



Effects of COVID-19 pandemic on tourism in the Orizaba Magic Town, Veracruz Efectos de la pandemia COVID-19 en turismo en el Pueblo Mágico de Orizaba, Veracruz

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Abstract

We estimate the effects of the COVID-19 pandemic in tourism activities, we hypothesize the disease had a negative effect on the economic, social and emotional aspects of tourist service providers in the Magic Town of Orizaba. Data retrieved with Google Trends for years 2016-2020 was used to analyze trends in keywords related to tourism in Orizaba. Three situations were analyzed: a worst-case scenario, an intermediate scenario and a best-case scenario. In a second stage, a questionnaire was applied to service providers to explore their perception of the impact of the epidemic on economic, social, and emotional aspects. Analysis of Google Trends showed a negative impact of COVID-19 in all the keywords consulted. The opinion of the people surveyed agreed in an economic affectation. There was a dismissal of personnel, businesses were closed, and people looked for complementary economic activities. Also, there was a decrease in income and a reduction of tourists. The most affected tourism entities were hotels and restaurants. At the emotional level, the interviewees had feelings of anxiety, social isolation, fear, depression, weight gain, feelings of unhappiness, and were seeking family support during the pandemic. Tourism service providers suggest tourism planning and design of new tourism products to mitigate negative impact. Anxiety and financial problems were the most frequent issues related to personal problems. Tourism entrepreneurs are committed to promoting the Orizaba Magic Town brand and well as Nature Tourism.

Keywords:

Trend analysis, epidemic scenarios, Great Mountains of Veracruz Region, Nature tourism.

Resumen

Se estimaron los efectos de la pandemia del COVID-19 en las actividades turísticas; planteamos como hipótesis que esta enfermedad tuvo un efecto negativo en los aspectos económicos, sociales y emocionales de los prestadores de servicios turísticos del Pueblo Mágico de Orizaba. Los datos obtenidos con Google Trends para los años 2016-2020 se utilizaron para analizar tendencias en palabras clave relacionadas con el turismo en Orizaba. Se analizaron tres situaciones: el peor escenario, un escenario intermedio y el mejor escenario. En una segunda etapa, se aplicó un cuestionario a personas dedicadas a actividades turísticas para explorar su percepción del impacto de la epidemia en aspectos económicos, sociales y emocionales. El análisis de Google Trends mostró un impacto negativo del COVID-19 en todas las palabras clave consultadas. La opinión de los encuestados coincidió en la afectación económica. Hubo despido de personal, se cerraron negocios y la gente buscó actividades económicas complementarias. También hubo una disminución de ingresos y reducción de turistas. Las entidades turísticas más afectadas fueron hoteles y restaurantes. A nivel emocional, los entrevistados tuvieron sensaciones de ansiedad, aislamiento social, miedo, depresión, aumento de peso, sensación de infelicidad y la búsqueda de soporte familiar durante la pandemia. Los proveedores de servicios turísticos sugieren la planificación turística y el diseño de nuevos productos turísticos para mitigar el impacto negativo. La ansiedad y los problemas económicos fueron los temas más frecuentes relacionados con los problemas personales. Los empresarios turísticos apuestan por impulsar la marca Orizaba Pueblo Mágico y el Turismo de Naturaleza.

Palabras clave:

Creative Tourism, Creative Economy, Sustainable Development.

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Introduction

The year 2020 changed humanity due to the appearance of the COVID-19 or coronavirus (SARS-CoV-2) pandemic. This virus mainly affects the respiratory system as a whole: mouth, nose, throat and lungs (Khalilzadeh, 2020). The first case was detected in the city of Wuhan, Hubei, China in December 2019 and, by January 2020, near 2K positive cases were confirmed. In February 2020, air transport spread the virus to all continents, a month later, 146 countries were reporting coronavirus cases (Gössling et al., 2020). Studies of effects caused by this pandemic focus mainly on tourist perception (Zapata et al., 2022; Joo et al., 2021; Škare et al., 2021; Amaya, 2020; Wachyuni & Kusumaningrum, 2020), but few have studied the effects on tourism service providers and host communities. For example, studies carried out in Brazil, Peru and Ecuador explored the effects of the pandemic in specific destinations such as the Galapagos Islands and the Machu Pichu Sanctuary, mainly using documentary research and data from official sources; online surveys were also conducted with managers and businessmen using Google Forms (Garabiza and Franco, 2022; García et al., 2021; Guardia et al., 2022; Mendoza et al., 2022; Raúl & Díaz, 2021). In Mexico, a lack of studies was detected to address the impacts of COVID-19 at the level of tourism service providers. This pandemic has negatively affected economic, social and emotional components of tourism (table 1).

Table 1. Economic, social and emotional tourism components impacted by COVID-19

Economic	Social	Emotional
Decline in tourism	Changes in ways of traveling	Tourism phobia
Reduction of foreign exchange income	Reduction in tourism flow	Increase in nervous disorders
Job losses	Security measures in the post-COVID-19 stage	Feelings of anxiety and frustration in tourists and residents
Closure of companies	Changes in the way of living	Decrease in emotional solidarity in tourism
	New forms of the feel-thought of the society	

Source: Modified from UNWTO, 2020; Thomé, 2020; Wachyuni and Kusumaningrum, 2020; Joo et al., 2021; Skare et al., 2021.

The UNWTO (2020) pointed out that in some countries the decrease in tourism was 60% (between 850 and 1 100 million fewer international tourists). Considering that all destinations had travel restrictions, this constraint translated to losses between 910 000 million and 1.2 trillion dollars from tourism income. Therefore, between 100 and 120 million jobs generated in accommodation and catering in tourism are threatened. Chen et al., (2020), analyzed 499 Chinese newspapers, in aspects such as the impact of COVID-19 on tourism, people’s emotions, control of cultural tourism activities; also, they found a collapse in tourism and economics.

Moreover, Clark et al., (2019) used Google Trends to create a forecast model regarding visitors within national parks in the United States. The model predicted 97% in the variation of the total number of visitors in all parks. The authors used for the analysis a base period between 2008 and 2017 characterized by the increase in the visitation trend in the case of the Joshua Tree National Park.

