The Use of Technological Means to Facilitate Historical Information in Cultural Tourism

Dra. Teresa Giovanna Chirinos Gastelú

Ministerio de defensa-Marina de Guerra del Perú giovichi1622@gmail.com

Mg. Yessi Erika Villasante Mercado

Escuela Profesional de Turismo y Hoteleria, Universidad Catolica de Santa Maria, Arequipa, Perú. villasanteyessi@gmail.com

Dra. Luz Marina Sito Justiniano

Universidad Nacional de Educacion Enrique Guzman y Valle lsito@une.edu.pe

Dra. Karina Raquel Bartra Rivero

Universidad Peruana de Ciencias Aplicadas pchukbar@upc.edu.pe

Dra. Patricia Edith Guillen Aparicio

Universidad San Martin de Porres pguillena@usmp.pe

Abstract

The objective of the research was to determine how the use of technological means facilitates historical information in cultural tourism in the city of Arequipa. The type of research was under a quantitative approach, a non-experimental cross-sectional design with a hypothetical deductive method, a measurement instrument validated by expert judgment was used, the data collection technique was the survey, which was applied to tourists with closed questions and the instrument was the questionnaire. A non-probabilistic sampling was carried out and a pilot sample was used. Audio guides are not used in the city of Arequipa, they have only been implemented in the city of Lima and Cusco. The findings of the following investigation were that 50% of tourists don´t know about the use of technological means that facilitate historical information in cultural tourism in the city of Arequipa. 45% of national and foreign tourists don´t know about the use of audio guides on their tourist trips and the use of the QR code, 46.67% don´t know about the use of the QR code to facilitate historical information in cultural tourism in the Arequipa city. It is concluded that the use of technological means facilitates historical information in cultural tourism in Arequipa.

Keywords: Technological means, Audio guides, QR Code, Cultural tourism.

1. Introduction

In these changing times, the use of technological means has facilitated the search for tourist information about the place to visit, from the moment the tourist searches for information on the internet until he arrives at the tourist place to obtain more in-depth and truthful information according to Piguave (2018). In a city we can find houses, museums, monasteries, cultural spaces that show the identity of a place, which makes up cultural tourism. For example, in the case of museums, the information can be provided with a specialized guide, with the use of audio guides, with the use of augmented reality, with the use of applications and the use of QR codes.

Due to the Covid-19 pandemic, tourism has suffered a severe recession and now that the

country is going through a political situation, which also affects tourism, other options could be taken to reactivate tourism with hand technology. In Peru, audio guides have been developed, mostly for the city of Lima, according to the information obtained from Mincetur, which is free, but there is another museum, such as the Museum of Pre-Columbian Art in Cusco, which it has the audio guide service according to the BBVA Foundation.

It´s denoted that there is a global problem regarding the way in which the historical information of a tourist place is communicated, the error is that there is a lack of innovation, in the way of communicating the information to the tourist in order to provide a good service. Around the world there is a lack of the use of audio guides in the different historical places where the tourist wants to be informed in their language, for which each country is in charge of providing a quality service.

2.   Background

Information technology gives growth to the different sectors of the global economy, which also contributes to the level of competitiveness of each company referenced by Sabido, Barredo and Salazar (2019). Since technology has appeared, several real problems have been solved and opportunities have also been generated that have promoted products or services in the tourism field mentioned by Solano (2021). The innovation of technology in the tourism field isn´t so frequent, due to the lack of implementation of public policies, but at the same time it´s coming to life in the field of research due to the need to innovate on the part of destinations and tourist organizations, referred by Vera and Alfonso (2020).

For example, innovation has been made to provide historical information with augmented reality in Mexico. Augmented reality projects have been carried out to have a general panorama, regarding the implementation of applications for Mexico City with the exception of the Juárez de Guanajuato theater and Tiahuacán mentioned by Lara (2021). Lara (2021) commented that everything was carried out with the support of foundations and universities, all these applications are free for the user, but the financing for these projects is expensive, so some institutions don´t carry out this type of project.

