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TÍTULO: Investigación sobre Tecnologías de la Información en la Industria del Turismo.

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RESUMEN: Las tecnologías de la información se están desarrollando con éxito en la industria turística, por lo que representan un negocio global de tecnología digital. El siglo XXI es el siglo de la informática y la sociedad de la información, en el que todas las empresas turísticas, tanto en Rusia como en el extranjero, utilizan esta fuente mundial de información y el uso efectivo de las tecnologías digitales proporciona ventajas competitivas adicionales en el campo del turismo. El artículo está dedicado al estudio de la efectividad de las tecnologías de la información en la industria del turismo en el contexto de un trabajo de calificación de pregrado que va al estudio de factores en los aspectos teóricos y prácticos.

PALABRAS CLAVES: tecnologías de la información, tecnologías digitales, turismo, internet, estudiante, proyecto final, educación.

TITLE: Research on Information Technologies in the Tourism Industry.

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ABSTRACT: Information technologies are being developed successfully in the tourism industry, so they represent a global business of digital technology. The 21st century is the century of information technology and the information society, in which all tourism companies, both in Russia and abroad, use this global source of information, and the effective use of digital technologies provides additional competitive advantages in the field of tourism. The article is dedicated to the study of the effectiveness of information technologies in the tourism industry in the context of undergraduate university students that goes to the study of factors in the theoretical and practical aspects.

KEY WORDS: information technologies, digital technologies, tourism, Internet, student, final project, education.

INTRODUCTION.

The purpose of this scientific paper is to study information technologies in the tourism industry, as well as to identify their advantages, which will contribute to the development of competence in the field of Internet technologies of a tourism specialist. With their appearance, there have been significant changes in the work of travel companies.

Thanks to automation, work is carried out promptly, around the clock and at the same time there is a significant saving in human resources, time and money. A modern tourist enterprise, which uses computer technology in its activities, is steadily and successfully conducting its business, laying foundations for its future.

The study addressed the following tasks:

1. The study of specialized literature, monitoring and analysis of tour operator sites.

2. Conducting a sociological survey, data collection and processing, analysis and obtaining results.

3. Analysis of the results on application of IT technologies in the tourism industry and the identification of their advantages for tourism professionals.

DEVELOPMENT.

Methods.

The methodological basis of the study was the processing of results of a sociological survey, analysis and synthesis of data, a systematic approach, and monitoring sites on the Internet.

Results and Discussion.

Analysis and synthesis of results obtained in the course of survey of KFU students from the Institute of International Relations and Oriental Studies on the subject of their awareness of various sources of tourist information presented on the Internet shows that 37% of respondents indicated sites for general use in which there are tourist sections, whereas specialized tourist portals and sites are used by 76.7% of students. Based on this, we conclude that modern people regularly get acquainted with new information on the Internet. Thus, the above developments have a huge contribution to modernity.

This topic is considered by a number of authors [4-8], but the results of the analysis did not give a definite answer. Information technology is constantly being modified, updated and improved; therefore, our topic is certainly relevant.

Information technologies like digital ones are successfully developing in all areas of tourism. As V.G. Gulev notes in his research, tourism is a global IT business, in which well-known companies interact, namely air carriers, hotel chains and other tourist associations all over the world [1, 2].

With the advent of the Internet and its introduction into the tourism industry, they have made huge changes in the activities of tourism. A.S. Kalashnikov believes that the use of new technologies in hotels contributes to raising the quality of service [3]. Such technologies include the automation of hotel operations, online booking, and innovations that have a favorable effect on improving the quality of service, despite of simultaneous reduction of hotel staff. According to A.A. Mamedov, such "systems are aimed at increasing labor productivity, increasing the level of knowledge and skills of the organization's employees" [4].

Digital information technology system, which is used in tourism, includes computer booking systems, teleconferencing systems, video systems, computers, management information systems, electronic airline information systems, Web-money (mobile wallets), telephone networks and mobile communications, and so on.

Tour operators provide open access to a base of tours for travel agents and for tourists themselves via personal computers. Air carriers and hotels also work with them with the help of computers. They use booking systems, thanks to which we can remotely, without leaving our workplaces, book and purchase air or train tickets, hotel rooms and other services (transfer, meals, extra luggage, etc.).

