Section 9. Economics of recreation and tourism

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DMO tourism website’s success evaluation model and framework

Abstract: Evaluation of the websites in tourism is a developing area of research. DMO websites are official representatives of the tourism destinations; they aim to attract more tourists. Therefore, it is essential to evaluate website in order to make timely changes, and maintain qualitative website, which is able to attract and keep attention of web users and is able to grow prospective tourists’ interest towards the promoted tourism destination. This paper presents an evaluation model and framework for the assessment of the tourism DMO website success in web-users and tourists attraction. The model presented in this paper is based on D&M IS Success model, with influence from TAM model, Rocha’s Global quality website evaluation framework and Lee and Kozar’s model for the investigation of the effect of website quality on e-business success.

Keywords: DMO website evaluation, website evaluation model, tourism website evaluation, evaluation framework.

Introduction
Travel is a process, which starts with the interest to travel, followed by the research of the tourism destination, travelling means, constraints and options. After obtaining needed information, prospective traveller analyses different options and forms a decision. Internet marketing is acknowledged as one of the most important tools for reaching prospective and existing clients, especially younger [1, 3] and better educated population [2, 63], whose habit of using Internet is strong, and who appreciate all the advantages offered by the Internet. Nowadays, most prospective tourists choose Internet as a primary source of information [3, 205, 207; 4, 1479]. Therefore many researchers conduct researches with the aim to understand web-users behaviour, how website features influence different audiences.

Website is an informational system and a complex communicational and informational instrument based in the World Wide Web (the WWW), which contains structured visual, audio and textual information with unique goals, supported by the Web technologies which ensures accessibility and usability. Website itself is a reflection of website owner’s goals and objectives, and implemented web strategies [5, 284; 6, 236]. Hence, on the early stage of the website development, to optimize investments, it is important for the website developer and owner to understand what are the website elements and the combination of elements that would lead to a desired result for both users and owners. In the situation, when evaluation and improvement of the existing website is needed, firstly, researcher should understand the website functions and aims, which website developers and owners are
pursuing, simultaneously, attention should be focused on the benefits which website users are expecting to get from the website and which factors will in the best way satisfy users’ needs. Elements and combinations of elements, which have the greatest influence on keeping user’s attentions and stimulating their interest, should be used to build and maintain successful DMO website.

With the development of the WWW researchers started to focus their attention on website evaluation problem, however, only in 2001 website evaluation studies increased significantly [5, 284]. Law et al. identify website evaluation as a newly emerging research area, whose definition, which would be accepted globally, hasn’t formed yet [7, 297]. Website evaluation in tourism is getting more and more attention, where hospitality websites’ evaluation attracted biggest attention among scholars. [7, 298] In recent years researchers turned their attention also to the evaluation of the destination tourism websites’ success factors [8, 209; 7, 298].

This paper aims to propose model and framework with measurement elements for the evaluation of destination tourism websites. The model and framework are based on the previous research results discussed in the reviewed literature section, and are following DeLone and McLean model of Information systems success, Lee and Kozar’s model, TAM model and Rocha’s Global quality website evaluation framework. Presented evaluation model and framework are going to be used in the future DMO website evaluation research.

1. Literature review

1.1 Destination marketing organizations’ websites

UNWTO defines tourism destination as an administrated physical space, which could be on any scale from a whole country to a self-contained centre, with its specific image and management defining its market competitiveness. It incorporates various stakeholders and basic elements of tourism, which attract tourists, such as attractions, prices etc. [10, 1]. Tang et al. referring to Auger, 2005 acknowledges that process of attracting users to the tourism organization’s website and persuasion of making a purchase decision became more complex due to the growing number of rivals in the tourism sector that use the Internet as a marketing platform [9, 38].

Abbreviation “DMO” stands for Destination Marketing Organizations or Destination Management Organizations- the organizations that are responsible for the development of the tourism destination competitiveness and relevant activities, one of which is destination marketing [8, 203; 10, 2]. Acknowledging the communicational benefits of the WWW in reaching out various heterogeneous audiences, DMO develop e-marketing strategies, form destination images and develop destination brands on the web, create and run websites to achieve particular goals, such as promotion, representation, awareness formation and maintenance, providing information and evoking interest to visit destination, developing trust and loyalty to the destination, communicating with prospective and actual tourists.

DMO websites as destination branding instruments vary significantly in their projected images, website functionalities, structure [11, 38; 12] and useful information provided [12, 562], and it is common that some websites are more persuasive comparing to others [13, 75]. DMO websites offer intangible product, as prospective traveller cannot get awareness of the destination until he or she will get there, moreover, travel products have “information-intensive characteristics” [1, 26], thus attractive and considered destination image and brand utilized in the website are important instruments to help prospective and experienced tourists’ develop understanding and knowledge of the destination. Destination’s name, logo and slogan are core elements of brand positioning, that aim to highlight uniqueness of the destination, and form easy to remember identity of the destination [8, 208]. It is reported that customers’ satisfaction with the internet resources positively influences perception of actual holiday experience in the destination, and, in this case, the former attitude has no influence on satisfaction [14, 409]. Continuous work and website updates are needed to address needs of customers to support website’s high level of persuasiveness, to keep information relevant and reliable, to provide destination image, which would stimulate interest and willingness to visit the destination and evoke positive feelings towards the destination, build loyalty and trust.

