

The Role of Technological Innovations as the Assumption of the Communication Efficiency between Service Providers and Tourists that Making Decisions about Travel

I. Mihajlović, I. Milić Beran, and Z. Krželj Čolović

Abstract— This paper focuses on studying the role of technological innovations of the communication efficiency of participants on travel market. According to research opportunities provided by innovative tools through interactivity, interoperability and multimedia, new technologies encourage positive trend of participation of those media and channels in distribution systems that implement the same. Respecting the opinions of scientists in this field, as corroborated by their theories, the first part of the paper emphasizes on studying the intensity of the use of ICT (Information and Communication Technology) application in the segment of the business activities of service providers and the consumer behavior in Europe, over a the last decade.

Results show that the use of ICT varies in each country, whereby it can be concluded that there are factors that are a prerequisite to new trends in the consumers' use of new technologies. The second part focuses on the empirical research concerning the use of new technologies by tourists when they obtain information or book a trip. The framework of research covered the period between June 2010 and November of the same year. The study was conducting on the sample of 400 tourists that spent at least one overnight in Dubrovnik.

Although tourists still use intermediaries to a large extent, survey results show a growing trend of using Internet as an acceptable source of information for tourists when making decisions about travel and as a means for trip organization indicating its complementary value.

Keywords— consumer behavior, travel market, ICT, innovations, travel.

I. INTRODUCTION

Ground-breaking discoveries reflect socio-economic situation. The power of their influence throughout history was recorded in technological solutions that had impact on a number of other factors and on the emergence of new phenomena, tourism among others.

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The ICT (Information and Communication Technology) revolution deeply affects human society and has effect on almost all aspects of human life, such as health, education and economics. Due to mobility, a person can understand the world in many ways, which encompasses the understanding of one's own and other cultures, philosophies of life, and landscapes, thus creating a precondition for „a clash of civilizations“.

Mobility of people and information additionally affects a whole range of aspects of modern society and business. It increases the importance of foreign language skills for easier communication with interest groups all over the world. State bodies should encourage the development of new technologies and their application, which is proven by strategic guidelines for the development of those countries whose value-based priorities recognize the importance of quality of knowledge contained in the education, in the productive use of scientific results, and in the use of ICT. As regards the wide applicability of ICT, its role as a process catalyst in the market and a generator of changes particularly evident in the ICT segment, and its impact on spatial and temporal convergence, the significance of information and the efficiency of communication are crucial for development and transformation of society and economy in a knowledge-based society.

II. LITERATURE REVIEW

The possibilities of knowledge have no limits; therefore they cannot be spatially limited or alienated from global understanding. ICT leads to increased number of markets. At the same time, ICT contributed to greater transparency of information, enabling rationalization of operating costs, as well as lower prices. Its application facilitates access to global supply chains. Buyers and sellers share information, specifications and production processes beyond national borders. Sellers-buyers network and research tools electronically provide fast, appropriate, and cheap evaluation of offer from different vendors, with efficient finalization and realization of all transactions [1]. The mobile application technology is one of the main successful emergent technology and its managerial implications could be considered a new fascinating field of study [2].

Only companies that are sensitive on changes in the

environment, scanning the changes in consumers' behavior and regarding the preferences of consumers can be competitive in the market and maintain long-term business prosperity. In order to succeed in that intention, companies must constantly working on innovations in the application of hardware, software, and networks. Technological innovations in these components lead to changes in the information systems. Wireless and mobile networks are increasingly used for communication and interoperability between organizations and functions. From a simple system composed of the components that collect, process, store, and transmit information so as to support visualization, analysis, coordination, decision making and control in the organization, the information system is developed into a dynamic interoperable system that collects, processes, stores, and uses information from its own and external environment [3]. ICT is an integrated system that provides effective data processing.

Every day ICT stimulates innovations in tourism and allows for more efficient business and competitive advantage of companies. Chances of innovation success are higher in firms with organizational culture that promotes innovative behavior of employees, firms that possess experience in innovation activities and proper combination of technological and marketing skills as well as innovation strategy capable of exploiting these skills in optimal way [4]. Development of technology is essential for innovations within a tourism system because it will "ensure" adequate prerequisites, such as creating acceptable software and networking that will improve interactive communication between: companies, partners and clients.

Three new systems dramatically changed tactical and strategic business[5]: Computer Reservations Systems, Global Distribution Systems, and Internet. Development of internet browsers, improved data processing, information transfer, and network speed spurred exponential growth of users, i.e. potential tourists who use this technology to plan their trips. Satisfaction with feedback reinforces positive aspirations in relation to results of the given media and source, linking them through positive emotional experience to a specific service provider.

The development of Social Media (SM) and ICT has conveyed important changes in the behavioral models of tourists as well as in the way users search and evaluate information as the prerequisite for produce, also purchase and consuming services and goods. The new media introduce new possibilities providing new opportunities for consumers, potential clients as if the active travelers, to evaluate products and services. There are many definitions of social media. This is attributable to the fact that social media enable successful communication and transactions through improving the efficiency of the activities of market participants in relation to the corresponding role. The technology and platforms enable the interactive web's content creation, collaboration and exchange by participants and the public.

According to Cohen, Social Media are the platforms that

enable the interactive web by engaging users to participate, comment on and create contents as means of communicating on the social level, minimizing the distance between users. Social media has the following characteristics [6]:

1. Encompasses wide variety of content formats including text, video, photographs, audio, PDF and PowerPoint. Many social media make use of these options by allowing more than one content alternative.
2. Allows interactions to cross one or more platforms through social sharing, email and feeds.
3. Provides for one-to-one, one-to-many and many-to-many communications
4. Facilitates enhanced speed and breadth of information dissemination.
5. Involves different levels of engagement by participants who can create or comment or lurk on social media networks.
6. Enables communication to take place in real time or asynchronously over time.
7. Social media broadly defined consists of any online platform or channel for use
8. Extends engagement by creating real-time online events, extending online interactions offline, or augmenting live events online.
9. It can take place via a computer (including laptops and net books), tablets (including iPads, iTouch and others) and mobile phones (particularly smart phones).

