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- Promoting studies with critical points of view and perspectives.
- Publishing research from different academic disciplines applied to tourism: economy, marketing, company, geography, heritage, political, sociology, social-psychology, anthropology, law, technology, ecology, etc.
- Disseminating multidisciplinary and holistic issues applied to tourism: environment, urbanism, culture, training, management, planning, image, sustainability, innovation, accessibility, sharing economy, social media, networks of actors in tourism, management of the on-line reputation, etc.
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Multidimensional research about oleotourism attraction from the demand point of view

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Abstract

Purpose – The purpose of this paper is to confirm the consumer’s interests about olive oil tourism like other active touristic tipologies. Experimental tourism can be understood as a new trend in tourist demand. Tourists want to experiment with lifestyles in different places. The information society shows how and where the best products are cultivated and is linked to how the quality of life should be. Nowadays, we are intended to know more and better things, both tangible and intangible, and new technologies show them to us immediately. One intends to live these opportunities as soon as they can.

Design/methodology/approach – From the experimental point of view, Olive Oil Tourism (Oleotourism) emerges from the olive oil consumer’s interest in learning about the production process, so they can discover a lifestyle associated to this product. This research begins with an exploration of tourists’ motivations. Then, focusing on these consumers, this work has different targets: first, to assess how consumers perceive intangible aspects of olive oil and, second, to forecast the potential demand for oleotourism.

Findings – The development of tourism is the result of tourist entrepreneurs that react to the pre-existing demand/opportunity by identifying it in the tourist market.

Research limitations/implications – The consumer’s experience is important, but touristic trends are changing. The importance of olive oil may grow in the future because the nutrition benefits are known by all countries. The natural experience around olive oil will drive it to other stakeholders.

Practical implications – It is very early to recognize if the olive oil tourism industry is economically interesting, and whether innovative offers can be created based in olive oil and the lifestyle in rural areas.

Social implications – The local development around olive oil tourism could be a potential complement with the principal activities, which are usually agricultural activities, farmer interests and local and historical heritage. This is a means to foresee the plausible impacts of the development of oleotourism on tourist destinations, for which oleotourism might become a competitive advantage based on an agri-food product with many intangible profits: olive oil.

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Originality/value – This is the first opportunity to learn about the personal interest of the consumer regarding olive oil. They give us the opportunity to know if the institutional offer about new destinations based on olive oil tourism will have a chance or will it be an economic complement with the principal activities.

Keywords Intangible benefits, Multidimensional scalling, Oleotourism, Oleotourist

Paper type Research paper

1. Introduction
Tourist destinations strive to enhance their resources to achieve an urban and/or rural development for new modern needs (Martha and Kotsaki, 2015). Tourism has become a way to combine past and its vestiges with an arranged exploitation according to current tastes (Molina and Ruiz, 2009; Martha and Kotsaki, 2013).

Tourists’ behaviour has evolved over time, affecting not only the type and quantity of expense in their destination but also in the way one makes decisions before travelling (Mckercher and Chan, 2005; UNWTO, 2017a, 2017b).

Currently, tourists take into account the governance and best practices, not only those of the tourist providers but also those of the destinations (Dodds, Graci and Holmes, 2010). This new tourist profile contributes to improve the sustainability of the place visited, as it is done in the environment from which tourists come. The knowledge acquired in a destination is an enrichment sought by the tourist, not only because it contributes to the sustainability of the society we live in but also because it links present and past, history and future, tradition and modernity. Oleotourism gathers many of these elements, as it combines environment, culture, tradition and cuisine.

Once the tourist recognises the elements that conceptualise this new type of tourism, the Oleotourism, its demand and its study provide us with information about the tourists’ motivations for having a new experience in their destinations, whereas those destinations are working to offer this kind of tourism.

The extent to which tourists recognise these elements fosters the tourist’s wish to include those places in their plans, as they may appear interesting for several reasons. Among those reasons we find the experimental one. This is why in this study we will try to forecast the tourist’s interest in learning about the olive oil production process.

But before addressing this possible demand, this study aimed to know if the respondents had considered olive oil potentially attractive. This is to know if an agri-food product could be acknowledged in different dimensions, so as to create an international tourist demand. Therefore, this kind of study could be extrapolated to any destination devoted to olive oil production.

As a precedent, it is important to mention the case of wine. For some time now, it has become an example of an agri-food product which has acquired a growing importance and has contributed to the tourism of wine, Enotourism. As with this kind of tourism, oleotourism seeks to combine elements that create a new model of sustainability in rural environments. New synergies of sustainable development are created, not only regarding the environment but also socio-economic ones.

The results of this study show how olive oil consumers are valuing several intangible aspects that are perceived as inherent. This even enables the assessment of the potential demand oleotourism may have according to gender, age and nationality.

2. Tourism in Spain
Spanish tourist destinations have diversified their offer because of the growing tourists’ demand for new experiences. At the same time, academic research has focused on
conceptualising each kind of existing tourism. In scholarly literature, many attempts to define tourists’ profiles and characteristics can be found (Table I). Accordingly, the offer has tried to create tourist products which are becoming increasingly sophisticated to respond to this specific demand.

The problems in the tourist sector demand greater attention from scholars, and this field should also become a research line in itself.

Spain has achieved, in 2017, after several years of growth (UNWTO, 2017a, 2017b), the Top3 position of most visited countries by international tourists. The Spanish tourist model has worked to develop a much wider and more diverse tourist offer than the typical seasonal beach tourism (TurEspaña, 2014). This is why the creation of a new tourist offer, either as a main or complementary one, through entrepreneurship, is being promoted (Tilley and Young, 2009; Parrish, 2010; Lombardi et al., 2015; Migliore et al., 2015; Caracciolo et al., 2016; Cembalo et al., 2016).

Scholarly literature has focused on the different aspects of the new offer, aiming to identify ways of sustainable growth. This is the most interesting factor in the new developments of tourist destinations (Bacq and Janssen, 2011; Migliore et al., 2014; Migliore et al., 2015; Schimmenti et al., 2016).

This research investigates the possibilities of a tourist exploitation based on olive oil. This is a markedly seasonal product because olives are only harvested in low-temperature periods, this is by the end of autumn, the beginning of winter and in markedly rural areas, where traditional olive growing is kept. During some years, there is no olive production because of the alternate bearing process (one year olives are harvested but not the following one). During the rest of the year, it can be a good complement to a main offer, for example, as an interpretation centre.

Among researchers, the most widely accepted definition for an oleotourist is the person who travels outside their residence place to get to know, in a direct way, the production process of olive oil, from the harvest of olives and the olive trees landscape, to the milling/pressing process in the mill, including a tasting to learn how to differentiate typologies, varieties and different tastes of different types of olive oil. Therefore, the scope of this study is limited by this definition, understanding oleotourism as a wide concept.

<table>
<thead>
<tr>
<th>Pull factor</th>
<th>Kinds of activities</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Olive picking, walk among the olive trees, visit to the mill, tasting and purchase of the product</td>
<td>Oleotourism</td>
</tr>
<tr>
<td>Contact with nature</td>
<td>Natural environments, walking, hiking</td>
<td>Ecotourism</td>
</tr>
<tr>
<td>Attractions</td>
<td>Zoos, safaris, wax museums, theme parks</td>
<td>Interest tourism</td>
</tr>
<tr>
<td>Cultural heritage</td>
<td>Castles, palaces, museums, monumental sites, religious places, archaeological sites</td>
<td>Cultural tourism</td>
</tr>
<tr>
<td>Sport</td>
<td>Attending/participating in sports competitions</td>
<td>Active tourism</td>
</tr>
<tr>
<td>Entertainment</td>
<td>Cinema, theatre, bars, concerts, discos, restaurants</td>
<td>Leisure tourism</td>
</tr>
<tr>
<td>Relax</td>
<td>Resting, reading, sunbathing, going to the beach</td>
<td>Beach tourism</td>
</tr>
<tr>
<td>Health and religion</td>
<td>Health treatments, saunas, massages, therapies</td>
<td>Health tourism</td>
</tr>
<tr>
<td>Shopping</td>
<td>Souvenirs, clothes, presents, equipment</td>
<td>Shopping tourism</td>
</tr>
<tr>
<td>Business</td>
<td>Meetings, conferences, fairs</td>
<td>Business tourism</td>
</tr>
</tbody>
</table>

Table I.
Types of tourism  Source: Adapted from Ayuso and Fullana (2002)
3. Oleotourism and its potential

Oleotourism implies complementarity with other types of tourism, and this product must be taken into account, not only because of its tangible part when the product is tasted but also because of the intangible benefits it has, such as its contribution to a healthier lifestyle and the connotations it has in other spheres of society (Ruiz, 2010).

This type of tourist offer is located in those places where olive trees are grown and olive oil is produced. This is why this product, because of its essential characteristics, is a seasonal one, as it is only harvested in a specific season, autumn/winter.

Having said this, we must bear in mind that, according to the definition of the oleotourist, they will value other aspects of the production process, such as the landscape. Olive trees are grown in 34 Spanish provinces, most of them in Andalusia and Castilla-La Mancha. The landscapes with olive trees contain great areas with olive trees with a traditional dry-farming growing. They also have a characteristic distribution and order. In the province of Jaén, they are called “seas of olive trees”, as a way to introduce a very recognisable landscape (Díaz et al., 1997).

Alongside with the landscape, another attractive aspect is the Mediterranean cuisine culture, in which olive oil plays an essential role. This culinary tradition is gathering both national and international recognition (Kivela and Crotts; 2006; López and Sánchez, 2012), which has positioned olive oil above other vegetable fats. Nevertheless, we must keep in mind that, nowadays, olive oil consumption represents only 5 per cent of total of vegetable fats that are consumed worldwide (Mercacei, 2017). This shows that the potential of growth and introduction of olive oil is still very large.

Furthermore, it is important to highlight the industrial assets of the olive oil sector, the mills, the places where olives are processed after being harvested to become olive oil through a pressing process, filtering of solid particles and storage of the final product. This is a simple process which does not require a great amount of machinery. Facilities have been adapted to the new way of production, much more effective than the traditional one, from which there are still a great number of products that have been used until relatively recently, as a sample and representation of ethnographic heritage.

This new way, as can be checked with the description of the product itself, implies complementarity with other types of tourism, such as active tourism, culinary tourism and industrial tourism. This alone becomes a complement to agricultural economics in rural areas (Stewart et al., 2008; Millán and Agudo, 2010; Pagliuca and Scarpato, 2014).

Nevertheless, the focus of this study is to show the value of those intangible aspects which are characteristic of this agricultural practice and olive oil. Those characteristic aspects, such as singularity and durability, will contribute to a socio-economic and environmental development of destinations (Hjalager and Corigliano, 2000; Quan and Wang, 2004; Millán et al., 2015). Other types of tourism based on an agri-food product have developed widely both nationally and internationally in the tourist field. This is the case of the tourism of wine, enotourism (Stewart, 2008; Henderson, 2009; Cho et al., 2014; Corbo, 2014b; Millán et al., 2014; Medina, 2015). Its main difference may be that wine has become the tourist attraction itself and we could say that this tourist product is growing, whereas oleotourism is still an emerging product.

By contrast, olive oil is starting to be considered as a tourist resource according to different scholars (Martin, Molina and Ruiz, 2008; Moral and Orgaz, 2014; Moral et al., 2014; Hernández et al., 2016; Millán-Vázquez et al., 2017).
All those forms of tourism can be put together as one and be called experimental tourism, which involves an added value for destinations (Hall and Weiler, 1992; Gandara, et al., 2012; Rivera, 2015) in view of the growth in demand of tourism with such a wide content (Tyrrell and Johnston, 2001; McKercher and Chan, 2005; Tyrrell and Johnston, 2006).

Oleotourism involves a number of principles for an enriching and sustainable kind of tourism because it is socially caring, economically viable and culturally rich (Lanfranchi et al., 2014; Galati et al., 2015; Schimmenti et al., 2016), which makes it a potential tourist attraction. From the point of view of the sustainability of the destination based on an agri-food industry, some scholars have described other aspects to keep in mind, such as (Corbo et al., 2014; Vecchio, 2014; Capri and Pomarici, 2014; Mariani and Vastola, 2015; Borsellino et al., 2016a, 2016b):

- resources efficiency;
- environmental preservation;
- local biodiversity conservation;
- investment in the quality of employees’ work;
- cooperation with the local community;
- conservation and enhancement of traditions; and
- economic viability.

