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Heritage Destination: Weaknesses and Strengths Based on the Opinions of Its Visitors—Case Study: The Alhambra and Generalife

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This study proposes a methodology to detect weaknesses and strengths of a heritage destination. This methodology is based on the analysis of comments and opinions published by visitors on travel blogs and TripAdvisor. For the content analysis, the NVivo software has been used. The content analysis allows the identification of key aspects of the experience of tourists. The semantic network graphically shows the strengths and weaknesses. The research was carried out at two different time points, which have allowed to show, on the one hand, the relevance that the state of conservation of heritage destination has in the tourist experience and, on the other hand, that the proposed methodology helps managers of the heritage destination to improve the cultural tourist's experience with the destination.

Keywords: cultural heritage, heritage destination, conservation, social media, TripAdvisor, Alhambra

Introduction

Since the incorporation of cultural heritage assets into the domain of consumption under the concept of cultural tourism, these have become an important factor in the development and revitalization of the economy (Camarero & Garrido, 2004). Thus, cultural heritage can now be considered as one of the main factors in the elementary activities carried out for the development of territories, since it contributes to economic growth, employment and consequently to the overall increase in wealth (Bowitz & Ibenholt, 2008; Greffe, 2004; Oppio et al., 2015; Salazar & Marques, 2005; Roders & Oers, 2011).

Cultural heritage management can be described as a general practice in which a series of internationally recognized codes and lists are continuously applied to maintain the value of cultural heritage assets for the benefit of present and future generations (McKercher & Du Cros, 2002; Guttentag, 2010).

Therefore, a key aspect in the management of cultural heritage is to understand the visitor (Poria & Gvili, 2007), and to know what satisfies them (Alaei, Becken, & Stantic, 2019) and thus ensure that they have a

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satisfactory experience with the destination (Alegre & Garau, 2010). According to Poria and Gvili (2007), few studies have emphasized aspects that relate to the visitor's experience; this is an issue that, in their view, is important for the management and commercial success of cultural heritage.

Along the same line, according to Alegre and Garau (2010), the visitor must be given a satisfactory experience, so that they are motivated to return and recommend the destination. The availability of user-generated content online and new technologies has provided researchers with new ways of understanding travelers' perceptions (Alaei et al., 2019). Therefore, tourists who have access to different information, e.g., online platforms, can add their own content and share their experiences and insights (Alaei et al., 2019), for example, adding different recommendations to other travelers (Neidhardt, Rümmele, & Werthner, 2017; Ye, Zhang, & Law, 2009) that reflect emotions (O'Leary, 2011).

Considering this, analyzing and seeking social reviews help to know what tourists experience (Jung et al., 2016). Managers of these destinations can improve their services and increase tourist satisfaction (Alaei et al., 2019; Pan, MacLaurin, & Crotts, 2007).

The main objective of this study is to improve knowledge of a Spanish tourist destination based on the importance of its conservation status and on the opinions given by tourists who visit it. Their views were available on travel blogs and on digital platforms, such as TripAdvisor. The study was conducted in an admired and visited location by tourists, which is the Alhambra and Generalife complex (CMAG). Existing qualitative data and content analysis have been gathered in an attempt to detect key aspects of the tourist experience.

Literature Review

Cultural Heritage Tourism

The emergence of cultural tourism, as a social phenomenon and as an object of academic study, dates back to the growth in travel from the Second World War (Richards, 2018). From the second half of the 20th century, globalization and increases in the level of income and leisure time made it possible for more people to travel abroad and to consume different cultures (Herbert, 1995). Cultural tourism has become a popular form of tourism (Chen & Chen, 2010). It has developed from being a product aimed at historical attractions that emphasize exhibitions and education, to a more visitor-oriented one that stresses the importance of consumer preference and the quality of the personal experience (Apostolakis & Jaffry, 2005). Cultural tourism, like other leisure and tourism activities, is now largely seen as involving experiential consumption. Therefore, the quality perceived by visitors is much more associated with their experience of the services provided during the duration of their visit (Chen & Chen, 2010). For decades, tourism has experienced continuous expansion and wide diversification to the point where it has become one of the fastest growing and most important economic sectors in the world. It also has a close relationship with international development World Tourist Organization (UNWTO, 2015b). Today, more than one billion tourists travel to international destinations every year. The United Nations World Tourism Organization expects this figure to reach 1.8 billion by 2030 (UNWTO, 2015a).

The managers of heritage sites and tourist destinations have the strategic challenge of better understanding the market and developing products that meet the needs of tourists, while at the same time finding a balance between tourism and the effective management of cultural heritage between the consumption of values extrinsic to tourists and the preservation of intrinsic values of cultural heritage (McKercher & Du Cros, 2002).

Internet

The internet has become an important communication channel, providing continuously updated information. In the Web 2.0 environment, users can act in the way they want: either traditionally or passively, simply browsing others' content, or actively, by creating and contributing their own content (Serrano-Cobos, 2016). The technological-social phenomenon that triggered the technologies associated with Web 2.0, which encourage the exchange of information between users, has been extended and expanded to include different platforms. These include blogs, social networks and virtual communities as channels or virtual social media that are gaining an increasing presence and popularity amongst tourists (Hays, Page, & Buhalis, 2012; Pan et al., 2007; Volo, 2010).