Technological innovations with strong impact on tourism are the following [7]:

- internet,
- development of mobile and wireless phones,
- multimedia,
- interoperability,
- easy access for people with disabilities.

Time is a very important resource and a component of service, as shown by their close connection when it comes to the information on the service and its implementation. Therefore, timeliness, expressed through temporal efficiency in the process of getting both information and services and their realization, adds services a new dimension as being of high-quality in the eyes of tourists. Owing to that impression, tourists remain loyal, as evidenced by their successive choice of the same provider in the market, which proves the quality of given services and at the same time it is beneficial for providers. Websites are important because tourists expect them to be informative, interactive, and attractive [8].

Internet allowed the development of new marketing and management tools in tourism. Because of its sophisticated possibilities, reflected in the communication among users and in the advantages of World Wide Web, Internet affects the efficiency of service delivery regardless of the "service phase" or the type of service. The content of websites should encourage and support the interest of clients, and also enable continuous cooperation and booking. Hoteliers must constantly evaluate the content of websites so as to provide efficient,

appropriate, and useful pages tailored to the needs of clients [9]. Researches show that poor web design without good information will result in the loss of 50% of potential sales and 40% of potential users will not return to the website due to negative [10]. Website service quality can be classified by the principle of six dimensions: simplicity, usefulness, content, safety, responsibility [11].

The development of mobile and wireless phones provided easy access to services such as hotel booking, air tickets, car rental, information on trip schedule, and travel guide services, which were previously available only by using computer or directly. [12]. The advantages of these technologies are evident at the level of simple, operational, current activities which provide efficiency, e.g. in case of high-quality, timely information which cannot be obtained with other technologies (e.g. low bandwidth network).

Multimedia is one of the key innovations affecting the development of tourism. Information must be presented with appropriate images and graphics with the aim to evoke the experience and convey the impression of a destination to potential tourists. Animations and interactive video clips add to it. Three-dimensional virtual interactive access to a destination is an additional positive feature of internet[13]. Interaction via 3D technology was adopted to attract a greater number of online customers, to encourage on-line shopping, and to create loyalty[14]. All this, accompanied by computer simulation, helps tourists experience the destination before reaching it.

Interoperability is a service strictly defined and complete in a consistent and predictable way [15]. It provides a real alternative to standardization which is rather inflexible and not globally accepted. Interoperability allows electronic communication to partners using the most efficient methods in delivering the right information to a customer at the right time and at affordable price.

Website utility refers to the dimension of its *accessibility to people with disabilities*, i.e. visually impaired, blind and deaf people. Intermediaries and other subjects in tourism should take into account and adapt website design to people with disabilities and older people who became a growing market segment. Technological advances and future adjustments of innovative technologies should be aimed at customer's needs and at the needs of potential tourists with physical disabilities so that they could freely use the services offered on travel agency website. The design of a website should be available to all potential customers.

Along with experience, strategic advantage of entities and intermediaries in tourism is based on the following:

- monitoring specific market demands,
- taking into account traveling habits of tourists with adjustments in product offer for special interest groups,
- respecting the freedom to choose different ways of buying.

It can be concluded that more sophisticated needs surpass the level of those demands that were the only reference point for the creation of product quality. This means that quality is

unilaterally defined by the demand creators in the destination and as such it can affect the creation of a competitive product. The role of ICT is inevitable as it is an efficient communication means and/or channel with its innovative ideas and possibilities for innovation [16].

The technology also improves business efficiency, and interactive approach accelerates exchange of information and decision making process when buying a product. Therefore, time is a resource that makes technology a key prerequisite for competitiveness. This means that better position among competition in tourist offer will be taken by technologically innovative, experienced and intuitive intermediaries in tourism who will know how to take advantage of trends as opportunities coming from the environment and transform them into their own strength.

With ICT tourists have the flexibility in the process of choosing travel arrangements. The potential buyer has the freedom of choice when selecting and combining services, thus creating acceptable combinations with the support of innovative tools. Modern ways of communication, such as instantly available information, easy application, and interactive communication are preferred by tourists. They play an important part in the tourists' choice of services and products, confirmed by the attention focused on service providers who use these technologies. Providers of tourist offer and also intermediaries that implement ICT and related technologies in particular segments of their business become more efficient than competition in terms of placement of products and services.

The development of ICT, particularly evident through the emergence of Internet that is constantly evolving with performances modified according to user demands, encouraged tourists to look for new values and best service for their money. Increasing number of tourists look for personalized services as opposed to standardized travel packages. According to Buhalis it is possible to identify several trends related to the use of Internet by consumers and to determine the power of their impact on the following areas: easy information retrieval, better travel experience, increased sensitivity of customers to prices, interactive communication, wide range of tourist products, influence of virtual communities, easier way of filing service complaints, but also the loss of anonymity, the problem of too many options, and online shopping barriers [17].

ICT enables tourists to get accurate and reliable information, to make a reservation, and to do everything else on time, as opposed to traditional business methods where these things are sometimes more expensive and difficult [18]. In such a way ICT helps improve services and contributes to greater customer satisfaction. Traveling regularly, tourists from major emitting countries are linguistically and technologically skilled to adapt to multicultural and demanding environment. This is evident through the level and the ability to communicate over long distances by using the advantages of technologies in the given conditions. The key to

success today lies in fast identification of customers' wishes and in the offer of products and services that meet customers' requirements. Today tourists are self-confident, experienced, and they demand interaction with the entities of tourist offer so as to meet their specific needs and wishes. The hectic life does not leave much time for relaxation and leisure. Hence, tourists increasingly use leisure time for entertainment, education, and personal development. Search for information has a very significant role in deciding about the trip. ICT not only reduces the uncertainties and potential risk, but it also improves the trip quality [19]. More information will result in better service because well informed tourists will better experience the local culture, and they will choose services that will meet their needs. The researches point to the importance of four basic factors that affect the use of information when making decisions about the travel: features of a tourist group, family and friends in the destination, previous visits, and novelties that a destination offers [20]. Tourists are becoming increasingly independent in terms of organization of their trip owing to the reservation system and online travel agencies, browsers, destination management system, social networking, and price comparison. [21]. Prices of play an important role, and the dispersion in prices is evident between packages offered online and those offered in a traditional way [22]. As they are quite sensitive to changes in product prices, tourists spend a lot of time comparing prices on different websites specialized for traveling with the aim to find acceptable prices that will reduce the costs of their trip.