Moreover, the characteristics of enotourism customers and oleotourists who wish to learn more about olive oil have been compared (Ruiz, 2011; Millán, Arjona and Amador, 2014; Moral and Orgaz, 2014). Both share aspects, as they are both interested in two agri-food products and this sharing, therefore, could be understood as a tourist resource to face the growing demand of tourists that look for more experiences. The greater position and recognition that wine has for costumers contrast with olive oil consumption which is, as it has been previously stated, only 5 per cent of the total consumption of vegetable fats internationally (COI, 2017).

For oleotourism to succeed, the participation of the production sector is needed and, in this way, the revitalisation of the rural areas is promoted through tourist activity by using politics on the environment and on the rural area development (Molina and Ruiz, 2009; Molina et al., 2011; Moral, et al., 2014; Millán Vázquez de la Torre and Pérez, 2014; Millán, Amador and Arjona, 2015; Hernández et al., 2016; López-Guzmán et al., 2016).

4. Methodology
A questionnaire was designed and given to a group of olive oil consumers, who assessed several aspects of olive oil. A simple random sampling was used to select the sample, therefore obtaining a quantitative, exploratory and descriptive study.

The digital questionnaires were sent via email to an inter-university network of researchers on social and cooperative economy formed by 17 universities from Europe and Latin America. The participation in this network had an informal nature, as this study was not a part of their own research programmes. The researchers who were also university teachers extended it to their students too and questionnaires from 15 universities were received via email. Each responded questionnaire had a sequential numbering according to the order of arrival and, therefore, was treated anonymously.
The sampling size was of 704 responded questionnaires, assuming a sampling error lower than 5 per cent. The participants come from 15 different universities. A translation into English was done as a common language for those universities which do not use Spanish as a working language. 55.8 per cent were women and the rest, 44.2 per cent, were men.

A Friedman non-parametric test was used for k related samples \((k > 2)\) in order to determine if significant differences existed between the respondents’ assessments of the different fields. The null hypothesis \((H_0)\) establishes that no significant differences exist and the alternative hypothesis \((H_1)\) would indicate that significant differences do exist. To compare only two fields, the Wilcoxon test is used for two related samples.

Multidimensional scaling techniques were also used (multidimensional scaling, Kruskal and Wish, 1978) to interpret geometrically the proximity between the assessments of the different fields analysed.

5. Assessment of olive oil as a tourist resource

A data collection was carried out during the summer months thanks to a research funded by the Professorship in Cooperative Studies of the University of Castilla-La Mancha, through two methods: direct and indirect.

The greatest part of the total percentage (94.3 per cent of the sampling) was collected from people whose ages ranged between 17 and 44 years. The percentage of respondents aged between 45 and 60 years is practically insignificant, 3.9 per cent. The remaining 1.8 per cent is lost data which were not collected when the questionnaires were developed. As shown in Figure 1, the sampling is based on an important group of nationalities represented by percentages.

Participants were asked if they cooked regularly and the percentage of participants who responded positively was 73.6 per cent. Another point of interest was measuring the level of knowledge about different vegetable fats. Olive oil had the highest percentage of knowledge, 91.3 per cent.

Olive oil achieved the best knowledge ratios compared with other vegetable fats. Nevertheless, this percentage contrasts with its consumption and its impact on the

Figure 1. Nationalities of the participants of the sampling
vegetable fats market, which is only 4 per cent of global consumption (COI, 2017) Figure 2.

In this research, the focus was to know the assessment the consumers did (from 1 to 10, from less important to more important) about a series of intangible aspects of olive oil (Table II).

The collection of intangible aspects of olive oil (Ruiz, 2010) of different fields such as:

- culture;
- agriculture;
- health;
- environment;
- economy; and
- tourism.

Those aspects were selected based on a literature review that helped us identify nine aspects associated with oleotourism (Ruiz, 2010; Molina et al., 2011). This demonstrates that olive oil

![Figure 2. Types of olive oil known by people](image)

**Source:** Made by the author

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition (AL)</td>
<td>8.71</td>
</tr>
<tr>
<td>Cuisine (GS)</td>
<td>8.045</td>
</tr>
<tr>
<td>Health (SA)</td>
<td>7.897</td>
</tr>
<tr>
<td>Economy (EC)</td>
<td>5.7</td>
</tr>
<tr>
<td>Environment (MA)</td>
<td>5.51</td>
</tr>
<tr>
<td>Culture (CL)</td>
<td>5.33</td>
</tr>
<tr>
<td>Tourism (TR)</td>
<td>4.9</td>
</tr>
<tr>
<td>History (HS)</td>
<td>4.775</td>
</tr>
<tr>
<td>Society (SC)</td>
<td>4.556</td>
</tr>
<tr>
<td>Religion (RG)</td>
<td>2.54</td>
</tr>
</tbody>
</table>

**Table II.**
Results of the assessment of intangible aspects of olive oil

**Source:** Made by the author
played a role in each of the development stages of cultures and societies in the Mediterranean area.

These aspects were presented to the respondents for them to assess. They had to assign a quantitative value (from 1, the lowest, to 10, the highest value) to the extent to which, in their opinion, olive oil played a role in the fields of: nutrition, cuisine, health, economy, environment, culture, tourism, history, society and religion.

The first hypothesis, suggested that respondents’ assessments would show that, according to them, olive oil is not related to tourism. Having achieved 4.9 points in the assessment showed clearly that consumers’ opinion is different. This explains its boom as a tourist resource in recent years (Millán, Arjona and Amador, 2014).

H1. It is a fact that respondents recognise in their assessments that olive oil can have some tourist aspects.

<table>
<thead>
<tr>
<th>Answer</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, very much</td>
<td>14.49</td>
</tr>
<tr>
<td>Yes, it is interesting</td>
<td>27.70</td>
</tr>
<tr>
<td>Yes, a little</td>
<td>18.61</td>
</tr>
<tr>
<td>No, not much</td>
<td>24.86</td>
</tr>
<tr>
<td>I am not interested</td>
<td>14.35</td>
</tr>
</tbody>
</table>

**Source:** Made by the author

**Table III.** Rate of consumers asked about their interest in visiting the olive oil production process

**Figure 3.** Average rating of the assessment of intangible aspects of olive oil

**Source:** Made by the author
Consequently, they were asked how interested they would be in doing oleotourism. The results were enlightening, as more than 60 per cent of respondents stated that they would find travelling and learning about the olive oil production process interesting Table III.

The range of assessments made by the respondents can be seen in Figure 3. The difference in the religious aspect is quite noticeable, as it appears below the rest of assessments, with an average rating of 2.73 points.

To check if differences in opinions existed about the different aspects of olive oil assessed by the respondents, two hypotheses were considered. The null hypothesis ($H_0$), which establishes that no differences in opinions exist, and the alternative hypothesis ($H_1$) that establishes that differences do exist. Through a Friedman test we obtained the following Table IV.

As the $p$-value obtained is 0.000, we must reject the null hypothesis, which shows there are differences between the different aspects analysed.

To check which aspects have those differences and which do not, we compared two to two every aspect. For that, we used a Wilcoxon test:

$H_0$. No differences in opinions exist between the two aspects.

$H_1$. Differences in opinions do exist.

Almost all the $p$-values obtained after the Wilcoxon test are 0.000, so those results lower than 0.05 indicate significant differences in opinion. The aspects that obtained a $p$-value higher than 0.05 in the Wilcoxon test and therefore indicate that no significant differences exist are:

- economy and environment ($p$-value = 0.099);
- culture and environment ($p$-value = 0.622);
- history and tourism ($p$-value = 0.136); and
- history and society ($p$-value = 0.103).

### 6. The demand for oleotourism exists

Now, following multidimensional scaling techniques, the distances between each of the aspects assessed by the respondents regarding the representativeness of olive oil are going to be established.

In this multidimensional scaling Chart (Figure 4), we can see that the most distant aspect (in a different colour) was Religion. The aspects Tourism and History were close to each other, and so was History in relation to Society, but Society and Tourism were more distant from each other. Thus, we can find a marked proximity between the aspects cuisine, nutrition and how these aspects, in the respondents’ opinion, are essential for the health of olive oil consumers.

<table>
<thead>
<tr>
<th>$N$</th>
<th>596</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-squared</td>
<td>2343.864</td>
</tr>
<tr>
<td>D.F.</td>
<td>9</td>
</tr>
</tbody>
</table>

**Table IV.**

Testing statistics (a) Asymptotic significance 0.000
As shown in Table V, those aspects with a correlation coefficient close to 1 showed a greater similarity between them than those with a correlation coefficient closer to 0, which showed less similarity.

In the light of the obtained results, we can state that the olive oil consumer demands a kind of tourism which includes activities that link oleotourism to the aspects of economy, culture and society of the destinations they intend to visit with the aim of investing time and money in learning about the olive oil production process.

7. Conclusions
The concept of oleotourism is now a new niche in the tourist sector because it has, according to the description in this study, a series of aspects that clearly separate it from other tourist fields.

This study shows that, to reinforce this new niche in the tourist market, the development of strategies is needed for the creation of tourist products with singularities, attractions and improvements in the on-line distribution.

<table>
<thead>
<tr>
<th></th>
<th>RG</th>
<th>AL</th>
<th>MA</th>
<th>TR</th>
<th>GS</th>
<th>SC</th>
<th>EC</th>
<th>HS</th>
<th>SL</th>
<th>CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG</td>
<td>1</td>
<td>0.056</td>
<td>0.207</td>
<td>0.125</td>
<td>0.027</td>
<td>0.234</td>
<td>0.106</td>
<td>0.303</td>
<td>0.124</td>
<td>0.235</td>
</tr>
<tr>
<td>AL</td>
<td>0.056</td>
<td>1</td>
<td>0.344</td>
<td>0.316</td>
<td>0.631</td>
<td>0.197</td>
<td>0.38</td>
<td>0.249</td>
<td>0.502</td>
<td>0.262</td>
</tr>
<tr>
<td>MA</td>
<td>0.207</td>
<td>0.344</td>
<td>1</td>
<td>0.485</td>
<td>0.307</td>
<td>0.459</td>
<td>0.441</td>
<td>0.395</td>
<td>0.412</td>
<td>0.45</td>
</tr>
<tr>
<td>TR</td>
<td>0.125</td>
<td>0.316</td>
<td>0.485</td>
<td>1</td>
<td>0.358</td>
<td>0.591</td>
<td>0.511</td>
<td>0.539</td>
<td>0.334</td>
<td>0.573</td>
</tr>
<tr>
<td>GS</td>
<td>0.027</td>
<td>0.631</td>
<td>0.307</td>
<td>0.358</td>
<td>1</td>
<td>0.273</td>
<td>0.399</td>
<td>0.266</td>
<td>0.499</td>
<td>0.257</td>
</tr>
<tr>
<td>SC</td>
<td>0.234</td>
<td>0.197</td>
<td>0.459</td>
<td>0.591</td>
<td>0.273</td>
<td>1</td>
<td>0.553</td>
<td>0.554</td>
<td>0.309</td>
<td>0.606</td>
</tr>
<tr>
<td>EC</td>
<td>0.106</td>
<td>0.38</td>
<td>0.441</td>
<td>0.511</td>
<td>0.399</td>
<td>0.553</td>
<td>1</td>
<td>0.55</td>
<td>0.426</td>
<td>0.515</td>
</tr>
<tr>
<td>HS</td>
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<td>0.515</td>
<td>0.643</td>
<td>0.388</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Made by the author

Table V.
Similarities of intangible aspects of olive oil

Figure 4.
Distances between the assessments of attraction of olive oil
At the same time, a growing demand has appeared because of the tourists’ interest in doing experimental tourism, which enables them to learn more about a product with some intangible aspects that can be measured according to the consumers’ assessment.

We can say, after having reviewed the concepts used by the mentioned researchers, that oleotourism is a type of tourism by itself, and that its main characteristic entails living experiences linked to the olive tree culture, its environment and the food culture based on it.

There are different activities with an important development potential. In this study we have proved that more than 60 per cent of respondents stated that they would be interested in travelling to areas with olive oil production and in learning about the role of this product in its environment through its production process.