In Mexico, the contribution of tourism to the national gross domestic product (GDP) is 8.7% (Satellite Account of Tourism in Mexico, 2018), which places it as the seventh country worldwide, with the highest participation of tourism in the economy. The decrease in the arrival of international tourists was 47.2% and in foreign currency income of 56.1% (Banxico, 2020). Moreover, the economic sector corresponding to temporary accommodation and food and beverage preparation services experienced a 72% drop during May 2020 (Cerón, 2020).

The negative effect caused by COVID-19 on people's emotions were due to the uncertainty of contagion, anxiety and frustration (Mao *et al.*, 2020). In the face of a health crisis of this magnitude, traveling represents a high level of risk, which manifested itself during 2020 with generalized anxiety among the population and the consequent cancellation of flight reservations and accommodation services, even if this represented monetary losses for the tourists. Wachyuni and Kusumaningrum (2020) stated that anxiety arises from exposure to potential risks, such as subjective feelings that generate nervousness, stress, vulnerability, discomfort, fear, or panic. Derived from the pandemic, nervous diseases such as panic attacks, agoraphobia and claustrophobia, among others, can be triggered too. Joo *et al.* (2021) analyzed the effects of the level of risk perceived by the pandemic, on the emotional solidarity of residents towards tourists, such as the empathy of the host populations; however, it was concluded that emotional solidarity decreased due to the risks perceived by the residents.

Depression has also been linked to isolation due to the pandemic, since human beings are sociable by nature. In this sense, the research carried out by Mao *et al.*, (2020) valued the psychological capital in organizations, since it is characterized by hope, resilience and optimism that can positively impact the attitudes of employees towards work. According to the authors, the psychological impacts generated by the pandemic are accentuated when economic specialization is more closely linked to the tourist function. In tourist destinations created through government planning actions, or sites that have been reoriented towards tourism through public programs, as is the case of the Magic Towns Program in Mexico, a greater economic dependence on tourist activity is generated among social and business actors.

The "Magic Town" tourism label was created by the Ministry of Tourism in 2001 as a strategy to diversify the country's tourism offer and revalue municipalities with attributes and characteristics of tourist interest that, until then, were not part of the collective imagination (Secretaría de Turismo, 2021a). A Magic Town is one that, through time and in the face of modernity, has preserved, valued and defended its historical, cultural and natural heritage. This is manifested in various expressions of its tangible and intangible heritage, with unique, symbolic attributes, authentic stories, transcendent facts and daily life (Secretaría de Turismo, 2014). The Magic Towns are located across the country. There are 11 states that concentrate 62.1% of the destinations declared by the program, highlighting the states of Mexico and Puebla with 10 locations each. Veracruz has six towns, including Coatepec and Papantla, which received their designation in 2006, Xico in 2011, and Coscomatepec, Zozocolco, and Orizaba in 2015. In 2018, the Magazine "Mexico Desconocido [Unknown Mexico]" published a list of the 16 favorite Magic Towns, which were selected by the readers of the magazine. According to this magazine, Orizaba was positioned as the favorite Magic Town in 2018, 3 years after obtaining his appointment.

Orizaba, since its nomination in 2015, has experienced an accelerated tourist growth. Local authorities have supported the creation of tourist infrastructure, signposting, adaptation and remodeling of places of interest and tourist attractions such as a botanical garden, planetarium, museums, the "Mier y Pesado" polyforum and the cable car. They have also revamped and restored part of the architectural heritage. This constant growth was carried on until 2019, where an increase in the number of visitors was observed. On the other hand, there are few studies of the impact of the COVID-19 pandemic on tourism in Latin America. Among them, the one carried out by Garabiza and Franco (2022), for the period 2016 to 2020, analyzed the economic impacts generated by COVID-19 in Ecuador. In Mexico there is no particular information of COVID-19 on the Magic Towns related on the economic, social and emotional effects (Panorama Turístico, 2020).

This work contributes to the analysis of Orizaba MT, considering the opinion of tourism service providers, who offered their perception regarding the repercussions of the pandemic. The objective was to evaluate the negative effects of COVID-19 on some tourist activities in Orizaba MT. The economic, social and emotional dimensions experienced under the pandemic by the people directly or indirectly related to tourism activities in Orizaba was explored. The attitudes of these people were compiled through a questionnaire. Also, three cases for the interest in the search for words related to Orizaba MT were modeled with information from Google Trends: a positive, an intermediate and a negative scenario.

Conceptual framework

The World Tourism Organization (2023) defines tourism as "a social, cultural and economic phenomenon that involves the movement of people to countries or places outside their usual environment for personal, professional or business reasons".

The tourist activity covers the actions carried out by travelers (tourists, excursionists, residents or non-residents), who can exercise tourist expenses (World Tourism Organization, 2023).

A Magical Town is a town that preserves its historical, natural and cultural heritage and that manifests itself in various material and immaterial expressions that give its identity and symbolism (Secretaría de Turismo, 2021b). The Magic Towns Program was developed by the Ministry of Tourism in 2001. It is a public policy whose objective is to diversify the country's tourist offer and strengthen cultural tourism. Its purpose is to promote the tangible and intangible heritage of Mexico in municipalities with a tourist vocation.

Google Trends is a free tool developed by Google Inc. that provides information regarding the frequency of search terms, or keywords that are entered into the search engine; spanning different time periods, geographic regions, and languages (Jun *et al.*, 2018). According to Dinis *et al.* (2016), approximately 90% of searches around the world were made through the Google search engine during the period 2008 to 2016; Therefore, the importance of Google Trends for tourism lies in its ability to display information regarding the different intentions to purchase services of a given tourist consumer.