Clients are focused on achieving satisfaction by means of interactive approach to Internet, even in daily communication based on e-mails and chats. **Interactive communication** creates additional pleasure according to the needs of tourists. Possibility of profiling is extremely important when making choices because it leads to greater personalization, adjustments, and interaction between tourists and entities in tourism. Internet users can be classified into 7 social profiles: regions, culture, politics, economy, professions, social networks, and social structure [23]. Entities in tourism can provide better service if they allow users to create their online profile and include personal data that indicate their preferences. It is also important to understand that different market segments search for different products and services, and tourism entities adapt their services to the needs of tourists, which increases sales possibility. Co – creation refers to the involvement of the customer as an active collaborator creating new values of products. Co – creation is more than customization. The difference between “co – creation” and „customization” lies in the degree of involvement of the customer. In the process of co - creating value, the customer may suggest innovative ideas for the company's forthcoming service[24].

Virtual communities have become very influential in tourism because potential clients have less confidence in marketing messages presented in the media than in consumers of similar profile who show consistent interest and potentially

similar behavior in terms of content. **Virtual travel community (VTC)** makes it easier for tourists obtaining information and to communicating with other tourists [25]. In this way tourists can share their travel experiences and give positive or negative comments on particular service or destination. *Trip Advisor* website is one of the most popular virtual communities that facilitate browsing of hotels around the world and bring about forum discussions. Hence, tourists receive independent comments and experiences from *TripAdvisor* group members [26]. Users can give feedback on the used services if entities are familiar with the level of satisfaction with services that are consumed by tourists. To show their level of satisfaction or opinion related to services, business entities in tourism must provide online communication channel and exchange of information between management and disappointed tourists [27]

It is important to point out that due to a whole range of possibilities on the Internet, including the interactive approach in the communication; entities in tourism have an additional responsibility regarding the product creation and placement in line with the demanded quality. ICT and Internet as its sophisticated form allow more choices for potential tourists. Before Internet, tourists had to contact the subjects and intermediaries in tourism who were accessible in terms of location and with whom they had positive experience with regard to offered services. Owing to Internet, tourists have better browsing and purchasing possibilities. That contributed to the development of low-cost air companies (Easy Jet and Ryanair) and affordable „last-minute „offers, preferred by tourists [28]. Low-cost companies offer more simple services and apply the strategy of direct sales which has a positive impact on the rate of online purchase. Websites that are adapted to tourists, simple to use, and offer affordable prices positively affect tourists and their online purchase as opposed to the traditional way of travel organizing.

But the **first problem** that occurred with Internet was the offer of **too many tourist products and services**.

That is why the well designed website is highly acceptable with its transparent and simple presentation of information for tourists who assess it according to the principles of availability, consistency, and simplicity of access. When potential tourists look for valuable information that help them decide they browse several websites in generic browsers. Google has being the most popular recommended system [29].

The second problem that arises relates to the segment of large choice offered to tourists online, and psychological barriers often impede the online purchase. The problem of “cyber fraud” often prevents tourists from giving their credit card information.

Therefore, subjects must insist on their own protection from such cases, and also on the protection of potential clients. According to the available data, tourists use Internet to search for information related to traveling, but they purchase directly from service providers. Privacy and safety are very important to users of online services and that is why websites should pay

more attention to tourists so that they would feel comfortable and safe when booking and purchasing online[30].

With technological innovations (such as social networks, browsers, online price comparison) customers have faster access to a large amount of information, but in fact that availability presents the barrier in online shopping, delaying it due to uncertainty while choosing a product, regardless of the subjectivity of such judgment. Many clients use Internet for the purpose of getting information, while they purchase off line[31]. Still, the power of ICT is impressive as it is the basis of the “info structure”, it is used for transactions in tourism, and it provides a dynamic relationship between the organization and more sophisticated and experienced buyers who determine the product elements which are important for the choice of tourist products. Development of ICT supports service providers and destination to increase efficiency in the application of strategy with the dominant reengineering of forms of communication [32]. To get better service, tourists are willing to disclose their personal data and preferences and lose anonymity which is an additional problem. Entities in tourism should collect data before, during and after travel with the aim to understand behavior of tourists. Due to lack of time tourists are not only asking for value for money, but also value for time while appreciating accurate information and demands met on time.

Many scientific standpoints were analyzed to examine the intensity of impact of numerous factors on the possibility to use innovations, the advantages and shortcomings in the innovation performances, the barriers while using them, the efficiency in business, and the availability of information confirmed by their numerous advantages, wide application, and various influences. The application of new technologies leaves mark on the consumer behavior, which is confirmed by their numerous advantages, wide application, and various influences. The intensity of use of modern technologies reflects the IT education of the population and is typical of high living standard countries, that using of new technologies becomes more informative and still shows the dynamics of growth of usage of ICT. People and potential buyers of products, buying travel – buy experiences that can be felt using the performances and the advantages of ICT. Using the Internet as the new sources of information, potential travelers are becoming more informed. They are able to acquire knowledge through the adoption of new competencies and IT skills. The positive experience in online purchase will have positive impact on further new online purchasing. It could impact on eliminating barriers in on line purchasing.

