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Tomasz Szopiński Marcin Waldemar Staniewski

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Tomasz Szopiński and Marcin Waldemar Staniewski
Faculty of Management and Finance, University of Finance and Management in Warsaw, Warsaw, Poland

Abstract

Purpose – The purpose of this paper is to test the frequency of the use of e-tourism by consumers/internet users of various European Union member states and to identify the socio-economic variables that determine this frequency.

Design/methodology/approach – The secondary data regarding the use of e-tourism services in 28 European Union member states were used for analysis. Relationships between variables and the frequency of the use of e-tourism services by consumers in 28 countries in Europe were analyzed. For each of the 32 benchmarked countries, a representative sample of internet users was surveyed via local online panels. Also CATI approach was used in one country.

Findings – The authors of this study identify a statistically significant relationship between the frequency of the use of e-tourism by internet users and their country of origin. Statistically significant relationships between the frequency of using e-tourism and socio-economic variables, such as age, sex, education level, occupation, and professional position, are also identified.

Practical implications – The findings of this study can provide tour operators with useful suggestions on how to extend the utility of internet (e-commerce) in order to develop their business, get more customers and improve their profitability. Simultaneously, these results may contribute to enhancing competitiveness of the whole European Union and increasing its gross domestic product.

Originality/value – With the worldwide rapid growth of internet (and e-commerce) many benefits can be reach by tourism sector especially in the growing competition. The paper is unique because it shows data collected from almost 25,000 respondents and it presents a comparison of the use of e-tourism among citizens of 28 European Union member states.

Keywords European Union, ICT, e-Services, Consumer behaviour, e-Tourism

Paper type Research paper

Introduction

The influence of tourism on the economy of different regions has been studied repeatedly (Ahlert, 2007; Küçükaltan and Terzioğlu, 2013; Lew, 2011; Oosterhaven and Fan, 2006; Paicu and Hristache, 2013; Zhang *et al.*, 2007). Travel and tourism's (T&T) contribution equates to 9.5 percent of total economy GDP, one in 11 of the world's total jobs, 4.4 percent of total investment and 5.4 percent of world exports (World Travel and Tourism Council (WTTC), 2014a). In Europe, the total contribution of Travel and Tourism to GDP was 1,874.5bn USD (8.7 percent of GDP) in 2013. In 2013 Travel and Tourism directly supported 11,945,000 jobs (3.1 percent of total employment) (World Travel and Tourism Council (WTTC), 2014b).

The internet is one of the most influential technologies that have changed travelers' behavior. It has emerged as a valuable platform for customers to organize their travel according to their needs and preferences, and came to revolutionize travelling. Consequently, analyzing tourism demand made over the internet is of increasing

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importance (Ramos and Rodrigues, 2013). The increasing information requirements of the tourism activity and the tools provided by information and communication technologies (ICTs) to satisfy those information needs and to promote competitiveness in tourism supply made the link between ICT and tourism possible and desirable (Ramos and Rodrigues, 2013). The development of travel and tourism industry can be only mirrored by the growth of ICTs. This industry can only grow if governments realize its real economic and social value and create the necessary infrastructure capable to accommodate this development (Josanov-Vrgovic *et al.*, 2011).

Literature overview

ICTs are currently one of the most significant factors contributing to socio-economic development, or the development of civilization in a broader sense. Their dynamic expansion influences contemporary economies and societies, transforming nearly all areas of life. The development of ICT is a source of a type of technological shock, which, having shaken the foundations of production models of information, knowledge, and culture, has given birth to a period of socio-economic transformation (Benkler, 2008, p. 399). Gradually, the expansion of state-of-the-art technologies is altering business activity by influencing the relationships among companies and suppliers or clients as well as production processes, cooperation with other companies, and means of financing companies (Castells, 2003, p. 77).

The leader among communication and information technologies is the internet, which offers endless possibilities in terms of managing information that no other tool can offer. The internet is a very useful tool that facilitates the development and proper functioning of the economy. There are no distances, borders, or socio-economic or cultural differences with regard to the internet. Both personal and technical interactions are equally available, and the role of the latter is constantly increasing.

The significance of the Internet is a consequence of its accessibility. In the European Union in 2011, 73 percent of households had access to the internet. The highest percentage of households with access to the internet was found in countries such as Iceland, Norway, Sweden, and Luxemburg and exceeded 90 percent (Seybert, 2011).

The development of the internet has changed the situation of the market for companies operating in many industries, including the tourism industry. Research findings show that firms' asset values increase following electronic channel additions. Thus, e-Channel additions enhance firms' financial performance (Lee *et al.*, 2014, pp. 46-62). Modern communication and information technologies have provided new tools for marketing and management in tourism (Buhalis and Law, 2008, pp. 609-623). The digitalization of all processes and value chains in the tourism, travel, hospitality, and catering industries is called "e-tourism" (Buhalis, 2003, p. 76). At the tactical level, it includes e-commerce and applies ICTs to maximize the efficiency and effectiveness of tourism organizations (Buhalis, 2003, pp. 76-77). At the strategic level, e-tourism revolutionizes business processes, the entire value chain, and the strategic relationships of tourism organizations with all their stakeholders. e-Tourism determines the competitiveness of an organization by taking advantage of intranets to reorganize internal processes, extranets to develop transactions with trusted partners, and the internet to interact with all stakeholders (Buhalis, 2003, p. 77). e-Tourism combines three distinctive disciplines: business management, information systems and management, and tourism (Buhalis, 2003, p. 77). According to Kabassi (2010), e-tourism services may refer to services provided for selecting destinations, tourist attractions, accommodations, restaurants, routes, or all of the above to plan a whole trip.