Among the technological means that provide historical information is the audio guide, the audio guide is defined as follows (Garrido, 2019, p. 15):

The audio guides are listening systems in which, through a recorded route, the main milestones and interesting points of the route are explained in almost any language, as well as information on a work of art, biography of an author or relevant person related to the monument or space that is being visited. These audio guides are very popular in closed locations or places where a significant amount of information is concentrated, such as museums or city cathedrals. Audio guides allow you to visit more economically than hiring a local or specialist guide.

The audio guides have also been innovated, they can play music, dial the numbers of the works of art, provide specific information, specifically the Thyssen museum, which is located in Spain, is the museum that has the most advanced audio guides called Smartguides commented by Fernández and Gonzalez (2019).

The QR code is popular in the current world in which we find ourselves, a QR code is a two-dimensional symbol, which is read

quickly and also stores information in the form of pixels in a grid referenced by Fernández (2022). The characteristics of the QR code is that it has a high information density and provides support for different encodings, free use, most smartphones have the ability to read QR codes according to Fernández (2022). As additional information, QR codes are divided according to type, version and error correction capacity commented by Fernández (2022).

Cultural tourism was previously considered only a niche, in these times it is considered a powerful tourist attraction for demand, current trends denote a growth specifically of cultural tourism commented by Espeso (2019). Another definition of cultural tourism is given by the Ministry of Tourism of Brazil, where it is described as carrying out activities that are connected with the experience of the set of elements of the historical and cultural heritage and also by cultural events, through which promote the tangible and intangible assets of culture mentioned by Cardoso, Farias and De Araujo (2021).

It should be taken into account that museums are related to the cultural tourism of a place, since they make up a circuit of tourist attractions, in the museological context, the use of technological means is an important tool for the dissemination of cultural heritage and allows share content, mentioned by Bauer, Sohn, Oliveira and Vogel (2020).

For cultural tourism to be sustainable, that is to say, for social consumption, it must generate economic benefits for the population and at the same time it must allow the conservation of cultural heritage; collective planning must be based, inclusive and focused especially on the long

term commented by Dzul, Damián and Ramírez (2020).

In the case of Andalucia (Spain), which consists of 70 analyzed assets, one of its objectives is the development of ICT´s for the interpretation of cultural development, but the efforts are null, obviously the development of ICT´s for the interpretation of Cultural heritage is linked to the tourist development of the place mentioned by Palomo and Martínez (2018). In addition, Palomo and Martínez (2018) comment that in Andalucia, 66% of cultural assets don´t have an official audio guide service, exactly 27% of the cultural assets analyzed have an audio guide service through an App for smartphones and 7% only guided tours by cultural heritage specialists. Finally Palomo and Martinez (2018) made another interesting cross regarding the audio guide service by volume of visitors in such cultural places, denoting more than 250,000 visitors per year 9 cultural places if they have an audio guide; lastly only 4 of the 70 cultural property have applications for smartphones and none of these assets have other types of technology such as virtual reality.

For example, cultural tourism in Spain is the second product by relevance, exactly 17% of the total arrivals in Spain have a cultural motivation, they are statistical data from 2019 according to Rueda (2022). Cultural tourism is considered as a restorative agent of the culture of the place in the face of globalization, with the sole purpose of preserving the very identity of a place, comments Domínguez, García and Báez (2019). According to UNESCO (2022) it´s understood that cultural tourism is the influx of tourists to a space in order to obtain experiences related to cultural forms, in this case it would be museums, mansions, monasteries, etc.

In the case of Colombia, cultural tourism has increased, which is why direct strategies are required with the implementation of a management model that allows economic growth, it is also required to be sustainable where there is synergy between the aforementioned business and cultural fields by Diaz (2018). He also mentions that culture provides tourism with elements of identity and differentiating elements, which allows it to develop activities for tourists according to Diaz (2018).