Users and prospective tourists most often choose run by government official tourism websites as their information source (Boyne & Hall, 2004 cited in [15, 75]), because DMO websites offer better quality and improved quantity of the information comparing to private sector websites [16, 71]. Trust is essential for the strength of the distributed message, users more likely to pay attention and regard the message from trustable site, than from trustless source.

To create even more qualitative, persuasive and efficient websites, destination marketing organizations should study heterogeneous Web audiences’ changing needs and behaviours. Agility and in time made adjustments, usage of best combination of website elements, will create strong dialog between users and website
own-ers, and yield best results of e-marketing implement-ation.

1.2 Customer’s search behaviour and decision making process

Decision to travel starts with motivation to travel. Promotions and advertisements aim to develop motivation by provision of information, evocation of feelings, awareness strengthening and, thus, influencing decision making. Motives affecting decision to travel are very diverse and are based on traveller’s psychological and sociological needs [17; 18; 19; 20]. Other factors which influence decision making are different constraints (e.g. budget, time etc.) [20], information availability, cultural background, social status, travel and search experience [21]. Personal goals and preferences are shaping tourist holiday choice and are representing the expectations of holidays. [22] Personalized marketing, which takes into account information provided in personal accounts, can provide better services to audiences with different demographic and lifestyle characteristics [23, 613].

Prospective tourists in the process of decision making on the tourism product and tourism destination are evaluating own expectations, goals, needs with the information they can collect. The more information prospective tourist can collect the bigger will be his/her ‘awareness set’ to choose from. Lack of information of certain destination or product, can fully exclude or mitigate chances for destination to be recognized by prospective tourist, and excludes it from the destination selection process [22].

Users of tourism websites examine several websites, when searching for relevant information. [4, 1477; 23, 613] However, nowadays researches report the problem arisen from too many choices and too big information amounts [24, 203–206] For example, users adopted webpage scanning behaviour, and quickly jump from one website to another [25, 26; 26, 603], which shows that search behaviour is often horizontal and shallow [24, 205], that, in turn, shows that users don’t like to spend time on reading lengthy texts [4, 1477; 26, 603].

Richness and quality of the web content is the reason of attracting web users [25, 19–24; 27, 787]. However, findings in research by Loda et al. suggest that to stimulate tourist to visit a destination it can be enough with the basic information, that novel website elements are not so effective in attraction of tourists [13, 78]. To be competitive and gain high tourism destination’s attraction power marketers should focus on providing qualitative, up to date, personalized and catching information [23, 611] and avoid negative user experience [13, 78].

Quality of the information gathered in the internet affects tourists’ satisfaction with the tourism destination, especially for tourist who had no previous experience visiting the destination [14, 414–415]. Tang et al. (2012) are pointing out that for different user groups information quality does not have same effect on interest towards website and destination. For the prospective tourists who are less involved with the destination, those who have low interest towards the destination, — information quality is not the factor which would raise their interest towards website. Design of the website drag their attention and affect interest towards website, but still does not influence interest towards destination; however well-designed website may ignite further interest development towards the destination. More involved users, whose interest to the destination is higher, will like to read more information about the destination, thus information quality and design both have high importance for these users and affect their interest to the website and destination. Nonetheless, design of the website has no direct influence on interest towards the destination for both users which have high interest and low interested in the destination [9, 46–47].

1.3 Website evaluation frameworks, models and indexes

Rocha A. has proposed a website global quality evaluation framework which at a time takes into account three main quality dimensions of the website such as technical, service and contents quality of the website. For the evaluation purposes dimensions are subdivided to characteristics, sub-characteristics and attributes. In the content quality dimension author emphasizes the importance of the content quality characteristics, such as accuracy, completeness, relevance, updates etc. The existence of the content itself is proposed to be evaluated in the technical quality dimension. The service quality characteristics contain: reliability, security, privacy, efficiency, performance etc. The last dimension — technical quality- is related to usability, functionality, reliability and efficiency and “how the content and services are assembled and made available on a website”. Rocha A. suggested to adjust evaluation structure according to the website activity sector’s particularities and according to the evaluator audiences, as users and experts have different evaluation focuses [28; 29].

Ip et al. (2011) in their review of website evaluation studies in tourism have come to a conclusion that website evaluation framework can be divided to three main categories: evaluation by phases, evaluation by features, and evaluation by features and effectiveness. Research papers which use “evaluation by phases” include certain
evaluation framework, which, in turn, includes certain elements and characteristics. “Evaluation by phases” provides the information of the website development level—the level of experience and sophistication of the information system. “Evaluation by features” doesn’t follow any frameworks, but uses evaluation by certain dimensions and features of the website, evaluation is focused mainly on the aspects of content, design and both content and design. In the last category effectiveness can be evaluated according to the financial and technical results, consumer purchase behaviour, visibility of the website on the Web, user intentions to use, revisit website and expert evaluation, identifying website features which in the best way support website effectiveness [30].