It is predicted that the internet will be the key to the future management of the tourism sector. Some authors believe that only those operations that exploit technology to properly identify customer needs and offer related products will survive (Nedelea and Bălan, 2010). Davis (1989) proposed the Technology Acceptance Model (TAM), which posits that a predisposition to use new technology is determined by the perceived usefulness of the innovation, its perceived ease of use, and attitude toward using the system. The TAM proposed by Davis is currently one of the most important theories for explaining individuals' involvement in the use of new technologies. It is commonly employed to explain the use of a wide array of information technologies in various social contexts (Szmigielska *et al.*, 2012, pp. 17-24).

Ryan and Rao (2008) modified the TAM to find explanations for consumer behavior with regard to purchases of tourism services via the internet. Ryan and Rao also proposed another factor influencing the acceptance of technology: confidence about system security. Other researchers have attempted to identify additional factors determining the use of new technologies in making purchases. For instance, Wong and Law studied the factors that determine the use of the internet in making reservations for hotel rooms. They identified three aspects of purchase intentions regarding the use of hotels' websites for the purpose of making reservations: information quality, sensitivity of content, time, and perceived ease of use (Wong and Law, 2005, pp. 311-329).

It is also possible for a country's culture to influence the use of e-commerce by consumers. According to Lee (2006), this issue does not vary with respect to a culture; however, Capece *et al.* (2013) claims that there are variations. For example, 78 percent of internet users in Poland use the web to obtain information on available products; 63 percent of them declare that they make purchases via the internet; 47 percent pay bills via the internet; and 20 percent regularly use online banking to manage their finances (Cimochowski *et al.*, 2011). Lee (2006) claims that consumers' needs in terms of the use of the Internet are arranged in a hierarchy. The greatest needs are the use of electronic mailboxes, searching for information, having conversations, and the application of the internet to business activity. The hierarchy of internet users' needs is related to electronic commerce, allowing for the purchase of goods or services via the internet. Internet users become involved in electronic commerce through previous experience with the internet or through consumer education. Nunkoo and Ramkissoon (2013) suggest that travelers' perceived usefulness, trust, and risks are determinants of their attitudes toward e-purchasing, which, in turn, significantly influences e-purchase intent. Their results also suggest that perceived ease of use exerts a significant influence on perceived usefulness and trust, whereas the latter negatively influences perceived risks. The most important factor that determines whether clients interested in the purchase of a tourism service decide to make a reservation in a traditional manner or via the internet is the price (Elhaj, 2012).

The development of new information technology, especially the internet, has facilitated the formation of a new type of tourist who demonstrates increasing knowledge and seeks offers that are particularly attractive in terms of time and price. Park *et al.* (2011) presented a typology of clients purchasing on-line tourism services according to the criterion of intensity of purchase, which was developed on the basis of a survey examining American consumers. The first group was referred to as "Core Internet Travelers." This group was comprised of persons who purchased one or two basic products such as a plane ticket or accommodation booking service via the internet. The second group was called "Advanced Internet Travelers" and encompassed individuals buying between three and five tourism

services online. Group three, named "Comprehensive Internet Travelers," comprised of persons purchasing via the internet five or more tourism services, such as: plane tickets, car rent services, event tickets, tourism packages, cruise reservation, etc. Travel experience may motivate consumers to customize tourism services. Experienced travelers are more sophisticated in their pursuits; they are much more likely to seek information on exotic places as their destinations (Gaworecki, 2007, pp. 280-281). This may require them to search for information online.

Orientation toward the customization of an offer is related to searching for travel offers online but not necessarily purchasing them via the internet (Jensen, 2012). More and more travelers have profiles on social networking websites devoted to tourism (Casaló *et al.*, 2010, pp. 137-167). The internet has had a profound impact on the tourism industry and has contributed to bringing a considerable number of new services to the market (Kabassi, 2010). According to Wang and Law (2007), the use of ICT generates additional time for out-of-home recreation activities and travel and increases people's likelihood to plan trips. Younger individuals or those with higher household incomes are more likely to be ICT users. The findings of Wang and Law's study provide further evidence of the complementary effects of ICT on travel, suggesting that the wide application of ICT likely leads to more, not less, travel (Wang and Law, 2007, pp. 513-527).

The ICT infrastructure is one of the fourteen components of the Travel & Tourism Competitiveness Index (TTCI), which is employed to measure the factors and policies that make the development of the travel and tourism sector attractive in different countries. The Index was developed in close collaboration with companies such as Booz & Company and Deloitte and with associations such as the International Air Transport Association (IATA), the International Union for Conservation of Nature (IUCN), the World Tourism Organization (UNWTO), and the World Travel & Tourism Council (WTTC) (Blanke and Chiesa, 2013).

