VIRTUAL TOUR AS A VIRTUAL EXPERIENCE OF DESTINATION MANAGEMENT ORGANISATIONS IN SLOVAKIA

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Abstract: An evaluation of 'Destination Management Organisation' (DMO) websites focused on creating attractive, userfriendly, and informative web pages that effectively promote tourism destinations to potential customers. The virtual tour as an innovative tool and form of tourism experience has potential to act as a powerful destination promotion tool. Therefore, for DMOs it may be especially beneficial in terms of destination marketing to offer attractive and suitable virtual tour experiences via destination websites. The study deals specifically with the issue of implementing virtual tours on the DMOs' websites. The aims of the presented research were defined as: 1. Exploring the Slovak DMO websites by focusing on virtual tour experiences; 2. Measuring the potential customers' opinions on accessing virtual tours on DMO websites. Quantitative methodological approach, website analysis and a special survey for potential customers were conducted in the presented research to achieve the main goals. Different types of virtual tours have been identified on DMO websites and potential customers' opinions indicate the need to include virtual tours on DMO websites. Among the identified recommendations for the future highlighted are the improvement of DMO websites generally and expansion of the offer of virtual tours on DMO websites. Comprehensive research in this area within the Slovak DMO context is also desirable.

Key words: e-tourism, virtual tour, virtual reality, visual experience, destination management organisations

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INTRODUCTION

The rapid development of digital technologies is leading to rapid advances in various modern forms of tourism marketing. Adapting to developments in technology, communication, labour market, supply chain management, information and cross-border cooperation is important as a tourism promotion and development strategy (Dávid et al., 2007; Bujdosó et al., 2011; Dávid et al., 2011; Bujdosó et al., 2015; Pató, 2015; Pató, 2017; Wahyuningtyas et al., 2022). As a highly valuable tool, the Internet has transformed marketing strategies and 'Destination Management Organisations' practices substantially. It has contributed a lot to the general territorial development and development of tourism (Dávid et al., 2003; Dávid et al., 2009). It provides potential tourists with information about the products, events and services, giving them the chance to compare the prices of the products offered, institutions recommended and businesses (Dávid, 2009). The mobile systems also facilitate effective operation and information in entrepreneurships, airlines, hotels, weather, transportation, conditions, currency conversion and translation (El Maazouzi, 2020; Abouelhassan et al., 2021; Ogutu et al., 2023). While the dominant research stream on tourism technologies has investigated the adoption of self-service, mobile and web-based technologies, the potential of destination marketing through virtual technologies is yet to be fully investigated (Bogicevic et al., 2019; Kim et al., 2021; Verma et al., 2022; Åkesson and Ahmed 2022; Dey et al. 2022).

When tourists plan to visit a place (urban or rural environments), they develop an overall image of that place from exposure to the information available (Priatmoko et al., 2021; Plokhikh et al., 2023). Hence their plan to visit the destination changes accordingly. Information from websites also affects the tourist's cognitive belief, which further determines the intention to visit the selected tourist destination. Thus, it can be said that they affect the destination image building and should, therefore, be used to create a positive and influencing image of the tourist destination (Bogicevic et al., 2019).

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In the tourism industry, numerous tourism destinations have invested substantially to claim virtual real estate in this three-dimensional online world. Moreover, a number of national tourism organisations consider the virtual environment as an effective emerging tool for destination marketing (Dávid and Szűcs, 2009; Huang et al., 2010). Most academic opinions concern the effect or "experience- quality" of virtual tourism. The discussions about virtual technology itself and the impact of its characteristics on tourists' acceptance and usage attitudes are insufficient. It is urgent to clarify tourists' technology-acceptance of virtual tourism (Bungau et al., 2022; Craiut et al., 2022a; Craiut et al., 2022; Li et al., 2022).

Currently, a new and increasingly common way of using modern forms of marketing based on digital/online technologies is the application of 'Virtual Reality' (VR) and/or 'Augmented Reality' (AR) tools. The basis of 'Virtual Reality' is the attempt to portray the real environment as faithfully as possible in an artificial, virtual environment and to work with this environment in real time. 'Augmented Reality' is a digital technology that transforms the perception of the physical environment provided that the individual sees it through a special device. This technology is similar to virtual reality, but it does not replace the real environment. Instead, it complements it by overlaying digital components. Virtual reality has been part of the travel and tourism industry for quite a while. The use of VR technology is one of the principal tools for Destination Management Organisations (DMOs), tour operators and tourism attractions.

