

# MODERN IT TOOLS SUPPORTING INDIVIDUAL TOURIST PROJECTS

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## Abstract

IT tools supporting individual tourist projects are taken into consideration in this paper. The concept of the individual tourist project becomes competitive for tourism products offered on the market. Modern ICT tools supporting travel planning facilitate individual undertakings. Polish tourists' experience based on the e-tourism applications will be presented as the report from the survey conducted among Polish Internet users. The aim of this research was to verify if IT tools supporting all phases of individual tourist projects are known and used in Poland.

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**Keywords:** E-tourism, individual tourism project

## Introduction

The World Tourism Organization (UNWTO) defined that 'Tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes.' Tourism is one of the largest and fastest growing sectors of the European industry. Information and Communication Technologies (ICT) with particular emphasis on the Internet have significantly enlarged the number of opportunities for tourism consumers, who are more likely to give up the services of travel agencies and willing to prepare the tourist project by themselves. The purpose of this article is to verify whether potential recipients of tourist services in Poland are familiar with and use IT tools for travel preparation.

## E-tourism

Each year it is increasing the number of people who want to spend their free time away from home. Due to ICT tools expansion and growth, the scope of holiday travel evolves and changes in time. On one hand the travel agencies broaden their range of services, on other, individual consumers receive wider range of tools to prepare and arrange the trip by themselves with no travel agency support. The individual approach could take place thanks to contemporary IT solutions that significantly emerged in this field [Estêvão et al., 2014].

E-tourism is the application of ICTs on the tourism industry [Buhalis, Jun, 2011]. They suggested that e-tourism reflects the digitisation of all processes and value chains in travel, hospitality and catering industries. Information. That includes ICTs applied for maximising the efficiency and effectiveness of the tourism as the organisation. E-tourism revolutionises all business processes, the entire value chain as well as the strategic relationships of tourism organisations with all their stakeholders [Buhalis, O'Connor, 2005]. However, it is not only the sale of travel services via the Web. Buhalis in 2008 admitted that e-tourism has three main areas: consumers and demand dimension, technological innovations and industry functions. It takes advantage of reorganising all processes.

Electronic tourism was often related only to the web pages of travel agencies or aggregators offering many services, whereas many applications and devices are applied in tourism. There are: the audio guides and mobile guides (sometimes with augmented reality functions), the electronic cards in museums, 2D codes systems, NFC tags, web pages for individual tourists, geographic information systems (such as Google Street View), the social network sites recommendation, and profiles of cities on the social network sites like Facebook. Therefore, e-tourism means the use of ICT in all processes related to tourism, i.e. tourist activity, promotion of the tourism products, cash flow resulting from the sale of these services, sightseeing and getting around travel destinations [Papińska-Kacperk 2013]

### **Individual tourist project versus a product in tourism companies**

The tourism product means a tourism sector product which is a necessity for a tourists during their travel activity. It is combination of all the elements, the tourist consumes during the trip, e.g. trip package which consists of accommodation, transportation, guiding services etc. Middleton and Clarke define tourism product as customer value which is “the perceived benefits provided to meet the customer’s needs and wants, quality of service received, and the value for money” [Middleton, Clarke 2001, 89]. There are three levels of a tourism products: the core product, the formal or tangible product and the augmented product. The core product is the essential service or benefit designed to satisfy the identified needs of target customers. The formal one means the specific offer for sale. It contains the facilitating services and goods that must be present for the customer to use the core product. The augmented one comprises all the forms of added value producers to make the core product more attractive [Middleton et al. 2009, 128].

Tourism products [Kaczmarek et al. 2012], [Smith, 2004] can be categorized according to different criteria, one of them is level of complexity or number of services combined in a single offer. Thus, tourism products can be divided into simple and compound ones. There are 4 main types of simple products:

- Service (i.e. guidance, gastronomic service, hotel service, tourist information, etc.)
- Item (i.e. guide, map, souvenir, tourist equipment, etc.)
- Object (i.e. museum, castle, church, monument, natural monument, etc.)
- Event (i.e. show, presentation, exhibition, cultural event, sport event, etc.)

Simple products can be combined together offering more complex and advanced products. There is often situation that single simple product is being enriched by another one creating coupled product: Service-Object (i.e. museum guided tours), Object-Item (i.e. museum printed guides), Item-Event (i.e. exhibition maps), Event-Service (i.e. gastronomic support to the sport events). Most advanced compound tourist projects involve all the simple components:

- Undertaking (i.e. camping trip, excursion, survival camp, etc.)
- Trail (i.e. theme hiking trail, bike trail, car trail, etc.)
- Place (i.e. country, region, city, national park etc.)