According to Alaei et al. (2019), technological changes related to the internet have revolutionized the tourism industry, for example, through the fingerprints left by all users' online activities. Through the technologies associated with the internet, tourists can access large amounts of information to help them decide where to go and what to do while they are there (Qi et al., 2009; Delgado & Davidson, 2002). With this, individual travelers or groups have greater control over the planning and customization of their trips. Not only do they interact with a wide range of online platforms and intermediaries to expand their knowledge in relation to their travels, they also share their experiences with other travelers, by leaving comments and making recommendations (Yang, Mao, & Tang, 2018; Neidhardt et al., 2017; Ye, Zhang, & Law, 2009). The information that is communicated through the internet is not limited by time or distance; it is more efficient, convenient and extensive (Litvin, Goldsmith, & Pan, 2008; Gelb & Sundaram, 2002; Gelb & Johnson, 1995).

In travel blogs, the "rich" expressions of visitor travel experiences are expressed uncensored, and these provide a very cost-effective method of collecting visitor comments on tourist destinations. They also act as a quality control mechanism for service provision (Pan et al., 2017).

A virtual community is a virtual space in which users share information and experiences, generating useful content for the entire group (Wang et al., 2002). In virtual communities specific to the tourism sector, such as TripAdvisor, tourists interact with each other, providing information and opinions about their experiences of destinations, hotels, restaurants, attractions, and so on. Information and opinions from millions of tourists around the world are collected. These media constitute a credible source of information for tourists (Burgess et al., 2011).

Scope of Study

In this analysis, CMAG was selected as a heritage tourism goal. It has been shaped over more than 600 years by numerous cultures, and their interventions are still visible. The Muslim, renaissance and romantic periods have all left their mark.

The CMAG is one of the most visited sites in Spain and is very popular around the world. CMAG was designated a world heritage site in 1984. Since then, interest in it has increased. It attracts tourists from around the world. Data available for 2018 confirm the registration of 2,724,566 visitors (Consejería de Cultura y Patrimonio Histórico, Junta de Andalucía, 2018). The heritage site has a remarkable economic impact in Granada and Andalusia. In 2010, a study was carried out that quantified this impact (Suriñach & Murillo, 2013).

The complex is currently divided into four zones: the Palaces, the Military Zone (or Alcazaba), the City (or Medina), and the Generalife Farm. They are surrounded by numerous gardens of different sizes. The

Alhambra is universally recognized for the Courtyard of the Lions and more specifically for its Fountain, being a key and essential icon when visiting the monumental complex (Yusty Pérez, Fernández Rodríguez, Prados, & Caro Rodríguez, 2017). The restoration of the fountain and Courtyard of the Lions was accompanied by a complex communication process, characterized by its continuity over time (it started in 2002 and ended in 2012). Different broadcast media (mass media, Internet and social media and specialized media) were also used (Yusty Pérez et al., 2017).

Figure 1. General views of the previous and current state after the intervention image before and after the restorative intervention performed in the Patio de los Leones (Source: Images of the authors).

This study, when considering remediation efforts, focuses on determining the frequency of interventions conducted in the Lions Courtyard and their implications for managers and tourists.

The origin of the interventions dates from the year 2004, when a lion was withdrawn for restoration (following on from the previous phases of recognition and characterization). In 2007 a full intervention took place, when the remaining 11 lions were removed. This phase ended in July 2012. In the restoration process, the fountain and the lions were removed, leaving the empty space and no replica was made.

The pre- and post- restoration changes that have occurred over time help us determine whether restoration and heritage preservation are critical to visitors' perceptions of a place and, if so, how this may contribute to the preservation of cultural and architectural heritage.

Methodology and Data Collection

The information was collected at two different times (the first one corresponded to the period during intervention from January 2008 to June 2012 and the second one corresponded to the post-intervention period from July 2012 to May 2014). It has allowed the researchers to determine the effects of a restorative intervention on the agents involved in carrying it out and on its visitors.

Methodology

The methodology applied in this research was qualitative and quantitative. It provides an extensive insight into the opinions, insights, and experiences of tourists regarding their visit to Alhambra. In the context of tourism and its relation to the internet, data analysis, collection and cleaning, the mining process, and the subsequent evaluation and understanding of the results have been the main steps used by most researchers (Schmunk, Höpken, Fuchs, & Lexhagen, 2013; Hippner & Rentzmann, 2006).

Text summary and text classification along with natural language processing (NLP) are technologies that have been used by other authors to facilitate information processing and data analysis (Cantallops & Salvi, 2014; Ghose, Ipeirotis, & Li, 2012; Pan et al., 2007; Stringam & Gerdes, 2010). Based on these assumptions, the first step was to conduct a study by collecting and analyzing comments left by tourists on travel blogs and on TripAdvisor. The analysis was conducted using different research methods: frequency analysis, semantic web analysis, and content analysis.

The software package TextAnalyst was used to perform the frequency analysis based on the full text of all valid comments. The texts were codified, taking into account characteristics that contained the heritage destination, in line with the features of Cooper, Fletcher, Gilbert, Fyall, and Wanhill's (2005) tourist model.