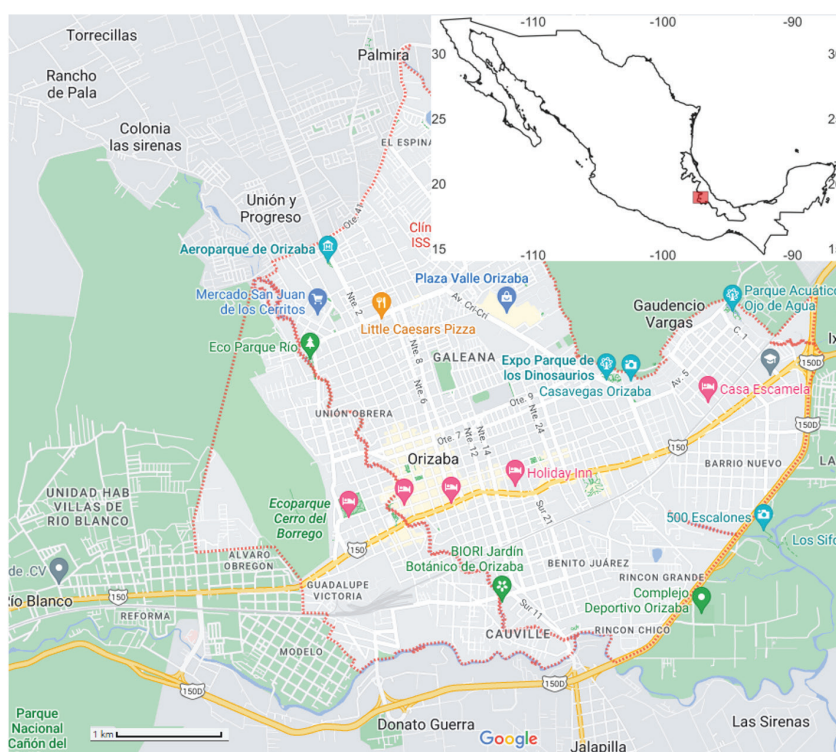
COVID-19 (SARS-CoV-2) is part of the coronavirus family and causes a pathology whose main affection is the human respiratory tract; mainly affecting mouth, nose, throat and lungs. This virus is responsible for atypical pneumonia (Khalilzadeh, 2020).

Epidemic scenarios are projection models through which policies are designed around the COVID-19 pandemic. In this way, considering the infectious capacity of the virus, it was possible to consider it a pandemic and generate a global response, as well as prepare countries for high rates of hospitalizations and deaths (McBryde *et al.*, 2020).

Methodology

The research design was based on the constraints imposed by the COVID-19 epidemic, that is, restrictions on person to person interaction and on traveling. Orizaba is located in the Region of the Great Mountains of Veracruz (figure 1), along with 56 other municipalities that are part of this territory. On September 25, 2015, the city received its appointment as a Magic Town. Its symbolic brand is the Pico de Orizaba volcano, whose height of 5 636 meters above sea level makes it the highest mountain in Mexico. However, for the purposes of trend analysis analysis, words related to its surroundings and those provided by the city itself were considered.

Figure 1. Map of Orizaba city, Veracruz. Inset map shows in red square the location of Orizaba within de state of Veracruz, Mexico



This research was divided in two stages: Stage 1. An estimate of the effect of the pandemic on the interest of visitors in Orizaba MT. The effect of COVID-19 on the interest in tourism was indirectly estimated using Google Trends (Jun *et al.*, 2018; Clark *et al.*, 2019) by searching for interest in keywords related to tourism in Orizaba. These keywords were: 'Teleferico de Orizaba', 'Palacio de Hierro de Orizaba', 'Hoteles en Orizaba', 'Pueblo mágico Orizaba', 'Pico de Orizaba' and 'Pueblos mágicos'. The first four items directly relate to Orizaba MT, while the last two search items have a broader scope. Google Trends provide with an Interest variable, which measure search intensity. The query results ranged from January 1, 2015 to October 18, 2020.

Values of Interest were accumulated for each year and adjusted between 0 and 1 to facilitate analysis. With these values, a simple linear regression model with ordinate to the origin was estimated for years 2016-2019, which served as the base model and was compared against 2020 values, when the COVID-19 epidemic began in Mexico. We compute a reduction in the cumulative Interest in relation to the years 2016-2019 under three projections for year 2020. The first was a simple linear regression model, considered the best scenario, since this projection ignores the fall in Interest in that year; the second used a nonlinear power model: $\text{Interest} = b_0 \cdot \text{Time}^{b_1}$, which was considered representative of a downward trend and takes into account the loss in Interest. The third was a horizontal projection of the last value recorded in 2020 until the end of that year, considered the worst scenario, since it does not consider an increase in Interest at the end of the year. The difference in relation to the base model was considered as a proxy for the economic loss. The analyzes were carried out with the R program v4.1.0.

In the second stage, we evaluate the impact of COVID-19 on managers and personnel related to tourism activities. A questionnaire with 20 question items were applied to 89 people directly and indirectly dedicated to tourism in Orizaba MT. The questionnaire was designed to estimate the economic, social and emotional impacts. It was a non-representative sample, that is, a survey, due to the restricted possibilities of access to tourist service providers. To access them, a first contact was established with the President of the Tourist Council of the Orizaba Region and the National Chamber of the Restaurant and Seasoned Food Industry (CANIRAC), thanks to this it was possible to contact restaurateurs, hoteliers, companies adventure tourism, mountaineers, artisans, tourist guides and travel agents. The questionnaire was created in Google Forms and was applied in Orizaba through Facebook and WhatsApp from October to December 2020. In some cases, Tourism Service Providers (TSP) were personally interviewed. The questionnaire considered demographic information, multiple-choice response options, and responses in an ordinal scale, ranging from one for not at all to five for too much. Questions included were: What is your main economic activity? How much do you consider that the pandemic caused by COVID19 has affected your economic activity? What has been the main economic effect derived from COVID19 related to your economic activity? On a personal level the questions were: What has been the biggest problem that COVID19 has caused to you? What has been the main impact of COVID19 on your daily life? What kind of strategies have you considered carrying out to normalize your economic income when the pandemic ends? Also, to identify the economic impacts derived from COVID-19, questions focused on specifying the level of economic impact perceived by tourism service providers, the reduction of jobs, the closure of companies, alternative economic activities, the reduction in the number of visitors to Orizaba MT and the recovery time of the income generated by the tourist activity (OMT, 2020). Regarding social

and emotional aspects, the interviewees could choose one or more response options, considering them as multifactorial components. The emotional impacts were identified through questions related to the main personal problems affecting tourism service providers, with the aim of identifying feelings of anxiety, frustration, fear, isolation, stress and nervousness, among others; as well as new attitudes towards the challenges that daily life entails after the indicated health crisis (Mao *et al.*, 2020; Wachyuni and Kusumaningrum, 2020).

To validate the questionnaire and confirm that the interviewees understood the questions, a pilot test applied to 20 TSPs was carried out. In addition, face-to-face interviews were conducted with some tourism service providers to verify the consistency of the responses.