Changes that have occurred in tourism in the past fifteen years were stimulated by technological innovations, especially Internet, which additionally emphasized the changes in the segment of tourist demand, whereby tourist is more independent, insightful and critical in expectations toward products. Mills and Law point out that Internet dramatically changed tourists’ behavior [33]. Travelers have direct access to the entities of tourist offer, to companies directly or

indirectly related to tourism, to private companies and to other users of these services by means of dynamic packaging, for instance [34]. Internet users can look for information important for the trip, they can book tickets and rooms online, and they can make other reservations rather than rely on an agency that would charge for such services. [35]. According to Buhalis and Licata „the development of Internet has undoubtedly marked the interactive meaning of communication, parallel changes in buyers’ behavior, and dramatic detachment from traditional understanding of product distribution system.” [36]. On the other hand, according to Xinran and Dae-Young “tourists today have more possibilities in planning their trips, which is confirmed by the fact that about 95% of Internet users ask for information on the trip, and 95% visit websites related to a particular destination and its offer” [37].

Buhalis and Law state that the power of ICT is obvious in the dynamic relationship between buyers and organization, as corroborated by the fact that in tourism consumers increasingly determine the elements of their products. In doing so, consumers are more sophisticated and experienced, and ICT provides a basis, i.e. the “info-structure” that spurs transactions in tourism [38]. Furthermore, their opinion is that the development of new technologies is a prerequisite to competitiveness of all subjects of offer according to the possibilities they offer for improved business efficiency with the application of strategies dominated by reengineering of forms of communication. Social networks, forums, and discussion groups represent a new platform for getting more information on services offered by intermediaries in tourism, which is useful both for tourists and intermediaries. So Internet represents one of the innovations that extensively alter the behavior of tourists. Studies have shown that tourists who find destinations online spend more money at the destination than those who use other mean [39].

This occurs because Internet allows interaction between tourists and travel agents and gives them the possibility to adapt the services they bought to their own needs. Also, through Internet tourists can plan their spending prior to arrival. Owing to the fast transfer of information, the period required for communication and agreement between subjects and tourists has greatly been reduced. The satisfaction of tourists and their behavior to a large extent depend on the response of travel agents to their online enquiry [40]. Thus, responsible behavior is crucial for success of small and medium tourist enterprises. However, according to some authors, possible reasons for avoiding online purchase lie in the lack of personal service, security, experience, and time [41].

II. DATA AND METHODOLOGY

Since it is clear that the application of new technologies leaves mark on the consumer behavior, which is confirmed by their numerous advantages, the first hypothesis H1 is is

divided in the following two sub-thesis:

H1a) *The intensity of use of modern technologies, which reflects the IT education of the population and is typical of high living standard countries, still shows the dynamics of growth*

H1b) *From geographic aspect, the advantages of Internet are confirmed by its increased use by the population of the relatively new markets and new market segments, often in those countries that at the beginning of the observed period recorded low level of internet use.*

Based on the elaboration of data related to the trends in consumer behaviour and supported by the scientific and expert opinions published in scientific journals, the thesis dealing with the importance and impact of Internet on the business segment of entities in tourism and on the consumer behaviour is additionally substantiated.

This was later quantified and substantiated by the data collected and analysed based on a reliable source such as online database. Within the hypothesis H1 the secondary or desk method of research was used, whereby the sources of secondary data encompass scientific and professional journals, papers from international scientific and professional conferences, statistical almanacs, and online databases which were considered relevant for the testing of this hypothesis. After the analysis of the collected data, general scientific methods of analysis, synthesis, comparison, generalization, concretization, and description were used.

The primary research was conducted to test the hypothesis H2) which says:

Internet and its wide application as a source of information and/or booking services plays an important role when tourists plan their trip, and its complementary role, included in improving the performance activities of travel agencies speaks in favour of increasing confidence in these subjects .

This primary research was related to the sources of information used by tourists when planning their trip, to the way the trip was booked, and to the organization of stay in Dubrovnik. The research questionnaire included the following groups of questions:

-Basic information on respondents (demographic characteristics of respondents, characteristics of stay) (11 questions)

-Questions on tourist behaviour while making decisions about the trip to Dubrovnik with regard to the sources of information used while planning a trip to the destination (4 questions)

-Questions about the method used to book a trip and to organize the stay in Dubrovnik (4 questions)

The questions were put in three ways, as follows: open-ended questions, closed-ended questions with a choice of one or more predefined categorical responses, and closed-ended questions in which respondents express agreement or disagreement with predefined assertions.

This hypothesis was tested with the originally empirical

method of interviewing the tourists in Dubrovnik. The target population for the given research was a set of tourists who visited Dubrovnik from June 2010 through November 2010. Longer timeframe was used to avoid the effect of seasonality. The sample was chosen with the aim to include tourists who spent shorter or longer period in Dubrovnik, so tourists who were sightseeing Dubrovnik with at least one overnight stay were involved in the research. The research involved the sample of 400 respondents who used intermediaries and other providers of tourist services in Dubrovnik. The subject-matter was designed to contain the basic information about respondents, their decisions related to the trip to Dubrovnik, the sources of information most commonly used by tourists testing their confidence relating to intermediaries, and the way of booking most commonly used by tourists when organizing their stay in Dubrovnik.

Appropriate sample was chosen as a sampling method. Since the sample comprised tourists who stayed for a shorter or longer period, a survey involved tourists who were sightseeing Dubrovnik, and who were asked prior to survey if they were staying in Dubrovnik or elsewhere. Tourists who did not stay overnight were not included in survey. An effective sample size of 327 tourists was used to test the fourth hypothesis of this paper.

The elementary unit selected into the survey sample is defined as a tourist who visited Dubrovnik. The survey covers tourists who represent different demographic features and characteristics related to the stay in the destination: 1) country of origin (Scandinavia, Germany, France, Spain, Turkey, Russia, United Kingdom, USA, Netherlands, Italy, etc.); 2) type of settlement in the permanent residence (big city, smaller city, small town); 3) travel organization (travel agency, individually); 4) means of transportation (car, bus, plane); 5) qualifications (secondary education, university degree, other, no answer); 6) social status (low, medium, high, other, no answer); 7) age (36 or younger, age 36-50, 50 and over); 8) gender (male, female); 9) stay in Dubrovnik (the first time, several times); 10) _raveling in the company (alone, with friends or partners, with family); 11) overnights in Dubrovnik (less than 4, 4-7, more than 7).