The semantic network analysis or network representation scheme is a way of representing linguistic knowledge, concepts and their interrelations via a graph. Therefore, this analysis offers a useful framework for the construction and analysis of content relating to the chosen destination. The most frequently used keywords and phrases were used to construct the semantic network diagram. The software used to perform the detailed content analysis of the data collected was the CAQDAS Nudist Vivo version 10. This also enabled the creation of a category tree (concept map) to illustrate the relationships between different categories.

The final coding scheme was completed after content analysis along two dimensions: The first was formed by various aspects of Cooper et al.'s (2005) model, and the second was based on the evaluation conducted on each of the positive or negative aspects of CMAG as a destination. To achieve this codification, each of the negative or positive aspects of the travelers' experience was evaluated and categorized to understand the strengths and weaknesses of the destination. Since neutral descriptions were very rare, they were omitted from the analysis. From a quantitative point of view, the evolution of the opinions expressed on TripAdvisor was analyzed based on its typology.

Data Collection

The sources of information in this analysis were selected travel blogs and the TripAdvisor virtual community. The term "travel blog" was entered into Google Search. The first four results were selected. Within each, 200 comments relating to the CMAG were selected. The blogs are listed below:

(1) VIAJERED.COM (http://viajered.com/todos-los-blogs-de-viajered). This is the network of internet sites dedicated to travel. It combines professional travel magazines with first-person travel blogs. It has more than one million visitors per month. ViajeRed contains more than 200 thematic travel blogs by country and city.

(2) LOS VIAJEROS.COM (http://www.losviajeros.com/index.php?name=blogs). This is described as a travel forum. It is divided into forums, blogs, newspapers, and photographs. In order to use the platform and write a post, participate in the forums or upload photographs about one's experiences in tourist destinations or anything to do with the tourist industry and its services, it is necessary to be registered.

(3) DIARIO DEL VIAJERO.COM (http://www.diariodelviajero.com). This is a publication of Weblogs SL, dedicated to the art of travelling. It contains tips, destinations, trends, accommodation recommendations, and any other matters of interest to the traveler. Established in 2005, it reviews everything a traveler would need to know about certain destinations.

(4) VIAJEROS.COM (http://www.viajeros.com). This is the largest community of travelers in Latin America. It features travel diaries, photos, opinions, and tips.

The next stage of data collection involved the selection of TripAdvisor comments. TripAdvisor was chosen because it is one of the main reference websites in sending visits to the official site of the CMAG, www.alhambra-patronato, and because Banerjee and Chua (2016) suggested that collecting data from a popular platform, such as TripAdvisor facilitates this type of research.

TripAdvisor clearly identifies the CMAG as a "world heritage site" and has classified it thus: "Type: Architectural buildings, historic places, castles; Activities: Group/day trips". It notes that the CMAG was the winner of the Travelers' Choice™ 2013 award, and that it is ranked number one out of 100 attractions in Granada.

The data collection was carried out at two different points, addressing two specific periods, directly related to the interventions in the Courtyard of the Lions. The first one corresponded to the period from the beginning of the intervention of the Fountain to its end in June 2012 (data were gathered from January 2008 to June 2012) and the second one corresponded to the post-intervention period to May 2014 (data were gathered from July 2012 to May 2014). Table 1 shows the number of comments based on the periods analyzed (excluding TripAdvisor, from which more data are provided later).

Table 1

Summary Data Collected.

	January 2008-June 2012	June 2012-May 2014
Total comments	248	260
Comments analyzed	215	239

For the period until June 2012, a total of 248 posts were analyzed. Of the total post, 215 concerned the experiences of the visitors in the CMAG, while 33 did not, since the bloggers were from that same town or stopped in the middle of the road before arriving at the destination.

In the period from June 2012 to May 2014, 260 blogs were examined. Of them, 21 did not contain relevant information for the same reasons as above. A total of 239 included content relating to the experiences of visitors in the CMAG. Qualitative data analysis was performed on validated blogs and with the data gathered in a file. Each blog retained its title and identification information.

Analysis of Results

Comparative Analysis

Table 2

Opinions on the Alhambra and the Generalife on TripAdvisor by Rating in the Two Study Periods

	Qualification	Total	Excellent	Very good	Normal	Bad	Very bad
June 2012	Nº comments of Alhambra	1,759	1,345	297	77	19	21
	Nº comments of Generalife	374	250	100	22	2	0
May 2014	Nº comments of Alhambra	6,811	5,429	991	252	65	74
	Nº comments of Generalife	1,665	1,172	390	89	12	2

Source: Own elaboration based on the data provided by TripAdvisor.

If the two periods are analyzed comparatively, a growth of 287% can be observed in the total number of comments related to the Alhambra and 369% those of the Generalife. They highlight the growth in the opinions

of tourists who rate the view of the Alhambra as "excellent" as it grew by 304% (16 points more than the total number of opinions in the period). However, in the case of Generalife, the "excellent" opinions with a growth of 351% are 18 points below the growth of the total opinions of Generalife.