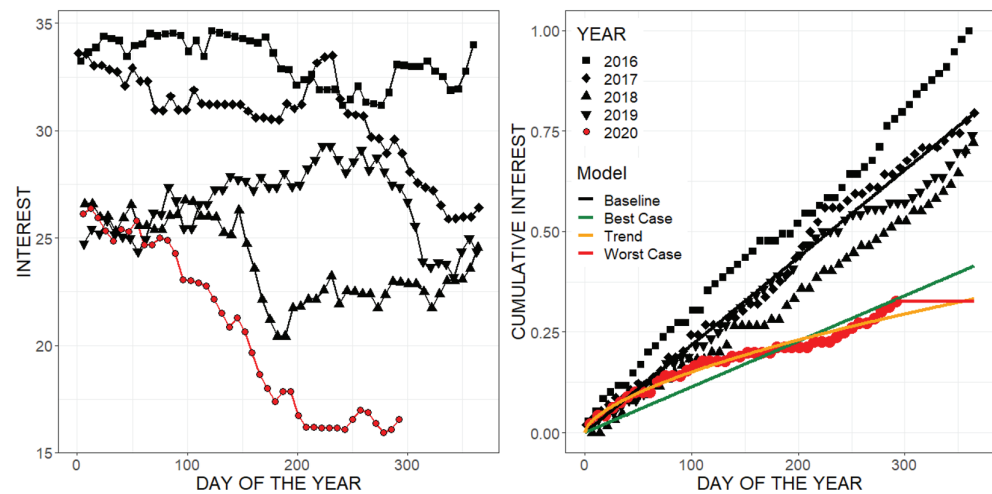
Results and Discussion

Keyword analysis in Google Trends

To analyze the search trends in Google Trends, the most relevant tourist attractions were considered such as 'Teleférico de Orizaba', 'Palacio de Hierro de Orizaba' and 'Pico de Orizaba', which correspond to the most emblematic sites of the city; while 'Hoteles en Orizaba' and 'Pueblo Magico de Orizaba' are search criteria used by tourists when planning their trip. The word 'Pueblos Magicos [Magic Towns]', used in a general way, served to compare the impact of the pandemic at a wider level and verify if there was a correspondence.

'Teleférico de Orizaba' had the highest accumulated interest in 2016, a year after the appointment of Orizaba as a Magic Town (figure 2). The baseline shows that as of 2018 there was a decrease in accumulated interest, but in 2019 there was a recovery. Meanwhile, in 2020 there was a decrease of 58.2% (orange line), which coincides with the predictions of the World Tourism Organization that indicated decreases of 60 to 80% in tourist activity as a result of quarantine and isolation imposed by governments (UNWTO, 2020). In the Mexican case, the scenario is similar to the international dynamics, since in the first half of 2021 the main indicators of tourism performance corresponding to arrivals and income from international tourists showed a decrease of 27 and 31% respectively (SECTUR, 2021). Studies carried out in Mexico by Gaytán *et al.* (2023), where the economic activities of tourism are analyzed and broken down, showed that the activities of lodging establishments with food and beverage preparation were the ones with the greatest contraction, for which reason it is expected that tourism recovers its normal rate of growth during the year 2023.

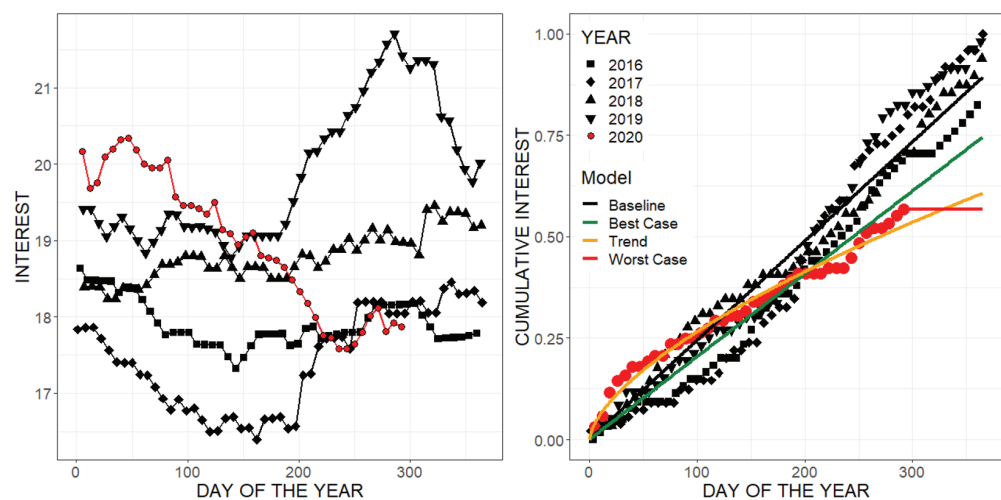
Figure 2. Left. Temporal dynamics of search interest for years 2016-2020. Right. The points represent the cumulative values of the search interest for 'Teleférico de Orizaba' while the lines indicate the estimates by the models: Baseline: years 2016-2019, Best case: linear regression model for year 2020, Trend: nonlinear model for year 2020, Worst Case: horizontal projection until the end of the year of the last value observed in 2020



Soucer: Own creation with Google Trends data.

The keyword 'Palacio de Hierro de Orizaba' had a 32% downward trend in interest for year 2020 too (figure 3). In this case, the values prior to the epidemic are very similar, being the highest in 2019 at the end of the year. The temporary trend in 2020 was initially higher than in previous years, but later, when the epidemic began, it went downward, reaching values similar to 2016 and 2017. The estimated reduction on this item was 32%. Similar findings and surveys using Google Trends data on tourist attractions and destinations in Switzerland were carried out by Siliverstovs and Wochner (2018).

