

# Museum visitors experience with information and communication technology

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Source / Izvornik: **Tourism and hospitality industry 2020 Trends and Challenges Congress proceedings, 2020, 352 - 360**

Conference paper / Rad u zborniku

Publication status / Verzija rada: **Published version / Objavljena verzija rada (izdavačev PDF)**

Permanent link / Trajna poveznica: <https://urn.nsk.hr/urn:nbn:hr:191:399868>

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Download date / Datum preuzimanja: **2025-02-27**



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## MUSEUM VISITORS EXPERIENCE WITH INFORMATION AND COMMUNICATION TECHNOLOGY

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### **Abstract**

**Purpose** – The purpose of this paper is to determine how much do the participants use the internet when making reservations for tourism services, that is, determining their daily habits regarding the use of smart technologies.

**Design** – The paper consists of the introduction, literature overview, methodology and the survey results.

**Methodology** – The survey was conducted during the post-season, and the visitors of the Museum of Apoxyomenos in Mali Lošinj were examined because it was the easiest way to survey more than hundred tourists at the same place on the island. They were surveyed immediately after their visit by using a questionnaire. The questionnaire consisted of demographic questions and a section with statements where respondents had to indicate to what extent, from 1 to 7, they agree with each one of them. The paper is also used to realize how much are visitors satisfied with the museum. It is based only on the average score of the rated statements. The relationship between the variables related to the use of technology in everyday life and the ones related to the satisfaction with museum visit will be analysed in the paper. It is based on a quantitative analysis, that is, the Pearson Correlation.

**Approach** – Before conducting and analysing the survey, the topic was set up theoretically, that is, the theoretical framework was established and the overview of previous research about museum satisfaction in general, the role of technology in tourism and smart tourism destinations was done.

**Findings** – The results of the survey show what the purpose of this paper is - to prove that the museums in which visitors have the opportunity to use information and communication technology are more interesting to visitors. In this way, they even remember more information than in classic museums. Also, the results show that visitors really listen and see more than they would in a classic museum.

**Originality of the research** – Taking into consideration the fact that there is a relatively small number of research done regarding this and similar topics, this paper will certainly contribute to the development of this subject, especially in the age when technology signifies future in every area of life.

**Keywords** Mali Lošinj, tourist product, museum, tourist satisfaction, tourist experience

### **INTRODUCTION**

This article consists of three parts. The first part is the review of literature, that is, defining the basic concepts of the article itself, tourism product, tourism destination, museum, tourist satisfaction and tourist experience. Tourism product and museum are defined because tourists were surveyed in the museum. In that part of the paper is also defined smart tourism destination because tourism destination that uses information and

communication technology to improve its services and products have an opportunity to become smart tourism destination. The second part explains the methodology used in the empirical research conducted. The results of the research are presented in the third part of the paper.

Each of these concepts is defined by domestic and foreign authors, and all concepts are of course very closely related. With the aspiration to create a tourism product, or to form a tourism destination, museums are established. The museum makes an important point when visiting a destination and becomes part of the tourist attractions (Klarić et al., 2011). More recently, the existence of a museum is no longer sufficient, but the existence of a different, authentic museum, i.e., a cultural and tourism product. When creating a cultural-tourism product, it is important to emphasize that there are no two equal cultural resources (Magaš, Vodeb, Zadel, 2018). According to the above, it is concluded that the museum of a certain area is an authentic product because it shows the cultural and historical heritage of the area where it is located and would not be equally important if established in another tourism destination. This is also emphasized by author Gob (2007), who states that the primary role of museums is to protect and present the heritage that represents the so-called national treasure.

Creating an authentic product is the creation of a competitive product that is achieved through continuous innovation capabilities (Ezeala-Harrison, 1999). After 2008, when creating new tourism products, it is often impossible not to see the adjective "smart" (Boes, Buhalis, Inversini, 2015).

In the empirical part of this paper the research results of the participants who visited the authentic product of the Lošinj Island – the Museum of Apoxyomenos will be analysed. The survey also examines participants' use of "smart" technology. The intention is to draw conclusions about the visitors' willingness to visit museums that use technology to explain exhibitions in the future.

## **1. LITERATURE REVIEW**

One of the more comprehensive definitions of a tourism destination is as follows: Destination is the optimal combination of fixed and variable factors that enable tourism to operate in accordance with market preferences, regardless of administrative boundaries (aspect of the tourist offer content) (Magaš, Zadel, Vodeb, 2018).