Another phenomenon that influences the travel and tourism industry is the popularization of social media (Sotiriadis and van Zyl, 2013, pp. 103-124). Tourists use social networking websites to share experiences connected to tourism services (Fotis *et al.*, 2011, pp. 1-19). Thus, social media are becoming an increasingly important source of information for travelers (Xiang and Gretzel, 2010, pp. 179-188). Travellers place more trust in content produced by users than in content published on travel agencies' websites or advertisements in mass media (Fotis *et al.*, 2011, pp. 1-19). Consumers' opinions directly affect the way markets operate. According to Freebairn (2001), due to lower prices, the chief beneficiaries of the development of e-commerce are the end-users. However, this does not appear obvious in the context of Benkler's statement that the Internet has equipped both buyers and sellers with new tools that allow them to exert a mutual influence on each other (Benkler, 2008, p. 399). Consumers have been given the ability to share and seek information and opinions on goods and services on social networking websites, such as blogs, forums on various topics, and websites that collect opinions on goods and services, including price comparison websites and online auction sites. Recommendations put forward by bloggers may influence several components of the purchasing process, such as, for instance, needs recognition, product information seeking, or recommendation seeking, which will in turn exert influence over the final decision on purchase (Hsu *et al.*, 2013, pp. 69-88). Internet users search for and share information, among others, on the quality of tourism services with one another (Chaves *et al.*, 2012, pp. 1286-1287; Mauri and Minazzi, 2013, pp. 99-107; Munar and Jacobsen, 2014, pp. 46-54; Scott and Orlikowski, 2012). In turn, sellers have obtained new abilities to monitor internet users' behavior. Consequently,

sellers are able to use dynamic prices (i.e. prices that vary according to which client is interested in a product or service depending on previous purchases, place of residence, or interest in a product or service), which are measured by monitoring the time that a user devotes to a page describing a product or service. Malbon (2013) notes that marketers and their employers are faced with the temptation to generate false consumer opinions. Simultaneously, internet users are continuously learning that commentaries are not always authored by consumers but may be an outcome of deliberate manipulation perpetrated by companies (Bambauer-Sachse and Mangold, 2013, pp. 373-381).

A massive amount of information on goods and services available to an information society paradoxically causes difficulties for consumers, who are often unable to make conscious choices. Price comparison websites may contribute to solving this problem by providing offer comparisons and comprehensive recommendations. However, these websites have not been completely effective. Consumers do not trust them because the owners of these websites receive commissions as remuneration for rendering services. Furthermore, price comparison websites often provide no more than a selection of the offers available on the market and thus do not present the whole range of offers. The chief reason is that price comparison websites only aggregate data on selected suppliers with which they enter into agreements. Moreover, different search engines are based on distinct mechanisms for searching offers available on the market. For comparison websites to be successful, they must compare non-price factors, such as product quality and post-purchase services (Gamper, 2012). Using comparison websites may be even more effective if services undergo comparison. Services may not be stored. By using the internet, companies that offer transport services, for example, may more effectively reduce this problem due to the use of dynamic prices.

The expansion of new technologies, especially the popularization of mobile internet access, has facilitated purchase decision-making for clients due to the ease of comparing offers. Consumers who have mobile phones with internet access may take various actions that cross the boundaries of offline and online activity, such as, e.g., comparing products while simultaneously having direct physical contact with them. However, clients and internet users who access the web from mobile devices are more vulnerable to unconsidered, impulsive purchases because sellers have obtained new means of targeting clients (e.g. geo-targeting) by using mobile marketing.

Several approaches are applied to the task of identifying determinants of online shopping behavior. Pachauri (2002) has attempted to assign research approaches concerning online purchase into the following four categories: economics of information approach, cognitive costs approach, lifestyle approach, and contextual influence approach. The first approach is based on the economics of information and focusses on perceived effectiveness of buying on the internet. This approach in particular explains consumer preferences concerning the choice of a purchase channel. Consumers develop subjective views on costs of seeking information on a product. Such a cost is, e.g., time devoted to concluding a purchase of a commodity or service via the internet or in a traditional store. Based on perceived costs, consumers make decisions on whether they want to use the internet in the purchase process or not, and if so, in what manner (e.g. they decide whether they wish to use the internet throughout the whole purchase process or, e.g. only while seeking information on a product, or prices). The following are examples of research analyzing the consumer costs of transactions while making online purchase (Bunduchi, 2005; Elhaj, 2012; Teo and Yu, 2005).

While the economics of information approach highlights the time costs of information search, the cognitive costs approach focusses on the costs stemming from search-related

cognitive processes. As far as this approach is concerned, consumers try to optimize their decisions regarding price and quality of products, as well as regarding reliability and credibility of online merchants. At the same time, they seek to minimize the cognitive costs associated with evaluating alternatives and making decisions. The following are examples of research focussing on perceived risk of buying tourism services online (Kim *et al.*, 2011; Nunkoo and Ramkissoon, 2013; Nusair *et al.*, 2013; Xiang and Gretzel, 2010).

The third approach bases on the lifestyle of a consumer as it analyzes the socio-economic characteristics of a potential consumer as well as their preferences regarding spending leisure time and money. Apart from such observable behaviors, such an approach takes into account internal factors as well, such as motives behind purchase and needs, interests, values, and opinions. The following are examples of research focussing on this approach among consumers purchasing tourism services online (Escobar-Rodríguez and Carvajal-Trujillo, 2013; Gonzalez and Paliwoda, 2006; Okazaki and Hirose, 2009; Sahut and Hikkerova, 2009; Szopiński, 2012).