Framework for the evaluation of website strategy and web presence was proposed and tested in the work of Chiou et al. (2010). To evaluate if website accomplishes website’s web strategy goals and objectives authors proposed website evaluation framework with marketing oriented evaluation factors: Product, Promotion, Price, Place and Customer Relationship (4PsC). Authors recognize three phases of the website interaction with a customer that are part of a framework: information, agreement, and settlement. In the first phase customer enters website, identifies his/her needs, searches for products, and evaluates prices, conditions and alternatives. Second phase is negotiation phase, it finalizes in contract. Third phase is the execution of the contract, with delivery of the product and after sales-services. During the evaluation process it is suggested to use most appropriate criteria for particular case from proposed 4PsC criteria pool to apply for each phase. Authors use five-stage assessment process to complete the examination of the website’s strategy consistency [31], [5].

DeLone and McLean’s Information System (D&M IS) Success model and framework, and its configurations were tested and used by different researchers in many website evaluation studies. D&M IS Success model is based on the Mathematical Theory of Communication proposed by Shannon and Weaver and “Influence theory” proposed by Mason. Model includes three levels of IS success: technical level, semantic level (“the success of the information in conveying the intended meaning”) [32, 10] and lastly- the effectiveness level. Initially the model had six dimensions: 1) System Quality, 2) Information Quality, 3) Use, 4) User Satisfaction, 5) Individual Impact, and 6) Organizational impact. After a decade, as a result of the analysis of the papers that discussed D&M IS Success model, authors updated and made some adjustments to the initially proposed model. As a result new dimension- Service Quality was included, dimension Use was divided and enlarged with another dimension- Intention to Use. The Individual Impact dimension and Organizational Impact were merged together and replaced by Net Benefits dimension [32]. See Figure 1.

Figure 1. Updated D&M IS Success model [32, 24]

Technical aspects of the website are included in the System quality dimension. Information quality dimension consists of information characteristics and content, and measures semantic level of IS system. Service Quality dimension was added to address the need of measuring services of information systems. Authors assume that Service Quality dimension may be one of the most important variables for measuring IS overall success. Above mentioned three dimensions affect the results of system use and user satisfaction. Authors improved model by dividing dimension Use to Use and Intention to Use dimensions, where Use is dimension measuring behaviour, and Intention to Use measures an attitude, therefore these dimension can be used in appropriate research context. User satisfaction and Use with Intention to Use dimensions are interrelated as they mutually affect each other. Net Impact is affected by the results of User satisfaction and Use together with Intention to Use dimensions. [32] In the table 1. proposed evaluation elements for e-commerce applications based on the Updated D&M IS Success model are presented.

D&M IS Success model was used in the Lee and Kozar’s study of the effect of website quality on e-business success. Authors have modified the model, expanding website quality dimensions to four: information quality, service quality, systems quality, vendor-specific quality. Informa-
tion quality measuring information characteristics of the websites, service quality dimension was measuring characteristics of the provided services on the websites, systems quality measuring the performance of the system in the task of the information presenting and handling, and the vendor-specific quality measuring other e-business success factors. Using the AHP (Analytical hierarchy process) approach and proposed model discussed above authors found out the differences in website preferences as well as the degree of importance of websites dimensions’ factors among different stakeholders. [33] Evaluation attributes of the quality dimensions are shown in the table 1.

In the research of e-learning environment Halonen et al. have developed a framework for the assessment of the virtual learning environment using both the e-learning success model developed by Holsapple & Lee-Post (2006) and the D&M Success model. From the above mentioned models and according to own notion authors have chosen the measures which would represent specifics of the e-learning website. In their framework authors use both quality characteristics and elements of the website dimensions. System, Information and Service (Interaction) Quality dimensions are unified in a System Design category. System Delivery category includes Use and User satisfaction dimensions, while Net Benefits belong to System Outcome category. Authors also recognized the need of separating the positive and negative aspects of the Net Benefits dimension. Negative aspects’ elements were derived from the questionnaire responses [34]. Evaluation elements and characteristics of this research are shown in the table 1.

Another very well known and popular model in the IS studies is a TAM (Technology acceptance model). The TAM is based on TRA (Theory of Reasoned Action). The TAM model initially served for the prediction and explanation of the users’ behavioural intentions to use new systems, which are based on information technologies. TAM model is presented in the figure 2. According to the research paper it is believed that external factors influence internal beliefs: perceived usefulness and perceived ease of use. These two distinct theoretical constructs: perceived usefulness and perceived ease of use - are main beliefs influencing user behavioural intention and acceptance of the information technology. [35] [36] Perceived usefulness is a belief that the object which is used, such as application, information system, information technology etc., will give a user some advantages and improve the work user is doing, using the help of the object in use. Perceived ease of use measures the easiness operating with the object. An observation is that users often may choose system of high usefulness, even if it is hard to operate. [36, 333] Another observation suggests that ease of use construct becomes less important after user had learned how to use a system, then usefulness of the system has deciding role of the user’s behavioural intention to use a system [35, 998].