Assessment and Classification Analysis

Table 3 shows the total number of opinions made by tourists on TripAdvisor in each period analyzed. It is clearly seen how the opinions that qualify the visit as "excellent" are considerably superior to the others.

Table 3

Comparison 2014-2012 of the Comments on TripAdvisor Alhambra by Typology

	Qualification	Total (%)	Excellent (%)	Very good (%)	Normal (%)	Bad (%)	Very bad (%)
June 2012	Nº comments of Alhambra		76	17	4	1	1
	Nº comments of Generalife		80	15	4	1	1
Evol.		287	304	234	227	242	252
May 2014	Nº comments of Alhambra		67.7	26.0	5.7	0.5	0.0
	Nº comments of Generalife		70.4	23.4	5.3	0.7	0.1
Evol.		369	351	290	305	500	

Source: Own elaboration based on TripAdvisor data.

Figures 2 and 3 show the relative distribution for the Alhambra and the Generalife collected on TripAdvisor in the two periods (June 2012 and May 2014).

Figure 2. Relative distribution of opinions on the Alhambra and Generalife on TripAdvisor, June 2012 (Source: Own elaboration based on data provided by TripAdvisor).

Figure 3. Relative distribution of opinions on the Alhambra and Generalife on TripAdvisor, May 2014 (Source: Own elaboration based on data provided by TripAdvisor).

Frequency Analysis

As mentioned previously, the analysis of blog content frequency was carried out using the software CAQDAS Nudist Vivo version 10. The subsequent analysis resulted in the construction of a table containing the most frequently used words in the blogs and TripAdvisor that is those appearing at least 38 times in the total opinions count (see Table 4).

Table 4

Most Frequently Used Words in the Travel Blogs of the Alhambra (Granada)

Word	Count	Word	Count	Word	Count
Alhambra	341	Nasrid Palace	86	Weather	68
Granada	178	Admision entry	83	Lions	51
Gardens	153	To visit	81	Courtyard	50
Place	124	Ticket	76	History	43
Visit	122	Generalife	70	World	40
Palace	119	City	68	Hours	39

As Table 4 shows, the most used words or phrases were Alhambra (341), Granada (178), Gardens (153), Place (124), visit (122), Palace (119), Nasrid Palace (86), Admission entry (83), To visit (81), Ticket (76), Generalife (70), City (68), weather (68), Lions (51), Courtyard (50), History (43), World (40), and Hours (39).

From these data, it can be identified, which are the aspects that are most interesting to tourists. In the first place, the heritage site itself, “The Alhambra and Generalife”, since in their comments and opinions they refer to Alhambra, Gardens, Place, and Generalife, mainly.

Secondly, that is Nasrid Palace, where the Courtyard and the Fountain of the Lions are located. Palace, Nasrid Palace, Lions, and Courtyard appear in their comments. Finally, aspects related to the visit. Those comments referring to admission entry, ticket, hours and those related to the capacity restriction that exists in access to the Nasrid Palaces have been considered.

Semantic Network Analysis

Figure 4 shows the semantic representation of Alhambra as a tourist destination. The frequency of words is shown in the diagram by the size and color of the circle surrounding the word. High frequency is shown as a circle with larger size and darker color, while lower frequency is shown as a circle with smaller size and lighter color. The thickness of the lines in the diagram drawn between the word circles illustrates the proximity of word occurrence or the intensity of the relationship.

The analysis allows the recognition of several groups of keywords through the comments that relate to the travel experience. Figure 4 shows how the Alhambra is the most outstanding group and therefore it can be considered the main tourist attraction in the city of Granada with which a clear and broad relationship is established.

Regarding its relationship with Granada, as another of the outstanding clusters in relation to the Alhambra, it is worth mentioning the reference that tourists make to hotels, prices, and souvenir shops.

Secondly, the group formed by the set of spaces that can be visited in the Alhambra and the experiences of tourists stands out. It is observed that the most important group associated with places is the palaces, the splendid patios, and the beauty of the Generalife.