Computers are connected via global Internet networks to booking systems. On this basis, it follows that an integrated IT technology system appears for us, and it is obvious that such a system operating in the tourism industry is a system of interconnected computer and communication technologies.

In summary, having monitored the information systems used in the tourism industry on the Internet, we highlight the five most popular and sought-after information technologies (IT):

1) Automation systems are management systems for production and service processes at travel agencies and enterprises that provide input, editing and storage of information about tour packages, customers, hotels, statuses of applications; they take into account the need to display information in document format; calculate the cost of tours, taking into account the exchange rate, discounts; they timely control payments for tours, keep financial reporting, and also exporting and importing important data to other programs (Word, Excel, 1C), etc.

2) International booking systems are popular among Internet users, including global distribution systems (GDS); their representatives are: Amadeus, Galileo, Saber, Worldspan, among others. Initially, such systems were created exclusively for booking air tickets, but over time, it became possible to book hotel rooms, cruises, and rent-a-car services, and so on. We can instantly book a hotel, rent a car, reserve air tickets, and find the necessary information about the place of stay, currency exchange and more. Such a server is available for both travel agents and tour operators, as well as for tourists themselves, if they choose to buy tickets or the tour itself on their own.

4) Navigation systems are complex electronic-technical systems which together have both ground and space devices designed to determine the location and motion parameters for ground, water and air objects. Satellite navigation systems GPS and GLONASS are well known for us and actively operating in the world. GPS (Global Positioning System) allows us to determine the exact location

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and speed of objects in every corner of the Earth. Such a system is in great demand among tourists, active people, sports enthusiasts, fishing amateurs and motorists, etc.

4) Electronic Commerce is a system that allows us to make financial transactions using the Internet. Similar systems are EasyPay electronic money, the payment system "Raschet", iPay mobile payment system, WebMoneyTransfer international payment system, Mastercard international payment system, QIWI wallet, Yandex money, and others.

5) Virtual GIS systems are systems that represent consistent spatial and attribute information and are directly related to objects. When visiting various sites, Internet users can get acquainted with hotel layouts, and slides in 3D format; they can see its location on the city map and even "go" inside it. Thanks to the latest developments, such as Google maps, it which provide an opportunity for everyone to visit any place on our planet which you wish and it all happens in a three-dimensional image format, which creates the feeling that you are actually wandering the streets of a particular city.

The topic of tourism was addressed by many modern researchers [6, 7, 8,].

Among the sources of tourist information presented online, the following can be highlighted:

- General purpose sites that have travel sections.
- Specialized tourist portals and sites.
- Global booking systems.
- Websites of tour operators and websites of travel agencies.

We conducted a survey among respondents about their awareness of the various sources of tourist information presented online. The survey was conducted within the walls of the university. Selectively, students were asked to participate in the survey. The following questions were asked:

Which tour operators do you know?

- What is more preferable for you when choosing a tour: contact a travel agency or buy a tour through the site of a tour operator/travel agent?
- **When choosing a tour, which Internet sources do you use?**
- **When visiting the tour operator site, what do you pay the most attention to?**

What changes or innovations would you like to make to the existing sites of tour operators? The sample was amounted to 120 people, and the age of respondents varied from 18 to 24 years. Social status of the respondents was students of the Kazan Federal University (KFU), Institute of International Relations. Kazan (Volga Federal) University is one of the 10 federal universities in the Russian Federation. 44 thousand students study in 18 institutes and the law faculty of the KFU.

We have found that 37% of respondents pointed out to general-purpose sites with tourist sections, whereas 76.7% of students address to specialized tourist portals and sites. The global network presents a huge number of sites about tourism, both specialized and common purposed, having sections and headings devoted to travels. Since there is a lot of information, we will review in more detail the sites of tour operators.

We conducted a study of about 20 tourist sites such as: Tez-tour, Coral travel, Pegas Touristic, Biblio globus, Natalie Tours, Anex tour, Alean, "Vokrug sveta" ("Around the World"), "TUI", "PAC Group ", etc.