Tourism based on agri-food products implies reinforcing historic and cultural tourism, as the results of this study show. Furthermore, it helps boost cohesive development in rural areas to create new tourist attractions to add value to the area.

One example is the development of tourist products that complement each other and other types of tourism and that, for reasons of proximity, complementarity or need, share “ancestral” characteristics with the historic and artistic heritage of the production areas. The representation of customers’ assessments leads us to think about the possibility of creating planning and development strategies in those tourist destinations where olive trees are grown and olive oil is produced. This would increase the number of tourists in these rural areas and this would create more marketing possibilities for the products that they produce.

Oleotourism is now a new concept that helps reinforce other tourist fields that, through this study, have been linked through a quantitative assessment. In this way, we can state that rural tourism, agrotourism and health are elements that have some complementarity and proximity so as to be exploited jointly.

From this study, we learn that all the agents with decision-making capacity in tourist politics should include oleotourism as a new paradigm that can offer new experiences to the tourists with new demands. Therefore, products and services derived from it should be included in the tourist offer of other types of tourism, such as rural tourism, agrotourism, cultural tourism, as this would create synergies that would enable economies of scale for the rural tourist sector.

The creation of a tourist product based on pull factors from a destination with olive oil production can lead to a number of opportunities for those destinations. This study focuses on the search, from the demand point of view, for answers about the possible intention to pay for visiting and learning about the olive oil production process. In the future, in a few years, we hope a correlation study is possible in order to check if, as this study shows, oleotourism helps, during its marked seasonal period in these areas, to improve the quality of life of the inhabitants of those destinations. Another opportunity ahead is to check if it complements the sustainability of the rural destinations with production and if it boosts these places socio-economically, not only in Spain but also in those places where olive oil is produced.

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Post-terrorism image recovery of tourist destination: a qualitative approach using Fuzzy-VIKOR

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Abstract

Purpose – This study aims to cover issues regarding traveling to a tourist destination which has seen war and terrorism. These problems can be addressed altogether, as they are interrelated. Based on tourists’ opinions, this paper aims to focus on measures or steps that can be taken to ensure changing their perceptions about a certain destination.

Design/methodology/approach – This study targets tourism experts for their opinions regarding the measures most necessary to change the perceptions of tourists. Their opinions were extracted through a questionnaire based on three criteria with four alternatives. Furthermore, raw data extracted are studied using the Fuzzy-VIKOR technique to rank the alternatives in order of importance. Moreover, the questionnaire also aims to know the perception of participants by asking them what would make them trust a destination with a history of terrorism.

Findings – The problems captivate the attention of government, guiding them to ensure that they need to focus more on physical security of tourists if they expect tourism industry to thrive. It was found that the steps needed to be taken are in the areas of international trade, cultural exchange programs and social media advertising.

Originality/value – Research based on improving tourist perception of Pakistan to develop Pakistan as a tourist destination is scarce. The study takes four different alternatives into account for image recovery and based on those alternatives, it provides a unique solution to the government in this regard with the necessary steps they need to take and attempts to help the government ensure tourism expansion in the country.

Keywords Pakistan, Tourism, Terrorism, Fuzzy-VIKOR, Image recovery

Paper type Research paper

Introduction

The tourism industry is susceptible to both natural and man-made disasters. However, people tend to get over natural disasters whereas incidents of terrorisms have long-term effects and lead to cancellation of travel and vacation plans (Sonmez et al., 1999). The perception of tourists about a certain travel destination also gets affected when terrorists target a location having the least chance of terrorist activities (Wolff and Larsen, 2017). This study focuses on understanding tourist perceptions about tourist destinations that have, in the past, suffered from incidents of terrorism. Similarly, it also aims to investigate what
alternatives can help change tourist perceptions on such destinations. This will help boost the tourism industry and create a positive image of the country globally. The other objective is to recommend ways to ensure that the negative perception of the tourists can be countered (Hystad and Keller, 2008) and measures the government of a country must undertake to ensure their domestic travel destinations are safe and are perceived as harmless by international tourists.

Terrorist activity at a tourism destination causes potential tourists to drop their plans. For tourists, physical safety is a top priority. Therefore, when tourists make plans for traveling, they ensure that the destination is safe and free from violence and terrorism (Arana and Leon, 2008). Terrorism is growing throughout the world with its effects all over the globe; consequently, some countries have completely lost their tourism industry. People prefer to go to a place that has no implications of being violent in any way. If the incidents of terrorism are completely random without the chances of reoccurrence, people usually tend to forget about it with time. Image of tourist destinations in the minds of tourists is essential because it reflects an individual’s perception about a specific location and the country (Sun et al., 2013; Molina et al., 2013). Frequent acts of terrorism can tarnish a country’s image leading to tourists avoiding the place and eventually the country loses out on tourism.

The image people associate with a certain country plays a great role in helping them decide whether they should or should not travel there. Tourists are pretty sensitive in this matter, as they would never want any terrorist activity to happen in their evoked destination (Kozak et al., 2007). As different brands have different images and consumer perceptions about them, likewise, countries too come with their own unique images and perceptions. America is known as the land of dreams (Brown, 2011). Paris is known as the city of love (Turnbull, 2004). Switzerland is known as heaven on earth (Landes and Landes, 2011). Malaysia is advertised as “Truly Asia” (Morais, 2013). Similarly, countries can and should effectively manage their image so that the mention of its name can evoke a positive image in an individual’s mind. It means they can trust the place, that they will be safe there and they can travel without any fear or doubt (Yoon and Uysal, 2005). The ideas being explored in this paper are: how much of an effect does a perceived “image” of a tourist destination have on tourists’ decision to travel to that place? Similarly, how can negative image of a tourist destination be reverted in the minds of tourists? The paper has selected three criteria and four alternatives as shown in Figure 1.

For this purpose, the variables chosen will help us comprehend what tourists believe can change their perception of a tourist destination that has been affected by terrorism. Alternatives are mentioned below.

**Physical security**
The first alternative for this study is the implementation of tangible measures for physical security. This could be in the form of increased police presence, security guards, identity checks, border patrols, check-posts. Etc. (Doherty et al., 2008). The local authorities of a tourist destination can install strict measures to ensure the safety of visiting tourists. It can help change tourist perception of a certain tourist destination (Chon, 1991).

**Positive social media coverage**
The second alternative of this study is positive social media coverage. The tourism industry is highly sensitive and even the slightest of negative reviews can seriously damage the reputation of a tourist destination (Pantano and Pietro, 2013). From Pakistan’s perspective, the media played a negative role in destroying the country’s image; however, it can be used positively for its restoration too. Any violent incident should not receive media attention;
instead, efforts conveying to both domestic and international tourists that Pakistan is a peace-loving nation should be publicized.

*International trade*

International trade is the third alternative in this study. It can help open routes for economic growth, innovation and general prosperity of all countries involved (Schneider, 2005). Increasing international trade is key to a booming economy and also attracts tourists (Jenkins, 1999). Therefore, it can safely be said that international trade is also a way to improve a tourist destination’s image.

*Cultural exchanges*

The fourth and last alternative in this study is cultural exchanges. It is crucial that countries safeguard their tourist destinations for tourists to visit. This will allow for the country to be associated internationally with positive perceptions and images, as this is key to boosting the tourism industry. People can be convinced to participate in cultural exchanges so that it will increase the attachment between hosts and visitors. This will affect the tourism industry positively (Lee, 2013).

**Literature review**

With the passage of time, tourism has evolved. It is an indication of evolution in the industry. (Aldebert *et al.*, 2011). Although the industry has suffered many obstructions in the past such as the frequent instability in Eastern Europe; the Persian Gulf War; the ongoing Syrian and Egypt civil wars and the general state of political instability in the Middle East (Keith, 1996; Arch, 2013), changes over time show the evolution of this industry has been very rapid. Obstructions such as political instability have affected this industry to a very great extent. An analysis of 139 countries over the period of 1999-2009 shows that political instability results in negative perception in tourists’ minds and thus decreases their numbers (Liu and Pratt, 2017). Tourism industry expands along with an increase in revenue.
when political instability decreases (Yap and Saha, 2013). In 2011, the tourism industry in its totality generated about US$2 tn in direct GDP. Similarly, in 2017, the tourism industry contributed US$8272.3bn in direct GDP (10.4 per cent of GDP). This figure is expected to rise by 4.0 per cent in 2018 (Council, 2018). This contribution to global GDP is enormous, and it is twice the size of that of the automotive industry and more than one-third larger than the global chemical industry. These statistics depict that if properly managed and developed, the benefits of this industry can be reaped on multiple monetary and non-monetary levels. Development of the tourism industry is directly proportional to the economic growth of a country (Lee and Kwon, 1995). However, it does not always happen (Elliot et al., 2011). This study primarily focuses on studying the impact of terrorism on the tourism industry and looks at ways through which countries can undertake image recovery measures post terrorist attacks and thus change tourist perceptions about affected tourist destinations. Furthermore, this study also tends to prioritize the factors that can persuade tourists to visit a terrorism-affected destination.

There are some influential studies on the subject; Atkinson et al. (1987) recorded empirical evidence that increases in bargaining costs prolong terrorist incidents. Holden (1987) tested for the effects of historical cases of hijacking that were successful following the rate of hijacking attempts. Similarly, (Inglada and Rey, 2004) highlighted the event of September 11 terrorist attacks and its effects on Spanish air travel demand.

However, the most notable study on the subject so far has been by Enders and Sandler (1991) and Enders et al. (1992). Their research tries to empirically establish a link between terrorism and tourism, while using the tourism sector of European countries as a sample. They applied vector autoregressive analysis (VAR) on monthly data and discovered that there is a significant negative impact of terrorism on tourism in Spain. Enders, Sandler and Praise studied data from European countries for the years 1974-1988 and found out that terrorism has an extremely negative effect on the tourism industry revenue. Furthermore, knowledge extracted also showed that tourists substitute those countries with destinations where the risk of a terrorist attack is minimum. Another study, by Drakos and Kutan (2003) scrutinizes the effects of terrorism in a regional setting. The empirical evidence extracted from the paper suggests that terrorist activities have a significant adverse impact on the tourism industry and tourist arrival rates. They use estimation methodologies such as the seemingly unrelated regression method which makes exceptions for both the immediate and lagged effects of terrorism on tourism.

Maximum number of empirical studies suggest that terrorism has a significantly negative impact on tourism and the tourism industry of a country. Tourists’ previous international experience influences their response to terrorism (Cook and McLeary (1983), D’Amore and Anuza (1986)). Hartz (1989) argues that tourists modify their plans for travel to a destination in accordance with the lowest risk associated with terrorist attacks, as they would always prefer a country where law and order situation is much stronger and where they have the surety of their own safety. Gu and Martin (1992), Enders and Sandler (1991), Enders et al. (1992) and Mansfield (1996), all argue that the security situation of a country directly correlates with the rate of tourist arrivals in that country. They insist that a significantly negative relationship exists between terrorism and tourism and the higher the risk the lower the number of tourist arrivals and vice versa.

Furthermore, Henderson et al. (2010) studied the effect of terrorist activities on the hotel industry of Singapore. After holding four interviews, they discovered that terrorist activities have a negative impact on the destination where the activity occurs. They also found that hotels are an attractive target for terrorists and that the management of Singapore’s hotel industry is working toward securing the hotels after finally realizing the risks. Therefore, a
maximum of studies depicts that terrorism has a significantly negative impact on the tourism industry and the tourism arrival rate. Mentioned literature focuses on tourist arrival rates and the general effect of terrorism on the tourism industry. Similarly, some studies target one area at a time like for example forming media strategies, security at a tourist destination, etc.

In this study, our objective is to examine the alternatives related to the perceived image of a destination to terrorism. Perception of a tourist destination that is affected by terrorism is a topic heavily discussed in the previous literature. According to Edgell and Haenisch (1995), international and national terrorism has a devastating effect on tourists and creates an environment of fear. When news channels broadcasted attacks in major cities of Europe, thousands of tourists canceled their plans to Turkey in the winter of 1999 and 2000 (Sonmez and Ercan, 2002). People naturally tend to prefer low-risk destinations (Rittichainuwat and Chakraborty, 2009). Furthermore, the tourism industry of a country attracts tourists through various marketing strategies. The images created in the minds of tourists influence their perception of a tourist destination (Govers et al., 2007). Although these studies identify the impact of a tourist destination’s image on a tourist’s mind, especially from Pakistan’s perspective, they lack alternatives or measures that can influence a tourist’s perception simultaneously. In this study, our goal is to cover that gap. The reason for this study is to get to know what factors can create a positive perception. There can be many measures and, in our study, we are going to examine four of them. The priority allocated by participants to these measures will help us understand tourists’ thinking even more. The study can thus make it easier to narrow down the perfect measures necessary. The government can get help from this study to ensure the tourism industry makes its mark in the country once again. Through this research, we are trying to help our tourism industry stand on its feet once again. It carries much importance as it will be more feasible for a government that what steps it should take.