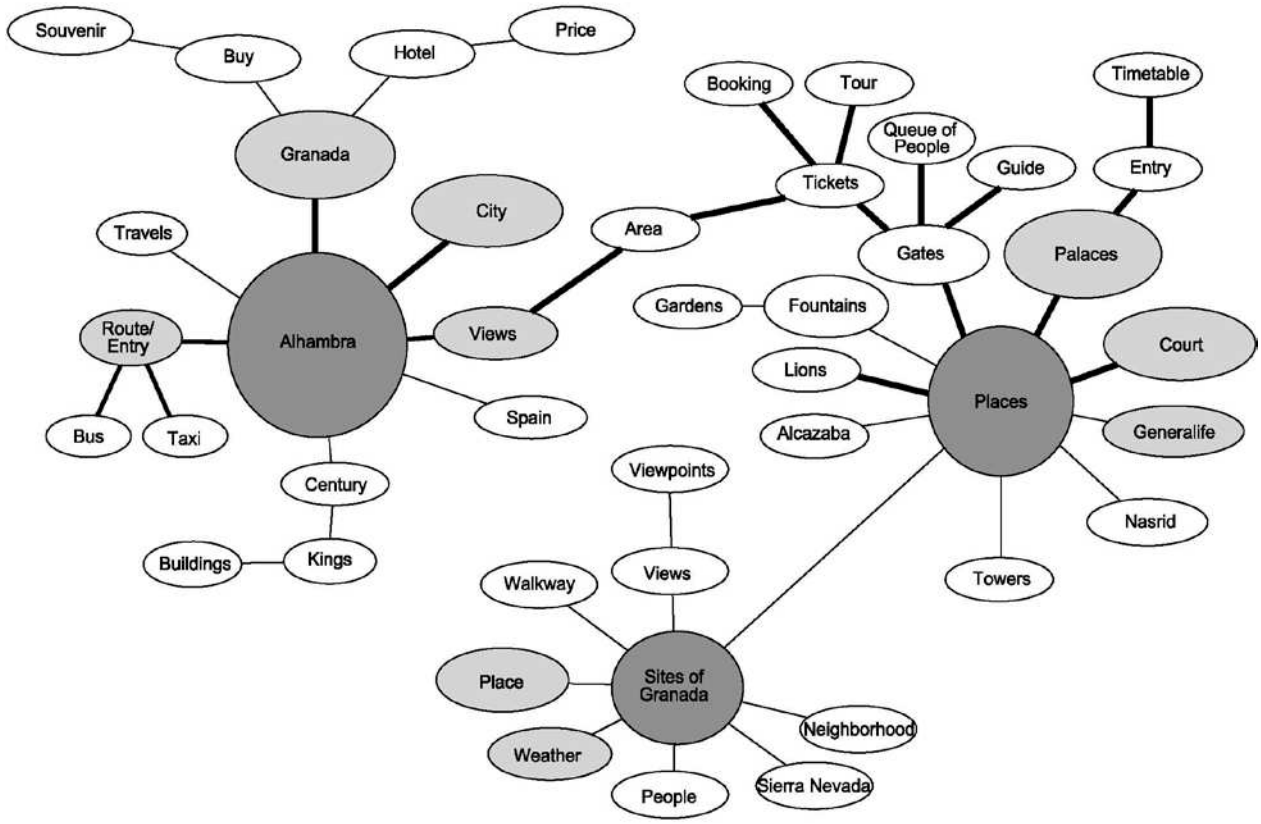

Figure 4. Semantic network of the Alhambra travel experience (Source: Nudist Vivo Version 10 if a figure is being reproduced from another source).

Although, in the comments, references to the sources can be found in their relation to the gardens, the courtyard and the fountain of the Lions, the Alcazaba, and the doors, such as the Wine, Comares and Justice doors, especially.

In relation to the gates, once their beauty has been described, some comments relate to aspects associated with the queues that must be done to enter Palacios as well as to buy tickets if this has not been done previously. The hiring of guides is recommended in some cases, although the audio guides are also positively valued.

As for the Palaces, the tourists, the comments of the tourists leave a clear reflection of the restrictions that exist due to the limited capacity and the importance of respecting the established schedule for entry.

In relation to the Palaces, and especially Palace of the Lions, it stands out the references to the restoration of the Fountain of the Lions, which many tourists considered the most important site of the Alhambra before and after the restoration.

Finally, the third group of words is related to the sites of Granada. As can be seen in Figure 4, what most attracts the attention of tourists and therefore usually recommend are other interesting places during the visit to Granada, as well as comments related to the city's weather. Regarding this last aspect, the opinions are diverse, depending on the time of year in which they made the visit.

Other groups of words, which although less important than the previous ones, but noteworthy are references to views and viewpoints, especially those of neighboring Albaicín, not forgetting Sierra Nevada and the friendliness of the people.

Content Analysis

With regard to content analysis (May 2014), a total of 355 positive and negative sentences were identified. Of these, 273 were positive and 82 were negative. Therefore, positive mentions accounted for 77% of total travel blog content versus 23% negative mentions. Thus, Table 5 shows that the attractions of the Alhambra were the main source of positive opinions held by tourists in relation to the CMAG in general (97% positive sentences), followed by opinions about courtyards, gardens and fountains, not forgetting the good work of audio and human guides.

It is necessary to highlight the positive opinions held by visitors of the process of conservation and restoration of the monument, especially of the Courtyard of the Lions, and of the management of ticket collection and the city of Granada itself (especially neighborhoods, such as Albaicín).

Therefore, the analysis of Table 5 allows us to identify the main strengths and weaknesses of the tourist destination of Monumental Complex of the Alhambra and the Generalife, post-restoration of the Fountain of Lions and the Courtyard of the Lions. As for the fortresses, the following stand out: the heritage site (general features), the gardens and the fountains (especially that of the lions), the audio guides and guides, the surroundings, the accesses, the state of conservation, making special reference to the Courtyard of the Lions and the surroundings.

As for the weaknesses, the maintenance of the spaces, parking, crowding, signage, the night visit and the acquisition of tickets. It is important to note that regarding the acquisition of tickets, even though it is still a problem for tourists, the reason is different. In this period, the problem is the difficulty of finding tickets available, especially for access to Nasrid Palaces, not the system of booking and buying tickets (it was changed by the managers). The Nasrid Palaces have a limited capacity of 300 people every half hour for conservation reasons. This is perceived by tourists as a strong weakness of the destination.