Tourism is a field based heavily on the exchange of information. Today the Internet is the major source of tourist information for travelers. The main activities of travel arrangements are: transportation to the destination, accommodation, getting information about the structure of local transport, location of catering points, worth seeing facilities (including opening hours, ticket prices, etc.), selection of objects, the optimal order of sightseeing, return to the place of residence, and also localization of access points providing access to the Internet. It is important because nowadays many travelers use the Internet as a one of the primary information sources and people very often use mobile phones to connect to the Internet in these locations for free.

Therefore modern ICT tools provide the mechanism that can treat individual tourism activities as a project – Individual Tourist Project (ITP), that can be defined as follows: series of related activities and tasks, bound by time and costs limits, carried out in specific sequence in order to complete the specific tourist objective.

As an individual tourist project is just the special case of regular project, same rules apply to it. Thus ITP must have the at least one objective (e.g. city touring, sightseeing, leisure, relaxation, hiking etc.) In order to accomplish the objectives ITP consists of two phases: planning and execution. Planning usually involves such activities as: points of interest selection, accommodation and transportation, gathering information on public/nonpublic transportation, currency etc. Planning phase must also consider human and nonhuman resources consumption (money, guides, equipment etc.), time and cost boundaries (if applicable). Although the planning phase usually results in simple linear sequence of activities (e.g. trip-accommodation-sightseeing-trip), thus external constraints (such as opening hours, limited offers, limited vacancies) may lead the time planning to more complex optimization problem. Execution phase (touring) is just performing a sequence of planned activities according to time schedule which in many cases may be very restrictive due to reservation thus progress tracking with impact analyzing and making adjustments is an integral part of ITP. Tourist project should also have clearly defined measure of success. In classical project management its success include completion within allocated time period, budgeted cost, at proper performance, with user acceptance, and others [Kerzner, 2005]. In ITP those components are tightly related with tourist satisfaction and this may constitute the main measure of success. Changing of the scope, overspending or time exceeding don't have to result in project unsuccessfulness. It can be considered that in case when even all mentioned above could take place, the tourist can treat the project as satisfying what results in accepting the project as successful.

The following research work is meant to verify if IT tools supporting both phases of individual tourist projects are known and used in Poland. It was conducted a survey on Polish Internet users regarding sightseeing and travel planning using IT including popularity and penetration of some chosen services.

## Study

Before the primary data collection, the research instrument (the electronic survey) was pre-tested on a sample of students from three Polish cities. Students as a young and very often travelling people were perceived to be an appropriate respondents. In order to obtain the study participants, the invitation with link to Web questionnaire was sent in e-mail to students and university graduates from three Polish universities of Łódź, Poznań and Szczecin. The survey was active at the turn of May and June 2013.

The questionnaire was administered to 186 respondents. Women constituted 67% of them. Age ranged from 19 to 50 but 77% of respondents were 19-25 years old. 27% of participants were MA degree holders, 31% bachelor's degree holders and 42% were postgraduates.

To obtain main study participants the survey was administered in two different groups: the first, diverse group of Polish Internet users and the second, students and university graduates from University of Lodz. Respondents were also encouraged to invite their colleagues or acquaintances to visit the survey. Therefore sample of research was collected by non-probability method: purposive sampling and snowball sampling (respondent is asked to identify another potential respondent). The survey was active at the turn of May and June 2014. Overall, the survey was completed by 116 respondents. Women constituted 54% of them. Age ranged from 19 to 60 years old and over. Most of the respondents were between 31 and

40years old (22%) and between 51 and 60 (20%). 60% of participants were MA degree holders, 22% bachelor's degree holders.

Most of the questions were closed, but many provided the opportunity to add the own responses, such as examples of sites with train schedules, pages with information for tourists and examples of sites where is possible to enjoy the audio-guide.

The study results showed that 81% of pooled checktrain or bus schedules on the web site but only 66% buy a ticket on the Internet. Merely4% of respondents lookfor accommodation with no Internet use andonly 17% never reserved room via Internet. Majority checks the location of the facilities planned to see on the visited city, 53% on the sites of the municipal authorities. Majority of respondents checked the way of reaching planned destination on Google Maps (81%) or at city sites hosted by municipal authorities (21%). 74% of respondents looked for photographs of the planned destination points, 63% on Google Street View.

Table 1.Individual tourist project activities(%)

Activities	2013	2014
Checking train or bus schedules on the web site	89	81
Buying a ticket on the Internet	47	66
Looking for accommodation on the web site	93	96
Reserving room via Internet	73	83
Checking the location of the facilities planned to see	83	81
Checking the way of reaching planned destination	94	90
Looking forphotographs of the planned destination points	70	74
Mobile phone usageduring trip	60	66
m-guide usage	12	24

Only 34% don't use mobile phone during trip. For others mobile phone helps in locating objects by GPS (48%) and checking the opening hours of museums, restaurants (43%). Only 12% read 2D codes, 24% use mobile guide and 12% use mobile in locating objects with augmented reality application (details in Table 2).