IV. ANALYSIS AND DISCUSSION

Owing to technology, world is integrated in a global electronic market, and internet is an innovation with its applications recognized by a wide range of users, and it is transformed according to the consumer needs and trends.

In 2001 few countries had more than two fifths of internet users, and in 2010 the situation was reversed, so few countries had less than two fifths of internet users [42].

According to the number of Internet users, the European countries with more than four fifths of internet users particularly stand out (Denmark, Finland, Netherlands, Sweden, Norway, and Island). Fig. 1 shows that the share of internet users has increased to a large extent in mentioned

countries.

It is clear that these countries that prefer modern forms of communication have better standard of living.

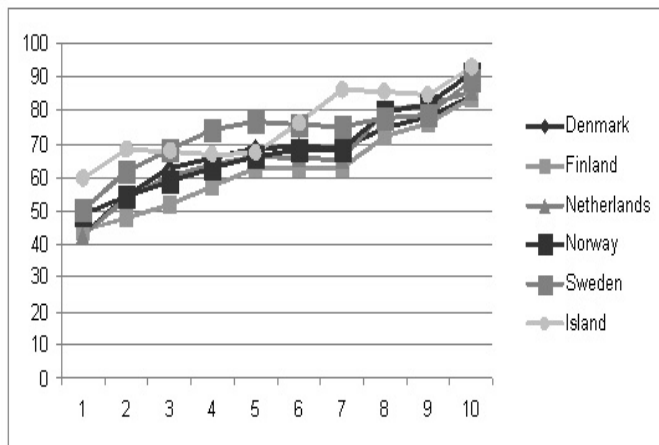


Fig. 1. The share of Internet users in Northern Europe countries

The results argue in favour of the education of population and the awareness of the meaning of ICT which transfers knowledge and transforms it into usefulness recognized in the high quality information necessary for decision making process where time, i.e. speed is crucial both in communication among business partners or in interactive communication among current or potential customers. Many theoretical viewpoints on the benefits of new technologies suggest that their users are accumulated in the developed countries. In these countries the dynamics of using modern technologies is a growing trend, as corroborated by the increasing number of users, and the hypothesis H1a) is thus confirmed.

Although the data show significant differences in the share of Internet users in the above mentioned European countries, which is confirmed by 33.4% of users in Romania and 90.9% in Norway in 2010, still the dynamics of internet penetration is not equal. Throughout the observed period, the growth of internet users was particularly noticeable in those countries that had half the number of users in the not so distant 2008. Compared to 2001, in 2010 the number of users in Slovakia increased 5 times, in the Czech Republic 6 times, and in Romania 13 times.

Younger markets in smaller countries like Estonia, Latvia, and Lithuania reported a sudden shift when they started to follow current trends in new technologies, as corroborated by increased number of users in 2010 compared to 2001, in Estonia from 22.4% in 2001 to 68.3% in 2010, in Lithuania from 8.8% in 2001 to 59.2% in 2010, and in Latvia from 6.3% in 2001 to as much as 61.4% in 2010. Fig. 2 shows the share of Internet users in mentioned countries from 2001. to 2010.

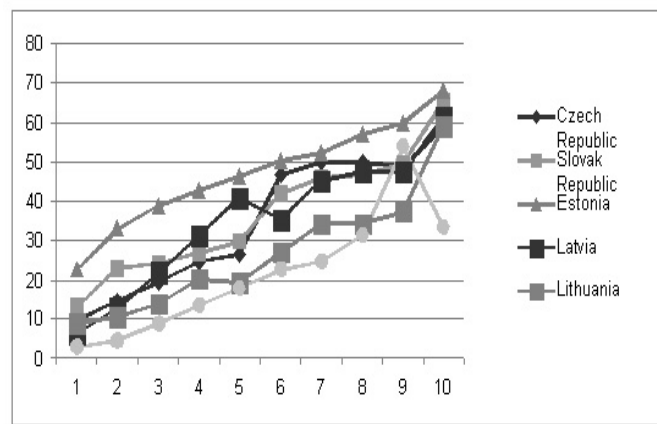


Fig 2. The share of Internet users in some European countries

We can say that the quantified data prove that the benefits of new technologies lie in the available information, speed, and affordable prices resulting from lower operating costs. In general, the application of new technologies results in the effect of catalyst of changes in the market, which confirms the hypothesis H1b).

Simplified communication with subjects that implies the simplified transactions is essential for competitiveness on the micro and macro level. The new technology can be seen in the context of incentives to innovation and the emergence of new technologies that serve as a guideline to subjects regarding the implementation of technology in the business process within development strategies. Technology can also be seen as the indicator of development and emergence of new markets.

Today when customers are time limited and often physically dislocated from providers, internet helps overcome temporal and spatial barriers, as evidenced by awareness that innovations and technological changes foster spatial and temporal convergence that affects the efficiency of contacts between dislocated parties.

For the purpose of testing the second hypothesis H2), primary research was conducted related to: the demographic features of tourists, characteristics of their stay, sources of information used by tourists to plan the trip, the method of booking and organizing the stay in Dubrovnik with the aim to explore the role of Internet as an acceptable source of information and as a means to book accommodation, and an innovative tool increasingly used by intermediaries.

With regard to the demographic structure of the sample, we analysed the countries of origin, type of settlement where tourists live, professional qualifications, social status, age, and gender. The sample was made up mostly of tourists coming from Scandinavia (17%), United Kingdom (17%), France (16%), and Germany (15%). Other countries were represented by less than one tenth of respondents (Spain, Turkey, Russia, America, Netherlands, Italy, and others). It is expected that Dubrovnik would mostly be visited by educated tourists coming from urbanized, city centres, since Dubrovnik built its identity on specific cultural foundations. This is partially

confirmed by the results showing that most respondents have a university degree (44%), followed by those with secondary education (17%). Respondents were asked to assess their social status, as a reflection of respect towards the activities that an individual performs and in line with the expectations of people who surround them. A large number of respondents (42%) haven't provided answer to this question. Those who responded mostly said they had medium or high social status. Few respondents said they had low social status. All respondents answered the questions related to age, and a full response was achieved by posing this question to predefined classes of respondents. Most respondents were aged 50 or more (45%), one third was 36 or younger, and one third was between 36 and 50.