On the other hand, the night visit is still a weakness, due to the poor lighting and in some cases due to the short time to enjoy it.

Table 5

Percentage of Positive and Negative Sentences in the Comments Analyzed (May 2014)

Categories	Positive	Negative	Total	Positive sentences (%)	Negative sentences (%)
Night visit	0	2	2	0	100
Directions and access Alhambra	9	5	14	64	36
Gardens/flowers/fountains	42	1	43	98	2
Maintenance/dirt	0	1	1	0	100
Crowd	0	19	19	0	100
Parking	0	2	2	0	100
Staff	1	5	6	17	83
Little information/signage	0	3	3	0	100
Price	0	2	2	0	100
Collection of bonuses/tickets/tours	13	2	15	87	13
Sales system	7	10	17	41	59
box office	0	8	8	0	100
Tickets/schedule	0	5	5	0	100
Shading	0	2	2	0	100
Granada tourist train	0	1	1	0	100

Table 5 to be continued

Visits	0	3	3	0	100
Audio guides-guides	21	0	21	100	0
Alhambra concert	2	0	2	100	0
Conservation and restoration	5	0	5	100	0
PAG general features	149	4	153	97	3
Water	2	0	2	100	0
Science park	1	0	1	100	0
Generals	11	4	15	73	27
Neighborhoods/zones	7	0	7	100	0
Circulation	0	1	1	0	100
Communication/bus	1	0	1	100	0
Hotels/restaurants/tapas	3	3	6	50	50
Total	273	82	355	77	23

Finally, Table 6 shows the coding of categories and number of positive and negative sentences for each category based on the data selected in the period prior to July 2012.

Table 6

Percentage of Positive and Negative Sentences in the Comments Analysed (June 2012)

Categories	Positive	Negative	Total	Positive sentences (%)	Negative sentences (%)
Schedule	5	17	22	23	77
Headphones-guides	9	13	22	41	59
Tickets-queues	7	17	24	29	71
Reservation system	4	13	17	24	76
PAG generals	44	18	62	71	29
Access control	0	9	9	0	100
Security guards	0	3	3	0	100
Travel agency	1	6	7	14	86
Indications-signaling	2	10	12	17	83
Dirt	0	13	13	0	100
Parking	0	7	7	0	100
Staff	2	4	6	33	67
Transport	8	3	11	73	27
Crowd of people	0	16	16	0	100
Plays	0	7	7	0	100
Price	0	7	7	0	100
Gardens	54	16	70	77	23
Seasons of the year	5	6	11	45	55
Night visit	5	13	18	28	72
Alhambra Museum	0	1	1	0	100
Museum of Fine Arts	1	0	1	100	0
Store	3	0	3	100	0
Palaces	4	0	4	100	0
Installations	16	0	16	100	0
Pomegranate	30	7	37	81	19
Total	200	206	406	49	51

As can be seen in Table 6, the weaknesses of the destination, related to the negative aspects, are especially associated with the associated services (access control, security, parking, reservation and ticket purchase system, queues, signage), the maintenance of the site (some dirt is denoted) and the overcrowding that hinders the pleasant experience of the visit (crowd of people). Regarding the fortresses, as shown in Table 6, the site itself and the spaces, the palaces, the gardens and the facilities stand out.

Comparing both periods, it can be seen that some weaknesses identified in the previous period continue to exist although others have disappeared or have changed, such as the acquisition of tickets. The strengths are generally reinforced and others appear, as already mentioned.

During this period, from the tangible point of view, the restoration works of the Patio de los Leones are finished in addition to completing the restoration works on the Courtyard of the Lions; the managers of the Monumental Complex had launched a series of actions that were improving some aspects of the destination. Among others, the implementation of a new system of booking and sale of tickets, a new website, new access controls, that improved the destination's intangible services.

In consideration of the two periods analyzed, the increase in the total number of positive sentences in the time after the restoration with respect to the previous period is highlighted (77% vs. 49%); a considerable decrease is observed in negative comments, falling from 51% in the first period to 23% in the subsequent one.

It is important to highlight the category "works"; in the first period, this was associated with 100% of the negative sentences, while in the second period, it disappeared coincident with the restoration of the Fountain of the Lions; the category "conservation and restoration" received 100% positive sentences.

Conclusions

This study has shown how the content analysis of the comments made by tourists on travel blogs and on TripAdvisor is a good starting point for managers of tourist destinations, particularly heritage destinations, to detect threats and weaknesses. The content analysis allows us to perform a frequency analysis, sentiment analysis and build the semantic network. In the first place, the frequency analysis makes it possible to identify those aspects that have most attracted the attention of visitors, either related to the development of the visitor to the heritage site. Secondly, sentiment analysis shows us as they are valued by tourists (positively or negatively) and finally the analysis of the semantic network shows us the relationship between the most valued aspects, clearly marking their importance by the size of the nodes and by the thickness of the lines that join them.

From the analysis carried out, the researchers can establish and analyse the characteristics of tourist demand, to identify its weaknesses and strengths.