Our primary focus is based on four alternatives collectively. A study that can help us conclude the best alternative that can have a greater impact on improving a tourist destination’s image, based on participant’s opinion. Similarly, the study will also help us conclude what factors can convince a tourist to visit a destination that has been previously under terrorist attacks. The factors will be prioritized by the participants, which will convince them to visit a terrorism-affected tourist spot. These factors have not been examined simultaneously before and is thus a novelty in this study.

The four alternatives in this study include physical security, positive social media coverage, international trade and cultural exchanges.

The first alternative is the implementation of physical security to deal with terrorist activities. Terrorism has expanded around the globe in the past few years, especially in the tourist destinations. Many of these activities have political motives. Mainly, the terrorists are driven by vengeance either in the political or religious way. They target those areas because it can get them immediate international media attention. Striking tourists will send a big message to the world and this proves to be a big motive for terrorists. Preventing these is a tough but important task which needs a lot of government attention and tight law and order situation (Paraskevas and Arendell, 2007; Pizam, 1999). Seeing is believing, so the presence of security personnel and frequent police patrols can convince current tourists that the local authorities are actually taking measures to protect them (Tarlow and Santana, 2002). An example of security measures can be proved from the fact that at the time when the Middle East was under a lot of political unrest, Israel began peace talks. They also formed a comprehensive strategy for the physical security of tourists. This resulted in a huge influx of tourists into Israel (Mansfeld, 1999). Similarly in Pakistan, foreign tourists or business personnel are usually provided with reinforced vehicles and security guards when
they travel to areas that were or are considered liable to terrorist attacks. An example of these arrangements is when the World XI visited Pakistan, they were provided with presidential protocol whenever they visited some place or traveled to the stadium.

Physical security measures are essential to send out a positive perception to the world. If not done, tourists will shun those countries. In this day and age, it is among the five global forces that will carry forward the tourism industry in the future (Choon, 2000). Providing appropriate facilities at the tourist destinations along with proper physical security measures is an enormous necessity nowadays. The biggest example is when FIFA was making sure of the security arrangements in South Africa for FIFA World Cup 2010. Only after proper confirmation and security plan, they allowed the tournament to be held in the country (Donaldson and Ferreira, 2009). These are some of the reasons for choosing physical security as an alternative.

The second alternative to improve a destination’s image is the positive social media coverage. With the advent of the smartphone, billions of people worldwide have access to all kinds of social media platforms such as Twitter, Instagram, Facebook and travel guide applications such as TripAdvisor. People take influence from these applications, as they act as the modern-day word-of-mouth (Glynn and Faulds, 2009) descriptions. There are numerous examples of how the Internet can make or break a thing, a person and a place. For instance, the smallest mistake, such as a hair in the food served, a dentist that makes patients wait, a grocer that is always out of stock can reach millions worldwide and carry serious repercussions for the business. Same is the case for a country when it is under severe attacks of terrorism and fear. A country’s image is sabotaged to a great extent when any of its locations are targeted by terrorists. These activities shape the image of a country rather badly (Alvarez and Campo, 2014). Consequences include not just losses in tourist business, but also portraying an international image of the entire country as being volatile and hostile. Terrorist activities are the issues that threaten a destination’s image and reputation (Putra, 2010). Therefore, it is essential that a country’s image is carefully managed and protected. For a major part of the past, the media role has been thoroughly negative. Highlighting terrorist attack at famous destinations have been very common. The result is that tourists refrain from visiting those parts (Eagles et al., 2002). Electronic and social media giving coverage to the positive aspects is an important solution to this. Highlighting what those destinations have to offer, filming documentaries and showing it to the world in a positive way can be affect the country’s image positively (Avraham, 2004). When undertaking such efforts for image recovery, authorities can resort to advertisements through social media platforms. The local and national authorities can operate social media pages that publicize and advertise the tourist destinations which can result in an increase in tourist arrivals. They can also host events such as food festivals or beauty pageants to attract foreign nationals. Festivals are necessary for creating economic stability and forming a positive image of a region (Moscardo, 2007). Tourists participation and activities in these festivities can then be publicized.

Since 2001, there has been a dramatic increase in the number of terrorist attacks around the globe including Pakistan. These attacks were then broadcasted live all over national and international media, thereby creating a very negative image worldwide regarding Pakistan. This has in turn led to few sporting events staged in Pakistan that may comprise international players. Sports, such as cricket, are declining in the country. To counter that, the government began a cricket league. Pakistan Super League is a sporting event that has both national and international players competing in it (Hasaan, 2016). The event receives extensive electronic media and social media coverage. It portrays a very positive image of Pakistan to the rest of the world. Also, the international players competing can help create a
positive image of the country in response to their usually pleasant and secure experiences of staying in Pakistan.

International trade is the third alternative in this study. Trade should be encouraged and investments should be made in this sector. It is something that holds great potential to help a country in creating and growing its market globally (Papadopoulos and Heslop, 2014). However, another advantage offered by international trade is that it opens doors for both foreign investment and foreign travel. It helps in the profitability of the tourism industry in a country, making its economy stable and an increase in the influx of tourists (Britton, 1982). With increasing tourism, international trade expands; however, the country’s image needs to be perfect for this scenario to happen (Laroche et al., 2005).

For business or leisure purposes, foreigners traveling to a place take back with them a certain image and experience of the host country in the form of memories. That image and experience should be carefully managed to ensure that whatever travels back with the tourists, is in good will of the hosting country (Pizam et al., 2000). For instance, the China Pakistan Economic Corridor is a foreign investment worth billions of dollars. With it, there has been an influx of foreign investors, mostly Chinese individuals in Pakistan. The authorities must ensure that the experiences of these individuals are pleasant along with the security, that the time they spend here will be safe and secure (Safdar, 2014). Therefore, the government of a country must use business investment as a means to achieve the target of creating a positive image of their country in the minds of foreigners.

This study will investigate how much an international trade will matter in creating a positive perception of a country in minds of potential tourists. Similarly, the “identity or personality” of a country as a perfect tourist destination should be communicated internationally for the purpose of creating a positive image globally. For this purpose, the main step would be to host events such as seminars and conferences, trade shows, executive incentive programs, global market events or in the case of Pakistan, arrange SAARC events regularly (Erica, 2009). This statement holds the importance of trade for a positive perception of a country and also a reason to choose it as an alternative.

Improving a tourist destination’s image through cultural exchange programs is also among many solutions (Jr, 2008). Advertising a travel destination as safe and secure can only be made possible if the country that holds that destination is internationally associated with positive perceptions and images. Similarly, cultural exchanges help the tourism industry by creating a positive relationship with the hosts and improvement in their lifestyle (Andereck et al., 2005). People of the hosting countries also consider the visiting tourists as a positive impact on the tourism industry. Similarly, meeting the tourists from other countries is a lifetime opportunity to learn their social and cultural values (Yoon et al., 2001). This results in an influx of tourists along with money and improvement of the image of the tourist destination. Local traditions and culture can be presented around the world and can help a country get out of its miserable past (Besculides et al., 2002; Gursoy and Rutherford, 2004).

Based on these alternatives and their relevant studies, one can guess their importance, and that is what our objective is. Investigating these four alternatives will give us solid results, based on the priorities set by the participants.

There are many approaches under the heading of Multi-Criteria Decision Making (MCDM). For instance, there is the Analytical Hierarchy Process (AHP), Technique for Order of Preference of Similarity (TOPSIS), along with several others. This paper uses Fuzzy VIKOR which was recently developed by Opricovic. Fuzzy VIKOR was developed to solve MCDM methods that may have a conflicting result. The fuzzy set theory was developed as a means to solve fuzzy problems, variables that are uncertain, that are qualitative and are not easily thus quantifiable. The fuzzy set theory was developed by Zadeh (1965). This theory is
implemented for mapping the linguistic variables to numerical variables to assist in decision-making processes. It allows the decision maker to identify the best ideal solution, while at the same time providing a method for conflict resolution for similar results. Fuzzy VIKOR focuses on ranking and selecting different alternatives, from among conflicting criteria and allowing the decision maker to identify a suitable solution (Lu and Liu, 2012). This is a very comprehensive method that allows for the manipulation of linguistic variables. In some assessments, the research contains geographical destinations or areas or certain economic factors whose boundaries are not easy to study. Fuzzy Vikor makes those assessments simpler for analyses (Kaya and Kahraman, 2010).

MCDM are constantly used by researchers, as they provide a stable solution for decision-making problems. The VIKOR method from the category of MCDM techniques is also a multi-criteria optimization and compromise solution. It is an innovative approach that holds priority above other methods in problems of final ranking with accurate precision (Fallahpour and Moghassem, 2012). In this study, our objective is to rank a perfect alternative that can prove to be more applicable to improve a destination’s image. To do so, we need accurate ranking and VIKOR method provides that solution in a perfect way. Recently, the use of the VIKOR method has increased in research. Liu et al. (2012) used the VIKOR technique along with DEMATTEO and ANP methods as to explain how the tourism policy management in Taiwan can be improved. Wu et al. (2002) combined both ANP and VIKOR methods to rank different universities upon their respective performance evaluations.

Data collection and methodology
This paper uses Fuzzy VIKOR to conclude which alternative is ranked as highest and which one is ranked as lowest by decision makers. For data collection, a web-based questionnaire was created which then was distributed among 80 participants. The participants comprised students, tour organizers in those areas, tourism experts and managers of those areas, student-run societies from different institutes, transport facilitators and TripAdvisor experts. Participant profiles along with their sample numbers are given in Table I. The questionnaire was distributed to many tourists, but as mentioned above, only 80 of the participants filled in with their point of view. Profiles of the participants are categorized in this table based on their numbers. Along with their responses to the four alternatives based on the three criteria, they were asked what facts can change their perception positively to travel to a destination, previously affected by terrorism. The facts that could make them trust a tourist destination previously affected from terrorism were:

- Strict physical measures in the form of police presence, identity checks, etc.
- Someone they know and trust has recently toured to that destination and convinces you that it is safe once again.
- Social media advocating that destination as being safe, secure and pleasant.

<table>
<thead>
<tr>
<th>Participant profile</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
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</tr>
<tr>
<td>Tour organizers</td>
<td>14</td>
</tr>
<tr>
<td>Tourism experts and managers</td>
<td>11</td>
</tr>
<tr>
<td>Student-run societies from institutes</td>
<td>16</td>
</tr>
<tr>
<td>Transport facilitators</td>
<td>08</td>
</tr>
<tr>
<td>TripAdvisor experts</td>
<td>06</td>
</tr>
</tbody>
</table>

Table I. Participant profiles
• Foreigners visiting that affected destination frequently.
• Terrorism activities have declined around the world as the time has passed.

These responses will be highlighted in the discussion section.

For data collection, both primary and secondary data were used. Secondary data were extracted from government reports, such as PTDC, for this study. Countries’ data, economic figures were extracted from secondary data. The questionnaire was divided into four different sections. Each section was dedicated to one alternative under study. The questions asked were regarding the attributes of the alternatives and asked for the participants’ names and their occupational status. Participants were asked to prioritize them on a scale of (Very Low, Low, Medium, High and Very High). The five-point scale (Very Low, Low, Medium, High and Very High) shows the linguistic variables specified for each alternative under study. These variables were introduced by Zadeh (1975) and they are used to demonstrate the performance of qualitative criteria. In other words, these variables help in solving ill-defined situations in traditional quantitative statements. The responses recorded from the questionnaire were then manually worked upon using the Fuzzy VIKOR method to get the required rankings. The criteria chosen were cost-effectiveness, the feasibility of alternative and effectiveness or impact of an alternative.