Given the characteristics of the residence of respondents, plane (82%) is most commonly used means of transportation, and the impression of disproportion is pronounced when we compare it to other means of transportation, as evidenced by the fact that 14% of tourists come by car and 4% by bus. New solutions regarding the infrastructure of the destination will be important for local community, as it will bring this destination closer to the regions in the country and to other countries, which will facilitate communication and availability of resources, and it will also foster better business cooperation and product placement. Data point to the development of Dubrovnik as an airline destination, which is supported by its geographical position and the distance from emitting markets that are bordering with other Croatian regions as well. The development of Dubrovnik as an airline destination will be affected by the structure of tourists according to the countries of origin which are most represented in this research and which prove the motivation of tourists to come to Dubrovnik although it is far away.

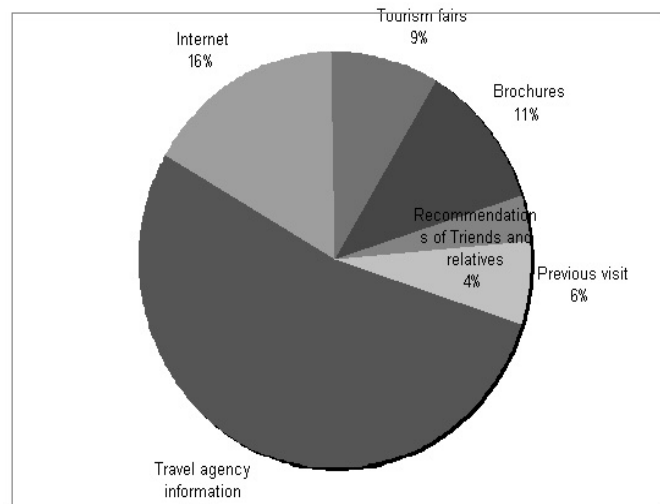
The assumption is that Dubrovnik could to a large extent be visited by tourists who live in the city due to their needs, habits, and greater purchasing power since Dubrovnik belongs to the top class holiday destination. Respondents who participated in the research were equally represented in terms of type of settlement they come from, so one-third came from cities, one-third from smaller cities, and one-third from towns.

The most commonly used sources of information about the destination used by tourists when choosing Dubrovnik were travel agencies (53%) (Fig. 3).

This data confirms the standpoint that tourists use "traditional" channels of information for the destinations they plan to visit [43]. The results suggest that travel agencies were used as a source of information when it came to booking and organizing the trip through an intermediary. This is indicative for destinations that are further away from emitting markets and that are known as typical markets for organized trips. Confirming its competitive role in the market, intermediaries, maintaining a stable market share through direct contact with the clients, use the new forms of communication to make it even more successful and faster.

Internet is the most common source of information used by

a bit less than one-fifth of respondents, so 17% indicates a stable share of users of new technologies as a source of information. For 11% of respondents the sources of information were tourism fairs, brochures, advertisements, and posters. Previous visit was stated by 5% of respondents.



Source: Author's analysis of the survey

Fig. 3 The share of respondents according to the source of information about Dubrovnik when planning trip

From the above listed data, it is evident the application of new technology, the Internet, is becoming more popular as a source of information, however, it is also evident that traditional sources of information, travel agencies, with their informative, advisory and advertising function, occupy a stable segment of the total sources of information about Dubrovnik.

These data differ from the results of Eurobarometer survey. According to the Eurobarometer survey on the attitudes of Europeans towards tourism. in 2010, most commonly, 1/3 (29,7%) of the respondents take recommendations of friends and colleagues as sources of information when making a travel decision. On the other hand, 1/4 (24,3%) of the respondents use Internet as a source of information, while about 11% of the respondents use travel agencies. One out of ten tourists from Europe state travel agencies are the best source of information.

Therefore, almost all travel related information, including travel organization, are available on the Internet, printed brochures or tourist guides available from specialized intermediaries or other media sources. The classic way of informing tourists about specific services in relation to travel or travel organization through travel agencies and intermediaries once dominated in the simple form of communication between tourists and travel agencies.

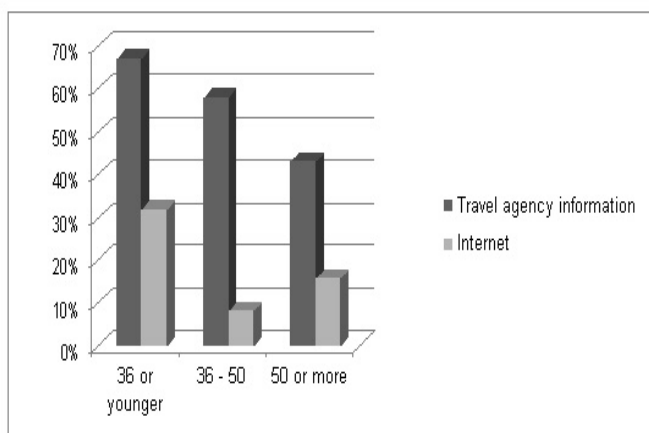
However, the introduction of ICT in the business of travel agencies improves the way placements and quality of intermediaries, as a source of information, seems to be more efficient and which can be seen from the results of this research, i.e., only 11% of the respondents used travel

agencies as a quality source of information. This research also shows respondents take recommendations of friends and colleagues as a good source of information when making a travel decision. In this way, tourists can obtain information they can rely on, based on experience and which supports views of individuals who utilized specific services. It is in the interest of the tourist to receive true, timely and reliable information.