The historic center of Arequipa was declared a cultural heritage of humanity in 2001 by UNESCO mentioned by Gomez (2020), the selection criteria being to represent a masterpiece of human creative genius in item 1 and in item 4 corresponds to being an outstanding example of a type of building, architectural or technological ensemble or landscape that illustrates a significant stage in human history by UNESCO. According to this, UNESCO declared Arequipa for the architectural structure and the use of material used, which is ashlar, which is a volcanic stone that has been used as a construction and ornamentation material.

3. Materials and methods

The method that was used in this investigation was the hypothetical deductive one, also with a quantitative approach. The research design was non-experimental according to Hernandez, Fernandez and Baptista (2018). The study population, as explained by Arias, Villasís and Novales, (2016), which is a limited and accessible set, will participate to reference the sample that meets a series of predetermined requirements. For this research, it´s made up of 60 tourists between nationals and foreigners from the

city of Arequipa, in this case the sample is non-probabilistic for the author's convenience.

The instrument used was the questionnaire "The use of technological means to facilitate historical information in cultural tourism" which consists of 12 questions, of which they worked with the variable: technological means, which was dimensioned in the use of audio guides and the use of QR code and the other variable was cultural tourism with the information management dimension. Obviously, the present work used an instrument that is the questionnaire, which was validated by Cronbach's Alpha.

4. Results

In the results it was shown that the variable technological means applied to national and foreign tourists in the city of Arequipa shows that 50% of the respondents said that they don´t know about the use of technological means during the displacement process and 26.67% of those surveyed commented that if they have used technological means in their different visits to tourist places in the world, the other percentage responded that they don´t use technological means, which corresponds to 23.33%. For the dimension of the use of audio guides, it is shown that 45% of the surveyed tourists expressed the opinion that they don´t know about the use of audio guides during the travel process on their different trips, 28.33% of the respondents stated that they don´t use audio guides during the displacement in their different trips and 26.67% of the tourists surveyed if they use audio guides in any of their tourist visits in the world.

For the dimension of the use of the QR code, 46.67% of the tourists surveyed don´t know about the use of the QR code during

their visit to tourist places, 28.33% of the respondents specified that they don´t use the QR code during their visit and 25 % if they use the QR code during their visit.

It was determined by the inference test of the general hypothesis that there is a Pearson's relationship = 0.905, high positive correlation and a p value = 0.000 < 0.05, the null hypothesis was rejected, therefore, there is a significant correlation dependence on the use of technological means that facilitate historical information on cultural tourism, that is, the higher the level of use of technological means, more historical information on cultural tourism in the city of Arequipa will be achieved.

It was determined through the inference test of the specific hypothesis that there is a Pearson's relationship = 0.878, high positive correlation and a p value = 0.000 < 0.05, the null hypothesis was rejected, therefore, there is a significant correlation dependence on the use of audio guides that provide historical information on cultural tourism, that is, the higher the level of use of audio guides, more historical information on cultural tourism in the city of Arequipa will be achieved.

5.   Discussion

Palomo and Martínez (2018) in the research they carried out on Andalucia located in Spain, they concluded that 66% of the cultural assets do not have any guide service for the individual visitor, exactly 27% of the cultural assets analyzed have an audio guide service through an App for smartphones and 7% only guided tours by specialists of cultural heritage. This implies that in Andalucia more than half of the tourists do not use technological means. Which is related to the general objective of this research, which was to determine how the use of technological means facilitates

historical information in cultural tourism. The statistical results showed that 50% of national and foreign tourists don´t know about the use of technological means during the displacement process and 26.67% of tourists commented if they have used technological means in their different trips. Palomo and Martínez (2018) mentioned as data only 4 of the 70 cultural assets in Andalucia have audio guide applications for smartphones and none of these assets have other types of technology such as virtual reality. This implies that the use of audio guides is almost nil in cultural assets. This is related to the second objective of this research, which is: to identify how the use of audio guides facilitates historical information in cultural tourism. The results of the use of audio guides, it is shown that 45% of the surveyed tourists expressed the opinion that they don´t know about the use of audio guides during the travel process on their different trips, 28.33% of the respondents stated that they don´t use audio guides during the displacement in their different trips and 26.67% of the tourists surveyed if they use audio guides in their tourist visits in the world.