![Figure 2. Technology acceptance model](image)

TAM and its constructs are often used as a basis for other research frameworks, which usually try to extend or modify the original TAM. Perceived usefulness and perceived ease of use constructs were used in the research of the influence of 3D virtual website users’ intentions to travel to tourism destination. Authors have also incorporated enjoyment, emotional involvement, positive emotions, and flow experience measurement elements for better reflection of the nature of 3D tourism destinations [37].

Hu et al. have extended the TAM adding other criteria to test High-tech industry information centre (HIIC) web portals’ overall information quality. In their study authors have evaluated websites through Information quality dimension, it included measurement elements: usefulness of content, adequacy of information and specialization, and system quality dimension, which included ease of use and interaction elements [38]. Measurement elements for this model are shown in the table 1.

“3-C-D-T model” presented in Hong and Jung’s (2000) paper which was adopted in the Kim and Jung (2007) study of the relationship between website evaluation factors and virtual community loyalty, gives more comprehensive view on the website, recognizing
not only elements, but also cycles of the website’s life.
“3-C-D-T model” highlights three website’s life cycles; each cycle contains overall constructs with their elements. First cycle phase is Input, which reflects the process of the overall construction of the website according to the goals and objectives of the owner of the website. Second phase in the cycle is Process, which reflects the process of the website operation, which is run according to specified goals and objectives. The last phase of the cycle is Output, it reflects website users’ perception of the website itself, perception is formed by the Input and Process cycle phases’ quality. Input and Process website life cycles’ phases are sharing same measurement elements, while Output deals with users’ and company performance level [6]. Measurement elements used in Input and Process cycles of “3-C-D-T model” are shown in the table 1.

Table 1. – List of dimensions, measurements and attributes used in the website evaluation studies

| Study | Dimension | Measurement elements/parameters/attributes |
|-------|-----------|------------------------------------------|
| DeLone and McLean E-commerce Success Metrics (DeLone &McLean, 2003) | Systems | Adaptability; Availability; Reliability; Response time: Usability |
| | Information | Completeness; Ease of understanding; Personalization; Relevance; Security. |
| | Service | Assurance; Empathy; Responsiveness. |
| | Use | Nature of use; Navigation patterns; Number of site visits; Number of transactions executed. |
| | User satisfaction | Repeat purchases; Repeat visits; User surveys. |
| | Net benefits | Cost savings; Expanded markets; Incremental additional sales; Reduced search costs; Time savings. |
| Quality dimensions and attributes (Lee & Kozar, 2006) | Systems | Navigability; Personalization; Telepresence; Response time; Security |
| | Information | Understandability; Relevance; Currency |
| | Service | Empathy; Reliability; Responsiveness |
| | Vendor– Specific | Awareness; Reputation; Price Savings |
| Evaluation attributes for the assessment of the e-learning environment (Halonen et al., 2009) | System Design | System: Good availability; Easy-to-use; Stabile; User friendly. Information: Essential; Sufficient; Useful; Well organized; Clearly written; Up-to date Service (Interaction): Available; Responsive; Fair; Understanding |
| | System Delivery | Use: Density; Timetable; Study material; Exercises; Guidelines to accomplishing degree. User satisfaction: Overall satisfaction; Enjoyable experience; Overall success. |
| | Net benefits | Net benefits (Positive aspects): Benefits to studies; Benefits to accomplishing degree. Net benefits (Negative aspects): Use of time; Self guidance. |
| Measurement elements for the HIIC web portals’ information service quality (Hu et al., 2009) | Information quality | Usefulness of Content: Reliable information; Up-to-date information; Relevant information; Accurate information. Adequacy of Information: Complete product/service description; Complete content; Detailed contact information; Rich variety of information. Specialization: Special database; Industry research reports; Supply-demand information. |
| | Service quality | Ease of Use: Strong search functions; Good navigation; Personalized services; Effective hyperlinks structure; High speed of page loading. Interaction: Quick responsiveness to enterprises; Follow-up services to enterprises; Contact channels for business-to-business/information centre. |
There are also developed several indexes used in the website evaluation researches. Web Quality Index (WQI) was presented in the work of Fernández-Cavia et al. (2014) used for tourist destination websites evaluation. The WQI consists of twelve parameters, which reflect and encompass such aspects of the DMO website, as technical aspect, communication, relations, and persuasiveness. Twelve WQI parameters are: home page, content amount and quality, information architecture, usability and accessibility, web positioning, marketing, languages, branding, discourse analysis (which reflects a persuasive capacity), interactivity, social web, mobile communication. Each parameter consists of several indicators. The procedure of evaluation takes into account
the importance degree of the indicator and its location on the website. The evaluation technique includes different evaluation methods, according to the best appropriateness for particular parameter. [39] The main dimensions and constructs of the WQI index are shown in the table 1. The destination website assessment system WQI was improved in the following study by complementing WQI with Multi-criteria Decision Aiding method ELECTRE [40].