The questionnaire included four alternatives which were:

1. physical security;
2. positive social media coverage;
3. international trade; and
4. cultural exchanges.

Participants were asked to choose which alternative was the most effective in terms of cost, which is the most feasible to apply and which is more likely to have the greatest impact on creating a positive perception in minds of tourists. Four alternatives are ranked on the basis of these three criteria with priority set by the participants in the form of rating. The ratings for each criterion are then multiplied with triangular fuzzy numbers of each linguistic variables. Triangular fuzzy numbers help in the approximate reasoning of linguistic values (Alguliyev et al., 2015). The values obtained are then studied to obtain the fuzzy weight of each criterion which in turn generate crisp values or Q values by using the relation of BNPi (Best Non-fuzzy Performance). The maximum and minimum the fuzzy weights are then calculated. Further steps and procedure are described in the following stages.

Step 1: The fuzzy decision matrix is constructed along with the weight vector as shown in Table II.

\[
A = \begin{bmatrix}
    x_{11} & x_{12} & \cdots & x_{1p} \\
    \vdots & \ddots & \ddots & \vdots \\
    x_{n1} & x_{n2} & \cdots & x_{np}
\end{bmatrix}
\]

Table II. Linguistic variables for the rating of the chosen criteria and alternatives

<table>
<thead>
<tr>
<th>Level</th>
<th>Fuzzy Numbers</th>
</tr>
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<tbody>
<tr>
<td>Very Low</td>
<td>0, 0, 0.25</td>
</tr>
<tr>
<td>Low</td>
<td>0, 0.25, 0.5</td>
</tr>
<tr>
<td>Medium</td>
<td>0.25, 0.5, 0.75</td>
</tr>
<tr>
<td>High</td>
<td>0.5, 0.75, 1</td>
</tr>
<tr>
<td>Very High</td>
<td>0.75, 1, 1</td>
</tr>
</tbody>
</table>
In equation (1), the matrix format represents values of the ratings in general form. Here \( i = 1, \ldots, u \) represents the alternatives and \( j = 1, \ldots, v \) represents criteria.

**Step 2:** The fuzzy-Best and the fuzzy-Worst are examined by the following equations:

\[
D_{ij} = \frac{1}{t} \left[ xD_{q1} \oplus D_{q2} \oplus \ldots D_{qk} \oplus \right] \tag{2}
\]

\[
C_L = \frac{1}{t} \left[ C_{L1} \oplus C_{L2} \oplus \ldots C_{Ls} \oplus \right] \tag{3}
\]

Equation (2) and (3) with \( C \) and \( D \) values, calculate aggregated fuzzy ratings of alternatives with respect to each criterion:

\[
Y = \frac{(c - a) + (b - a)}{3} \tag{4}
\]

\[
\text{BNPi} = Y + a \tag{5}
\]

Equations (4) and (5) represents the use of Center of Area (COA) method for the purpose of ranking the order of importance of each alternative. In equation (4), \( a, b \) and \( c \) values are triangular fuzzy numbers and they represent lower, middle and upper values, respectively. \( \text{BNPi} \) is achieved in equation (5). In this equation, the value of \( Y \) obtained in equation (4) is added to the lower limit to achieve \( \text{BNPi} \) value. \( Y \) holds the value of equation (4) (Organ and Yalcin, 2017).

**Step 3:** The maximum and minimum of the fuzzy weights calculated are now to be used.

\[
W^* = [w_1, w_2, w_3 \ldots \ldots w_L] \tag{6}
\]

\[
\left( g^*_j \right) = \max_i x_{ij} \tag{7}
\]

\[
\left( g^-_j \right) = \min_i x_{ij} \tag{8}
\]

**Step 4:** The \( \text{BNPi} \) values for the alternatives are now substituted in another matrix and calculated to find the S and R values through equations (9) and (10). After this, the minimum and maximum of the S and R values are used, calculated through the equations (12-15). The values now obtained are fed into equation (11) to calculate the Q values:

\[
S_i = \sum_{L=1}^{n} C_L \left( f^*_L - f_{iL} \right) / \left( f^*_L - f_L \right) \tag{9}
\]

\[
R_i = \max_{L=1}^{n}[C] \left( f^*_L - f_{iL} \right) / \left( f^*_L - f_L \right) \tag{10}
\]

Equation (9) shows the expression used to calculate \( S_i \) value (utility measure). Utility measure means that we focus on the facilities, materials, etc. Similarly, equation (10) shows
the calculation of $R_i$ value which is termed as Regret measure. Regret measure includes the values which we usually tend to minimize, such as the cost for instance:

$$Q_i = v(S_i - S^*) + \frac{(1 - v)(R_i - R^*)}{(R^- - R^*)}$$

(11)

$$S^- = \max_i S_{ij}$$

(12)

$$S^* = \min_i S_{ij}$$

(13)

$$R^- = \max_i R_{ij}$$

(14)

$$R^* = \min_i R_{ij}$$

(15)

Q, S and R values obtained from equations (11) to (15) are used to rank the alternatives (Shemshadi et al., 2011).

*Step 5:* The alternatives are now ranked, sorting by the values S, R and Q, in the ascending order.

**Results**

The raw data obtained through an online questionnaire yielded responses of 80 participants as mentioned above. The data were interpreted with the application of the Fuzzy-VIKOR technique, an MCDM approach that assists in decision making when there are both multiple criteria and multiple alternatives. Five-point linguistic variables mentioned in Table II were used, which allot importance to all criteria for each alternative. Fuzzy-VIKOR was incorporated to interpret the data manually and get the required rankings. Those rankings show the best alternative which is considered more important by the tourists to help the government in improving the image of a tourist destination and the country. Other alternatives follow in the ascending order of their priorities set by the participants in the survey. The results are in the form of S, R and Q values, that rank the alternatives in the order of their importance. All the calculations required to arrive at the S, R and Q values have been calculated in AI-IV.

The application of Fuzzy-VIKOR led to the ranking of the alternatives in the following ascending order:

- physical security;
- increase in international trade;
- cultural exchange; and
- positive social media coverage.

Table III contains the maximum and minimum values. They depict the distance of the alternatives from the ideal solution of zero. A solution cannot be negative, and hence, zero forms an ideal limit. Maximum and minimum values are distances calculated from the number zero. Zero is the reference point and the distance from this point shows how much feasible a certain alternative is. Being at a minimum distance from the ideal solution of zero will conclude an alternative being a perfect choice. Distance is usually calculated from the
difference in the distance of Q value from the limit zero (Kim and Chung, 2011). Just like in Table III, Physical security has a Q value of zero which proves physical security to be a most feasible alternative. Similarly, the term R* (R. steric) in Table II depicts the minimum value of regret measure R_i.

Table IV depicts the alternatives and their Q Value, thus allowing us to determine their distance from the ideal solution of 0. The Q values or crisp values are then ranked in the ascending order to obtain the preference of the alternatives. Physical security is ranked one after the analyses is completed. It is evident that the experts or participants judged physical security to be the most preferred method of image recovery because physical security is at the minimum distance from the ideal solution of zero with a Q value of zero. The next alternative is the increase in international trade with other countries. It the second-most popular alternative closest to the ideal solution of zero with a Q value of 0.12. The third most important alternative is cultural exchange. It has a Q value of 0.20. The last alternative is positive social media coverage with the highest Q value of one.

So, after the analysis, it is certain that for tourists, physical security is the most important scenario when they are making plans to visit a destination. Minimum distance from an ideal solution of zero confirms our conclusion. The rest of the alternatives are ranked based on their increasing distance from an ideal solution. Alternatives having a greater distance from the ideal solution (social media coverage) is least important from tourists’ perspective. Being the least important alternative does not mean we can rule it out, but the study shows that it will not have a greater effect.

Furthermore, in another question, the participants were asked that what factor can influence their perception to visit a spot that has been affected by terrorism in the past. They were given five choices to choose from. Out of the five choices, they chose proper security arrangement at a tourist spot will make them change their perception and compel them to visit that location. Therefore, the presence of security protocol is necessary for those locations.

**Discussion**

The criteria upon which the decisions of experts were based were cost, effectiveness and feasibility. These criteria are the “benefit” criteria. Order of the alternatives for each criterion was obtained. Results are summarized in Table V.

It was concluded that physical security was the best alternative among all alternatives and most recommended to be implemented.

For the “least costly” criteria, positive social media was the first choice followed by physical security. Furthermore, expansion in international trade agreements and cultural

<table>
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<th>S. neg</th>
<th>S max</th>
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<td>S min</td>
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<table>
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<th>Q Values/crisp values</th>
<th>Physical security</th>
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<th>Increase international trade</th>
<th>Cultural exchange</th>
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<tbody>
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</tbody>
</table>
exchanges were ranked third and fourth respectively, in this category. For feasibility criteria, physical security was considered the most feasible to implement followed by positive social media coverage, cultural exchange and international trade. In terms of effectiveness, experts believed that physical security was the number one option followed by cultural exchanges, international trade and positive social media coverage. In short, among all alternatives, physical security was a top priority for experts.

“Feasibility” was the second criterion. This measure attempts to assess if or not an alternative is applicable. It evaluates the practicality of an alternative. According to the weights, the highest was assigned to the implementation of physical security measures. It was determined that the given alternative is easy or at least physically, legally and financially possible to implement.

The other criterion chosen was the “effectiveness” of a certain measure taken for improvement of the destination’s image. There is no point in implementing decisions without knowing the level of effectiveness associated with them. Therefore, the experts were also asked to rate how effective they feel an alternative can be. Effectiveness was in terms of the impact caused by the criteria. The idea was to assess which alternative would have the largest impact on changing tourist perception about a given destination. The results indicate that experts feel that the presence of physical, tangible measures of security would surely help a destination recover their tarnished image.

Experts rated physical security measures as the most preferred alternative. When we talk about physical security we talk about the presence of security personnel, check-posts, border and street patrol, identity checks, fortified buildings, hiring a security guard, etc. Anything that falls under the umbrella of tangible measures can be defined as physical security.

The second alternative ranked by experts is the expansion of international trade agreements. Experts believed that the more a country attempts to change its international image by signing trade agreements with other countries, the more it can improve its image. It is important that when foreign investors come to a country they should feel safe not just personally and physically, but also economically. Any country plagued by frequent terrorist attacks as in the case of Pakistan needs to assure foreign investors that the attacks were just a horrible past. It needs foreign investment to build its economy. Pakistan already has a substantial amount of tourist destinations. It is rich in culture and landscapes. There is something here for every kind of tourist. Pakistan has a strong base for developing a successful and thriving tourist industry. However, that industry has been on the downfall until recent times. Since the past few years, the tourist arrival rate in Pakistan is increasing with the improvement in the security situation. This is good news not just for the tourism industry but for the economy as a whole. This new surge in tourist arrival rates has also opened new doors for international collaboration. Experts feel this would greatly help in reinstating Pakistan’s image globally, as a pleasant tourist destination.

<table>
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<th>Ranking</th>
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<th>Feasibility</th>
<th>Effectiveness</th>
</tr>
</thead>
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<td>Physical security</td>
<td>Physical security</td>
</tr>
<tr>
<td>2</td>
<td>Physical security</td>
<td>Positive social media coverage</td>
<td>Cultural exchanges</td>
</tr>
<tr>
<td>3</td>
<td>International trade</td>
<td>Cultural exchange</td>
<td>International trade</td>
</tr>
<tr>
<td>4</td>
<td>Cultural exchange</td>
<td>International trade</td>
<td>Positive social media coverage</td>
</tr>
</tbody>
</table>

Table V. Order of the alternatives for each criterion
The third alternative ranked by experts is a cultural exchange program between different countries. By cultural exchange, this study means carrying out such activities that can help a country to communicate to the world its intended positive image. It means exporting cultural knowledge about themselves. Cultural exchange can mean many things. This could be in the form of creating movies to be screened at international film festivals. Representatives from a country can travel abroad and participate in events that allow them to exhibit their culture. Also, organizing and involvement in global villages, attending international conferences, etc., will promote better cultural exchange. It should present a peaceful, quiet and calm picture of Pakistan. A kind of Pakistan which the government and its people hope to build.