Our results clearly show that visitors value the state of conservation of the heritage destination, so the conservation and preservation of heritage can lead to high levels of satisfaction, as pointed out by Alazaizeh, Hallo, Backman, Norman, and Vogel (2016).

Our findings have identified that certain weaknesses perceived by visitors are due to restrictions caused by conservation reasons, as in our case study, the lighting of the night visit to the Nasrid Palaces. Since they are problems with difficult solutions for conservation reasons, managers must design an appropriate communication strategy that generates awareness and knowledge on the part of the tourist in order to minimize criticism in this regard. It is clear that the beauty of the Nasrid Palaces is a great magnet for tourists, but also other spaces appear as strengths of the destination, such as the gardens and the Generalife. Therefore, those responsible for the destination, must enhance these spaces that decongest the Palaces, through again an

adequate communication strategy and an adequate design of the tourist/cultural product. Moreover, since the enclave and the sites of Granada are mentioned and valued positively by tourists, the establishment of routes linking the Monumental Complex with the city can minimize the dissatisfaction of not getting the desired entrance to the Palaces. In the case of Night Visit, the lighting cannot be increased for conservation reasons, avoiding the light pollution that would give particularly fragile spaces, such as the Nasrid Palaces. Again, it is necessary for wealth managers to carry out an appropriate communication strategy, which informs and builds awareness and knowledge of this in current and future visitors.

Cultural heritage has become one of the strongest competitive factors in choosing a travel destination. There has been greater demand for cultural experiences and mobilization of cultural heritage to attract tourists (Bowitz & Ibenholt, 2008). The management and enhancement of cultural heritage has become strategically important. This study shows that tourists pay attention to strengths and weaknesses in their comments, which provide useful information for tourism facility managers.

The information provided by this type of analysis is of great interest to the managers of the tourist destination, since it allows them to know those aspects of the destination that generate satisfaction or dissatisfaction in their visitors; and from there, establish improvement actions and carry out more efficient management. Better management will help make it more competitive, in line with Ye et al. (2009), Choi, Lehto, and Morrison (2007) and sustainable, in line with Roders and Oers (2011).

According to KEA European Affairs (2020), the COVID situation will oblige managers to collaborate and find ways to pool resources and creativity to propose viable and sustainable alternatives. The pause at this moment offers the possibility of sketching a new way forward in the years to come (Ioannides & Gyimóthy, 2020). Post-crisis management is the opportunity to address actions in which knowledge of technology and in particular the growth of digital networks is opportunities that allow managing and overcoming the current situation. This offers the possibility of taking advantage of the distribution network of the transmission platforms, putting users and managers in contact, favoring a more collaborative approach.

A survey conducted by UNESCO (2020) exposes the usefulness of working to promote the exchange of knowledge even when the mobility of academics, researchers, cultural professionals, and artists is restricted.

This particular study shows the possibility for citizens to engage in a dialogue about history and tradition, share similar and diverse experiences on the same heritage space, an issue that in the face of the pandemic is recognized as an opportunity to connect with the heritage of vital importance.

Along these lines, this article presents a clear example of the usefulness that user participation, through their opinions, can offer in the field of tourist destination management, allowing to know the suitability of certain actions. From the point of view of the management of tourist destinations, there is undoubtedly a pressing need to make large investments in the future; in particular to remedy the devastating economic impacts of the pandemic, this is not entirely possible without ensuring that they are also incorporated, the concepts, experiences and teachings of the past.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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A Study on the Relationships Between Brand Experience, Perceived Value, and Behavioral Intention

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Brand experience is essential in shaping the competitive advantage and sustainability of theme park attractions. Using Shanghai Disneyland as a reference case, this study examined the relationships among brand experience, perceived value, satisfaction, and behavioral intention. And their relationship is the key point for the sustainable development of theme park market. This study constituted the relationship path theory mode of hypothesis between brand experience, perceived value, satisfactory, behavior intention. The key findings of this study revealed that the brand experience of theme park has significant positive impact on perceived value and satisfaction. In that, thoughts have no significant impact on emotional value and societal value. Similarly, functional experience has no significant impact on recreational value. Subsequently, perceived value has significant positive impact on satisfaction. And lastly, satisfaction has significant positive impact on tourist behavioral intention. The findings of this study may offer constructive bases to the management of Shanghai Disneyland and other theme park attractions of similar nature in formulating policies and marketing strategies.

Keywords: brand experience, perceived value, satisfactory, behavioral intention, Shanghai Disneyland

Introduction

The global theme park market remains stable in growth and sustainable. Since the Disney Group established the world's first theme park in California in 1955, the global development scene of theme parks has

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seen exponential growth. The emergence of various cultural and natural theme parks follows suit. The annual numbers of visitors to Disneyland constantly top the chart, making Disney Group an influential player in the global theme park market. Disney Group received 157 million visitors in 2018, with a year-on-year growth rate of 4.7%. It is the largest brand service provider in the theme park market, which sets the yardstick for the success development of the industry (American Theme Park Association, 2019). Disney's entry into Shanghai in 2016 signifies the beginning of a new chapter in the Chinese's theme park market and internationally (China Institute of Commerce and Industry, 2016). The number of visitors to Shanghai Disneyland reached 11.8 million in 2018, ranking eighth among the global theme parks, with a year-on-year growth of 7.3% (World Brand Lab, 2017).

