industry are their convenience, accessibility for the target audience, advertising opportunities, fast and reliable information transfer, company presentation, the possibility of selling tourist products and services.

Today, tourists actively use mobile app in next aims: navigation and maps, booking systems, translators and currency conversion systems, information support of cultural objects, e-books and lounges, ways of providing the first aid and search for a lost smartphone [12]. Some of actual and most popular app offer in Table 1.

Table 1 Mobile applications for tourists

Name	Options
TripAdvisor	compares the prices of hotel booking sites, offers to read reviews and reserves a table in the restaurant
TripIt	helps to save and organize the written out documents for travel, lines up a simple route and applies the necessary maps
AroundMe	gets information about the location of the traveler and gives a list of nearby banks, hospitals, hotels, cinemas, restaurants, bars, supermarkets, taxi stands
Yuggler	finds interesting places for children's entertainment
CityMapper	suggests the best way to travel from point A to point B, combining all types of transport available in a particular city
Momondo places	gets offline maps containing advices of locals and a filter system, so that the traveler can find places that perfectly match his mood and style
Flush – toilet finder	helps to find the nearest toilet
Skyscanner	helps the user to find the best air tickets
Flight+	allows to watch all available flights around the world in real time
AviaSales / Bravoavia	allows to find the cheapest air tickets
TripTracker	offers information about hotel, flight or car rental
Air BnB	selects possible options for renting apartments
Hotellook / Booking / Trivago	searches for and books accommodation facilities, compares the prices of international booking systems and identifies suitable and profitable options for a tourist
Google Translate	translates from a foreign language in real time and offline
XE	converts currency
Waterlogged	watches after the amount of the had a drink water and sends reminders, if a tourist used a liquid not enough
Jet Lag Rooster	expects the ideal sleep schedule depending on the chosen direction
Evaneos	helps travelers connect with local travel operators
Seat Guru	suggests to choose a comfort place in an airplane
Wi-Fi Map	looking for free Wi-Fi

Mobile applications for tourists, as an innovative technology, is a promising branch of the computer industry. App for tourist companies is an opportunity to provide their services to progressive customers in a convenient way for them [13]. Networks of hotels, airlines, restaurants and cafes, tour operators, excursion bureaus develop their own branded app. This innovative technology helps tourist enterprises to increase the number of customers, distribute information about products and services in a convenient and modern form.

3. INNOVATIVE TECHNOLOGY IN ORGANIZATION OF EXCURSIONS

Attachment of modern tourists to communications and multimedia technologies has changed the approach to the formation of excursion programs [14]. Innovations and IT-technologies set a new level of excursion's development. Using IT-technologies in excursion activities gives one excursion an advantage over the other. Excursions with IT-technologies are in demand among young people, as well as among tourists-innovators. We determine tourists-innovators as people who are interested in new technologies. Tourists-innovators stop participating in classical excursions; they aim to cognize the place of recreation by means of gadgets, mobile devices and other IT-technologies [15].

Innovations have influence on perfection of modern excursion technologies. Virtual 3D tours are created using the innovative computer technology 3D and GPS. A tourist can, without leaving home, visually to become acquainted with the means of accommodation, a place of recreation and purchase a tourist product using 3D excursions. Innovative GPS technology allows the tourist to see in real time what is happening in the place where he is going to rest [16]. Russian tour operator "Biblio Globus" uses this technology to attract customers. On the company's website, it is possible to pass 3D tour on a hotel and its territory.

The industry of excursion equipment develops on the international and at the Russian market of tourist and excursion services. The Russian company "RadioGid" engages in development and distribution of excursion equipment in Russia and abroad. Tour operators in Moscow and St. Petersburg are the main clients of this company. Excursion equipment of the company "RadioGid" is in demand among the tourist companies, as it has a number of advantages: reliability, practicality and simplicity in exploitation, high sound quality in almost any conditions, flexibility of equipment, wide range of using [17]. Consequently, tourist firms can develop an innovative excursion product that will be applicable in any weather and natural conditions, under any circumstances. Audio tours in Russia can listen in the State Hermitage, the Tretyakov Gallery, the Pushkin Museum and many others. As a rule, such a service is an additional service for visitors, and an additional fee is taken for its use [18].

The second generation of audio guides gets all greater distribution. Developers create such audio guides for computers and not only allow you to listen to audio, but also view text or graphic information on the screen. A new generation of audio guides is also perspective. These gadgets use GPS technology, automatically determining the position of the person, who is listening, finding the object of interest; they automatically select and give out necessary information to the tourist [19]. The companies "1C" and "IDDK" started production of audio guides on these technologies in our country. The magazine "Around the World" since 2010 produces original audio guides, which are also focused on GPS technology.

The use of mobile devices (smartphones, tablets) is one of the advanced technologies in museum activities [20]. For example, the Russian Museum together with the mobile operator developed its project of information support of cultural objects based on mobile technologies - "Russian Museum. Augmented reality» [21]. Visitors of Museum can not only watch paintings and sculptures, but also receive additional information in the form of audio clips, movies, articles, links and images. Moreover, people can receive this information via the

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Internet in any language due to the system of special codes, which will greatly affect the promotion of The Russian Museum and all Russian art [22]. Today, the Russian Museum uses these technologies not only in the Museum space, but also in the Summer Garden, thus transforming the space of the Park into an interactive cultural environment. In the Summer Garden, signs with codes are at the newly created objects, and the codes of the famous sculptures are written in a special brochure. Special free program - RM Guide opens a page, where the myths and legends, related to this sculpture, are described; an audio guide is there, and it is possible to listen verses about the Summer Garden in execution well-known artists.