Murphy, Pitchard, and Smith (2000) state that a set of individual products constitutes a destination. As early as 1994 (Smith), there were conclusions that the structure of the tourism product was complex and that initially a resource is needed which gradually, alongside the human factor, transforms into a tourism product, that is, one of the products on the basis of which the destination will become recognizable on the market. This definition is also accepted by the authors Benur and Bramwell (2015). Morrison (2013) confirms this by demonstrating with his model that except physical product, the destination product is made by people, packages and arrangements. This model is probably arisen from the earlier model (2000) by authors Murphy, Pitchard and Smith. They say the destination product is an integral part of the destination experience,

infrastructure and destination environment. Authors Magaš, Veber, and Zadel, in *Tourism Destination Management and Organization* (2018), convey the definition of author Dibb et al. (1995) stating that a product is a totality of tangible and intangible properties, including functional, social and psychological benefits and pleasures. They also point out that a product can be an idea, a service, a commodity, or any combination of the above. The authors of the book also point out that the demand for certain products depends on their attractiveness, i.e., on their ability to satisfy the preferences of increasingly demanding tourists. Different products in tourism also belong to different forms of tourism based on the tourists' motives for coming to a particular destination. Accordingly, there are health, gastronomy, cultural tourism, business tourism, cyclotourism, nautical tourism, rural and mountain tourism, adventure and sport tourism, sun and sea as well as other important products such as social, youth and eco-tourism (*Tourism Development Strategy of the Republic of Croatia until 2020*).

Since the primary role of the museums is to protect and present the heritage that represents the so-called national treasure, it is clear that the museum as a product belongs to cultural tourism. Regardless of the fact that travel began to take place because of going to other destinations and learning about their cultural heritage, cultural tourism was not recognized in theory until the 1980s (Petroman et al., 2013). The International Council of Museums (2007) defines a museum as a non-commercial, permanent institution in the service of society and its development, open to the public, which collects, preserves, investigates, publishes and exhibits tangible and intangible testimonies for the purpose of study, education and enjoyment. From the mentioned definition, it is evident that the museum is a product of cultural tourism. Author Klarić et al. (2011) states that museums can be an integral part of natural, historical and/or cultural sites, and that museums should encourage the active participation of local communities in heritage management planning and tourism organizations. Visitors to the museums can be identified according to the types of cultural tourism tourists. According to authors McKerchner and Du Cros (2002) there are the purposeful cultural tourists and the sightseeing cultural tourists (tourists for whom cultural tourism is the primary motive for arriving at a destination but their experience is not as deep as for the first group). Third are the serendipitous cultural tourists, then casual cultural tourists and the incidental cultural tourists. For a complete understanding of tourist behaviour when visiting museums, it is important to investigate consumers' motivations, satisfaction and loyalty when visiting a destination to experience its cultural and museums heritage (Del Chiappa et al., 2013).

The existence of a museum in a destination, even though they are not the main motive for the arrival of tourists to a particular destination, significantly affects the competitiveness of the offer of the entire area in which they are located. As mentioned in the introduction, there is the adjective „smart“ that exists as a result of using technology to build a product or a service in tourism (Gretzel, Sigala, Xiang, Koo, 2015). From this comes a "smart tourism destination" that uses information and communication technologies to develop and produce tourism processes (Wang, Li, Li, 2013; Boes, Buhalis, Inversini, 2015). This is confirmed by the definition from a consumer perspective that a destination can be said to be smart if it uses technology intensively to enhance the tourist experience of visitors in such a way that their destination offer will be personalized. When talking about a smart city or a smart destination, the ultimate goal should be to increase competitiveness and improve the quality of life for all stakeholders,

locals and visitors (Caragliu et al., 2011; Buhalis and Amaranggana, 2014; Boes, Buhalis, Inversini, 2015). Some authors (Neuhofer et al., 2012) have already confirmed with their research that the competitiveness of a destination is more significant when the visitor and the offer of the destination are connected by the use of technology. As mentioned before, this is a recent phenomenon and there is a possibility that in the future it will be mentioned less frequently as a "tourism destination", and increasingly as a "smart tourism destination". The tourism academic community is therefore interested in exploring more smart destinations (Bakıcı, Almirall & Wareham, 2013), i.e., the factors that make a destination competitive.

Competitiveness of tourist destination can be measured by tourist satisfaction, i.e. (positive) tourist experience. Definitions of both of these are below.