The contextual influence approach analyzes the influence on navigational aids and atmosphere of purchase on a particular website and their influence on purchase behavior, e.g. recommendations on products, product comparison mechanisms, advertisements on websites. The following are examples of research of this type regarding e-tourism (Baloglu and Pekcan, 2006; Palmer and Boissy, 2009; Sparks *et al.*, 2013).

The authors of the present paper adopt the third approach proposed by Pachauri (2002) in their analyses. They concentrate their efforts on explaining the socio-economic variables determining online purchases of tourism services. If tour operators obtain knowledge of those socio-economic variables, it will allow them to successfully reach a potential client with a marketing message. Facebook.com offers strong possibilities for carrying out marketing events even if little funds are drawn on campaigns. It allows to reach a specified group of potential consumers taking into account various socio-economic variables. Recently, the notion of f-commerce has even emerged (Chingning and Ping, 2012; Lee *et al.*, 2014). Generally, it may be defined as using Facebook.com for the purpose of carrying out actions connected with electronic trade. The conducted research provide valuable information for tour operators. Other variables, such as motives or emotions accompanying consumers/internet users are more difficult to measure and take into account in formulating a marketing strategy of travel agencies. Research comparing the use of e-tourism services in the whole European Union is lacking.

Research objectives

The main objective of the following paper is to test the frequency of the use of e-tourism by consumers/internet users in European Union member states and to identify the socio-economic variables that determine this frequency. Identification of these factors will allow for even greater development of e-tourism in European Union member states, and consequently might safeguard this sector against the difficulties it faces every now and again. It seems that research results may be transferred across other sectors of industry employing ICT in their doings as well.

Bearing in mind the above mentioned research objective the authors constructed five research hypotheses:

H1. There is a statistically significant relationship between the sex of the respondent and the frequency of using e-tourism services.

H2. There is a statistically significant relationship between the age of the respondent and the frequency of using e-tourism services.

H3. There is a statistically significant relationship between the professional position of the respondent and the frequency of using e-tourism services.

H4. There is a statistically significant relationship between the professional occupation held by the respondent and the frequency of using e-tourism services.

H5. There is a statistically significant relationship between the respondent's country of residence and the frequency of using e-tourism services.

Methodology of research

The socio-economic variables (that were mentioned in the research objectives) that may determine the use of e-tourism include factors such as: age, sex, education level, occupation, professional position, and country of residence. To achieve the objectives of this study, relationships between these variables and the frequency of the use of e-tourism services by consumers in 28 countries in Europe (27 European Union member states and Croatia, which became a member state on January 1, 2013) were analyzed. The analysis was conducted with an SPSS program and was based on secondary data generated in a survey commissioned by the European Commission. The survey was conducted between November 15 and December 7, 2012 in 32 European Countries. For the execution of the survey, an online panel survey approach was used to target and identify users of e-government services. For each of the 32 benchmarked countries, a representative sample of internet users was surveyed via local online panels to which the provider consortium had access. Due to the lack of an accessible online quality research panel, a CATI approach was used in Cyprus. The following steps formed part of the user survey and online data-gathering process: the preparation of the online questionnaire; translation of and feedback on the final version of the survey instrument; and validation of the translations by the European Union Member State representatives. All translated versions of the questionnaire were programmed, tested, and published online. Based on the methodological and budget considerations of the study, a sample size of 1,000 respondents was targeted for the larger countries ($n = 1{,}000$; 95 percent reliability, maximal theoretical CI $= \pm 3{,}10$). For the five smallest countries (Croatia, Cyprus, Iceland, Luxembourg, and Malta), a sample size of 200 respondents was targeted ($n = 200$; 95 percent reliability, maximal theoretical CI $= \pm 6{,}93$). In these smaller countries, no user panels existed. It was necessary to perform an online survey as it was not possible to use the CATI approach. Thus, a total sample of $n = 28{,}000$ citizen respondents was necessary for the whole survey (European Commission, 2012a).

The survey questionnaire contained questions on the use of various types of electronic services, such as the purchase of goods via the internet or the use of the internet for activity connected with buying tourism services. Respondents were asked about the frequency of their use of e-tourism services. They were asked to choose from the following options: not once; at least once, but not every month; at least once a month, but not every week; at least once a week, but not every day; every day or almost every day. Responses to questions selected by the authors of this paper out of a lengthy questionnaire drawn up by the European Commission were used in the analysis. Answers provided by 24,963 respondents were used by the authors for analysis; the outcomes are presented in the next section of this paper. Table I presents a juxtaposition of the socio-economic data obtained from the respondents.