Positive social media coverage is the fourth alternative and ranked the furthest from the ideal solution. It involves marketing the country or destination on all kinds of social media platforms in a positive way. Experts believed that this alternative may not be costly but is, at the same time, not very effective. However, it does play an important role in influencing peoples’ opinions. The smallest, most insignificant of video clips can be viewed millions of times on YouTube. Just like that, just one bad word or one good word regarding a destination can reach millions worldwide. In the past, Pakistan has suffered terrible losses from terrorist activities. These acts were given extensive media coverage on all platforms. This slowly eroded people’s previous image of Pakistan and replaced it with one they associated with violence and instability. However, the ground reality was, and is, much different. Pakistan is not all about exploding bombs and raining bullets, it is about a slow, peaceful and calm life. People are going about with their daily lives, just like in the rest of the world, doing as good as they can with the best they have. Instead of highlighting a normal Pakistani’s life, few fading anomalies are always plastered on the big screen thus forcing people to associate Pakistan with negative facts. To counter that, government and citizens alike can come up with social media campaigns that can divert people from their previously held beliefs about Pakistan and change their perception. We must bring attention to changes that must be made to prosper in the long run. Thus, social media should be used to advertise Pakistan as a safe, peaceful country free from violence and terrorism.

When asked what would make tourists trust a destination that has been attacked by terrorists in the past, they gave a list of answers to choose from. The first choice was presence of strict physical security measures; the second choice was if someone they knew and trusted, assured them of the safety and pleasantness of such a destination. The third choice provided was strong social media forces advocating the safety and pleasantness of that destination. The fourth choice was frequent visits by other tourists. The fifth was if a substantial lapse of time to help them forget their reservations about that destination. Among the participants, 32 per cent believed that the presence of security measures would convince them that a previously attacked destination is safe; 28 per cent felt that word of mouth from close family and friends would be enough of an assurance. 14 per cent stated that they are liable to get influenced by social media and would allow it to dictate their perception of such a destination. This response shows that seeing is believing. People need tangible proof of the existence of a certain measure of security. They need to be able to see for themselves that the likelihood of them being in the crossfire of a terrorist attack is minimum or non-existent. Thus, physical security is the nearest to the ideal solution and most recommended option for the government to act upon.

In Pakistan, there have been many measures undertaken to ensure tourists feel physically safe. For instance, recently a French climber was stranded on the mountainside. Four expert rescuers saved him from Pakistan’s “killer” mountain, the Himalayas.
This is an example of the government proving to tourists that it has both the motivation and the potential to keep them safe from all kinds of harm.

The practical implications of this paper lie in the governmental aspect of policy making. Policy making is used to reflect a broader understanding of a society and its people’s context of governmental decision making. Developing tourism of a country needs proper planning and strong policies (Stevenson et al., 2008). In the case of Pakistan, the government should take examples of the cities that have already a history of policy making, like the city of Leeds. This city was identified as a destination quite “tough” for tourism by Buckley and Witt (1985). When creating the country’s policies regarding tourism, the Government of Pakistan can make use of information put forth in this paper. After all, the protection of tourists and the tourism industry is the government’s responsibility. The local police department should be instructed to take extra efforts to make tourists feel safe, as some officers claim to do (Pizam et al., 1997). The research carried out in this paper allows the authors to recommend measures that can enable the government to make effective efforts for image recovery.

The government has enough information to help tourism stakeholders produce a policy that is in the favor of the industry as a whole. Pakistan should devise a strategy to ensure comprehensive measures that should attend to physical security, international trade, social media coverage and cultural exchanges to boost the tourism industry. Physical security, that is ranked as a top option by experts for image improvement, should be given top priority by local and national government bodies. Increasing numbers of police officers at tourist spots, especially the ones having a history of terrorist attacks should be made a top priority. Security checks, electronic metal detectors should be installed at those places. The government should make sure in their policy making that they have enough funds to do so. Only in this way can a government be eligible enough to make those security measures possible.

Tourists have also revealed that they would be more willing to visit a country if they were able to see tangible proofs of increased security for their benefit. This is why the study places an emphasis on physical security. One way to expand tourism in a country is when police departments give special attention to the tourist’s safety. Make them feel at ease while they are visiting. Only such policies will result in the increase of tourism. Because tourism is an important economic generator, it is only mandatory that tourists be given special attention.

Similarly, policies should be designed keeping in mind the fact that Pakistan’s international image has already been tarnished by both foreign and local media because of the extensive coverage that is given to every act of terrorism. These policies should reflect Pakistan’s determination to create a safe space, a safe environment and experience for both local and international tourists. Pakistan can adopt different methods of advertisings on the social media. The government should make documentaries highlighting what this country and its people have to offer. This study has gathered valuable insight into potential tourists’ frame of mind. The survey revealed that most tourists would be willing to pay a visit to a location if the word of mouth that has reached them is positive. Thus, it is essential that Pakistan’s beauty and safety should be vigorously advertised. Because the image portrayed by social media holds great significance for potential tourists, the government should take measures to encourage the sharing of positive information and tourist experiences. Any act of violence or terrorism should not be given coverage. Positive tourist accounts of traveling in Pakistan should be sponsored on social media websites such as Facebook. For instance, Dawn News Blog Posts frequently publishes blogs written by tourists of their positive traveling experiences of Pakistan (Johanna, 2017).
It is necessary for the government to highlight Pakistan’s image in the international market. This can be done if they form a foreign policy that communicates with other nations, encourage them to invest in Pakistan and send their people to our country to expand tourism. Having a firm foreign policy would reap success whose effects can be felt in the years to come.

Furthermore, the government should work with tourist experts, destination managers, tour organizers, etc. It will be easy for the government to know what steps it should take that can have a greater impact on tourism. This step will prove to be fruitful because only a person who is in this field for a long time can give the government a more worthy and effective recommendation.

To summarize this research, we studied four different alternatives by conducting a survey and concluded that security should be a top priority for a country who is aiming to have a strong tourism industry. Previous studies focused more on studying just one alternative at a time and general perception of the tourists. Our study successfully fills that gap by taking four different alternatives in the country. Similarly, studies of this nature are scarce in Pakistan. This study brings novelty in this region of the world and aims to help the government save its tourism industry.

Limitations and future lines of research
Time and a limited number of participants are a few of the limitations of this study. We believe that if the survey could have been extended even further to a large number of participants with more than enough time, the results could have been even in a more refined form. Second, the people in this region rely more on the trend and on what they hear or see. On the contrary, in Western countries, people tend to get full information about a tourist spot where they plan to visit. Therefore, we can expect slightly biased results.

A future line of research can be the inclusion of even more alternatives to studies related to this topic. Many more aspects can be covered that can prove to be successful measures in steps toward the positive perception of tourist destinations. The study can reach out to a larger number of population of the region and even at a very smaller scale such as a city for instance within Pakistan or worldwide with more alternative and criteria.

Conclusion
The objective of this study was to find a perfect measure that can be more effective in improving a terrorism-affected tourist destination’s image. To do so, three criteria were used to measure alternatives: cost, feasibility and effectiveness. The alternatives determined were: physical security, expansion in international trade agreements, cultural exchanges and positive social media coverage. After a complete study of those alternatives, physical security was ranked first, as it was closest to the ideal solution, the second was international trade, the third being cultural exchanges and the fourth was positive social media coverage. The paper allowed us to determine the best way to recover a country’s image and thus induce tourists to view it as a safe and pleasant travel destination. They believe that the highest impact caused would be by physical security. Also, it would not cost much and would be very feasible to manage and implement. Experts determined that international trade would also be a viable option but will prove to be significantly expensive in terms of cost, whereas in terms of feasibility and effectiveness, it is believed to have a high impact. Experts chose cultural exchange as their third most preferred alternative because it was easy to implement but was costly and had a very little impact. The fourth-ranked alternative was positive social media coverage which had the lowest cost but also it had the lowest rating in terms of effectiveness and feasibility.
Based upon these rankings, we can assist governments to form their tourism policies. Results based on their rankings showed that governments should put extra effort into the improvement of physical security. People should feel peaceful while visiting tourist spots. They should be made to believe that the government is always there to protect them in person. Such security arrangements should be a part of the policies through which it is always impossible for any violent attack to happen. Foreign policies of the governments should be strong enough to increase international trade if they expect to get the tourism industry expanding. International trade will help stabilize the economy, thus making it possible to secure tourist destinations. Foreign policies should also enable the exchange of students and citizens with other countries. Right now, there are some organizations who have youth exchange programs, student exchange programs. Governments should step up in this regard. Only by doing this, can they show their culture to the world and thus create a very positive perception of Pakistan. Regular cultural events with foreigners invited should also be a part of the government’s policy.

Furthermore, making documentaries on tourist destinations, telecasting programs related to the events being held in those spots frequently is a necessary thing to do nowadays. Social networking website, electronic media have an immense impact on an individual’s thinking. They believe whatever you show them and that is where the government should take steps to ensure people get inspired by the beauty and safety its country has to offer.

Policy makers should devise a policy which can enable the tourism department to work with different channels and social websites. Both can exchange their expertise and it can do wonders. Their policies should comply with these results. Only then, the steps taken will be more effective. Right now, working on these four options is in the best interests of the country and its people. From security to social media, and from international trade to cultural exchanges, they all should be the government’s top concerns if they want to achieve a positive perception of its tourist destinations.

References


Yap, G. and Saha, S. (2013), “Do political instability, terrorism, and corruption have deterring effects on tourism development even in the presence of UNESCO heritage? a cross-country panel estimate”, Tourism Analysis, Vol. 18 No. 5, pp. 587-599.


Further reading

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Appendices 1, 2, 3, and 4 represent the alternatives. They are calculated using the weights assigned by experts.

**Table AI. Positive social media coverage**

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JTA 25.2
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### Table AIV. Post-terrorism image recovery

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</tr>
</tbody>
</table>
Factors that affect the demand of tourism in Mexico: competitive analysis

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Abstract

Purpose – Several studies have been made that analyze factors that affect the demand of tourism from several optics. This paper aims to study the factors that determine the demand for tourism in Mexico, through an econometric analysis, by using the Johansen cointegration model (1991) to determine the long-term elasticity between the demand of tourists and the wealth related to its main markets (the USA and Canada) and the relative prices in Mexico and its two main competitors (the Dominican Republic and Costa Rica).

Design/methodology/approach – The authors used econometric analysis using Johansen’s cointegration model (1991), using as a dependent variable the demand of tourists from the main countries of origin (the USA and Canada), taking as data the number of tourists by air in the period 1980-2015, according to information from the SIIMT. The independent variables are the relative wealth of the country of origin of the tourists (wealth of the tourist in Mexico concerning the wealth in their country of origin) and the relative prices of the destination country with respect to the country of competition. The source for per capita income and the consumer price index is the World Bank.

Findings – The results obtained in this document show that in the long-term the price is a factor of impact in the purchase decision of both markets analyzed. Presenting an elastic demand to the price, which implies that the market is sensitive to the variations of the price of tourist services, opting for the destination that offers better prices, with a higher sensitivity to the price when compared with Costa Rica. Coinciding with previous studies carried out in other tourist destinations, such as in the work of Patsouratis et al. (2005).

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Originality/value – The main contribution of this work is to determine the long-term relationship, through a cointegration analysis of Johansen (1991). A methodology that has not been used to perform a competitive analysis between countries. Additionally, the present work uses variables different from those considered in previous works; the dependent variable is the demand of tourists from the main countries of origin (the USA and Canada) and as dependent variables the relative wealth of the country of origin of the tourists (Wealth of the tourist in Mexico with respect to wealth in their country of origin) and the relative prices of the destination country with respect to the country of competition.

Keywords Competitiveness, Tourism, Demand, Cointegration

Paper type Research paper

1. Introduction
Tourism is one of the most important and dynamic economic sectors in the world, which is why various empirical studies have been developed to estimate the determinants of international tourism demand.

The arrivals of international tourists registered a remarkable increase of 7 per cent in 2017 until reaching a total of 1.322 million, according to the last UNWTO World Tourism Barometer. Forecasts indicate that this strong momentum will continue in 2018, with a rate of between 4 per cent and 5 per cent.

It is estimated that international tourist arrivals (visitors staying overnight) increased by 7 per cent in 2017. This rate is much higher than the sustained and constant 4 per cent trend that had been reached, registered since 2010 representing the best result in seven years.