Application of QR-codes is also widespread. The use of QR-codes in museum expositions or on architectural monuments solves several problems at once:

- To give museum visitors and sightseers the opportunity to get acquainted with the exhibits themselves, choosing the language in which they will receive information;

- To expand possibilities of tour guide who will be able to illustrate his story with additional materials during an excursion;

- To conduct the interactive entertainment programs. For example, in a QR-code, can be ciphered question or task on the museum exposition, by performing which, the user receives a key to the next task [23].

4. INNOVATIVE TOURIST PROPOSAL IN SAINT PETERSBURG

Tourist-excursion industry of Saint Petersburg is open for innovative technologies and ready to satisfy the necessities of foreign and Russian tourists. Historical, cultural and recreational resources of the city allow to create the innovative tourist-excursion programs on his base, that gives an opportunity to develop domestic, entrance and international tourism [24].

A large number of sightseeing programs is represented at the market of tourist-excursion services of St. Petersburg. Tourist-excursion enterprises implement the already established classical excursions, as well as alternative proposals. Events in style of Open air (fairs-sales, festivals, theatricalized presentations and concerts) actively develop in urban space of Saint Petersburg. These events allow its participants to find the objects of the excursion show and enjoy their history without unnecessary fuss [25].

Several striking examples of the organization of individual tours exist in St. Petersburg. For example, "Remote Petersburg", Trip Fiction, Kulttour are popular both among tourists and among local residents. Users of the Internet and mobile devices can make their own route around the city due to the service iPetersburg, which unites an Internet portal and mobile app with a map of interesting places in St. Petersburg. By means of the portal iPetersburg, user can make his own individual route around the city on interesting topics: attractions, entertainment and recreation, sports, beauty and health, shopping, educational institutions, transport, restaurants and cafes, accommodation facilities. iPetersburg prepared for the clients the discount program, within which you can get discounts in cafes, restaurants, accommodation facilities, shops, theaters, museums, cinemas.

Modern sightseers are mobile. They quite often wait from the excursion not so much new knowledge, how many new impressions. Participants of excursion are ready to get information about the object of tourist show, without departing from the mobile device. A new audience of sightseers, which are ready to master the excursion program independently, is formed. Thus, the organizers of excursions solve the task of forming and introduction in practice of work of new product to the market of tourist-excursion services, which will possess both an informative saturation and include interactive and intellectual components. On the one hand, it takes into account the mobility of modern tourists, their capabilities and

enthusiasm for mobile devices. On the other hand, it must be oriented to implementation of excursion mission consisting in satisfaction of cognitive interest of sightseer.

Quest-excursion is an emerging product in the tourist market. Quest-excursion is a team game on the speed of thinking and movement, during which the team solve problems, perform a search on the ground, and build optimal routes of movement, seek original decisions and tips. Success and popularity quest-excursions lies in the form of their conducting. Freedom of decision-making and vision of their unique excursions in the urban space gets to the quest participants [26]. While a group excursion on a city appears to the tourists as an item in the tourist program, the quest-excursion becomes a unique event that remains in memory of tourist for a long time [27].

St. Petersburg offers a wide range of quest-excursion routes for students and adults, different on a cost, complication of route [28]. Quest excursions to museum complexes in search of secrets and clues of the family's heirlooms will be of interest to connoisseurs of art and museums; quests on literary Petersburg with a visit to the museum-apartments of outstanding writers will attract literature lovers [29]. Excursions through the squares of St. Petersburg with participation of young actors help to reconstruct the events of the past days. Extreme travel tour in Leningrad region will be interesting for those who like to navigate on-road quads, to overcome the river by boat and seek original tips. A number of detective quest-excursion stand out among art programs: the secrets of the six corners of the Peter and Paul fortress, the mystery of the main avenue of the city, the mystery of the three bridges and many other exciting excursion routes [30].

5. CONCLUSION AND FUTURE WORK

Quest-excursion needs to respond to modern trends, so we propose to unite this form of the tour and mobile app in a single competitive tourist product. This quest-excursion is developed by mobile app, where tasks for the city quests will be displayed. Getting a task on the smartphone, a player must either answer the question correctly or appearing in a certain point in front of the city object, to point the camera of his phone so that the picture of phone and object of show are combined. Tasks can be in the form of photo reports, when it is necessary to find a certain fragment on the city object, depicted in the task, or, the player should take a special image of an object from a certain point in the city. A special kind of tasks in the electronic quest-excursion will be "revived" elements, for example, a lighted fire or a stream of water.

Mobile app of quest-excursion will offer the user several types of quests that differ in their focus. The art quest is aimed at visiting museums, cathedrals with the purpose of study history and culture. Regional history quests take place in open-space; they are associated with historical events. Extreme quests are out of town or on certain grounds on purpose to test itself for strength and to explore some abandoned object.

E-quest-excursion of the city has a number of advantages:

1. Completing the quest is possible without the participation of a tour guide / tour organizer

2. Using the application is possible at any time twenty-four hours;

3. The proposed tasks will be interesting to both Russian and foreign tourists of different age categories;

4. The app will contain simple and intuitive options: for sharing photos, the ability to write unlimited texts, maps for the search of places.

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