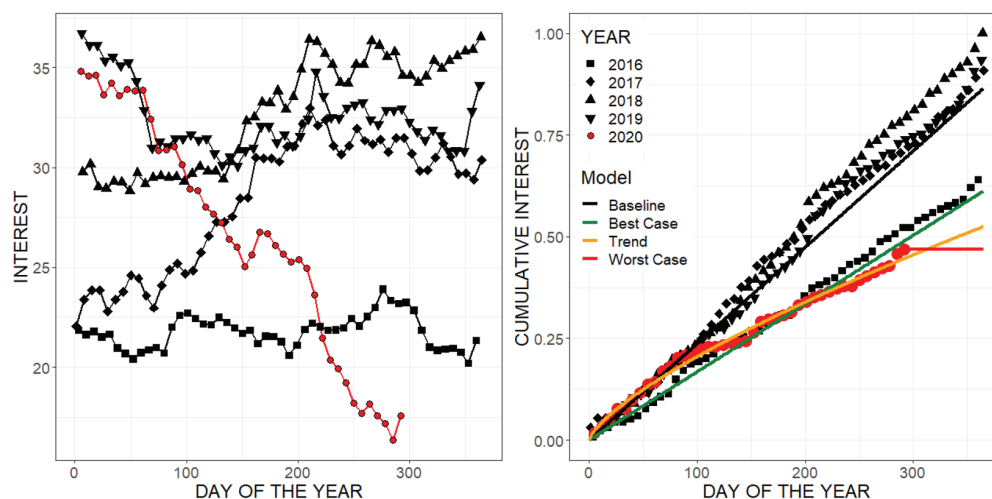
Figure 3. Left. Temporal dynamics of search interest for years 2016-2020. Right. The points represent the accumulated values of the search interest of 'Palacio de Hierro de Orizaba' while the lines indicate the estimates by the models: Baseline: years 2016-2019, Best case: linear regression model for year 2020, Trend: nonlinear model for year 2020, Worst Case: horizontal projection until the end of the year of the last value observed in 2020



Source: Own creation with Google Trends data.

Regarding the item 'Hoteles en Orizaba', it experienced a decrease in search interest. The values accumulated in 2020 were lower than those of 2016 (figure 4), which were the lowest in the years prior to the epidemic. It is also observed that the initial values in 2020 were high, similar to those of 2019, but progressively decreased until they were lower than those of 2016. There was an estimated reduction of 39.3%. These scenarios with data from Google Trends for hosting were also tested by Dinis *et al.* (2016) for Portugal, while other studies concluded that one of the main effects derived from the COVID-19 pandemic was the cancellation of hotel reservations (Guardia *et al.*, 2022).

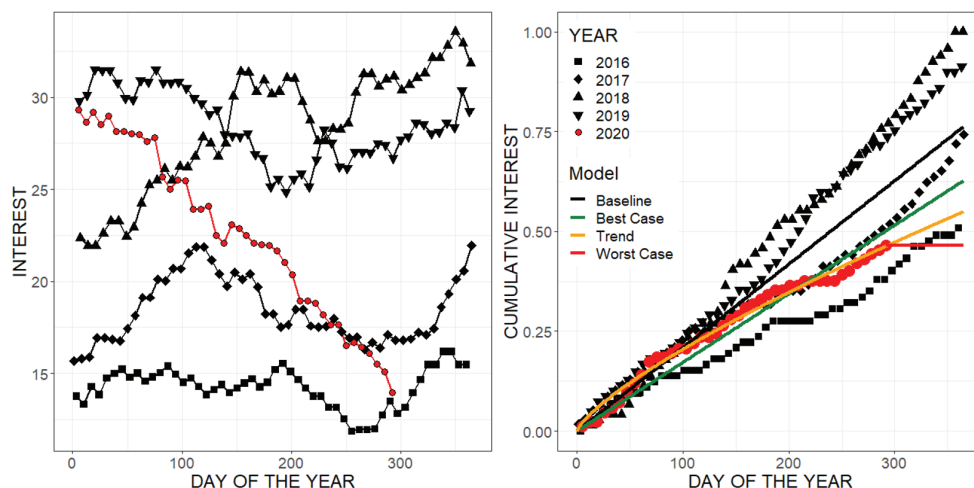
Figure 4. Left. Temporal dynamics of search interest for years 2016-2020. Right. The points represent the accumulated values of the search interest of 'Hoteles en Orizaba' while the lines indicate the estimates by the models: Baseline: years 2016-2019, Best case: linear regression model for year 2020, Trend: nonlinear model for year 2020, Worst Case: horizontal projection until the end of the year of the last value observed in 2020



Source: Own creation with Google Trends data.

In the case of 'Pueblo Mágico Orizaba', a decrease in interest was identified for year 2020 (figure 5). Prior to the pandemic, the year with the highest accumulated interest was 2018 and it has a small decrease in 2019. For the year 2020, the temporal dynamics show that initially the values were similar to those of 2019 and higher than 2018, but then decreased significantly, until reaching the values near of 2016, which was the year of the least interest prior to the pandemic. In this case, the reduction in interest was 27.9%.

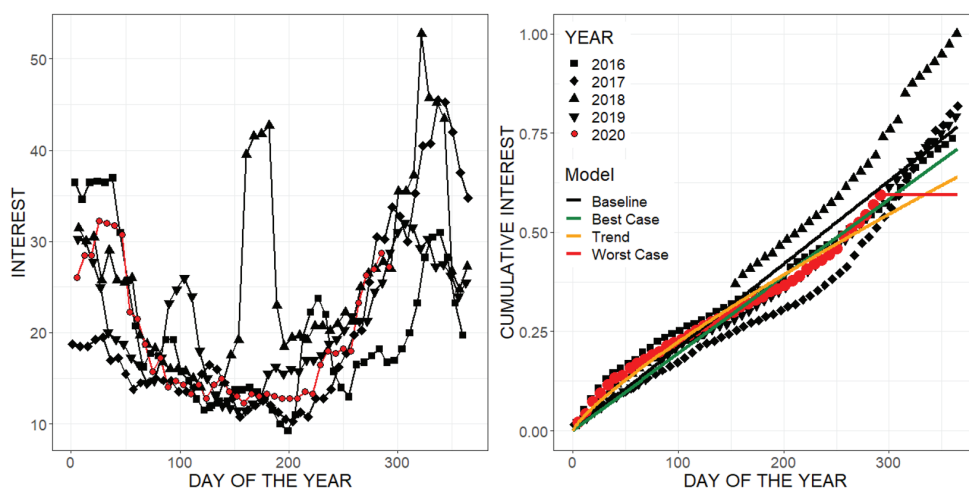
Figure 5. Left. Temporal dynamics of search interest for years 2016-2020. Right. The points represent the accumulated values of the search interest of 'Pueblo Mágico de Orizaba' while the lines indicate the estimates by the models: Baseline: years 2016-2019, Best case: linear regression model for year 2020, Trend: nonlinear model for year 2020, Worst Case: horizontal projection until the end of the year of the last value observed in 2020



Source: Own creation with Google Trends data.

