Evaluation of perceived usability of an App for planning tourist destinations based on experiences

Evaluación de usabilidad percibida de una App para planificación de destinos turísticos basados en experiencias

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Abstract

The purpose of the present investigation was to evaluate the perceived usability of an App for planning tourist destinations based on experiences, taking the Masiaca community as a case study, which allows generating the tourist and visitor profile appropriate to user preferences and providing a space for interaction for service providers. For this, a study with a quantitative approach was developed, the design was non-experimental, of a correlational type and transversal, the study subject was tourists, visitors and service providers from the Masiaca community, the study sample was non-probabilistic by convenience, the technology acceptance model instrument was applied to determine the level of perceived usability of the App, later the data was collected and analyzed, resulting in that the level of perceived usability of the App was high and will be a tool which comes to strengthen the way of using technology to transform the tourism sector, currently considered one of the most relevant and growing sectors for the countries, it will also promote the development of communities and the opportunity to display their cultural patrimony in the world.

Resumen

El propósito de la presente investigación fue evaluar la usabilidad percibida de una App para planificación de destinos turísticos basados en experiencias tomando como caso de estudio la comunidad de Masiaca, que permita generar el perfil de turista y visitante adecuado a las preferencias del usuario y brindar un espacio de interacción para los prestadores de servicio. Para ello se desarrolló un estudio de enfoque cuantitativo, el diseño fue no experimental, de tipo correlacional y transversal, el sujeto de estudio fueron turistas, visitantes y prestadores de servicios de la comunidad de Masiaca, la muestra de estudio fue no probabilística de cuota por conveniencia, se aplicó el instrumento de modelo de aceptación de tecnología para determinar el nivel de usabilidad percibida de la App, posteriormente se recolectaron los datos y se analizaron, teniendo como resultado que el nivel de usabilidad percibida de la App fue alto y será una herramienta que viene a fortalecer la manera de utilizar la tecnología para transformar el sector turismo, considerándose en la actualidad uno de los sectores de mayor relevancia y crecimiento para los países, además impulsará el desarrollo de las comunidades y la oportunidad de visualización de su patrimonio cultural en el mundo.

Evaluate, Acceptance, Perceived

Evaluar, Aceptación, Percibido

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Introduction

Tourism has become one of the most important strategic sectors for countries, representing one of their best sources of income, especially for those economies that bet on this activity, where it equals or surpasses important sectors such as oil or automotive exports. According to the World Tourism Organization, tourism contributes 10% of the gross domestic product (GDP) worldwide. In Mexico the tourism sector has had an impact on the development of the economy, in 2017 reached 99.3 million visitors from abroad, of which 39 million were tourists, giving the country the title of sixth place with the highest number of international tourists, it is important to note that during the last five years, there has been an increase of 68% of international tourists in Mexico, surpassing the average global growth (Secretaría de Turismo [SECTUR], 2018).

The National Statistical Information System of the Mexican Tourism Sector (DATATUR, 2022) mentions that from January to April 2022, 20 million 256 thousand international tourists arrived, 4 million 661 thousand more visitors compared to the same period in 2021. In recent years, tourism in Mexico has been one of the main drivers of the economy and job creation. It should be noted that due to the pandemic produced by Covid-19 it generated a significant negative impact on the tourism sector, however, it can be noted in this last quarter a positive progress in the reactivation of the sector.

In the State of Sonora, Mexico, tourism activity has been increasing in 2000, it was estimated at 8,997.5 million pesos; with a 43 percent growth, it reached the figure of 12,901.25 million pesos in 2010, and in 2014, despite a lower dynamism, it reached 17,061.87 million pesos. In addition, approximately 91 thousand people are employed in the tourism industry (Comisión de Fomento al Turismo del Estado de Sonora [COFETUR], 2021).

With the globalization process and the intensive use of Information Technologies, they have come to transform societies, since they are a tool that favors development at a global level, and are redefining part of the behavioral patterns that regulate social interaction (Sandoval et al., 2017).