No.	Name of the DMO	Official Website	360 Virtual Tour	Video Tour	Google Street View Tour
1	OOCR Región Vysoké Tatry	www.regiontatry.sk			
2	OOCR Severný Spiš-Pieniny	www.visitspis.sk			
3	OOCR Dudince	www.dudince.sk			
4	OOCR Región Horehronie	www.horehronie.sk			
5	OOCR Šariš-Bardejov	www.visitbardejov.sk			
6	OOCR Región Gron	www.regiongron.sk			
7	OOCR Trenčianske Teplice	www.oocrtt.sk			
8	OOCR Turistický Novohrad a Podpoľanie	www.regionnovohrad.sk			
9	OOCR Vysoké Tatry - Podhorie	www.tatrypodhorie.sk			
10	OCR Kysuce	www.regionkysuce.sk			
11	OOCR Rezort Piešťany	www.visitpiestany.sk			
12	OOCR Región Horná Nitra	www.bojnice.eu			
13	OOCR Tatry – Spiš – Pieniny	www.tatryspispieniny.sk			
14	OOCR Región Senec	www.regionsenec.sk			
15		www.hornyzemplin.sk			
16		www.regiongemer.sk			
17	OOCR Región Šariš	www.oocr.weebly.com			
18	OOCR Matúšova zem - Mátyusföld	www.matusovazem.eu			
19	OOCR Trnava Tourism	www.regiontrnava.sk			
20	OOCR Rajecká Dolina	www.rajeckadolina.sk			
21	OOCR Záhorie	www.regionzahorie.sk			
22	OOCR Turiec	www.turiec.sk			
23	Nitrianska OCR	www.visitnitra.sk			
24	Zemplínska OCR	www.dolnyzemplin.sk			
25	OOCR Malá Fatra	www.regionmalafatra.sk			
26	OOCR Región Liptov	www.visitliptov.sk			
27	OOCR Región Horné Považie	www.hornepovazie.sk			
28	OOCR Klaster Orava	www.visitorava.sk			
29	OOCR Trenčín a okolie	www.oocrtn.sk			
30	OOCR Malé Karpaty	www.malekarpaty.travel			
31	OOCR Slovenský Raj & Spiš	www.vraji.sk			
32	OOCR Žitný Ostrov	www.ostrovzitny.sk			
33		www.bratislavaregion.travel			
34		www.sturovo-parkan.sk			
35	OOCR Visit Košice	https://visitkosice.org/			
36		https://regiontekov.info/			
37	OOCR Stredné Slovensko	https://centralslovakia.eu/			
38	OOCR Región Banská Štiavnica	https://supervulkanstiavnica.sk/			
39	OOCR Podunajsko	https://www.visitdanube.eu/sk			

Table 1. The list Slovak DMOs (Source: Own compilation based on own research, 202

According to Guttentag (2010) and Issakov (Issakov et al., 2022), this technology has been used mainly as a marketing tool to improve and promote tourism destinations. Based on the results (Li et al., 2022), the usefulness of virtual tourism technology has significant effects on autonomy and enjoyment. Tourists' perception of technology usefulness can basically meet their expectations, so that the autonomy and enjoyment are perceived as well as tourists expected. Ease of use is another basic factor that leads to enjoyment for both potential and actual tourists. Nunez San Juan (2017) found that the internet and virtual reality became a widely known phenomenon that has grown more popular and dominated the tourism sector. Consequently, virtual reality (VR) has become an indispensable tool in the tourism sector, especially in defining marketing strategies for tourism stakeholders. Specific market segments could consist of Generation Y and Generation Z - generations

who prefer to use this technology to virtually select the destinations and accommodation providers they want to travel to directly from home ((Dávid et al., 2007; Rončák et al., 2021). These generations also appreciate the creation of content for comprehensive physical immersion (animating a 3D environment or creating a 3D environment with the integration of photos and videos). Therefore, the use of VR technology in marketing strategy could influence the decision in favour of a certain destination and should attract new tourists or encourage existing tourists to consume more (Oncioiu and Priescu, 2022). It is important to promote new technologies among the silver generation (Novotny et al., 2015; Zsarnoczky et al., 2016).