Despite the fact that the authors generally agree on the basic settings when defining the concept of satisfaction, numerous definitions of client satisfaction can be found in the literature. Hunt (1977) was among the first to present his definition, which is: customer satisfaction is not a pleasant or unpleasant experience with a used product or service, but that it is an assessment that confirms whether the lived experience is in line with expectations. Oliver (1980) developed a model through which he explains that customer satisfaction is achieved when the use of a product and / or service exceeds his expectations. Bitner and Hubbert (1994) argue that customer satisfaction is the attitude they take after using the service. Anderson, Fornell, and Lehman (1994) confirm that satisfaction means an overall assessment based on the experience experienced while using the product or service. Customer satisfaction is defined by Babin and Griffin (1998) as a reaction arising from the assessment of the purchase or consumption of a product or service.

In the above definitions, more or less, the tourist experience is also mentioned. It is interesting that there were only older definitions, and below there are some newer definitions. They are all still valid, from last few decades, until today.

Here are few tourist experience definitions from last few years. Tourists' experiences are an assessment of what they expected to find versus what they received (Castillo Canalejo, A.M., Jimber del Rio, J.A., 2018). Experience is a unique blend of many individual elements that come together and may involve the consumer emotionally, physically, and intellectually (Sotiriadis, M., 2017). Tourism experience is a strategic way to spread the image of the destination to other potential visitors (Buonincontri, P., Micera, R., 2016). Experience is a key factor influencing tourists' decision process and postpurchase behaviour (Chen, C., Petrick, J.F., Shahvali, M., 2014).

## **2. METHODOLOGY**

### **2.1. Area of research**

The research was conducted in the Museum of Apoxyomenos in Mali Lošinj, a town on the south side of the Lošinj Island situated in Primorje-Gorski kotar County of the Republic of Croatia. According to the latest Population census (2011) there were 8116

people living in Mali Lošinj which is 27% of the overall population in Primorje-Gorski kotar County. The information on the official website of Mali Lošinj Tourist Board states that in the last three years the highest number of tourists who arrived, that is, stayed overnight in Mali Lošinj, is from Slovenia followed by those from Germany while domestic tourists hold the third place. In all the three years the proportion of domestic tourists in the overall arrivals, that is, overnight stays is around 14%.

## 2.2. Questionnaire design and analytical procedure

Questions in the questionnaire were based on the previous research in this field (Cheng, Penny Wan, 2015; Oh, Fiore, Jeong, 2007; Jeong, Shing, 2019; Chen, Huang, Gao, Petrick, 2018). Questions were used by the above authors, so it is the reason of validity of this research. The questionnaire consisted of three parts. The first part of the questionnaire covered socio-demographic questions, the second part included 18 statements, while the third part included 10. The participants' task was to indicate to what extent they agree with the statements given in the second and third part of the questionnaire, that is, to circle a number from 1 to 7 on the Likert scale where 1 signified "strongly disagree" and 7 "strongly agree". In the SPSS were calculated reliability (Cronbach's Alpha) of second and third part of questionnaire. Cronbach's Alpha for the part of satisfaction is 0,929 and for information and communication technology is 0,857. It is known when the result is bigger than 0,9 that reliability is excellent and when it is for 0,8 to 0,9 it is very good (Horvat, J., Mijoč, J., 2019).

The research was conducted during the first week of February 2020. The Croatian people who were more than 16 years old were allowed to participate in the research and could completely independently decide whether or not they want to participate, while their answers remained anonymous. 144 visitors of the Museum filled in the questionnaire, but during the data processing 32 questionnaires were eliminated from the sample because one or more answers weren't properly marked. Therefore, 112 correctly filled in questionnaires were used for processing the results.

Descriptive statistical analysis and quantitative statistical analysis, that is, t-test in SPSS were used for the analysis of socio-demographic data.

## 3. RESULTS

According to the analysis of socio-demographic data, there are 57,14% of male participants and 42,86% of female participants in the research. Speaking of age groups, the questionnaire used the following categories: born from 1946 to 1964, i.e., baby boomers; from 1965 to 1981, i.e., generation X; from 1982 to 1999, i.e., generation Y and from 2000 to 2004, i.e., generation Z. 16,07% of the participants belong to the first age group, 26,79% to the second age group, while 36,61% belong to the third age group and to the fourth group 20,53% of the participants.

Most of the participants are married (49,11%), while the lowest number of the participants are widowed (12,5%).