Table 2. Objectives of mobile phone use during travel (%)

Objective	2013	2014
I do not use my phone	17	10
In anything related to tourism	23	23
In reading 2Dcodes	16	12
In playing downloaded audio guides	3	5
In locating objects using augmented reality application	11	12
In locating objects by GPS location	54	48
In checking the opening hours of museums, restaurants	47	43

The respondents are looking mostly for information about interesting objects on the web sites prepared by local newspapers publishers, local organizations (61%), local authorities (43%) or social networks (26%). Local web site is the best (45%) in the opinion of respondents, but not the one developed by the authorities. 31% of the respondents visited cities where a tourist card allowed to ridea public transportation and tour of selected objects.

Some results that were obtained have improved, what means that within a year e.g. m-guides have become more popular. A larger proportion of on-line booking can be combined with older age of the second sample. Similar decrease of City profiles on social

networks as source of information was observed that could be caused by age diverse in the study sample where people under the age of 30 were in minority (36%). Some statistics are similar to other research results indicating that people less frequently reserve or pay for transportation and accommodation on the Internet than search for the information [Bigné et al., 2010, Garín-Muñoz, Pérez-Amaral, 2010]. Many travelers use the Internet to find information but still purchase offline, therefore, they do not fully exploit potential of e-services.

Table 3. Source of information useful for tourists (%)

Source of information	2013		2014	
	Many answers possible	One best answer	Many answers possible	One best answer
The local website such as Krakow Our Town	60	38	60	44
The city profile on a social network	39	19	25	10
Other	15	14	19	14
The website of local authorities	45	12	44	13
Traditionally, without electronic media	20	10	17	10
The mobile application (m-Guide)	6	7	11	9
Total		100		100

## Conclusion

ICT tools are changing the structure of the tourism industry. Nowadays modern IT tools encourage consumer to create his own products (Individual Tourist Project) and organize own tour with no travel agency support. There are applications helping to plan, organize and execute the excursion and there are also applications like audio guides that help sightseeing. Sophisticated ICT systems allow organizations to predict and target the new consumer needs and prepare new services e.g. web pages dedicated to individual tourists. It is also a challenge for the local government, which can help to develop projects to support the individual tourism. It can positively affect saturation level of tourism in the region, and consequently bring the profit for local businesses.

The result of the study shows that Polish tourists adopt many e-tourism solutions. It should be noted that, based on the results, the increasing trend of this acceptance is observed. All the declines result from different age of respondents, but in both cases Polish tourists appreciated the site prepared by local authorities, even though this is not the most popular source anyway.

## References:

- Bigné, E., Sanz, S., Ruiz, C., Aldás, J. Why Some Internet Users Don't Buy Air Tickets Online. In *Information and Communication Technologies in Tourism* pp. 209-221. Springer. 2010.
- Buhalis, D., Jun, S.H. *E-tourism*, Goodfellow Publishers Limited, Woodeaton, Oxford, 2011.
- Buhalis, D., Law, R. Progress in information technology and tourism management: 20 years on and 10 years after the Internet – The state of eTourism research. *Tourism Management*, 29 (4), 2008, pp. 609-623.
- Buhalis, D., O'Connor, P. Information communication technology revolutionizing tourism. *Tourism recreation research*, 30, 2005, pp 7-16.
- Estêvão, J. V., Carneiro, M. J., & Teixeira, L. The Evolving Value of eTourism for Suppliers and Visitors. In: *Handbook of Research on Enterprise 2.0: Technological, Social, and Organizational Dimensions*. IGI Global, 2014.

- Garín-Muñoz, T.; Pérez-Amaral, T. Internet Usage for Travel and Tourism. The Case of Spain, 21st European Regional ITS Conference, Copenhagen, 2010.
- Kaczmarek J., Stasiak A., Włodarczyk B. Produkt turystyczny albo jak organizować poznanie świata, Wydawnictwo UŁ, 2002.
- Kerzner H. Project Management, John Wiley, ninth ed., 2005
- Middleton, V.T.C., Clarke, J. Marketing in Travel and Tourism. 3rd Edition. Oxford: Butterworth-Heinemann, 2001.
- Middleton, V.T.C., Fyall A., Morgan M. Marketing in Travel and Tourism. 4th Edition Routledge 2009.
- Papińska-Kacperek J. E-tourism services in Polish tourists' opinions “Problems of Management in the 21st Century”, 7/2013
- Smith, S.L.J., The Tourism Product Tourism: in: The nature and structure of tourism. Williams S, ed. Vol. 1. Taylor & Francis, 2004, pp. 229-244.
- Steinbauer, A., & Werthner, H. Consumer behaviour in e-tourism. In Information and Communication Technologies in Tourism Springer 2007, pp. 65-76.
- World Tourism Organization UNWTO <http://www2.unwto.org/> Retrieved 3/06/2014