In the course of our work, we studied the structure, sections and content of sites, watched how often the information on the sites is updated, evaluated the work of booking systems, how quickly and conveniently we could book tickets or accommodation, and also analyzed the quality of information presented on the pages of tour operators in the Internet. In order to study the tour operator site in more detail and reveal its main advantages, we have divided them into three groups: a Web – showcase, Business card, and "Tour operator - travel agent" system. Web showcase today is the most common way of providing travel agencies in the network. They are a collection of web pages with information about countries, resorts, and hotels. Such sites include news sections, in which there is constantly updated information on special offers and burning tours. Some tour operators include in their sites a form to subscribe to the distribution of such offers. This group includes the following sites of tour operators: "Tez-tour", "Coral travel", "Pegas Touristic", "Biblio globus", "Anex tour", "Alean", "TUI", "PAC Group", etc.

A business card is the easiest way to present an organization. Often such a site has sections: "About us", "How to find us", "Main directions of activity", and "Contacts". The advantages of such a site are the low cost of creation and the absence of the need for regular updates. An example of a business card site is "Vokrug sveta" site.

The "Tour Operator - Travel Agent" system began to be used among large and advanced tour operators. They began to use internal corporate booking systems for their tours using the Internet. A travel agent selects any offer from the base of tours on the Internet, enters their details, and data on tourists who fall into the internal base of the tour operator. The system automatically calculates the price of tour packages in real-time mode, taking into account non-standard accommodations. At the same time, the travel agency can instantly trace at what stage the order is, evaluate the loading of hotels, flights and more.

Examples of the third group are the sites of such tour operators as: "Natalie Tours", "Pegas Touristic", "Coral Travel", "Tez-tour", "Biblio globus", "Anex tour" "Alean", and "PAC Group", and based on the data, we can conclude that the sites of the type "business card" are gradually going out of use.

Tour operators give their preference to the first and third type of sites. Also, due to their careful monitoring and analysis of competitors, they are almost all equipped with all the latest innovations in the network. The structure and information content of the sites of popular tour operators

practically does not differ from each other. Differences are only in the choice of pictures, the direction with which the tour operator works, and news.

Advantages of tour operator systems are the following: almost complete automation of all business processes, minimizing the impact of the negative consequences of the "human factor", and prompt publication of information for agencies (prices, stop-sale, loading hotels, etc.).

The study revealed the following program features:

- Work with permits.
- Work with payments.
- Work with customer database.
- Interaction with external information retrieval systems.
- Import of an application from online booking systems of tour operators.
- Data exchange during booking with a tour operator.
- When making a payment, taking into account the cross-rates of currencies and the interest on the conversion, with consideration for the office of the payment.
- Statistical data processing.

CONCLUSIONS.

Speaking of IT efficiency in the tourism sector, one should be understood that "a result of the implementation of information systems is an increase in efficiency and improving the quality of information in a short time, which positively affects the entire management system". Many scholars, including foreign ones such as Vincent P. Magnini, Daniel R. Fesenmayer, and others [9, 10] write about this. The information system becomes the basis for monitoring financial, material and human resources. Thus, an indicator of the IT effectiveness in tourism is the improvement in the manageability of an organization.

Digital technologies have come to the aid of those tour operators and agencies that are experiencing the increasing flow of customers with great intensity. As noted by Pierre Benkendorf, Kelly McKay and Dmitrios Buhalis, travel agencies have a need for electronic technologies; in order to survive they had to reduce costs through automation processes [11]. However, the effective application of digital technology provides additional competitive advantages. Today, the one who promptly and better provides the client (travel agency or tourist) with the necessary information about the tourist product, whose service is better, is winning [12, 13].

Networking will allow users to quickly and easily find particular information about the conditions of travel, prices, services provided, and the most detailed information about the tour itself. No other type of advertising can compare with advertising on the Internet in terms of the completeness, quality and efficiency of the information provided.

We conclude that the above developments have a huge contribution to modernity. They cause interest not only for individual tourist enterprises, but also influence on the development of the entire tourist segment, contributing to the growth of the attractiveness of tourism and travel sector.

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