More than half of the participants are employed (51,78%). Among the participants there is 5,36% (6) self-employed participants and the same number of unemployed students. The overall number of students who participated in the research is 13 with 7 of them, that is, 6,25% employed. The sample consists of the same number of retired participants (14,28%) and high-school students.

The highest number of participants (35,71%) finished college, that is, university, while the lowest number of participants attained a Ph.D. (4,46%) and M.A. degree (7,14%). 58,93% of the participants visited Mali Lošinj more than five times, while almost the same number of participants visited Mali Lošinj for the first time (18,75%) and visited it from two to five times (22,32%).

As the primary motive for arriving to Mali Lošinj the participants mostly marked visiting their friends and family (40,18%) and 5,35% of the participants were on a school trip. Vacation and recreation as a motive for visiting was marked by 30,35% of the overall participants.

As expected, the highest number of the participants used a smartphone during their visit to Mali Lošinj, 73,21% of them. When it comes to other devices, 33,03% of the participants used a tablet and 25% of them a digital camera. When answering this particular question, the participants had the opportunity to name other technologies they were using during their visit where only one respondent wrote laptop as an answer.

Regarding the satisfaction, that is, the experience of visiting the Museum, the participants' task was to mark if they strongly agree (7) or strongly disagree (1) with each of the 18 statements. Therefore, the highest average score could be 7 and the lowest could be 1. In this case, the participants' highest total score was 126 and the lowest one was 51. In average, the participants marked the statement "The Museum of Apoxyomenos is more interesting than the museums I visited so far" with the lowest score. The statement "I consider this museum to be interesting for all generations" was marked with the second lowest average score. However, the statement "I will never forget the visit to this museum" was marked with the highest average score, while the statement "I would visit this museum again" was marked with the second highest average score. The overall average score of the participants' satisfaction with the Museum of Apoxyomenos in Mali Lošinj is 5,43.

The third part of the questionnaire referred to the use of technology as in everyday life so as for browsing/making reservations of tourism services. As expected, the statement with the highest average score was "I like using the internet for various purposes". The statement which was marked with the second highest average score and that was really significant for this research was "I would buy a tourism service over the internet (plane ticket, overnight stay in a hotel room, etc.". However, it is interesting that the statement "When I get a message on my mobile phone, I open it right away" was marked with the lowest average score. The statement which was marked with the second lowest average score is "I am online until I go to sleep". The overall average score of the participants' smart technology use was 4,69 where the highest average score was 6,7 and the lowest was 1,9.

Considering the Pearson correlation coefficient, it was determined that there is a moderate positive correlation between the participants' satisfaction with the Museum and their frequency and the way they use technology. Hence, the coefficient is 0,366 while the result higher than 0,01 is considered significant. In the table are presented results of analysis.

Table 1: **Correlation analysis**

			museum	technology
Pearson's correlation coefficient	museum	Correlation Coefficient Sig. (2-tailed)	1,000	0,366
	technology	Correlation Coefficient Sig. (2-tailed)	0,366	1,000

Source: Authors processing

It is concluded that the guests who don't have a problem with using the internet for making reservations of tourism services as well as those who use the smart technology every day are willing to use technology even during the museum visit. In fact, the tourists visiting the Museum of Apoxyomenos have the opportunity of using headphones to get information during the museum visit, but it is concluded that it would be more useful if they had the opportunity to get information by using their smart technologies which they already use so much.

## CONCLUSION

The destination becomes more attractive when technology is used for the innovation of its products. However, a variety of products, such as museums, don't offer their guests the possibility to experience it with the help of technology. As it was mentioned in the introduction, the products and services which use technology to get closer to their guests are considered more competitive. It is important to mention that a destination can't be considered a "tourism" destination if it uses technology but doesn't have other elements important for the development of tourism.

There were more male participants in the research. The highest number of participants was born between 1982 and 1999, is married and employed. Furthermore, the most relevant conclusion is that the tourists use technology every day and are willing to use it in tourism so it can be assumed that they would be willing to use it even in the museums. Regardless of that, limitation of this research is research time (postseason) and place. Museum isn't a problem, but that situation about doing research on the island when it is not the main tourist season. We can suggest to do this research in the bigger tourist destinations, ie. the main points of tourists' visit.

Theoretical framework is a significant contribution because of a literature review of previous researches. The suggestion for future research is to explore if this assumption is valid by questioning the visitors of a museum which significantly uses technology. Hence, this research serves as a point of reference for future research.



## ACKNOWLEDGEMENTS

This paper has been financially supported by the University of Rijeka, for the project ZP UNIRI 7/18.

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