Another index — Web Assessment Index (WAI) was used in the case study research with an aim to identify main factors of the website which influence success of business e-strategy. WAI index measures the accessibility, speed, navigability and content quality constructs. Accessibility in WAI is referred to the visibility and frequency of appearance of the website on the Web and search engines, thus having more chances to be visited by the web-users. Speed is the time needed to load a webpage, which addresses the fact that web-users are not patient to wait website loading and rather will “jump” to another website, if loading time is perceived as “too long”. Navigability refers to usability and ease of use. Content quality measures content’s informative, transactional and communicative functions [41].

1.4 Website quality attributes and elements in the tourism website evaluation studies

One of the most important dimensions of the website is an Information dimension, which forms one part of overall content quality. Content quality and diversity are regarded main factors in the success of the website in attracting users, influencing user purchase intentions and increasing loyalty [42, 388; 13, 78] Website content has a broad meaning. Usually content is divided to two dimensions: written information and multimedia. However, website content is broader and may include different application programs and other website elements.

Loda, Teichmann and Zins (2009) through the content analysis of 60 official tourism websites compiled a list of 20 content elements that were tested for credibility, message strength and usefulness. Twenty elements are: destination description, information on accommodation, information on attractions, restaurants, calendars and events, web cameras, guest books, message boards, e-cards, shopping, maps, search functions, reservation, public transportation info, information inquiries, car rental, news, travel forum, testimonials, evaluation/comments [13].

Successful tourism website is a website, which meets users’ needs. Duggan and Lang (2010) point out that most crucial elements of the tourism website, which influence user satisfaction, are touristic details (including special events information, must see/do attractions, maps, night life activities, shopping, history, sightseeing, lodging, transportation and brochures); website appearance and usability (including navigational aspect, representation of multimedia, colours, site maps, quick links, games, membership, registration, e-postcards, search boxes, intro page, reflection of seasonality, online transactions, interactivity); deals and promotions (by sector, discounts, advertisements, direct marketing, consumer contests); marketing segmentation (delivering right content to a right person); focus on foreign travellers (language, particular way of information delivery to a specific nation tourists); social media (as a source of reference to other sources). Authors also highlight the importance of clear labels and the ease of finding the right information [43].

Analysis of the effectiveness of promotion of the three European destinations via websites was presented in the work of Canals (2010). Author evaluated effectiveness of websites by compiling personal impression of the website, the quality and quantity of the information on the websites, as well as other key elements of tourism destination website. Author focuses on analysis of such elements as: availability of languages, videos, sounds, images, brochures/guides, booking, colours, social media, information, maps, and membership opportunities [44].

To study development of the tourism destination websites and changes in tourists’ needs over time Zhong et al. (2012) studied 75 China’s 5A-rated websites in year 2005 and in year 2010. Authors used six dimensions to evaluate change in user perception of Chinese website elements. These dimensions are: accessibility (correct links, top ranking in search engine, downloading speed); experience (search function, navigation, browser suitability, convenient web design, aesthetics, ease of registration, multilingualism); effectiveness (up-to-date, correct and usable content, abundance of the attraction information, reference information, multimedia, additional information); interaction (contact information, forums, instant messaging, complaints, helpdesk, internet search, call centres); commerce (ticket booking, other booking, tour booking, online shopping, security); marketing (personalized marketing, e-magazines and newsletters, special discounts, links to relevant web pages, links to touristic forums, links to travel agencies websites, links to other tourism websites). Using IPA analysis authors analyzed answers of 100 tourists and concluded that tourists’ requirements towards website quality rose over time. At the same time, the quality of Chinese 5A-rated websites’ rose as well. With time Chinese tourists’
perception has changed and website features like safe transactions, call centres, and up to date information became more important. However, such features as links to other relevant websites, tourism blogs, newsletters, navigation, webpage download speed, registration simplicity became much less important. Authors highlight the importance of commerce and information dimensions on the webpage for Chinese users [45].

Dion and Woodside (2010) in the exploratory study checked DMO websites for such attributes as hotel bookings, hotel amenities, event bookings, membership, brochures in mail, attraction information, ease of use, current events calendar, videos, maps, cell phone apps, historical information, visa information, family information, information for people with special needs, interactive games, languages, safety/security, weather information, emergency information, comments and complaints [16].

Law and Bai (2008) investigated prospective tourists’ (browsers and buyers) perception of such tourist website dimensions and elements as functionality factors (quality of information, contact information, destination information, purchase information, service/product information); usability factors (language, user interface and navigation, information architecture, layout and graphics) [42].