Regarding the item 'Pico de Orizaba', it presented a relative decrease in search interest. The year with the highest value in the search interest was 2018. In this case, the decrease in value was 16.5% for the Trend and 22.4% for the worst case scenario. The temporal dynamics of the index for 2020 is between the values of 2016 and 2019, so these words do not clearly indicate the effect of COVID-19 (figure 6). One possible explanation is that this item by itself involves a tourist attraction that, although shared in the word Orizaba and in its geographical proximity, refers to services and activities carried out around the volcano, not directly in the city of Orizaba.

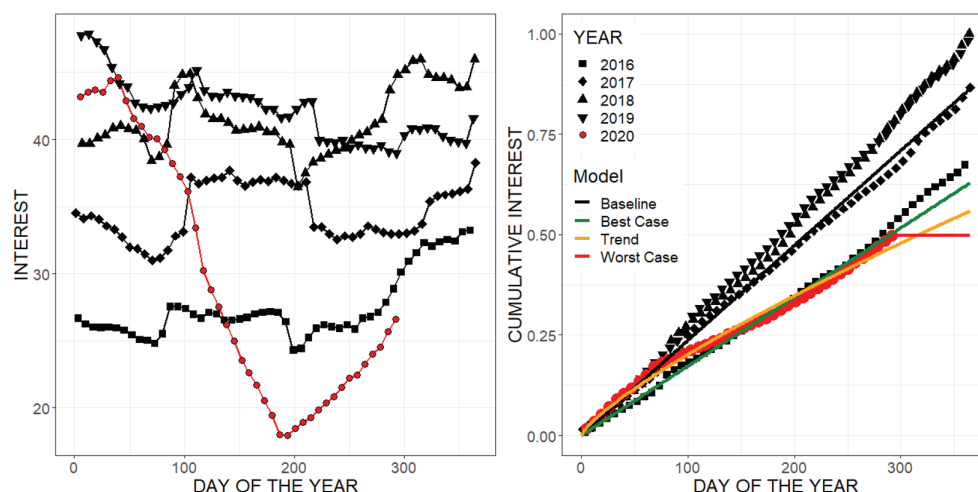
Figure 6. Left. Temporal dynamics of search interest for years 2016-2020. Right. The points represent the accumulated values of the search interest for 'Pico de Orizaba' while the lines indicate the estimates by the models: Baseline: years 2016-2019, Best case: linear regression model for year 2020, Trend: nonlinear model for year 2020, Worst Case: horizontal projection until the end of the year of the last value observed in 2020



Source: Own creation with Google Trends data.

With respect to 'Magic Towns', it is a generic expression not exclusive to Orizaba, and related to tourism in general, it presented a downward trend like the other components (figure 7). The accumulated values for 2020 were similar to those of 2016, which were the lowest prior to the COVID-19 pandemic. However, as in other cases, the initial values were relatively high, as shown by the temporal dynamics, since at the beginning of the year, their values were similar to those of 2019 and 2018, but they fell abruptly until reaching a minimum value around June, and began to gradually recover. The estimated reduction in interest was 35.3%.

Figure 7. Left. Temporal dynamics of search interest for years 2016-2020. Right. The points represent the cumulative values of the search interest of 'Pueblos Mágicos' while the lines indicate the estimates by the models: Baseline: years 2016-2019, Best case: linear regression model for year 2020, Trend: nonlinear model for year 2020, Worst Case: horizontal projection until the end of the year of the last value observed in 2020



Source: Own creation with Google Trends data.

Economic, social and emotional effects of COVID-19 among Tourism Service Providers TSP

Of the 89 TSP that answered the questionnaire, 32.6% were located in an age range between 20 and 30 years, while 24.4% corresponded to the segment between 31 and 40 years, which indicates that the tourist activity is attended mostly by young people. Meanwhile, the group from 51 to 60 years old made up 22.1%, which corresponds to tourism entrepreneurs such as restaurateurs and hoteliers with more experience in the sector and who, according to the analysis, make up a consolidated group that has promoted tourism development in Orizaba, through detonating projects such as the cable car that constitutes the attractive anchor of Orizaba MT. This data could be verified when interviewing these businessmen in person and learning more about the origin and evolution of tourism development in Orizaba. Moreover, Of the people interviewed, 51.8% were men dedicated to transportation, lodging, food, and tour operators, among others. The capacity for associationism and strategic alliances between tourism businessmen in Orizaba also allows us to understand in a certain way that both men and women have an important role.

Further, the main economic activities represented in the survey are food (24.4%), lodging (11%), government sector (9.8%), tour operators (7.3%), tour guides (6%), artisans (4%), and the rest were employees in museums and tourist attractions, teachers, administrative employees, merchants, among others.

The findings grouped into two subsections will be described below: the first focused on the economic effects perceived by tourism actors and the second, oriented towards the description of those of a social and emotional order.

Economic Effects

For this section, an ordinal scale was established to evaluate the degree of economic affectation caused by COVID-19 on the tourism actors in Orizaba MT, where 1 represents little or no affectation and 5 represents "too much affectation". To the question, how much do you consider that the pandemic caused by COVID-19 has affected your economic activity? A response was obtained from 41 people (46% of those surveyed) with a rating of 5, that is, the maximum level of economic impact caused by the pandemic, followed by 23 people who rated the question with 4 (25.8%). As a whole, levels 4 to 5 add up to 71.8%, which indicates the great level of economic impact that the pandemic had on tourism activities in Orizaba.

The level of economic impact on tourism service providers is close to the figures calculated by the World Tourism Organization during the year 2020, where the drop in international arrivals was 74%. In the Mexican case, a 72% drop in lodging and restaurant services was estimated (Banxico, 2020). The high level of economic impact in Orizaba MT is understandable, if one considers that the attractive anchor, "Teleférico" remained closed as of March and restarted operations until August 2020, which coincided with the slight recovery shown by Google Trends (figura 2).

The main negative economic effect derived from COVID-19 was the decrease in their income, since 45.3% of those surveyed indicated so. Moreover, 29.1% asserted that their sales decreased. The rest of the respondents mentioned a reduction in personnel, increased expenses and indebtedness as negative effects. In relation to the arrival of tourists in the year 2020, around 50% of the interviewees indicated level 5 (maximum decrease in tourist arrivals), while 30.2% chose number 4, that is, the arrival of tourists had a correlation with declining sales and revenue.