From the traveller's point of view, VR can be helpful to improve the way they plan and book tourist activities in many ways. E.g., the efficient use of VR technology can greatly impact booking a simple flight, selecting the right hotel or discovering unvisited destinations. According to the Slovak situation analysis Gajdošík (2018) mentions that the image of the destination before the trip can be created by using videos and animations about the destination. These show all the activities that can be undertaken in the destination. It is also the marketing communication tool that can motivate the potential visitor to visit the destination. Based on the analysis of the web pages, 34 % of the destinations use this kind of interactive presentation. When examining the virtual tours, 17 % of destinations have created virtual tours for the destination or for some attractions (Gajdošík, 2018). In 2019 Slovakia started to develop the 2030 Agenda for Europe with the following main objectives: Sustainable use of the country's tourism potential; the development of 51 economic growth regions and to promote of Slovakia's image and building its identity as an authentic and attractive tourist destination (Dávid et al., 2012; Aubert et al., 2021). The survey shows that, across the three countries, (Slovakia, Hungary, Romania) Slovak tourism DMOs' are the ones that use the most virtual platforms in their marketing activities. The Act for the Development of Tourism' is dedicated to the introduction of a modern tourism management system in Slovakia. Similar to regional tourism bodies set up in other countries, OOCR (tourism management centre for the territory of a certain locality or region) appear here as well as the tourism organisation - KOCR (tourism management centre for the territory of a certain region). As per the law introduced in the 21st century, there is also a requirement for these organisations to operate on modern management and marketing principles.

Established 'Destination Management Organisations' (DMOs) in Slovakia have been regulated since 2010. These regulations were amended first in 2011, then in 2013 and are still in force. In Slovakia, there are currently 39 'Tourism Destination Management' (TDM) organisations (see Table 1) organisations operating under the name of 'oblastná organizácia cestovného ruchu' (regional tourism organisation), according to the website www.mindop.sk. This is the official website of the 'Ministry of Transport and Construction of the Slovak Republic' (Ministerstvo dopravy a výstavby Slovenskej republiky). The same website also lists 8 district tourism organisations. The 'Destination Management Organisation' (DMO) register is available on the website of the 'Ministry of Transport of the Slovak Republic' (https://www.mindop. sk/en), according to which there are currently 8 regional tourism organisations (KOCR), 38 local tourism organisations and 4 destination organisations which have been dissolved. For the purpose of further research, we analysed selected DMO websites, 39 in total (Table 1). During the process of analysis, we proceeded as follows: 1. We have identified websites of Slovak DMOs, 2. We have visited websites individually and searched for available forms of virtual tours. Among the Slovak DMO websites, several types of virtual tour were commonplace: a) 3D Virtual Tour; b) 360 Degree Virtual Tour; c) Video Tour; d) Google Street View tour. We found that only in 10 cases the websites offer a 3D virtual tour, and the same number offered a 360-degree virtual tour. All but 11 websites offer a video tour. According to the research of Yadav et al. (2011), video-based information outperforms text-based information by triggering higher levels of users' engagement.

MATERIAL AND METHODS

Marisova and Smolkova (2020) in their research finds out how Destination Management Organisations in Slovakia perceive their roles in tourism. According to the research, the DMOs put a lot of effort as well as natural, economic, cultural, financial, and human resources into the promotion of their destinations (Duda-Gromada et al. 2010; Herman et al., 2020). They create printed promotional materials; promote destinations at tourism fairs and exhibitions, create and manage destinations' webpages; communicate with visitors through social media like Facebook, Instagram and YouTube; pay for advertisements on television, radio, newspapers, magazines, billboards and online. Since destination marketing is usually considered as the main DMO function, many authors refer to DMO as a 'Destination *Marketing* Organisation'.