Uni- and bivariate distribution was employed for the data analysis. The hypotheses were verified with a non-parametric χ^2 test of independence, and Cramer's V coefficient

	Number of respondents	Percentage share (100% = 24,963)
Age		
16-24	4,911	19.7
25-54	16,233	65.0
55-74	3,819	15.3
Sex		
Male	12,283	49.2
Female	12,680	50.8
Education		
Higher education (e.g. university, college, polytechnic)	10,375	41.6
Primary or lower secondary school or no formal education	3,683	14.8
Upper secondary school	10,905	43.7
Occupation		
Employed or self-employed	14,525	58.2
Housewife/husband	1,386	5.6
Other (not in the labor force)	1,049	4.2
Retired	2,224	8.9
Student	3,553	14.2
Unemployed	2,226	8.9
Professional position		
Government official, civil servant	1,541	6.2
Liberal professional (e.g. architect, doctor, lawyer)	715	2.9
Manager, executive, senior staff member	1,885	7.6
Office worker	4,217	16.9
Other	1,040	4.2
Self-employed, business owner (at least 5 employees)	134	0.5
Self-employed, business owner (less than 5 employees)	1,033	4.1
Skilled or unskilled laborer	3,960	15.9
No data	10,438	41.8

Sources: Authors' own calculation on the basis of European Commission (2012b), available at http://ec.europa.eu/digital-agenda/en/ict-enabled-benefits-eu-society-analysis-and-data (accessed October 19, 2013)

Table I. Juxtaposition of socio-economic data obtained from the respondents from 28 European Union member states

was employed to measure the strength of relationship. The χ^2 test allowed for testing of the relationship between the frequency of using e-tourism services and the socio-economic attributes of consumers.

Research results

One of the main areas of analysis was the frequency of using e-tourism services in the whole population under analysis and in the populations of particular European Union member states. The largest share of respondents, amounting to 49.6 percent ($n = 12{,}379$), used e-tourism services at least once a year but not every month. A statistically significant relationship was found between the frequency of using e-tourism services and the respondent's country of residence, $\chi^2 = 1928.83$; $\mathrm{df} = 108$; $p < 0.0001$. Cramer's contingency coefficient between these two variables was $V = \varphi = 0.145$. Table II contains a juxtaposition of the frequencies of using e-tourism services by residents of particular European Union member states in the year preceding the survey. The analysis indicated

Country	Frequency: Not once	At least once, but not every month	At least once a month, but not every week	At least once a week, but not every day	Every day or almost every day
Austria	0.8	7.1	33.1	57.5	1.5
Belgium	0.5	4.3	40.6	53.3	1.3
Bulgaria	1.5	9.4	51.8	34.8	2.5
Croatia	0.5	8.4	61.9	28.2	1.0
Cyprus	2.0	4.5	35.0	55.5	3.0
Czech Republic	0.8	10.5	34.8	50.9	3.0
Denmark	0.8	6.7	27.3	64.2	1.1
Estonia	0.3	6.1	50.9	41.1	1.6
Finland	0.3	9.3	28.1	61.4	0.9
France	1.4	7.9	40.9	47.4	2.4
Germany	0.7	8.8	35.1	51.2	4.2
Greece	1.1	10.0	26.7	59.4	2.8
Hungary	0.3	4.0	58.6	36.0	1.1
Ireland	0.1	11.7	15.0	71.0	2.2
Italy	5.1	16.9	19.4	51.0	7.6
Latvia	0.3	4.7	53.3	40.5	1.2
Lithuania	1.5	6.7	51.1	39.3	1.4
Luxembourg	1.0	12.0	21.5	64.0	1.5
Malta	0.0	5.0	32.7	60.9	1.5
The Netherlands	1.4	7.1	39.4	49.7	2.6
Poland	0.4	4.3	57.5	36.4	1.4
Portugal	1.3	6.8	52.2	37.9	1.8
Romania	1.3	7.4	43.5	44.6	3.3
Slovakia	1.0	9.4	39.2	47.3	3.2
Slovenia	0.8	8.2	46.3	43.2	1.5
Spain	1.3	8.1	34.3	53.4	2.9
Sweden	1.1	9.2	22.0	65.6	2.1
UK	2.6	10.7	31.4	51.3	4.0

Table II.
Frequency of the use of e-tourism services by residents of particular European Union member states in the year preceding the survey (in %)

Source: Authors' own calculation on the basis of European Commission (2012b)

that the highest percentage of respondents who did not use e-tourism services was recorded in Italy and Great Britain. In contrast, the lowest percentage of respondents who did not use e-tourism services was recorded in Malta. Residents of Italy, Luxemburg, and Ireland used e-tourism services frequently (i.e. at least once a year but not every month). Italian and German people used e-tourism services every day or almost every day.

Another area of analysis involved the relation between the frequency of using e-tourism services and the sex of the respondents. A statistically significant relation was found between the sex of the respondents and the frequency of buying tourism services via the internet: $\chi^2 = 95.89$; df = 4; $p < 0.0001$. Cramer's contingency coefficient between these two variables was $V = \varphi = 0.062$. Table III presents thefrequency of the use of e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' sex (in percentages). The largest discrepancy between men and women was within the group that used e-tourism services every day or almost every day. A higher percentage of men than women used e-tourism services every day or almost every day. In contrast, women dominated in the group of respondents who used e-tourism services at least once a year.

Yet another area of analysis was the relationship between the frequency of using e-tourism services and the age of the respondents. A statistically significant relationship was detected between the age of the respondents and the frequency of buying tourism services via the internet: $\chi^2 = 185.99$; df = 8; $p < 0.0001$. Cramer's contingency coefficient between these two variables was $V = \varphi = 0.061$. Table IV presents the frequency of using e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' age. The group of respondents between the ages of 16 and 24 was the largest group that used e-tourism every day or almost every day. In contrast, the group of respondents between the ages of 55 and 74 were most likely to not use e-tourism in the year preceding the survey.