Regarding the level of indebtedness, the crisis accentuated more for micro, small and medium-sized tourism companies, something similar was indicated in the study carried out by Raúl and Díaz (2021) for the Historic Sanctuary of Machu Picchu.

Of the people surveyed, 61% found themselves in need of carrying out alternative economic activities in order to have income to meet their needs, which raises various points of analysis regarding the ability to adapt to change, resilience and the great susceptibility of the tourism sector to this type of biological crisis caused by pandemics. In this sense, almost 28% of those surveyed switched to an economic activity not related to tourism, while 24% kept their economic activity on par and found it necessary to look for additional work. While another 24% temporarily closed their business and dedicated themselves to another economic activity.

As has been shown in other research, after COVID-19 the tourism sector is expected to be more resilient (Thomé, 2020; Wachyuni and Kusumaningrum, 2020; Joo *et al.*, 2021). In the case of Orizaba MT, it was found that the Handicrafts Market was undoubtedly one of the places most impacted by the pandemic, since it was handled by micro-entrepreneurs, and this place remained closed from May to August. In this regard, an artisan commented "It was the opportunity to sell my products online and I even reached markets like the United States, I also had time to make more personalized products and reinvent myself". For his part, a renowned businessman in the gastronomic sector expressed "I realized that takeaway food is here to stay, and the faster we react to change and train our staff, the less the effects of the pandemic will be felt". Recent studies have concluded that "online" marketing and investments in "social media" contribute to recovering visitor flows in the short term (Zapata Mendoza *et al.*, 2022). Regarding the reduction of personnel, 46 people decided to reduce personnel, while 48 people had their jobs affected, they even lost their job, which shows that tourism is a sector vulnerable to different types of problems, in this case, a pandemic caused by COVID-19. The tourism segments most affected by this pandemic were tour operators, hotels, and restaurants, with 52.3%, 16.3%, and 14%, respectively. Followed by activities such as transportation, informal commerce, parks, museums, tourist attractions, among others.

Respondents were also asked their opinion about their perception of the measures implemented by the municipal government. Regarding the actions promoted by the city council to prop up the economy, 43% evaluated them as regular, while 22.1% evaluated them at level 4 (acceptable) and 15% as excellent. The rest (19.7%) described these measures as inappropriate, since they stated that during the entire time of the pandemic they kept their premises closed and did not receive any type of support or help from the municipal government. Recent studies on the impact of COVID-19 in tourist destinations, indicated as a fundamental strategy, to improve tourism governance and promote association processes between the various actors; as well as new management processes so that destinations adapt to the new needs of the tourism market (García *et al.*, 2021; Silva *et al.*, 2022).

Moreover, 67.5% of those surveyed expected that the recovery of income will take place during the year 2021, while 23% believe that it will take two or more years to recover income. Also, 9.6% consider that they will recover their income during the year 2020. While 28.6% consider that tourist products should be designed for new market segments in order to normalize their income, while for 22.6% of those surveyed it is relevant to increase the quality of service. On the other hand, 19% consider it important to strengthen value chains and strategic alliances, as well as advertising and promotion. These approaches are part of the analyzes carried out by Cave and Dredge (2020) and Sigala (2020), which point out that this crisis caused by COVID-19 is an opportunity for the resilience, transformation and improvement of tourist destinations. During the post-COVID-19 stage, work must be done on the creation of management models for responsible tourist destinations (Rodríguez and Martínez, 2022).

The interviewees thought that, in order to increase the arrival of tourists to Orizaba MT, once the pandemic is over, the tourism department must improve tourism advertising (41.7%), followed by long-term planning (38.1%), financial support small and medium tourism companies (33.3%), and capture the attention of the national market (32.1%).

Those surveyed perceive that ecotourism will be the type of tourism with the greatest demand once the pandemic passes (58.3%), since due to the type of tourist attractions in Orizaba and its tourist vocation, they consider that the tourist will look for open spaces such as natural areas. In addition, 45.2% also believe that there will be a greater demand for adventure tourism and cultural tourism (33.3%).

In this sense, other studies have addressed the issue of nature tourism as a key element in the reactivation of tourism, since, because they are natural areas far from the urban environment, they are perceived by tourists as less likely places to contract infections (Amaya *et al.*, 2020; Cerón, 2020; Wachyuni & Kusumaningrum, 2020). This represents a competitive advantage for Orizaba, which has natural tourist attractions framed by the Pico de Orizaba National Park, which during the pandemic and according to information from Google Trends, had the least pronounced drop (16.5%) compared to other items analyzed. In this sense, the study carried out by Zapata Mendoza *et al.*, (2022) showed the preference of tourism towards natural sites in the post-COVID stage. People considered that, from this pandemic, the new normality of tourism will involve hygienic measures (63.9%), security measures (50.6%), use of information technologies (39.8%) and tourists will prefer open spaces (36.1%). Other options included greater internet sales, quality certifications and using a reservation center.

These data agree with the study carried out by Škare *et al.* (2021), in which they point out that tourist destinations must develop risk management methods in the face of the pandemic, as well as innovate in the quality of health care. With regard to Orizaba MT, it was possible to verify that food and beverage establishments comply with a greater number of sanitary security measures compared to other tourist establishments, such measures consist of taking the diner's temperature, applying antibacterial gel, shoe sanitization, among others. Waiters and customer contact staff wear masks; in addition to the fact that, in case of detecting any symptoms of illness in clients, they must report it and take the necessary precautions.

Around 50% of the interviewees considered that the "Orizaba Magic Town" brand should be promoted in Orizaba society. With similar percentages of 47%, those surveyed consider that the tourist culture should be improved and nature tourism promoted.

Social and emotional effects

Regarding how tourism actors were affected at social and emotional level, it was found that the main factors were economic problems (60.5%), anxiety (32.6%), social isolation (26.7%), weight gain (23.3%), fear (15.1%), depression (9.3%), feeling of unhappiness (8.1%) and family or partner problems (7%). Others components were vices or addictions, diseases, stress, panic attacks, and excessive use of social networks. These elements are multiple, since respondents were able to choose one or more answers for the same question, since this is a multifactorial phenomenon.