This data confirms the importance of quality products and services in tourism sold by service providers or agents, as it can strengthen or weaken the reputation of such service providers or agents, assuming the competitive position of the same. Nowadays, when tourists are constrained by time and physically dislocated from a travel agency, so the usage of ICT prevails time and location constraints and increases efficiency both in direct contact with service providers in the destination as well as organizing trips through travel agencies using package arrangements and benefits underlying the same [44].

A detailed overview of demographic features of respondents with regard to the source of information about Dubrovnik indicate to big differences among emitting countries in the choice of source of information used by tourists, whereby 61% of tourists from United Kingdom, 56% from Scandinavia, 54% from Germany, and 79% from USA received information from travel agencies.

When contacting qualified and professional employees of a travel agency who give advice and information, tourists get the impression of trust and thus conclude that they would receive the same service in the destination, which reinforces the sense of security and confidence in the quality of services, and thus creates loyalty related to the satisfaction guaranteed with later use of services and tourist products. As to professional qualifications most tourists (64%) have a university degree and their source of information is a travel agency. About the same share of tourists coming from the USA and Netherlands use Internet to get information. Equal share (11%) of women and men receive information about the destination on tourist fairs. Small share of respondents (less than 5%), regardless of demographic features, gets information from friends or relatives.

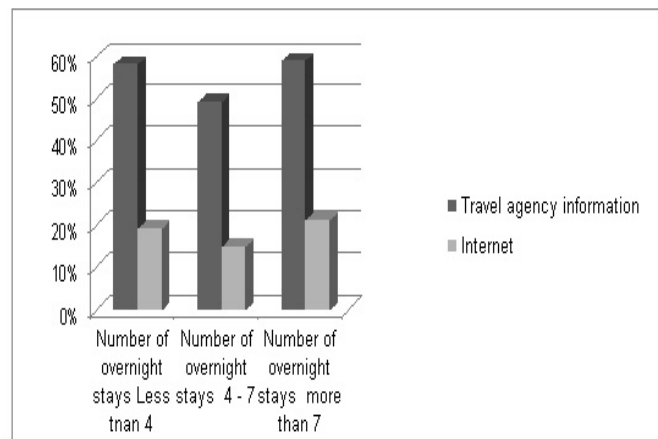


Source: Author's analysis of survey

Fig. 4. Choice of the sources of information considering the age of tourists – demographic characteristic

The results relating to the characteristics of the stay that influenced the use of source of information about Dubrovnik indicate that 73% of respondents who individually organized their trip used the travel agency information and the advice about Dubrovnik, and thus they reduced the level of uncertainty in terms of getting the required quality of service and in terms of expectations.

The largest share of tourists who visited Dubrovnik for the first time received information from travel agencies (55%), and from Internet (20%). Brochures, advertisements, and posters were mostly used (47%) by tourists who have already visited Dubrovnik.

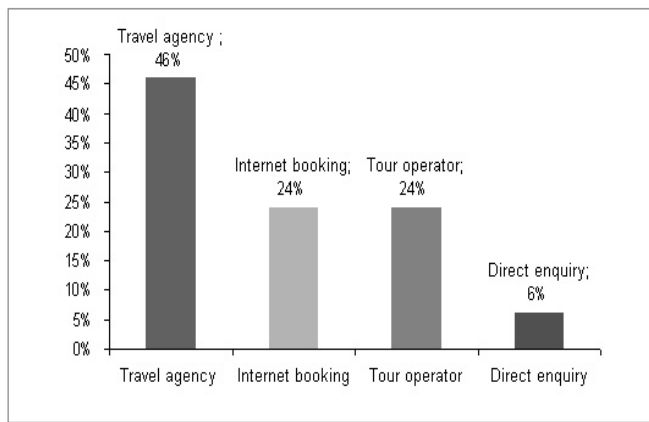


Source: Author's analysis of survey

Fig. 5. Sources of information about Dubrovnik – considering the length of a trip as a characteristic of stay in Dubrovnik

The informative and advisory function of a travel agency reflects its original purpose aimed at high-quality services. New technologies are increasingly being implemented in the work of travel agencies and transform their particular business segments in a way that they become permeable to information, and thus more efficient. The distance between emitting and receptive markets represents the temporal and spatial gap successfully reduced by a travel agency with its intertwined functions and intensified work area, while new technologies change the way of communication with clients and business partners.

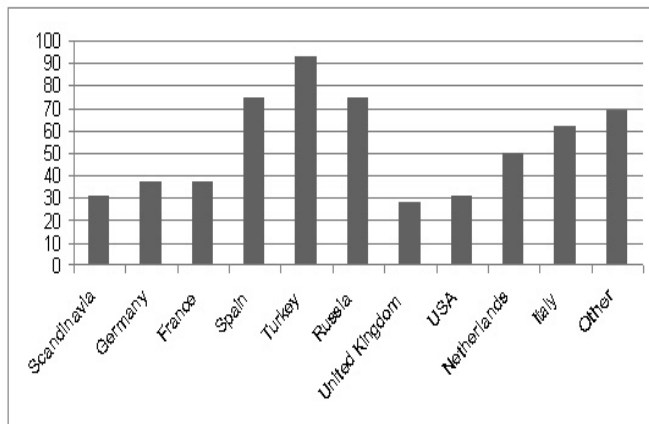
With regard to how to book accommodation in Dubrovnik, slightly less than half respondents booked their accommodation through travel agencies 46% and 24% through tour operators. 24% of respondents booked individually via Internet, while 6% of respondents personally contacted service providers Fig. 6.



Source: Author's analysis of survey

Fig. 6. Share of respondents with regard to how to book accommodation in Dubrovnik

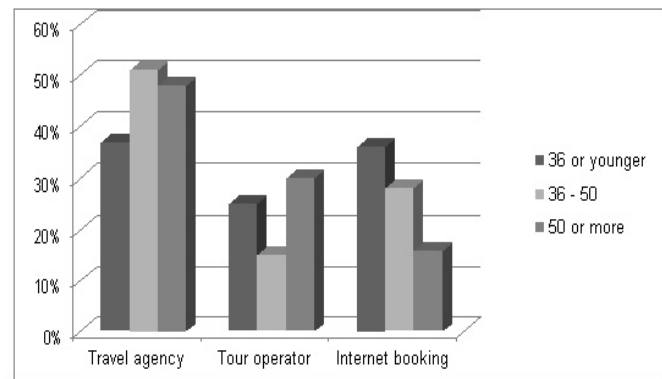
Regarding results, when booking accommodation in Dubrovnik, travel agency services are mostly used by tourists from Turkey (94%), followed by Russia and Spain (74%).