The relationship between the frequency of using e-tourism services and the education level of the respondents was also analyzed. A statistically significant relation was found between the education level of the respondents and the frequency of buying tourism services via the internet: $\chi^2 = 1{,}035.34$; df = 8; $p < 0.0001$. Cramer's contingency coefficient between these two variables was $V = \varphi = 0.145$. Table V presents thefrequency of using e-tourism services by residents of European Union member states in the year preceding the survey with respect to the level of the respondents' education. The group whose members frequently claimed to use e-tourism services every day or almost every day was composed of people with a college, university, or technical university diploma. In contrast, upper secondary school graduates were the group that was most likely to not use e-tourism services in the year preceding the survey.

Next, the relationship between the frequency of using e-tourism services and the occupation of the respondents was analyzed. A statistically significant relation was

Table III. Frequency of the use of e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' sex (in %)

Frequency	Sex		
	Female	Male	Total
Not once	50.91	49.08	100.0
At least once, but not every month	52.57	47.42	100.0
At least once a month, but not every week	44.10	55.90	100.0
At least once a week, but not every day	41.01	58.99	100.0
Every day or almost every day	36.86	63.13	100.0

Source: Authors' own calculation on the basis of European Commission (2012b)

Table IV. Frequency of the use of e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' age (in %)

Frequency	Age		
	16-24	25-54	55-74
Not once	40.3	37.6	42.1
At least once, but not every month	44.5	51.0	50.1
At least once a month, but not every week	9.7	8.1	6.3
At least once a week, but not every day	3.8	2.2	1.1
Every day or almost every day	1.7	1.1	0.4
Total%	100.0	100.0	100.0

Source: Authors' own calculation on the basis of European Commission (2012b)

detected between the occupation of the respondents and the frequency of buying tourism services via the internet: $\chi^2 = 609.49$; df = 20; $p < 0.0001$. Cramer's contingency coefficient between these two variables was $V = \varphi = 0.078$. Table VI presents the frequency ofusing e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' occupation. The table below shows that the groups that were employed or self-employed, retired, and students frequently claimed to use e-tourism services at least once, but not every month. In contrast, groups that included housewives/husbands, unemployed, and other people most often declared that they did not use e-tourism services.

Another area of analysis was the relationship between the frequency of using e-tourism services and the professional position of the respondents. A statistically significant relation was detected between the professional position of the respondents and the frequency of buying tourism services via the internet: $\chi^2 = 887.02$; df = 32; $p < 0.0001$. Cramer's contingency coefficient between these two variables was $V = \varphi = 0.094$. Table VII presents the frequency of using e-tourism services by residents of European Union member states in the year preceding the survey with

Table V.
Frequency of the use of e-tourism services by residents of European Union member states in the year preceding the survey with respect to the level of the respondents' education (in %)

	Education			
Frequency	Higher education (e.g. university, college, polytechnic)	Primary or lower secondary school or no formal education	Upper secondary school	Total
Not once	30.05	21.16	48.77	100.0
At least once, but not every month	48.58	10.91	40.50	100.0
At least once a month, but not every week	50.51	9.53	39.95	100.0
At least once a week, but not every day	49.49	9.49	41.01	100.0
Every day or almost every day	48.17	11.31	40.51	100.0

Source: Authors' own calculation on the basis of European Commission (2012b)

Table VI.
Frequency of the use of e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' occupation (in %)

	Occupation					
Frequency	Employed or self-employed	Housewife/ husband	Other (not in the labor force)	Retired	Student	Unemployed
Not once	34.0	47.1	55.3	44.8	37.9	53.2
At least once, but not every month	53.7	44.0	36.1	48.1	47.3	37.6
At least once a month, but not every week	8.7	6.3	5.6	5.8	9.8	6.5
At least once a week, but not every day	2.5	1.7	2.0	0.8	3.5	1.9
Every day or almost every day	1.2	0.9	1.0	0.4	1.5	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Authors' own calculation on the basis of European Commission (2012b)

respect to the respondents' professional position. All respondents who did not provide their professional position in the survey were marked as missing data.

The group that was the most active in terms of purchasing e-tourism services via the internet was composed of office workers. This group made these purchases the most frequently (i.e. every day or almost every day). In contrast, skilled and unskilled workers were dominant among those who declared that they did not use e-tourism services.

Discussion

Research has shown that the frequency of buying tourism services via the internet varies according to the country of residence of an internet user. This may be due to a distinct attitude to new technologies expressed by residents of particular countries, which is determined by factors such as cultural differences. It may also result from the level of prices of tourism services. As mentioned above, price is an important factor that contributes to decisions to buy tourism services via the internet (Elhaj, 2012).

The business world is still dominated by men. Thus, frequent business trips are mainly taken by men. The research results reveal that in comparison with women, a substantially higher number of men use the internet to purchase tourism services every day or almost every day. In contrast, many more women than men use e-tourism at least once a year. They might be using the internet to plan holidays for the whole family. However, taking into account the progressive emancipation of women and the European Union's efforts to increase women's labor market participation and promote greater gender equality and the growing proportion of men abandoning professional careers to take care of the house and family, these differences can be expected to diminish.

The internet is a tool that young people employ with the greatest ease and much more willingly than any other age group (Wang and Law, 2007, pp. 513-527). However, the research results presented in this article did not reveal a dramatic difference between the frequencies of the use of e-tourism by the respondents according to their age.