According to the National Institute of Statistics and Geography (INEGI, 2021) in Mexico there are 84.1 million internet users and 88.2 million cell phone users, in recent years there has been an accelerated increase, showing that technology is becoming an essential tool not only to maintain communication, but also to perform various activities and information queries from the ease of the devices.

For this, organizations need to reinvent themselves to respond quickly to the challenges of an environment that sets the tone for the digital economy, the digital transformation processes being implemented by many industrial companies has shown an increase of 20% to 30% in productivity. Organizations need to anticipate the future which entails shorter and more dynamic strategic cycles that allow them to meet the needs of our environment and thus be able to offer experiences to their customers, adapting to market changes and customer behavior quickly, arising the need to enter into a cyclical process of generating ideas and improvements in processes, that is, innovate in an incremental or disruptive way (Valderrama, 2019).

Current technological trends and accelerated changes in markets within the volatile, uncertain, complex and ambiguous (VUCA) world we live in, adaptability, i.e., the ability to react to changes, must be paramount to create new opportunities in those environments with high uncertainty, These events are forcing the tourism industry to transform itself, since they provide the opportunity to convert information into knowledge to be used, the tourism sector needs new models of services and integral products that are more flexible and personalized, it should be taken into account that the tourist is more informed and increasingly demanding.

According to Kenteris et al. (2009), in the past, in order to make a trip it was necessary to request the services of travel agencies, tour guides, recommendations on places to eat and other consultation activities. Today, with the growth that has occurred with the use of mobile devices and their impact on tourism, the way to consult all the required tourist information and the services that can be accessed has changed radically.

Ulrike et al. (2015), for their part, mention that technologies have become a driving force in people's activities and that, as a result of globalization, new consumer trends are forcing organizations to transform themselves technologically in order to survive. Coinciding with the author, according to Soteriades (2012) tourist destinations are undergoing a series of changes due to the new needs of the consumer and the environment, as well as the companies it is necessary to implement a plan to be able to respond to the needs of the client and be successful in the future.

The tourism industry has undergone remarkable changes, Garcia (2017) comments that in the planning of a trip different activities are involved that can be carried out, thanks to the access of information that is available, today on the internet the user performs by himself the planning of his trip, considering aspects such as cost, preferred places to visit, days of stay, among others.

The tourism sector requires access to a large amount of information, including tourism products and services offered, in order to make the decision to make a trip and its planning (Mendes et al., 2013). With technological advances and the process of digital transformation, have given the guideline for the creation of tourism applications, however, they are mostly informative and only consider the emblematic tourist sites, in addition, Ricci et al. (2015) mentions that with the large amount of information found on the Web, the user may find it complex to make the planning of his trip.

The research was conducted in the community of Masiaca, located in the south of the State of Sonora, where the predominant activity among its inhabitants is the sale of services and products such as handicrafts, saddlery, traditional food, and lodging. Being a small and little known community, it is not considered in current applications; however, the service providers have been working to establish a tourist structure since they have a broad cultural heritage.

Despite the efforts that have been made in the tourism sector, there is no application that, based on recommendations based on user experiences based on sensations, tastes and emotions, generates a tourist or visitor profile to offer a better planning with tourist services of interest in a personalized way according to their preferences.

Therefore, the objective of the research was to evaluate the perceived usability of an App for planning tourist destinations based on experiences, taking as a case study the community of Masiaca, which allows to generate a tourist and visitor profile appropriate to the user's preferences and provide a space for interaction for service providers.

The following hypotheses were proposed for the research:

- H1: The level of usability perceived by Tourists, Visitors and Service Providers is High.

- H2: Ease of use affects usability in tourists and visitors.

- H3: Ease of use affects usability in service providers.

Ghaderi et al. (2018), comments that the experience of a trip depends on how one perceives the services, products and facilities they tour, which can be found through technology.

Technology combines the traditional methods of tourism with the current ones that are virtual, this causes the services offered to tourists to have extensive customization and allows the tourist to improve the experiences around their trip and increase travel satisfaction (Wang et al., 2020).