2. Model and measurement elements for the DMO website evaluation

2.1 Model for the DMO website success evaluation

After the systematization of the reviewed literature, and basing on own experience as a tourist and web user, further DMO website’s success evaluation model (see figure 3.) with list of element to be measured (see table 2.) were created with the regard to the specifics of the tourism sector, DMO website’s goals, tourists’ behaviour and targeted audience. Presented model is influenced mainly by D&M IS success model, TAM model, Lee and Kozar’s model for the investigation of the effect of website quality on e-business success.

![Figure 3. DMO website’s success evaluation model](image)

The research model presented in this paper contains such independent variables as Information dimension, Service dimension, System dimension and External and other factors dimension. Dependent variables are: “Stickiness” of the website and Persuasive power of the website. System, Service and Information dimensions represent the three basic constructs of a website. System dimension mainly addresses technical side of the website and functionalities. Service dimension of the website provides additional communicational, interactional and service channels between managing body of the represented tourism destination and users of the Web. Information dimension contains different written, video and audio content about the tourism destination. Moreover, because, as reported by several researchers, characteristics of the content are important for the user satisfaction,
thus, this aspect was also added to the model. External and other factors dimension is not directly connected to website structure and services, as it is reflecting psychological and sociological aspects, which influence website usage.

On the other hand, dependent variables Stickiness of the website and Website persuasive power are two main dimensions in the measurement of the DMO website success in attracting users and prospective tourists. Stickiness of the website is the ability of the website to keep attention of the user, so user does not develop a wish to “jump”, after a short while, to another website. If the attention of the user is riveted to a website, it would indicate that the website satisfies needs of the web user, thus, the goal of dragging attention is achieved. Dimension Website persuasive power represents the result of the usage of the website for the user, and the degree of success of the DMO website’s goal to persuade prospective tourists to travel to the destination presented on the website. Therefore, these two dimensions address the quality of the website in satisfying user’s needs and satisfying the goals of the DMO website, hence, forming overall DMO website’s success.

2.2 Evaluation framework and measurement elements

As it was mentioned before, currently there is no universally accepted framework for the website evaluation, thus this paper is an attempt to make a contribution in the tourism website evaluation research development. Measurement elements are listed basing on the review of the literature on website evaluation of different fields, which was discussed above. These elements can be easily understood by common website users. Some of the elements were not noticed in previous studies and are presented due to believe that these elements might be important in the website evaluation. Each set of elements is placed under a specific sub-dimension. This is made for easiness and formation of logical structure. Table 2. with measurement elements of each dimension is presented at the end of this chapter.

In this research we assume that due to the development of the Information technologies and the influence of the official status of the DMO, DMO website is expected to have a good technical basis (working without bugs and is stable), and that the overall quality of the content is good. This assumption gives us the opportunity to focus on the degree of the importance of the website elements, excluding negative effects of badly developed website or its’ elements. From this angle, when website works well, we believe it will be easier to highlight most important elements in user satisfaction and persuasiveness.

2.2.1 System dimension

Technical aspects, aspects of design and website security - these aspects are crucial for the appropriate work and appearance of the website. Design incorporates ease of use, navigation, aesthetics; these elements influence user’s perception of website quality.

In the Sub-dimension “Ease-of-use” we use elements related to navigation, structure of the website, some useful features, which may enhance user experience, and functions important in the tourism field. “Aesthetics” is closely related to design, colour, visual information, and visual appeal. “Technical” sub-dimension contains only three elements, which can be easily understood and measured by web users and don’t need special expertise. “Security and privacy” sub-dimension is related to website security.

“Interactivity” sub-dimension was mentioned in different studies as an important element for the successful website. Concept “Interactivity” contains both technical [46, 33] and relational aspects [39, 6], [23, 617–618]. “Interactivity” is often regarded as a part of a website design. [6, 239] In the research of Del Vasto-Terrientes et al. (2015) “Interactivity” is described as “the two-way communicative relationship between the user and the website content, between the user and the destination managers and between the user and other users”. [40, 18] In the “System dimension” of our framework we are using elements with interactivity functions, working as communication channels between website users and other parties, which may not have any relation to the website owners. Because it can be argued that “Interactivity” elements, which represent “communicational channels”, should be a part of the “Service dimension” as, for example, it is in evaluation study of website information quality done by Hu et al. (2009). Due to this fact, we have divided “Interactivity” elements between “Service” and “System” dimensions.