Source: Author's analysis of survey

Fig.7. Way to book accommodation – regarding the country as a demographic feature

This confirms that tourists often use services of intermediaries when it comes to booking and organizing the stay in remote destinations. It is interesting that tourists from the USA (42%) most commonly use Internet when booking accommodation in the destination.



Source: Author's analysis of survey

Fig. 8. Share of various methods of booking with regard to the age as demographic feature

With regard to age, Internet is mostly used by respondents aged 36 or younger to book accommodation, while respondents aged 50 or more do not use Internet as much (16%). Respondents aged 50 or more (48%) mostly use travel agency services. Respondents aged between 36 and 50 mostly use travel agency services (51%).

In terms of gender, approximately the same share uses various ways to book accommodation in Dubrovnik, about 44% uses travel agency services, 26% uses Tour operators, 24% uses Internet, and 6% book directly.

Results indicate on the dominating role of travel agencies when booking accommodation in Dubrovnik. Bus is most commonly used means of transport (68%) when accommodation is booked via travel agency. The largest share of tourists (63%) who used travel agency services to book accommodation come to Dubrovnik with their family, while tourists who travel with friends or partners book accommodation via tour operators (31%). Tourists who come individually choose Internet to book accommodation (45%), while only 11% of tourists used travel agency services. Tourists staying less than 4 days in Dubrovnik use Internet to book accommodation (40%), including those for whom Dubrovnik is additional destination, while travel agency services were used by only 26% of respondents.

Study results show that the role of Internet in view of its performances is an important and well accepted source of information. Booking of accommodation via Internet is well accepted by tourists coming from Germany and United Kingdom, especially among younger tourists who spend less than four days in the destination and the tourists who come alone (as corroborated by booking via Internet which is four times more common than booking via travel agency). Data support the hypothesis which states the following:

H1) *Internet and its wide application as a source of information and/or booking services play an important role when tourists plan their trip, and its complementary role, included in improving the performance activities of travel agencies speaks in favor of increasing confidence in these*

subjects.

Starting with the premise that Internet offers faster access to an increasing amount of information; it is that great availability of product related information that represents a barrier in online purchase. Regardless of the dose of subjectivity that such judgment may have, due to rising uncertainty when choosing one among many products, online shopping is often postponed. Quite often, with their demands for services and purchase, tourists turn to intermediaries.

The emphasis should be on the “controlled” technology that serves tourists and entities of tourist offer who will be able to recognize the benefits of innovations and to transform them to their own advantage [45]. Modern technology, with its communication possibilities and availability of a large amount of information about various products and services, may cause a loss of interest for direct online booking directly with the provider. Thus, the application of new technologies emphasizes the role of human factor, while it also deepens the relationship between tourists and agencies that recognize the role of technology and implement its value through efficiency in business. In modern business it stresses the importance of informative-advisory function, and advertising and distribution function within travel agencies, whereby the results of published studies in this area show that the use of innovative tools affects the positive aspirations in tourists, especially in the segment of receiving information, which is an incentive to efficient business.

V. CONCLUSION

Internet represents one of innovations that extensively alter the behaviour of tourists. For travel agencies and entities of tourist offer in the destination, it is important to take an active approach to the application of new technologies in business, and to make the most of them by using innovative tools to achieve a better market position.

Some of the benefits associated with the access to the technologies are: reducing the costs, the growth of transparency, minimizing the inefficiencies and uncertainties, increasing possibilities for access to global supply chains and the expansion of the markets. The advantages of Internet comprise easier transfer of knowledge, bonding and stronger relationships based on the possibilities of interactive approach within groups that share same or similar interests, philosophy of life, hobbies (people connected through Internet forums), and gatherings.

The emphasis should be on the “controlled” technology that serves tourists and entities of tourist offer who will be able to recognize the benefits of innovations and to transform them to their own advantage. In order to interpret the behavior of tourists, subjects must rely on the analytical approach regarding the market environment, the monitoring of trends, and the separation of activities within the trip organization by focusing on the needs of tourists when collecting data before,

during, and after the trip. Owing to the lack of time tourists are not only asking for value for money, but also value for time while appreciating accurate information and demands met on time. In such market circumstances the subjects of tourist offer and travel intermediaries who adapt their own products and thus meet the market demands will be more competitive. Their efficiency lies in the technology made “to be suitable for tourists”.

Therefore, we can conclude that “the framework in which a person develops is defined by the time that is efficiently spent with the application of technology which is an instrument in the hands of man”.

Research results point to the need for constant adaptation to new trends noticeable in the behavior of tourists who prefer certain media and innovations to obtain information or to make reservations before buying. Furthermore, results indicate future trends in the demands of tourists when deciding to buy a product. Changes in behavior comprise changes in lifestyle, rational approach to free time and its use, interest for specific products and services complying with the demand for efficient use of time which entities will be required to meet. Available information and faster service are a prerequisite to the skills upon which subjects of tourist offer and intermediaries will build their competitiveness.

In such circumstances it gets “more difficult” to sell a tourist product. Based on the conducted research, cognitive and theoretical opinions, and recent scientific predictions on possible trends in tourism, it can be concluded that at the organizational level of entities of tourist offer and intermediaries it is necessary to create a specific-flexible model that will take into account and adapt to the market changes and trends. The complementary role of Internet included in improving the performance activities of travel agencies speaks in favor of increasing confidence in these subjects. The implementation of new technologies into the business has not been testing the mediating role of travel agencies. It was encouraging the more efficient placement of products and services.

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