Research has demonstrated a relationship between the frequency of buying tourism services via the internet and the level of the respondents' education. Respondents who

	Frequency				
Professional position	Not once	At least once, but not every month	At least once a month, but not every week	At least once a week, but not every day	Every day or almost every day
Government official, civil servant	5.07	7.1	6.51	5.25	2.18
Liberal professional (e.g. architect, doctor, lawyer)	1.74	3.43	4.09	4.74	3.64
Manager, executive, senior staff member	3.99	9.41	11.3	11.52	12.77
Office worker	13.27	19.48	17.72	17.96	19.34
Self-employed, business owner (with at least 5 employees)	0.37	0.57	0.98	0.33	1.82
Self-employed, business owner (with less than 5 employees)	3.24	4.58	4.69	4.91	9.48
Skilled or unskilled laborer	18.63	14.37	13.03	13.89	9.85
Other	4.56	4.02	3.7	2.88	2.55
No data	49.08	36.99	37.92	38.47	38.32
Total	100.0	100.0	100.0	100.0	100.0

Source: Authors' own calculation on the basis of European Commission (2012b)

Table VII. Frequency of the use of e-tourism services by residents of European Union member states in the year preceding the survey with respect to the respondents' professional position (in %)

graduated from an upper secondary school were the dominant group that did not purchase tourism services in the year preceding the survey. On the whole, it may be stated that people with higher education used e-tourism services more frequently than those mentioned above. Because higher education is supposed to help a person attain a good job and a considerably high salary, the above result seems inevitable. Furthermore, a university graduate is usually an open-minded person who is curious about the world and open to new technologies and changes. An increasing level of school attendance in the European Union may be the reason for an even greater interest in e-tourism services and may contribute to the development of this industry.

It is not surprising that the groups that used e-tourism services the most frequently were also those who were active in the labor market (either salaried employees or the self-employed) as well as students and retired people. The European Union is oriented toward reducing differences, eradicating prejudices and stereotypes, and exchanging knowledge and experience. Thus, various programs supporting students' mobility have been emerging (e.g. Leonardo DaVinci, Erasmus) along with programs aimed at increasing mobility among, for example, people who are involved in science (e.g. foreign scholarships, international research programs). The European Union suffers from an aging society. Retired citizens of wealthy countries have both time and financial resources that are increasingly used to take dream journeys or holidays that have been postponed for many years.

The research results show that office workers are the group whose members most frequently claim to use e-tourism services every day or almost every day. This finding may be quite surprising; it may be expected that the dominant group would be entrepreneurs or the executive staff of companies.

In the case of all the relationships found with the χ^2 test, no attribute was of decisive importance except in combination with others. In each case under analysis, the Cramer's V coefficient reached lower limits. No attribute was found to be strongly related to others. It must thus be stated that the use of e-tourism services is influenced by a set of attributes. The socio-economic attributes under analysis separately create a marginal impact on the use of e-tourism if it is assumed that only one socio-economic attribute exists. Table VIII contains a summary of the examination of hypotheses on the stochastic independence of the inclination to use e-tourism with respect to the selected socio-economic data provided by the respondents, such as sex, age, education level, occupation, professional position, and country of residence.

Table VIII.
Summary of the examination of hypotheses on the stochastic independence of the inclination to use e-tourism with respect to the selected socio-economic data provided by the respondents

Respondents' socio-economic attributes	Value of statistic χ^2	df	Significance level	Contingency coefficient Cramer's V	Outcome of verification of hypotheses
Sex	95.90	4	$p < 0.0001$	0.062	Supported
Age	185.99	8	$p < 0.0001$	0.061	Supported
Education	1,045.34	8	$p < 0.0001$	0.145	Supported
Occupation	609.49	20	$p < 0.0001$	0.078	Supported
Professional position	887.02	32	$p < 0.0001$	0.094	Supported
Country	2,106.93	108	$p < 0.0001$	0.145	Supported

Source: Authors' own calculation on the basis of European Commission (2012b)

For many consumers, the internet has become a tool that allows them to search for the most attractive tourism offers (in terms of price, for example). However, there are still groups of clients who are not convinced about the benefits of the internet in terms of searching for a better price offer. A case in point is clients of luxury hotels in France. To make a reservation or purchase hotel services, these clients are more inclined to use a telephone, which they perceive as safer and easier to use (Sahut and Hikkerova, 2009, pp. 1-8).

Conclusions and recommendations

The performed research allowed to draw a number of conclusions and formulate practical recommendations:

- Application of ICT in the tourism sector in European Union member states may develop even further – analysis of the frequency of using e-tourism by residents of various European Union member states leads to a conclusion that this frequency may be substantially higher than it is now, and thus, development of e-tourism in the European Union is to be expected both in connection with purchases made by the business client (frequent business trips) or by the client looking forward to go on a tourist journey (family trips once or twice a year).
- An array of socio-economic variables exerts influence over the frequency of using e-tourism, such as e.g. a person's sex – the performed analysis may be effectively exploited by the tourism and travel sector in order to develop new e-tourism services or for the purpose of more intense advertising of tourism services by means of modern ICTs; this will allow for greater adjustment of an offer to the sex of the respondents or to their family and work-related situation (business trips vs recreational ones).
- An increase in the frequency of using e-tourism may be expected among persons active on the labor market, students, and pensioners – as integration within Europe is becoming closer and closer (by way of reductions in barriers to free movement of persons and residents turning more affluent) and the internet is becoming more and more widespread (facilitating business or private relations), the frequency of using e-tourism by the social groups enumerated above might become even greater.
- Elderly consumers are erroneously ignored as users of e-tourism – elderly consumers are currently a large group in the European Union, which is still getting bigger; this creates business opportunities for many entrepreneurs, including the ones offering tourism services via the internet (Gonzalez and Paliwoda, 2006, pp. 331-348).
- It is recommended that an offer for the client using economy class be expanded – the highest frequency of using e-tourism by office workers rather than by the executive staff should serve as an inspiration for the parties making strategic decisions in the tourism and travel sector as perhaps their services should be designed in such as way so that they will be suited more to the client of the "economy" class rather than to the wealthy business client.
- Executives should ask themselves the following question – what degree of integration between traditional business and online business will make sense in my case? – since application of the internet by consumers is wider and wider, the