2.2.2 Service dimension

“Service” dimension in our study focuses on the “assisting” side of the website which requires two-channel communication, and value added elements. It was mentioned in the previous paragraph that we have divided “Interactivity” elements between “System” and “Service” dimensions. “Communication channels” sub-dimension is an element of interactivity, and in the Service dimension it represents a communication channel between user and website owner, particularly, in this study it is DMO managing body.
“Personalization” of information or “personalized marketing” is an important sub-dimension, which takes into account needs of individuals and helps in a better way target the audience, which leads to a better satisfaction of the clients. “Bookings” sub-dimension refers to services, which provide additional help to tourists, makes it easier to make travel arrangements, choose options and make bookings in advance. “Search” sub-dimension refers to elements which enhances user search experience, making it easier to find appropriate information. “E-commerce” is an important aspect for the businesses as it is an instrument for earning money. Despite “e-commerce” is not very important for the DMO website, as DMO website goal is mainly to promote tourism destination, and not be engaged in commerce, still “e-commerce” in the DMO website may be an additional incentive for the prospective tourist to visit a destination. As “e-commerce” can be regarded as an important feature in tourism website. [45, 62–65] “Extras for cell phone” sub-dimension is important in modern life as cell-phones became a usual thing in peoples’ life. Mobile applications or websites, which are supported by cell-phones, may have great values for prospective tourists, who prefer to use cell-phones for further exploration of represented destination. Sub-dimension “Playfulness” was mentioned among 12 unified factors adopted from Park & Gretzel (2007) by Chiou and Lin (2011). [5, 285] “Playfulness” sub-dimension enriches user experience with fun and joy elements, those may attract particular users’ attention and influence their willingness to use website and learn more about the promoted destination. Games, for example, addresses needs of pleasure-oriented users. (Cotte, Chowdhury, Ratneshwar, and Ricci’s (2006) cited in Buhalis and Law (2008).

2.2.3 Information dimension

Information dimension is regarded one of the most crucial parts of the tourism website success. Hence, we focus on the two angles of the information dimension. First angle is related to the content of the information, which covers topics, narrated texts related to the travel and tourism destination. Specific content speaks to particular audience, therefore presence or absence of it may be very influential for the website success. Another part of the content, which delivers information are multimedia files, such as video, pictures, audio files. These marketing tools, especially high quality images and photos are creating a real “presence” and are advised to be used for motivating tourists to travel to the destination [15, 79].

Second part relates to the characteristics of the provided information. To enrich and to improve the attractiveness of the texts, text should contain basic and extra characteristics. The list of the content characteristics may be very long, in our research we focus only on several characteristics, some of those were often mentioned in the website evaluation studies. And in addition were included several new characteristics, mentioned in the monograph “Made to stick”, where psychology professor from Stanford University- Chip Heath and consultant Dan Heath, — listed six characteristics of the text, which would allow the message to be remembered [47].

2.2.4 External and other factors dimension

This dimension is important for the understanding of the role of users’ knowledge, destination and website reputation’s importance in relation to the website “stickiness” and persuasive power. Influenced by the work of Lee& Kozar (2007) and TAM model’s External variables we use sub-dimensions, which are related to the characteristics of the promoted tourist destination and website owner, as well we have added sub-dimension related to psychological aspects, the state of the user’s awareness and interest towards the destination. These elements are reflection of the subjective thinking of the prospective tourist towards the destination and website developer, and are not directly related to the website structure and construct elements.

Table 2. Evaluation framework

| Dimensions       | Sub-dimensions | Elements/functions/characteristics                                           |
|------------------|----------------|-----------------------------------------------------------------------------|
| 1                |                |                                                                             |
| **System dimension** |                |                                                                             |
| Ease of use      |                | Convenient webpage navigation                                               |
|                  |                | Convenient webpage layout                                                    |
|                  |                | Font adjustment                                                              |
|                  |                | Automated reading                                                            |
|                  |                | Colour adjustment                                                            |
|                  |                | Option to use content in language which user knows                           |
|                  |                | Other methods/options for webpage translation                               |
| Aesthetics       |                | Support of high quality multimedia and pictures                             |
|                  |                | Support components of interactive design                                     |
|                  |                | Support of webpage color choice                                              |