Finally, the third objective of the research is: to identify how the use of the QR code facilitates historical information in cultural tourism, 46.67% of the tourists surveyed do not know about the use of the QR code during their visit to tourist places, 28.33% % of respondents specified that they don´t use the QR code during their visit and 25% if they use the QR code during their visit.

6.   Conclusions

In the following research work it is concluded that: the use of technological means facilitate historical information in cultural tourism in the city of Arequipa

The use of audio guides facilitate historical information in cultural tourism in the city of Arequipa.

The use of QR code facilitates historical information on cultural tourism in the city of Arequipa.

7.   Thanks

We thank God for giving us life and health to undertake this important challenge in our lives.

8.   References

[1] AD Solano Barliza. Conceptual review of recommendation and geolocation systems applied to tourism security. Computer and Electronic Sciences: Theory and Applications. 2(2), 37-43. (2021).

[2] A. Fernández Cortés and R. González Sánchez. Analysis of the use of technology in museums: smart museums. Case study in the city of Madrid. International magazine of tourism, business and territory. 3(1). (2019).

[3] AI Lara. Augmented reality in Mexico. A review of its use in the dissemination of Cultural Heritage. Digital Heritage, 151. (2021).

[4] A. Wheel. Economic Structure of Spain. (2022).

[5] BR Dzul, AG Damian, and AR Ramirez. Cultural tourism and its social constructions as a contribution to the sustainable management of tourist destinations: Rosa Dos Ventos. 12(2), 406-428. (2020).

[6] CR Piguave Grouper. Influence of technology in tourism: The internet. Knowledge Pole, 3(6), 429-440. (2018).

[7] DC Domínguez, EG García and AB Báez. The importance of cultural tourism as a means of dignifying the tourist and the industry. Social mediations. 18, 59-69. (2019).

[8] DP Diaz. Management model for sustainable cultural tourism: a bet for Manizales, Colombia. International Journal of Scientific Management and Tourism. 4-2: 237-248. (2018).

[9] FJ Fernández Rosique . Experimental study of cyber attacks through QR codes. (2022).

[10] GJ Gomez Zanabria. Analysis of policies and public management in the care of the historic center of the city of Arequipa declared a cultural heritage of humanity: 2000 to 2016. (2020).

[11] GO Palomo and AL Martinez. The use of devices for the interpretation of cultural assets in Andalusia. International Journal of Scientific Management and Tourism, 4(1), 589-630. (2018).

[12] R. Hernández , C. Fernández and P. Baptista. Research methodology (Vol. 4, pp. 310-386). Mexico: McGraw-Hill Interamericana. (2018).

[13] J., Arias, M. Villasís-Keever and MG Novales. The research protocol III: the study population. Allergy Mexico Magazine. 63(2), 201-206. (2016).

[14] J. Cardoso de Santana, KF Bem Maracajá and P. De Araújo Machado. Cultural tourism and tourism sustainability: mapping scientific performance from Web of Science. Tourism and Society. 95–113. (2021).

[15] JE Bauer, AP Sohn, BS Oliveira, and DR Vogel. Museums and Technologies of Information and Communication: a systematic review of the literature at EBSCOhost. Academic Journal of Tourism Innovation Observatory. 14(3), 24-42. (2020).

[16] Fr. Espeso Molinero. Cultural tourism trends. Journal of tourism and cultural heritage. 17.6. (2019).

[17] P. Saint Martin. Intangible cultural heritage and social inclusion: Contributions

to the Development Agenda of the post-COVID era in Latin America and the Caribbean, UNESCO. (2022).

[18] SJ Garrido. Organization of the local tourist information service. Auditorium Editions. Madrid. (2019).

[19] RV Vera and RA Alfonso. Technological innovation from the perspective of tourist destinations: a theoretical review. (2020).

[20] TJ Sabido Domínguez, TG Barredo Baqueiro and JR Salazar-Cantón. Contribution of ICTs in the innovation and competitiveness of tourism SMEs, theoretical review. (2019).