It is mentioned by Sean Boyle (2023) that it is a smart marketing strategy to use virtual tours and they are effective in attracting people to a location of interest. It is also effective in helping to set the expectations of what activities will be offered and how the time can be spent in the destination upon arrival. The popularity of virtual tours – as well as technologies such as virtual reality, augmented reality, and artificial intelligence in general, has increased recently. There is no doubt that the rapid developments in these technologies will shed further light on their applications (Issakov et al., 2022). Tourism marketing is an area where digital technologies are being used with great popularity and this is also relevant in case of virtual tours. It is therefore desirable for DMOs to offer on their own online platforms, not just up-to-date information - but innovative forms and methods of obtaining information and experiences. In this study, the authors seek to extend the knowledge and overview of the current situation of Slovak DMO websites by focusing on the availability of virtual tours offered as a new form of acquiring a virtual experience. While the primary purpose has been to obtain up-to-date information on whether DMOs offer virtual tours on their websites, additionally the study attempts to present and analyse the respondents' views of actual virtual experiences in different areas – and to seek the opinions of respondents as potential users of virtual tours.

Three research questions were posed:

- 1. How well known is the technology of 'Virtual Tour'?
- 2. How often are the Slovak DMO websites used before a trip?
- 3. How important are virtual tours on Slovak DMO websites?

Based on previously designed research questions, we identified and examined three different variables: *Knowledge*, *Usage*, *Importance*. The study utilised a descriptive quantitative design to obtain the opinions of the respondents. The respondents of this study were not selected directly, and the prepared questionnaire was distributed in an online environment, shared on social networks such as Facebook and Instagram. The data was collected in a systematic way in 2022.

During the research process, we proceeded as follows. Firstly, we studied the available literature – secondary sources in relation to the virtual tour as a product offered on the DMO websites. This part of research included a detailed analysis of Slovak DMO websites. We started from the official register of Slovak DMO websites (https://www.mindop.sk/) and then as a first step we identified the DMO's URL addresses, which we also processed into a tabular form. We proceeded to a deeper analysis of these websites, looking for available forms and types of virtual tour. Furthermore, a research tool – a questionnaire was created to measure the opinion of the respondents. The questionnaire was distributed online to potential DMO customers. The evaluation of the responses of a randomly selected sample of respondents, statistical analysis, processing and evaluation of the results followed. Subsequently, the process proceeded to the formation of conclusions and recommendations.

Variable	Variable Items		%
Condon	Male	57	28
Gender	Female	145	72
	<18	14	7
	19-28	50	25
Age	29-38	24	12
_	39-49	28	14
	>50	86	42
Experience in	Yes	129	64
any Slovak	No	67	33
DMO website	Don't know	6	3
Experience in	Yes	27	13
any Slovak	No	175	87
hotel website	Don't know	0	0
V nowladge of	Yes, I've heard about it	111	55
Knowledge of Virtual Tour	Yes, I've experienced it	57	28
technology?	No, I haven't heard about it	16	8
teennology:	No, I haven't experienced it yet	18	9

Table 2. Demographic profiles of respondents and data regarding to variables Usage and Knowledge (Source: Own research, 2022)

RESULTS AND DISCUSSION

The respondents to this study consisted of 202 participants with different social backgrounds. We also took into account diversification in demographic profiles of participants such as age and gender. The vast majority of respondents were female (72 %) and the most of participants were over 29 years of age (Table 2). The questionnaire contained different types of questions – closed, open and also included Likert scale questions.

 Table 3. Basic Statistics (Own research, 2022)

Statistics	Statement1	Statement2		
Question Averages	4,4	3,3		
Maximum	5	5		
Minimum	1	1		
Standard Error	0,080	0,079		
1.96 x Standard Error	0,156	0,154		
95% Confidence Mean Upper Value	4,60	3,42		
95% Confidence Mean Lower Value	4,29	3,11		