For Figueredo et al. (2017), the tourism sector is an economic activity of great relevance for the countries which has had an important growth, generating economic spillover and employment, for this reason it is of great value to understand what needs the tourist has in the destinations and to take better advantage of the available resources.

For the above reasons, Kontogianni and Alepis (2020) refer to the fact that recommendation systems represent an opportunity to offer tourists more personalized services in line with their tastes and preferences.

The importance of this study lies in helping the community of Masiaca and any entity to transform itself, so that by means of technology there is a greater diffusion and attraction of tourists and visitors, to promote a better quality of life for its inhabitants.

Description of the method

A quantitative approach study was developed, the design was non-experimental, correlational and transversal, where the variables to be correlated were ease of use and perceived usefulness. The quantitative approach is to define reality as accurately as possible.

The non-experimental design is an investigation that is carried out without altering the variables, and the correlational studies seek to obtain the degree of association between two or more variables. As for cross-sectional studies, the data are obtained at a particular moment or time.

The subjects of the study were tourists, those people who travel to the destination and stay more than 24 hours, visitors, who are considered to be individuals who consume tourism products and/or services, but stay less than 24 hours, and service providers in the community of Masiaca, who offer their tourism services. A total of 61 people participated, 31 were tourists and visitors, of which 48% were female and 52% male, and 30 were service providers, 73% female and 27% male.

The study sample was non-probabilistic by convenience quota, since only tourists, visitors and service providers from the community of Masiaca were required to participate voluntarily in this research.

The Technology Acceptance Model (TAM) instrument proposed by Davis (1989), one of the most widely used Information Technology (IT) adoption models, was applied.

The TAM is influenced by two perceptions: usefulness and ease of use, the instrument is composed of 12 items, from 1 to 6 it measures perceived usefulness and from 7 to 12 ease of use, using a Likert-type response scale of 1 to 7 points, where 1 is extremely unlikely and 7 is extremely likely.

Since the application is aimed at tourists, visitors and service providers, two instruments were adapted, one for tourists and visitors and the other for service providers.

For the analysis of the results, three levels of IT adoption were determined, as shown in Table 1, calculating means by variable and in general, and a correlation analysis of the variables was carried out with the Pearson coefficient and a significance level of 0.05 and factor analysis with varimax rotation using the SPSS statistical program, version 23.

Levels	Lower value	Upper value
Low	1.0	4.0
Intermediate	4.1	6.0
High	6.1	7.0

Table 1 Levels of IT Adoption
Source: Own elaboration, (2023)

The procedure followed for the development of the research was to apply the TAM instrument, then the data were collected, the validity and reliability of the instrument were determined by means of Cronbach's Alpha and factor analysis with varimax rotation, the level of perceived usability of the App for planning tourist destinations was determined, the correlation between ease of use and perceived usefulness was examined, and finally the results were analyzed and discussed.

Results

For the validity and reliability analysis of the instrument responses, Cronbach's alpha coefficient was calculated, obtaining a 0.933 for tourists and visitors and 0.968 for service providers.

As for the reliability analysis of the instrument, it was found by means of a factor analysis with varimax rotation in the KMO test with 0.860 with a significance of .000 for tourists and visitors (see Table 2) and a KMO of 0.812 with a significance of .000 for service providers (see Table 3).

Kaiser-Meyer-Olkin measure of sampling adequacy		.860
Bartlett's test for sphericity	Approx. chi-square	270.032
	df	66
	Sig.	.000

Table 2 KMO and Bartlett's test for tourists and visitors
Source: Own elaboration, (2023)

Kaiser-Meyer-Olkin measure of sampling adequacy		.812
Bartlett's test for sphericity	Approx. chi-square	452.287
	df	66
	Sig.	.000

Table 3 KMO and Bartlett's test for service providers
Source: Own elaboration, (2023)

As a result corresponding to the study variables of the usability level of the App for the management of tourist destinations based on experiences in the case study of the community of Masiaca (See Table 4), the overall result is 6.40 for tourists and visitors and 6.30 for service providers, presenting a high level in both cases.