71
| Information dimension — Content category | Touristic resources and tourism types | Useful information | Multimedia representation | Other related information | Information dimension - Content characteristics |
|-----------------------------------------|--------------------------------------|--------------------|--------------------------|--------------------------|-----------------------------------------------|
| **Interactivity**                       | Support e-mail box                   | Lodging (Hotels, camps, hostels, guest homes) | Video information (Videos representing a particular destination) | Advertisements (Destination’s business advertisements (restaurants, travel agencies, hotels, transportation companies etc.)) | **Usefulness** Up-to-date, current Accurate Concrete |
| **Technical**                           | Stability (no bugs, doesn’t crash)   | Bookings (Special events, lodging, restaurants, excursions, train/bus/airplane tickets, performances) | Images (Images representing a particular destination) | Tourism destination brand (Catching slogan, Story representing a destination) |                                                           |
| **Security and Privacy**                | Correct and working links            | Practical information (Maps, VAT return information, visa information, brochures, newsletters, emergency information, transportation, information for disabled, special events calendar, touristic routes) | Music (Music representing a particular destination) | Information related to the webpage (Developer contact information, security certificate, FAQ about webpage, privacy statement) |                                                           |
| **Information dimension — Content category** | Support of chat rooms            | Additional information (Local traditions, local customs, local behaviour particularities, weather information, geographical information, historical information, political information) |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Support of instant messaging        |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Support of forum                    |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Links to other relevant websites    |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Connection to social media          |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Nature (Parks, open areas, beaches, walking, cycling, hiking) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Heritage (Castles, stately homes, museums, ancient monuments, religious sites, galleries, battlefields) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Shopping (Shopping centres, souvenir shops, antique shops, special purchase deals, brand goods shops) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Dining (Local food, restaurants, farms, wineries) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Entertainment (Cinema, theatre, bars, concerts, discos) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Sport activities (Indoor or outdoor sports, sport centres, stadiums, sport activities such as marathons) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Attractions (Zoos, safari parks, waxworks, theme parks) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Health and recreation (SPA, health resorts, taking health care treatment, saunas, massage centres) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Study related tourism (Summer camps, schools, universities) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Children-friendly tourism (Activities for kids, information on play-rooms for children, discounts/free access programs for kids) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Elderly-friendly tourism (Activities for seniors, special inquiry/help desks for seniors, discounts/free access programs for seniors) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Business tourism (Conferences, exhibitions, fares) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Other tourism types (Beach tourism, pilgrimage tourism, sport tourism, activity tourism, recreational tourism etc.) |                                                           |                                                           |                                                           |                                                           |
| **Touristic resources and tourism types** | Tourism by travel methods (Car tourism, train/bus tourism, travelling riding a bicycle, hiking, walking) |                                                           |                                                           |                                                           |                                                           |
## DMO tourism website’s success evaluation model and framework

| 1 | 2 | 3 |
|---|---|---|
| **Appeal** | Special | Reliable |
| | Unique | Surprising |
| | Emotional | Creative |
| **Abundance** | Rich variety of the content | Content is subdivided |
| **Service dimension** | **Communication channels** | Call centers |
| | | Free downloads |
| | | FAQ answers |
| | | Feedback |
| | | Communication channel with website developer |
| | | Help desk |
| | | Surveys/votes |
| **Personalization** | Registration/personal account | Personal suggestions |
| | Trip planner |
| **E-commerce** | Convenient e-shopping | Discounts/coupons |
| | Shopping of travel related product |
| **Bookings** | Hotel bookings | Transportation bookings |
| | Activities/events bookings |
| **Search function** | Search engine within the website | Support of QR code scanning |
| **Extras for cell-phone** | Website mobile version/application download |
| **Playfulness** | Support of travel related games | Support of travel related quizzes |
| **External& other factors dimension** | **Prior knowledge of tourist destination** | User familiarity with the destination presented in the website |
| | | User interest degree towards the destination presented in the website |
| | **Destination’s reputation** | Perceived reputation of the destination presented in the website |
| | | Perceived popularity of the destination presented in the website |
| | | Perceived safety of the destination presented in the website |
| | **Website’s reputation** | Perceived reliability of the website developer and owner |

### 3. Future research

The future research, which is based on the model presented in this paper, is divided to two phases. The first phase is aimed to reorganize the initial evaluation framework’s elements, leaving most important elements for the second phase research. The goal of the second phase is to evaluate how successful particular DMO websites are in attracting users and prospective tourists.

### Conclusion

Destination management organizations use websites to attract more prospective tourists, to communicate with tourists, to compete for tourist attention and to widen tourist flow to particular tourism destinations. To make website more successful, more recognizable among prospective clients, website owners and developers should continuously develop their products to catch up with changing demands of the Web users.

Evaluation of the websites is a topic which attracted much attention. Assessment of the website quality can be made from different angles. Researchers point out that different websites need different evaluation criteria, criteria which in best way will match with the essence of the website, websites’ main goals, and would be appropriate for the evaluators. There is need of more studies in website evaluation field to come closer to the development of the universally accepted and comprehensive framework for the evaluation of the websites.

This paper presents a DMO website success evaluation model, which contains elements for the DMO
website evaluation. The model is influenced by D&M IS success model, TAM model and Lee and Kozar's model. Rocha's Global quality website evaluation framework and other papers on the website evaluation, as well as the literature related to the tourism sector were taken into account, when developing the list of measurement elements for the DMO website evaluation.

DMO website success model and evaluation framework contain four main dimensions: System, Service, Information and External and other factors; these dimensions influence DMO website success in the task of attracting, keeping and developing users' attention and interest. DMO website success is assumed to be formed by the “Stickiness” and Persuasive power of the website. The evaluation framework is developed with the regard, that the measurement elements will be used in the evaluation made by common people-website users.

Presented evaluation framework with measurement elements is an initial instrument of the research. There is still a need of the optimization and reduction of the quantity of the elements, leaving the most influential elements, which would be final evaluation framework's main constructs. Due to the breadth and rapid development of Information Technologies, there should be done more work for the detection of the critical success elements to form comprehensive yet compact evaluation model for the DMO tourism websites, as well as websites working in other fields.

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