According to UNWTO (2018), international travel continues to grow strongly, consolidating the tourism sector as a key driver of economic development. As the third largest export sector in the world, tourism is essential for job creation and the prosperity of communities around the world.

According to the UNWTO in 2017, the Americas received 207 million international tourist arrivals, which translates into an increase of 3 per cent, with positive results in almost all destinations. In North America, an increase of 2 per cent was generated, contrasting the good results of Mexico and Canada with the decrease in the USA, the largest destination in the region.

The tourism sector is a key factor in the Mexican economy, which has been exposed because, despite the global economic crisis during 2014 and Mexico’s security issues, the arrival of international tourists in this country increased by 20 per cent. This positions Mexico in the top ten regarding arrivals, occupying the tenth place in the World Tourism Organization (WTO, 2016) rankings in 2015, thus continuing to hold a spot among the 10 most important tourist destinations in the world. In 2017, Mexico ranks eighth in the International Tourism Ranking because of the arrival of international tourists and the 14th Country in terms of foreign currency revenues for tourism (UNWTO, 2018).

Tourism in Mexico is between the second and third position as a source of foreign currency, varying the position based on the price of oil and being behind the income from remittances from the compatriots based in the USA, standing out as the main generating activity of currencies where private initiative intervenes. Tourism contributes to maintaining the favorable trade balance, contributing a little more than 8 per cent to the national GDP and generating more than 2 million direct jobs (SIIMT, 2015).

The article is organized as follows. Section 2 presents the literature review and the profile of Mexican tourists and the competing countries that are analyzed. Section 3 describes the methodologies used and the results. Finally, the conclusions are presented in Section 4.
2. Literature review

Tourism is one of the most important and dynamic economic sectors in the world, which is why various empirical studies have been developed to estimate the determinants of international tourism demand. For example, Crouch (1994) describes 80 studies in this regard, which focus on the per capita income of the countries of origin and the relative price of tourism services exported as the main determinants of demand. Within them they emphasize the works of Paraskevopoulos (1977); Loeb (1982), Stronge and Redman (1982), Truett and Truett (1987), Smeral and Witt (1996), Mudambi and Baum (1997), who carry out studies in which the elasticity of tourism demand is manifested with respect to income, relative prices, exchange rate and transportation. Other authors have considered explaining the demand according to the number of tourists arriving (Tie-Sheng and Li-Cheng, 1985); (Gunadhi and Boey, 1986); (Chadee and Mieczkowski, 1987); (Witt, 1990); (Walsh, 1996). On the other hand, some essential works have also been carried out considering qualitative factors as indicated by Bull (1991), such as the climate, the quality of the beaches, the attractiveness of culture, gastronomy and ease of transport. In a recent study on tourist demand research conducted in the period from 1961 to 2011, they identify other explanatory variables that have a significant influence on the estimated elasticities of demand such as origin, destination, length of stay, modeling method, frequency of data, measurement and sample size (Peng et al., 2015).

Thus, it is noted that a variety of factors influence the demand for vacations. As mentioned, the usual explanatory variables are tourist income, transportation costs, exchange rates, the price of the product itself, the price of its substitutes and investment in tourism, in addition to using various dummy variables to take into consideration factors such as oil crisis, economic recessions and closing of borders. Crouch (1994) explains that the specification of the function of demand varies according to the countries or regions, the period analyzed, the type of data (time series or panel data) and the nature of tourism (holidays, business trips and visits to relatives or friends).

The tourism product is of a perishable nature, which may influence the characteristics of competition between countries and affect management decisions in the public and private sector, which is why it is essential that these two actors know the factors that influence in the tourist demand. The studies mentioned above follow an approach with a simple equation, which does not explain the importance of interdependencies between competing destinations (Eadington and Redman, 1991). A subject of high relevance in the tourism sector, since traveling abroad is one of the options for the consumer, once the decision to travel has been made, the consumer may opt for tourism in different destinations with substitution variables. To consume tourist services, people must visit the place of delivery and, although their purchases of goods and services are subject to availability, consumers are limited by issues of resources and time. Both limitations suggest that the choice of destinations is a typical problem of consumer choice (Divisekera, 1995; Rugg, 1973). Hence, the importance of conducting studies taking into account the competition.

Dwyer and Kim (2003) develop a destination competitiveness model to compare between countries and between industries of the tourism sector, with which seeks to capture the main elements of competitiveness that the general literature highlights, through a set of indicators that are used to measure the competitiveness of any given destination. These indicators contain both objective and subjective measures that were important elements during the workshop held in Korea and Australia. The work has four main objectives to develop the destination competitiveness model that identifies the key success factors that determine the destination’s competitiveness, develop a set of appropriate indicators for the
destination’s competitiveness, highlight the advantages and limitations of the model and identify areas for future conceptual and empirical research.

Patsouratis et al. (2005) perform an econometric analysis where he examines the competition of tourism between Mediterranean countries, with an emphasis on Greece. The estimating model includes as explanatory variables: income index, price index of the receiving country, price index of the competitors (Spain, Portugal and Italy) and exchange rate. The results show that the main determinants of tourism demand in Greece are the two price indices and the exchange rate, and Spain is the main competitor of the destination.

For his part, Buisán (1997) performs a work that provides empirical evidence on the main determinants of income from tourism in the Spanish economy. The author estimates an error correction model, based on the existence of a stable long-term relationship between income from tourism (dependent variable), an income variable (determined by GDP per capita of the country of origin of tourists) and another one of competitiveness with its main competing destinations (France, Portugal, Italy, Greece, Morocco, Tunisia, Egypt, Turkey and Mexico). It also quantifies the contribution of each explanatory variable to the evolution of exports by tourism in recent years, with particular emphasis on the development of competitiveness via prices. The most outstanding features of the research are the existence of a stable long-term relationship between tourism exports, a variable of income of the client countries and another that measures the competitiveness of Spanish tourism concerning domestic tourism in the countries of the region which comes the vast majority of foreign visitors. Second, the elasticities of the income and competitiveness variables are high and very significant, both in the long-term and in the short-term.

About Mexico, Brida et al. (2007) did a paper explaining the long-term effects of tourism demand in Mexico respect to American visitors. Using a cointegration analysis of Johansen (1991), taking as variables the public investment, relative prices of tourist products and per capita income of the USA. The author finds that the income of the USA positively affects the tourist demand.

2.1 Profile of tourists in Mexico

When studying the tourist demand for Mexico, it is found that it mainly has two relevant markets that represent 69 per cent of the total international tourists, of which 57.3 per cent are from the USA and 11.9 per cent from Canada (SIOM, 2015).

The USA is the most important tourist supplier in Mexico, the trips of this market have an average duration of nine nights, being the primary destinations Cancun, Riviera Maya, Los Cabos, Puerto Vallarta and Federal District (SIIMT, 2015), that is to say, is a segment of sun and beach, of this 19 per cent make their reservation through a tour operator. Canada is the second most important market, with an average duration of 13 nights, just as the Anglo-Saxon market has beach destinations such as; Cancun, Puerto Vallarta, Los Cabos and Federal District. In total, 46 per cent of these tourists make their purchase through a tour operator (SIIMT, 2015).

In 2012, Mexico lost competitiveness in global tourism, with a recovery in 2013, and stabilized in 2014 with an increase of 20 per cent in the reception of international tourists and 2015 presented the largest increase in the US tourist market with 17.1 per cent growth and 4.3 per cent Canada. Other destinations such as Hawaii, Cuba, Costa Rica, Dominican Republic and Jamaica that offer sun and beach destination begin to increase their percentage of participation in the reception of tourists from the USA and Canada.

According to the information provided by the Integral Information System for Tourist Markets (SIIMT), Figure 1 and 2 show the flow of tourists from the USA and Canada to
Mexico’s main competitors. It is observed that Mexico has the highest growth in both markets, followed by the Dominican Republic, Costa Rica with a significant increase in attracting tourists from the USA, on the other hand, Jamaica showed a considerable loss in the Canadian market and little signs in the USA market. Bermuda and the Bahamas show strong growth in the Canadian market, and the US market remains almost stable. The Bahamas and Bermuda lose 4 per cent of the market.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico (1)</td>
<td>6,930,590</td>
<td>7,993,665</td>
<td>▲ 15%</td>
<td>SIOM del INM</td>
</tr>
<tr>
<td>Hawaii (1)</td>
<td>5,021,471</td>
<td>5,311,322</td>
<td>▲ 6%</td>
<td>Hawaii Tourism Authority</td>
</tr>
<tr>
<td>Dominican Republic (1)</td>
<td>1,829,455</td>
<td>2,048,762</td>
<td>▲ 12%</td>
<td>Central Bank of Dominican Republic</td>
</tr>
<tr>
<td>Costa Rica (2)</td>
<td>997,262</td>
<td>1,077,044</td>
<td>▲ 8%</td>
<td>Instituto Costarricense de Turismo</td>
</tr>
<tr>
<td>Jamaica (3)</td>
<td>888,503</td>
<td>899,044</td>
<td>▲ 1%</td>
<td>Jamaica Tourism Board</td>
</tr>
<tr>
<td>Bahamas (2)</td>
<td>1,068,497</td>
<td>1,097,045</td>
<td>▲ 2%</td>
<td>Caribbean Tourism Organization</td>
</tr>
<tr>
<td>Bermuda (1)</td>
<td>172,652</td>
<td>166,016</td>
<td>▼ 4%</td>
<td>Caribbean Tourism Organization</td>
</tr>
</tbody>
</table>

**Notes:** (1) Arrivals by air; (2) Tourist arrivals  
**Source:** Sistema Integral de Información de Mercados Turísticos (SIIMT), 2016
In the present study, Costa Rica and the Dominican Republic compete as countries because they have a sun and beach offer similar to that of Mexico, so it is pertinent to know the effects of the relative price of their products against the prices that Mexico offers.

3. Methodology

At the international level, of the 95 studies considered in Crouch (1994), close to 70 per cent use the number of tourists as a dependent variable, due, in most cases, to specific studies between the destination country and the origin. The rest of the work uses expenses or income as a dependent variable for tourism, and a few, the duration of the stay.

Regarding the price variable, the appropriate way to determine it is not clear, because the tourist acquires very different goods that correspond to several economic sectors, but it is important to consider the cost of living of the destination country for the tourist. The consumer price index of the destination country adjusted or not by the exchange rate has been used as a proxy for the price of tourism. Uysal and Crompton (1985) take into account the existence of competing tourist countries by specifying the tourism price variable as the cost of living in the destination country, relative to a weighted average of a set of alternative destinations.

In this work, the demand of tourists from the leading countries of origin (the USA and Canada) is used as a dependent variable, taking as data the number of tourists by air in the period 1980 - 2015 (graph 1), according to information from the SIIMT. The independent variables are the relative wealth of the country of origin of the tourists (wealth of the tourist in Mexico respect to the wealth in their country of origin) and the relative prices of the destination country concerning the country of competition. The source for per capita income (graph 2) and the consumer price index (graph 3) is the World Bank.

3.1 Developed model

\[ \ln D_{it} = a_0 + a_1 YR_{it} + a_2 \text{IPCR}_{jt} + e_{it} \]

\[ i = 1, 2 \ (\text{countries of origin}) \]

\[ j = 1, 2, 3 \ (\text{competition countries}) \]

where

- \( D_{it} \) = Number of tourists that arrived in Mexico from the country \( i \) in the time frame \( t \).
- \( YR_{it} \) = Relative wealth of the country \( i \) in the time frame \( t \).

which is determined by:

\[ YR_{it} = \frac{GDP_i}{GDP_{mx}} \]

\( GDP_i \) = GDP per capita country \( i \).
\( GDP_{mx} \) = GDP per capita Mexico.
\( \text{IPCR}_{jt} \) = Relative prices of the country \( j \) in the time frame \( t \).

which is determined by:
$$IPC_{jt} = \frac{IPC_{mx}}{IPC_{j}}$$

$e_{jt} = \text{Random error}$

The relationship between the variable is expressed in logarithms.