The survey tool included questions to investigate the demographic background and questions regarding opinions of "Knowledge", "Usage" and "Importance" in the context of Destination Management Organisations' websites and virtual tours. To obtain data on "Usage" we asked two questions in the questionnaire. Both focused on the experience on websites before the trip. The questions were concentrated on DMO websites as well as hotel (or other kind of accommodation facilities) websites. The results of these questions are depicted in Table 2. According to the results, it is clear that the participants prefer DMO websites to hotel websites. After comparing these data sets, we find that DMO websites received up to 102 more votes than hotel websites. Of the total number of respondents (202), 33 % (67 respondents) do not browse DMO websites and 87 % (175 respondents) do not visit the websites of Slovak hotels. These results suggest that great care should be taken in the design and content creation of DMO websites. The information and virtual experience they provide can reach a large number of potential customers and visitors. The "Usage" survey was also considered appropriate as we wanted to highlight the reasons for visiting DMO websites. It is evident, that different kind of measurement tools - even digital analytics (e.g., Google Analytics) could be used for this purpose, but we have been focused on questionnaires to collect information about the respondents' opinions. Increasingly, virtual tours are also mentioned on television, in the media, on the Internet, on various social networks and in articles. Our obtained data indicates that the technology of 'Virtual Tour' is well known by the respondents. More than half of respondents (55 %) have heard about virtual tour technology and 28 % of them (57 respondents) have experienced it. However, 8 % of the respondents had not heard of it and 9 % had not experienced the virtual tour yet. To complete this information, an open question was asked. The purpose of this question was to get information from respondents about the concepts they could associate with the term "virtual tour".

Respondents were also asked an open-ended question and asked to answer, "what they could think of when they thought of the term virtual tour". All responses were carefully reviewed and based on these we assessed that very few respondents had not come across the term virtual tour. The answers to this question were varied, with some respondents even associating 'Virtual Tour' with 'Virtual Reality'. However, the two terms are very different to each other. Respondents did associate the virtual tour with travel and exploring new places or sights. Most respondents were from the young and middle generations, which suggest that they are both, more open to new digital technologies and also travel more often, taking advantage of the innovations of the digital age (Novotny et al., 2015). Some of the most common comments in the open-ended question were:

- Tour with 3D glasses, 3D image presentation, 3D city view.
- Sightseeing via the web, the internet.
- Possibility to take a virtual tour of a given place. Either on a computer display or with VR glasses.
- Sightseeing without direct contact with the site.
- Transporting yourself to the space created by the computer.

- I can experience any building from the comfort of my home, visit natural beauty and all on PC.
- Online tour via video or photos.
- Multiple panoramic photos create a whole.

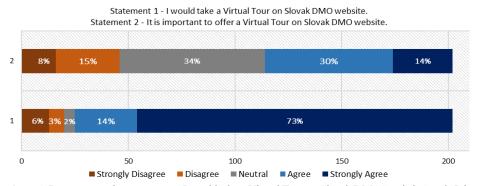
The opinion of respondents as potential customers is very important for several reasons. Among other things, opinions can shape and influence the image of the tourist organisation and their marketing activities as well.

To measure the respondents' opinions in another topic we used a five-scale Likert. In the questionnaire we asked respondents about the importance of offering virtual tour on DMO websites. To observe a variable of importance the survey asked respondents to rank statements. These ranged from 1 (Strongly Disagree) to 5 (Strongly Agree).

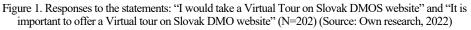
Statement 1 was related to experiencing a virtual tour on Slovak DMO websites. Statement 2 relates to the importance of offering a virtual tour experience on Slovak DMO websites. From the results of the statistics (Table 3) it is evident that the respondents were of the opinion that they would definitively take a virtual tour on Slovak DMO websites (M=4,4) and that they agree with the importance of offering virtual tour on Slovak DMO websites (M=3,3).

As can be seen from the graphical representation of data (Figure 1) only a small proportion of respondents are of the opinion that they would not be interested in a virtual tour on the DMO websites. Specifically, in relation to this question, 9 % of respondents are not at all interested in a virtual experience on DMO websites; 87 % do consider it important and 2 % were undecided in this regard. The distribution of responses for question 2, which explored whether it is important to embed and offer a virtual tour on DMO websites, is already more evenly balanced. Even the portion of undecided respondents is much larger (34 %) compared to the previous question. Nevertheless, after summarising the responses for each of the counterpoints, it is evident that opinions lean more towards the importance of offering a virtual tour on DMO websites.