For tourists and visitors, the utility with a value of 6.34 and ease of use with 6.46 show a high level, and for service providers, the utility with a value of 6.39 and ease of use with 6.21 also show a high level.

Variables	Utility	Standard deviation	Ease of Use	Standard Deviation	Mean
Tourists and Visitors	6.3419	0.58468	6.4677	0.52687	6.4048
Service Providers	6.3933	0.55704	6.2167	0.62261	6.3050

Table 4 Descriptive statistics
Source: Own elaboration, (2023)

For the correlation analysis of variables, in tourists and visitors are shown in Table 5, with a positive correlation of 0.719 with a significance of .000 between the variables of ease of use and usefulness, resulting in a strong positive association with a high level of significance, so the Pearson coefficient is statistically significant, which leads to the conclusion that the level of ease of use is associated with the utility, where increasing the perception of ease of use of the app increases the perception of usefulness.

		Usefulness	Facility
Usefulness	Pearson correlation	1	.719**
	Sig. (bilateral)		.000
	N	31	31
Facility	Pearson correlation	.719**	1
	Sig. (bilateral)	.000	
	N	31	31

Table 5 Correlation of Person for tourists and visitors
Source: Own elaboration, (2023)

In addition, Table 6 shows the correlation of variables, for service providers, with a positive correlation of 0.894 with a significance of .000 between the variables of ease of use and usefulness, also resulting in a strong positive association and with a high level of significance, statistically significant, where with these results, hypotheses H1, H2 and H3 are accepted.

Usefulness	Pearson correlation	1	.894**
	Sig. (bilateral)		.000
	N	30	30
Facility	Pearson correlation	.894**	1
	Sig. (bilateral)	.000	
	N	30	30

Table 6 Correlation of Person for service providers
Source: Own elaboration, (2023)

As can be seen with the results of the research, they coincide with the author Wang et al. (2020), since he mentions that technology causes that the services offered to tourists have a wide personalization and allows the tourist to improve experiences and satisfaction and also with Kontogianni and Alepis (2020), who refers that recommendation systems represent an opportunity to offer tourists more personalized services related to their tastes and preferences.

In addition, this research comes to strengthen the way to use technological tools and transform the tourism sector, to avoid mainly what the author Ricci et al. (2015) mentions, that the user may find it complex to make the planning of his trip with the large amount of information on the web.

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Conclusions

With the increase and use of technology many sectors have been transformed and the tourism sector is no exception, currently the tourist or visitor, has endless options for the management of their trips, ie is more involved and can have access to Internet tools to perform these tasks, although in the market there are a variety of tourism applications, Most of them are informative, that is, they only provide information about hotels, restaurants, museums, among others, considering the most emblematic sites of each place, leaving out a large number of places that are less known and do not have the option to contribute with their cultural richness, thus losing the opportunity to develop these communities and offer a better quality of life to their inhabitants.

As mentioned by different authors, the tourism sector is an economic activity of great relevance for the countries which has had an important growth and economic spill over, being one of the main activities in the countries that contributes considerably to the Gross Domestic Product, hence the importance of taking advantage of the resources and technological tools to develop the sector.

Therefore, with the development of the research it was possible to determine the level of usability of a mobile App, which allows the management of tourist destinations based on experiences and provides personalized alternatives through the knowledge of tastes and preferences of the user and this is obtained through the experiences in their travels, through a profile in which this information is recorded.

In addition, for service providers who are mostly inhabitants of the communities or places where tourism products or services are offered and whose income and that of their families depend on tourists and visitors, they are offered the opportunity to use a technological tool with which they can publicize their products and services, so that the App, in addition to serving tourists and visitors, also has a space for service providers.

In conclusion, it is important to note that the level of perceived usability of the Mobile App for tourists, visitors and service providers for the case study that was the community of Masiaca is high, it will be a support tool to transform tourism products and services, serving in the best way the needs of tourists and visitors, allowing them better growth and development to their communities and visibility to the world.

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