### 3.2 Variable charts
These charts are shown in Figures 3, 4 and 5.

**Figure 3.**
Charts demand for tourism to Mexico from the USA and Canada

**Figure 4.**
GDP charts USA, Canada and Mexico
3.3 Econometric exercise

Unit root tests were performed, ADF (1981), KPSS (1992) and PP (1988). As the series presents structural changes, it is proposed to use the Harvey et al. (2011) test to determine the order of integration, since this test controls the particularity of a structural cut. This test considers a series generated by the process:

\[ y_t = \alpha + \beta t + \gamma' DT_t(\tau_0) + u_t \text{ de } t = 1, \ldots, T \]

With \( u_t = \rho_T u_{t-1} + \varepsilon_t \text{ de } t = 2, \ldots, T \)

where

\( DT_t(\tau_0) := [DT_t(\tau_{0,1}), \ldots, DT_t(\tau_{0,m})]' \) Contains the elements that indicate the period in which the break happens.

From these specifications, a Dickey–Fuller unit root test is performed.

This test produces statistical values under the null hypothesis of unit root existence. The test allows up to two structural cuts, so two statistics are denoted as MDF1 and MDF2. Thus, if these values are lower in absolute terms than the critical value, then the null hypothesis is not rejected and it is concluded that the series exhibits unit root.

The results of the stationarity tests are shown in Table I. The series were found to be non-stationary in levels and stationary in the first difference; in other words, integrated series of order 1. In most cases, the statisticians of the ADF test point in that direction, and the results of the Harvey test confirm it. The variables, Mexican consumer price index (IPCMx) and

![CPI charts Mexico, Dominican Republic and Costa Rica](image)

### Table I.
Stationary test for the analyzed variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF</th>
<th>KPSS</th>
<th>PP</th>
<th>Harvey</th>
<th>Integration</th>
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<td></td>
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<td>1ra Dif.</td>
<td>Nivel</td>
<td>1ra Dif.</td>
<td>Nivel</td>
</tr>
<tr>
<td>Dusa</td>
<td>-0.97</td>
<td>-4.79*</td>
<td>0.66</td>
<td>0.09</td>
<td>-0.92</td>
</tr>
<tr>
<td>Dcan</td>
<td>-0.98</td>
<td>-4.66*</td>
<td>0.66</td>
<td>0.07</td>
<td>-0.41</td>
</tr>
<tr>
<td>Yusa</td>
<td>-1.12</td>
<td>-2.30*</td>
<td>0.70</td>
<td>0.62</td>
<td>-6.83*</td>
</tr>
<tr>
<td>Ycan</td>
<td>-1.30</td>
<td>-3.17*</td>
<td>0.67</td>
<td>0.12</td>
<td>-1.25</td>
</tr>
<tr>
<td>Ymx</td>
<td>-0.83</td>
<td>-5.44*</td>
<td>0.64</td>
<td>0.09</td>
<td>-0.77</td>
</tr>
<tr>
<td>IPCmx</td>
<td>-0.13</td>
<td>-2.21</td>
<td>0.69</td>
<td>0.33</td>
<td>-2.74</td>
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<tr>
<td>IPCrd</td>
<td>1.95</td>
<td>-4.06*</td>
<td>0.65</td>
<td>0.46</td>
<td>-1.57</td>
</tr>
<tr>
<td>IPCjam</td>
<td>0.62</td>
<td>-4.49*</td>
<td>0.65</td>
<td>0.59</td>
<td>0.43</td>
</tr>
<tr>
<td>IPCcr</td>
<td>-0.68</td>
<td>-1.72</td>
<td>0.66</td>
<td>0.52</td>
<td>2.89</td>
</tr>
</tbody>
</table>

Notes: *Rejects null non-stationarity at 5%; †Does not reject null stationarity at 5%; **Rejects null unit root at 5%
Costa Rican consumer price index (IPCcr), suggested non stationarity in levels in the ADF test, however, the KPPS and Harvey tests rejected it.

After the unit root tests, and once the variables were proven to be integrated of order I(1), the Johansen cointegration test is performed in each of the general specific estimates, generating a total of four estimates, presented in two general groups. Each group corresponds to the country that emits tourists and the competing countries. Table II shows the results of this exercise.

In all the systems analyzed, it was found that there is at least one cointegration vector, with significant coefficients and the expected signs. This confirms that the demand for tourists from the USA and Canada has a stable long-term relationship with the relative wealth between the countries concerned and Mexico, and with the relative prices between Mexico and the country of competition.

The normalized cointegration vectors are reported in the last column of the table. In all cases, the long-term relationship between tourist demand and the relative wealth is positive. That is, when the relative wealth of tourists increases, the influx of tourists to the country grows. In the case of relative prices, the relationship is negative. In other words, when Mexico prices increase in comparison with the competition country, the demand for tourists in the long-term decreases.

Because the variables were treated in their logarithmic transformation, the coefficients can be interpreted as long-term elasticities.

The results obtained from the model reveal that, in the long-term for the USA market, the relative price is an impact factor in the purchase decision, finding that, when comparing Mexico with the Dominican Republic, by increasing prices in Mexico the demand decreases by 1.29 per cent and when compared to Costa Rica the demand decreases by 1.74 per cent. Concerning relative wealth, it is found that, in the long-term, it is not a variable that has an important impact on the purchase decision, although it has a positive relationship, the effect on the increase in demand is not as significant. When compared to the Dominican Republic, it is found that a change of one per cent in the relative wealth of Americans increases the tourist demand by 0.35 per cent and when compared with Costa Rica a one per cent increase in relative wealth increases 0.36 per cent the demand for tourists from the USA. These comparisons imply that the most important variable for this market is the cost of living or the relative prices of the tourist services offered by the destination countries.

Regarding the demand of the Canadian market, when Mexico compares with the Dominican Republic, the behavior of the variable relative wealth of tourists is positive, but with little impact, an increase in wealth of one percent increases the demand for tourists by 0.032 per cent, while an increase in the cost of living in Mexico decreases the demand of this market by 0.34 per cent. When compared with Costa Rica, the most relevant variable is the cost of living, because a change of 1 per cent in prices decreases tourist demand by 0.51 per cent, while an increase of 1 per cent of relative wealth only increases tourist demand by 0.024 per cent. Finding that for both markets the variable of relative price or cost of living is the one that generates the most significant impact on the demand of tourists.

<table>
<thead>
<tr>
<th>System</th>
<th>Lag structure</th>
<th>Hypothesis</th>
<th>Probability</th>
<th>Normalized vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dusa, YRusa, IPCRrd</td>
<td>4</td>
<td>$r \geq 1$</td>
<td>0.0466</td>
<td>1.0,350-1.296</td>
</tr>
<tr>
<td>Dusa, YRusa, IPCRcr</td>
<td>4</td>
<td>$r \geq 1$</td>
<td>0.0244</td>
<td>1.0,360-1.742</td>
</tr>
<tr>
<td>Dcan, YRcan, IPCRrd</td>
<td>4</td>
<td>$r \geq 1$</td>
<td>0.0023</td>
<td>1.0,022-0.342</td>
</tr>
<tr>
<td>Dcan, YRcan, IPCRcr</td>
<td>4</td>
<td>$r \geq 1$</td>
<td>0.0107</td>
<td>1.0,024-0.511</td>
</tr>
</tbody>
</table>

Table II. Cointegration testing
4. Conclusions
Tourism is a relevant activity in Mexico, currently representing 8.5 per cent of GDP and together with oil and remittances is in the first three places in the generation of foreign currency, being the only economic activity in which private initiative intervenes. The attraction of international tourism has gained strength in recent years, presenting an increase of approximately 10 per cent. The USA market is the most important market for Mexico, showing a growth of 9.6 per cent in 2017 concerning 2016. The second most important market for Mexico is Canada, which presented an increase of 1.6 per cent for 2016. Because of the relevance of tourism as an economic activity for the country and the dependence on the markets mentioned above, it is important to analyze the competitiveness of the destination against its two main competitors (the Dominican Republic and Costa Rica). The analysis shows the long-term variables that have an impact on the decision to purchase the destination in the markets analyzed.

To know the competitiveness of Mexico against its competitors and the variables that are decisive in the purchase decision, we considered the variables of relative wealth of tourists and the relative price, obtained from the cost of living in Mexico versus the cost of life of the competitor country.

The results obtained from the model used show that in the long-term the relative price is a determining factor in the purchase decision of both markets analyzed (the USA and Canada). The elasticity of the demand to the price implies that the market is sensitive to the variations in the price of tourist services, opting for the destination that offers the best rates, with a greater sensitivity to the price when compared to Costa Rica. This sensitivity coincides with previous studies carried out in other tourist destinations, such as in the work of Patsouratis et al. (2005), who find that the price index variable is a determining factor in tourism demand in Greece.

Concerning the relative wealth variable, a positive relationship with an elasticity of less than 1 is found in all cases. This relationship reveals that currently for the USA and Canada market, the destination Mexico with respect to its competitors is considered an inferior good, contrary to the results found by Brida et al. (2007), who finds tourism as a luxury good for the USA market in the period from 1980 to 2006, with an elasticity of the demand for income of 2.09.

Even though the variables used in both studies are not the same, the results show that over time Mexico as a destination has gone from being a luxury good to be an inferior good. This transformation means that previously, with an increase in the wealth of tourists, the influx of tourists to the country increased by a higher proportion. Now, being an inferior good implies that by increasing the wealth of tourists decide to increase the demand for tourism in Mexico although with a percentage increase less than rent. The above places Mexico as an economical option for tourists from its two main markets (the USA and Canada).

The results found in the model, the elasticity of demand with respect to income less than 1, coupled with the elasticity of demand to price, shows that in the long-term, Mexico has been losing competitiveness in attracting tourists with higher purchasing power. This loss of competitiveness is consistent with the data presented in the April bulletin of the SIIMT (2018), which shows an increase of 6.7 per cent in the arrival of tourists, but a decrease in average spending of −6.9 per cent. The above is a factor that must be considered by the destination managers, given that in the long-term the relative price is a factor and the elasticity of the demand are variables that affect the influx of tourists to the country. Therefore, they must be considered in the elaboration of the tourism sector plan and in the promotion strategies used, which should consider two options; diversify the market and generates strategies and policies to attract luxury tourism, which currently in the world represents, together with the luxury car sector, 20 per cent of the income of the global economy.
To capture a significant market, it will be necessary that the managers of the destination generate strategies through incentives to encourage the specialization of specific destinations that have an infrastructure to offer comprehensive travel experiences that provide tourists luxury experiences where the consumer is the protagonist. Given that, they seek to experience adventures with the luxury of globalization but the experience of the local culture, with tendencies to personalize the service. It is important to highlight that, to capture this market, Mexico must diversify its promotion strategy, paying particular attention to the Asian market.

The other option for destination managers is to strengthen the competitive advantages of the tourism sector in Mexico for the US and Canadian markets. Through professionalization strategies that allow Mexico to take advantage of the opportunity to be an option for tourists who have the possibility of travel to an international destination even when they do not have high purchasing power. On the other hand, capture the influx of tourists seeking a destination that offers experiences beyond the offer of sun and beach. For this, it is necessary that destination management strategies consider the option of diversifying the offer of tourist services, offering cultural, historical and adventure activities, as well as the development or strengthening of other market segments, such as meeting, medical and gastronomic tourism among others. In addition to the diversification of supply, actions must be proposed that promote the competitiveness of the destination, as is the case of the use of new technologies that provide valuable data on consumers in the tourism industry to conduct tourism intelligence.

Unlike its main competitors, Mexico has a wide range of options to serve various segments of the tourism market, having natural, cultural and historical wealth, unlike its competitors whose main strength is the offer of sun and sand. However, Costa Rica offers various options of nature and adventure tourism, and the Dominican Republic has started with the incorporation of nature tourism. These activities imply a greater challenge to maintain the competitiveness of destination Mexico, giving relevance to the review of the destination promotion policy and the diversification of products and services offered.

In the globalized market, Mexico encounters several competitors that have gained strength in the markets studied. Although Mexico has a higher demand for tourists, it is necessary to know the long-term factors that influence the decision to purchase demand, compared to other destination options. With the objective of having information that supports decision-making in the preparation of relevant public policies in the promotion of the destination, as well as the generation of added value of the companies in the sector.

In conclusion, if we seek to know the factors with the most significant impact on the demand of tourists to Mexico, it follows that the price is a considerable factor for tourists from both markets (the USA and Canada), which offers a competitive advantage to Mexico because it is a cheaper destination than the countries analyzed as competition. However, actions must be implemented to strengthen the competitiveness of the destination to avoid the risk of losing competitiveness and market.

References


Further reading


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