question as to whether to integrate traditional business with online business or should e-business remain separate from the traditional one is undoubtedly legitimate (Gulati and Garino, 2000, pp. 107-114). More and more commonly, companies notice that success in the new economy will be achieved by entities active both in the traditional business world and in the virtual one (on the internet). Irrespective of the obvious benefits brought about by integration of e-business and traditional business, such as cross-promotion, sharing information, facilitation of goods purchase for the internet store and the traditional shop – many managers assume that in order for e-business to be successful, it must operate separately. Some of the reasons they give are protection of the existing clients or fear of cannibalism (Gulati and Garino, 2000, pp. 107-114). Nevertheless, according to Gulati and Garino (2000), the benefits derived from integration are too substantial to be abandoned altogether. The issue arising doubts, however, is the appropriate degree of integration between traditional business and e-business. Research carried out by Law *et al.* (2004, pp. 100-107) points to a conclusion that both web-based and traditional distribution channels for tourism services face a bright future. According to Lee and Lin (2005), in order for online stores to enhance customer purchase intentions, they should develop marketing strategies that will more correctly address the trustworthiness, reliability, and responsiveness of web-based services.

- Advertising strategies pursued by entities on the online travel market are directed predominantly at the presumably price sensitive travelers – the most important factor taken into account by consumers who use services rendered by online travel agencies is "finding low fares."

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Appendix. Research questionnaire

(Truncated version containing elements selected for analysis for the purposes of this paper)

Country

Austria	Finland	Latvia	Romania
Belgium	France	Lithuania	Slovakia
Bulgaria	Germany	Luxembourg	Slovenia
Croatia	Greece	Malta	Spain
Cyprus	Hungary	Netherlands	Sweden
Czech Republic	Iceland	Norway	Switzerland
Denmark	Ireland	Poland	Turkey
Estonia	Italy	Portugal	United Kingdom

How often, during the past 12 months, did you use the internet for each of the following purposes?

- Not once: To make travel or holiday bookings (for example: accommodation, trips, train or airline tickets)
- At least once, but not every month: To make travel or holiday bookings (for example: accommodation, trips, train or airline tickets)
- At least once a month, but not every week: To make travel or holiday bookings (for example: accommodation, trips, train or airline tickets)
- At least once a week, but not every day: To make travel or holiday bookings (for example: accommodation, trips, train or airline tickets)
- Every day or almost every day: To make travel or holiday bookings (for example: accommodation, trips, train or airline tickets)

Citizen socio-demographic profiles

Are you male/female?

Age:

- 16-24
- 25-54
- 55-74

What formal education do you have? Please indicate the highest level of formal education that you completed?

- Primary or lower secondary school, or no formal education
- Upper secondary school
- Higher education (e.g. university, college, polytechnic)

How would you describe your current situation?

- Student
- Housewife/husband
- Employed or self-employed
- Unemployed
- Retired
- Other (not in the labor force for whatever reason)

How would you describe your occupation?

- Skilled or unskilled laborer
- Office worker
- Manager, executive, senior staff member
- Self-employed, business owner (with less than 5 employees)
- Self-employed, business owner (with at least 5 employees)
- Liberal professional (e.g. architect, doctor, lawyer)
- Government official, civil servant
- Other

About the authors

Tomasz Szopiński is a Doctor of Economic Sciences, involved in academic and didactic work at the University of Finance and Management in Warsaw. He is a Graduate of the Faculty of Economics from the John Paul II Catholic University of Lublin. In 2011, he defended his doctoral dissertation at the Collegium of Management and Finance of the Warsaw School of Economics. Previously, he worked in the private sector. He is the author of over a dozen articles on economics, including such areas as marketing services, e-business and marketing research. He was an Advisor and a Coach to students planning to start their own spin off/spin out enterprises.

Marcin Waldemar Staniewski is an academic at the University of Finance and Management in Warsaw. He has worked as a Researcher and Academic Teacher in the Human Resources Department since 2000 and has served as the Development Director since 2007. In 2006, he was awarded a Doctorate in economics, with a specialty in management. He has received several prestigious awards from Polish and foreign scientific organisations and universities. He is the author of a number of papers, particularly in the fields of human resources management, knowledge management, entrepreneurship, innovation ,and e-business as well published in Poland and abroad. He is also a Editor-in-Chief of international journal *Contemporary Economics*. Marcin Waldemar Staniewski is the corresponding author and can be contacted at: staniewski@vizja.pl