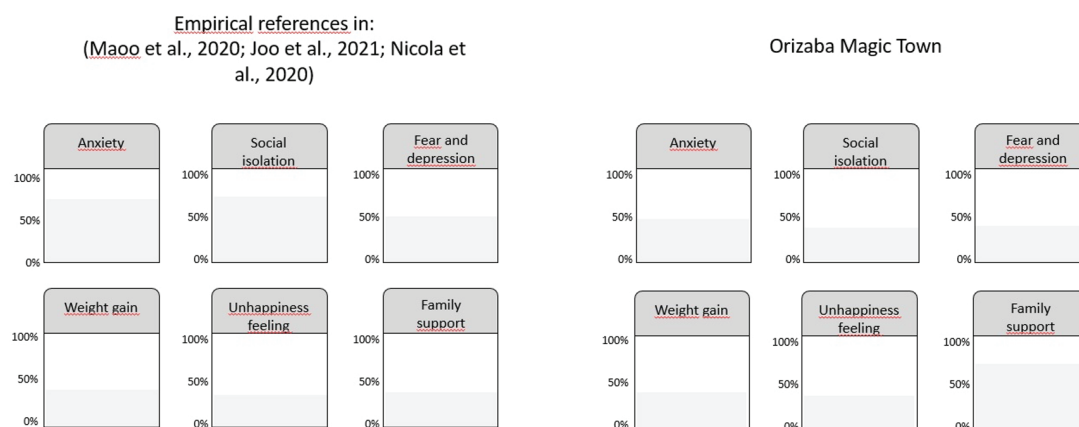
The greatest affectation in the daily life of the people surveyed were the changes in the way of working and dealing with clients, since they saw the need to take protective measures from taking the client's temperature, placing antiviral gel on their hands, including reporting if someone coughed or sneezed frequently, the use of masks, gloves, sanitizers, and mouth covers represented a challenge for the

way people who are dedicated to tourism work. The latter is relevant, since as pointed out by Nicola *et al.* (2020), social distancing to decrease the spread of the virus has increased levels of domestic violence, including physical and emotional violence, and sexual abuse. In addition, the feeling of loneliness has led to historic increases in companies that sell video games online. Therefore, it is recommended to integrate a comparative and referential study with respect to the period 2016 to 2020 in full, to explore how this pandemic has affected some tourism agents in Orizaba MT.

Likewise, 54.8% of those surveyed considered that the main lesson of COVID-19 was to value their family and loved ones, followed by the option to take care of my health (45.2%), value my life (44%), and be a better person (38.1%), which indicates a feeling of family love, since before thinking about themselves, the people who answered the survey thought about their relatives and loved ones. Therefore, it is important to know the perception of the local population regarding the sense of belonging and social cohesion that develops as a result of the COVID-19 pandemic (Ibarra and Velarde, 2016).

The emotional problems derived from COVID-19 coincide with what is mentioned in the literature, as shown in figure 8.

Figure 8. Comparison of empirical references and Orizaba Magic Town



Source: Own creation.

The emotional effects in the TSP of Orizaba coincide with the empirical referents that show an increase in generalized anxiety. In the case of Orizaba, social isolation is below the references in the literature, due to the need for people to go out to work despite the confinement measures, with the aim of maintaining the family economy. The sensations of fear and depression show coincidence with the empirical sources, due to the economic dependence that is generated in places with tourist specialization, from the appointment of the SECTUR and the tourist boom at the national level experienced by Orizaba MT.

The weight gains and the feeling of unhappiness manifested by the TSP of Orizaba MT coincide with the empirical references. It was found that family support as a measure to overcome the health crisis was stronger in Orizaba than what is mentioned in the literature. Also, it is important to highlight that, despite the fact that the Google Trends data analysis was done with partial data from the year 2020, in

all the analyzed items, there is a coincidence in the interest of keywords related to tourism in Orizaba MT. Similarly, the interviews were conducted by the end of 2020, when the pandemic was in its critical stages. Therefore, we also consider that the impressions collected represent an immediate, real section of the experiences lived by the different actors of the tourist activities of Orizaba MT.

Conclusions

In relation to the analysis of interest in keywords related to tourism in Orizaba MT, the findings indicate that during the COVID-19 pandemic, there was a decrease in internet search trends for all the selected items. However, the greatest decrease was in the anchor attraction "Teleférico" with a reduction of 58.2%, reflecting this attraction was closed during the months of March to August 2020, since most of the domestic tourism visited Orizaba to enjoy the landscape offered by the cable car. Meanwhile, the tourist attraction "Pico de Orizaba" was the one with the lowest reduction according to the accumulated trend, since it obtained 16.5%, which is reasonable considering that it is a protected natural area that was always open to the public and, because it was in an open space, it represented less risk for tourists. In this sense, Google Trends proved to be a complementary tool to measure the impact of the pandemic.

The people interviewed expressed a negative effect in the economic, social and emotional aspects; however, they showed a positive attitude in the recovery of tourism. Tourism service providers recommend long-term tourism planning and design of tourism products for new market segments. Around 50% of those surveyed considered that they suffered serious economic effects and found themselves in need of laying off staff, they chose to close their businesses or seek complementary economic activities, in addition to the obvious decrease in income and tourist arrivals. The tourism businesses most affected were hotels and restaurants.

Within the personal affectations, anxiety and economic problems stood out, so once the COVID-19 pandemic is over, the tourist entrepreneurs of Orizaba foresee two ways: 1) Promote the "Orizaba Magic Town" brand and 2) Promote Nature Tourism. Additional suggestions were to encourage regional and national tourism, and guarantee health security measures for tourists and visitors.

This study achieved the objective of evaluating the effects of COVID-19 on tourism actors in the Magical Town of Orizaba, Veracruz; bringing to light enlightening data on the economic, social and emotional situation that was experienced during the pandemic. In the economic aspect, and despite the fact that the effects were significant, it is relevant to point out the resilience of the tourism sector and the degree of organization, training and continuous improvement that could be observed in the business association that makes up the Orizaba Tourist Board. In the social aspect, it was verified that the tourist actors developed a greater concern to change their current ways of life from aspects related to improving their diet, to changing their way of engage tourism activities, opting to promote a more responsible and demassed tourism, an issue that will remain on the agenda of many tourist destinations, not only in the case of Orizaba MT. As far as the emotional aspect is concerned, the pandemic brought new topics for analysis to the fore, such as the importance of emotional solidarity towards tourism. In the case of Orizaba, the tourism players even sought new strategies to mitigate the decline in their sales and to have greater security measures that would be capable of guaranteeing the safety of the tourist.

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