The opinions gathered from Statement 1 and Statement 2 also express the general interest of the respondents in the virtual tour as a new form of virtual experience on DMO websites. The above-mentioned questions were asked within the same questionnaire and followed in order. There is another significant possible interpretation of these results which may need to be taken into account when assessing respondents' views and expectations: Based on the results, the largest proportion of respondents are undecided about importance (34 %). However, if the DMO website offers the possibility of a virtual tour, they would definitely experience it. A virtual tour on a DMO website may therefore represent a kind of added value and additional service that has its own justification and importance to a wider audience. In the virtual tours of the



DMO, special emphasis was placed on presenting the diversity of cultural tourism, exploring the possibilities of innovative attraction development from the perspective of various cultural institutions, museums, castles and other historic buildings, as well as music and festival tourism. As we have seen so far, the sector's value creation processes are also shaped by increasingly powerful information technology solutions (De Luca et al., 2022), so the role



of various smart (for example: augmented reality, virtual reality) and artificial intelligence-based achievements could be used more widely not only for marketing purposes, but also for destination development.

This should be regarded as a new role of DMOs, taking into consideration the education potential of virtual tours combined by educative elements of gamification ("edutainment") such as VR games, reward games, interactive, virtual reconstruction of historic sites, escape-rooms, etc (Theodoropoulos and Antoniou, 2022). Obviously, these solutions can be developed for all types of tourism, such as ecotourism, country tourism, wine- and gastro tourism, etc. The main goal should be going beyond the marketing of already existing products and product packages by developing the destinations with "self-marketing" interactive attractions combining the virtual and on-site experiences. Furthermore, this approach would attract more the youngest generations, those, "who are born with their mobile phones" but have a very different attitude towards the values of cultural heritage or nature conservation (Buhalis and Karatay, 2022).

CONCLUSION

The virtual tour has a presence in a wide variety of industries and sectors from education to healthcare to marketing. Interactive elements (e.g., virtual tours, augmented reality) are finding their way into the market, complementing, and often replacing traditional video or image galleries. Marketing tools and trends are changing, and various new forms of presentation and promotion of tourism products are being developed. 'Destination Management Organisations' (DMOs) are responsible, among other things, for the relevant promotion of destinations in the most effective way. Recently, it has become apparent, that digital technologies are having a significant impact on tourism. There are opportunities for virtual tours of museums, galleries, hotel rooms, destination locations and activities offered. Technically 'savvy' prospective customers are embracing the use of digital technologies when deciding whether to use a given service, visit a destination or purchase a desired product. The virtual tour is precisely the tool that can influence customer decision-making and therefore

its use should be carefully considered when presenting and promoting destinations via DMO websites. The current study presents the results of an analysis of the websites of domestic DMO websites in terms of the offer and use of virtual tours as a new form of gaining virtual experience. The contribution of the study can be clearly considered as an overview of Slovak websites and an identification of the types of virtual tours used. A questionnaire method was applied to obtain information on DMO website visitors' opinions on the use of 'Virtual Tour'. The authors of the study intended to explore the potential of 'Virtual Tour' use by destination organisations in Slovakia. At the same time, an important general objective was to highlight the need to develop e-tourism and address the issues of introducing modern digital technologies in the promotion of destinations. After analysing the DMO websites, we found for some of them the URL has been changed since the original DMO register. In relation to virtual tours, it was found that the vast majority of researched DMO websites offer a video tour as a form of the virtual tour, but relatively few DMO websites offer 3D virtual tours. (10).

The same number of '360-degree virtual tours' were found on DMO websites. 'Street View Tour' is also a more prominently used form of the virtual tour on Slovak DMOs. The presented research shows a positive attitude of respondents towards the virtual experience on Slovak DMO websites. As many as 73 % of respondents strongly agree that they would try a virtual tour on Slovak DMO websites, with 6 % taking the opposite view. The concept of the virtual tour was quite familiar to the respondents, as evidenced by the results of the survey. (55 % of the respondents had heard of virtual tour technology and 28 % had even experienced it personally). However, the limited experience of a number of respondents is evident as well from their random responses. A defined selection of respondents for a specific population would be desirable. Furthermore, it would be beneficial to identify examples of good practices from a foreign sample and to find out the opinions of the DMOs themselves. Future research in this field could focus on a deeper and more comprehensive analysis of respondents' needs and their attitudes towards the virtual experience. That being said, the present baseline study provides an introduction and overview of the topic with the possibility of extending and complementing the research to create a more comprehensive analysis going forward.

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