Given the nature of theme park attractions, it is common for theme parks to receive returning visitors. Theme parks tend to be popular among visitors in the early stage of new opening; however the popularity often diminishes as time passes. As the global theme park market saturates with attractions becoming more homogeneous, enhancing brand experience, perceived value, and satisfaction of visitors through branding exercises and facilities upgrades are necessary for the sustainability of theme parks. In addition, as Chinese tourists are increasingly brand conscious, creating a competitive advantage through differentiation is crucial for business to stay on top of the competition. Hence, it is essential to understand the relationships among brand experience, perceived value, satisfaction, and behavioral intention.

Literature Review

Theme Park

Milman and Tasci (2017) studied the driving factors influencing a theme park visitor's satisfaction and loyalty, through an online panel research consisting 371 U.S. residents who had visited a theme park. Feelings, thoughts, reflections, concerns, and actions of the consumer experience dimension, social demographic characteristics, and three driving factors of past visiting behavior were studied in the research. The results showed that overnight stays at the theme park as destination, past visits and experience were the main drivers of the likelihood of repeat visits (loyalty). In the study of Mo (2017), it is revealed that theme parks have become a form of primary tourist attraction; hence the service deficiency and/or transgressions in theme parks can significantly affect a tourist experience. The study concluded that service management, park environment, and queuing speed when combined, affect the overall satisfaction. The Queuing approach was found to have enhanced the queuing issue in theme parks, linear regression to solve the series issues planning of play projects, and 5S management to improve the perception of tourists. Using Wansui Mountain DaSong Wu Xia Cheng theme park in Kaifeng as a case, W. J. Li (2019) found that in recent years, theme parks that differentiate on the core cultural offering instead of pure entertainment are preferred by the publics, which fulfills social belonging and self-actualization needs of theme park tourists. Through RMP analysis and SWOT PEST analysis such findings highlight the prominent role of cultural elements and brand experience as the differentiating factor for competitive advantage development.

Brand Experience

This section reviews the brand experience construct and the approaches that have been used to researching it. In a study of smart phone brands, use structural equation modeling. In terms of the whole and dimensions, Hu (2019) explored the influence of brand experience on brand loyalty with brand attachment as

the mediator. Through data collected from 347 respondents and analysis, the study suggested that brand experience has positive influence on brand attachment; subsequently brand attachment can positively affect brand loyalty. In another study of clothing brands, Das, Agarwal, Malhotra, and Varshneya (2019) built a theoretical model based on the attachment theory and the mediated regulation model. The relationships among brand experience, brand passion, and brand promise were examined with perceived brand ethics as the moderator. The results illustrated that perceived brand ethics observably moderates the impact of brand experience on brand passion and brand promise. Further, brand passion moderates the relationship between brand experience and brand promise, while it should be noted that the mediating effect of brand passion is greater than the moderating affect of perceived brand ethics. Research also suggested that managers should pay attention to distinguish the types of consumers' passion for brands to make corresponding management decisions.

This section provides a comprehensive review on the dimensions and measurements of brand experience. Schmitt (1999) proposed five dimensions of brand experience, i.e., sensory experience, emotion, reflection, action, and association. The first three of the dimensions resemble personal unique experience, while action and association are formed through interpersonal interactions. From the psychology perspective, Zhang (2013) established a hierarchical brand experience by classifying the construct into the sensory, emotional, achievement-related, spiritual, and psychological dimensions. Drawing the characteristics of shopping websites from past studies, Chen (2018) classified brand experience into functional, disseminating, emotional, and associating dimensions.

Perceived Value

The perceived value construct and the approaches researching perceived value are reviewed in this section. Based on the Theory of Customer Perceived Value with "Da Tang Tang Fu Rong Garden" as the subject of the research, Y. Li (2019) established the relationship model of perceived value, satisfaction and behavioral intention using both primary and secondary data. It is found that the perceived value of tourists is positively correlated with satisfaction, and the satisfaction is positively correlated with behavioral intention. A theoretical model on the impacts of tourists' perceived value on brand loyalty was developed by Luo et al. (2018) based on past studies. The study took Chinese millennial tourists as the research object tested the moderating effects of globalism, country attitude, and the status of the brand position in the model. The study revealed that the five dimensions of brand perceived value have positive effects on brand loyalty, among which, the globalism of a destination brand, the status of the brand position and national attitude, respectively, have different degree of moderating effects in the model.

The dimension and measurement of perceived value are reviewed in this section. According to Wang (2018), perceived value is the subjective evaluation of consumers after weighing perceived benefits and perceived costs, which is not determined by enterprises or commodity providers. In the study, perceived value was divided into five dimensions, namely, functional value, emotional value, situational value, aesthetic value, and experiential value. Satisfaction was conceptualized as the mediator among the relationships on behavioral intention. According to Fu, Liu, Wang, and Chao (2018), customer perception constitutes commemorative value, spiritual value, functional value, emotional value, societal value, and money value. In addition, against the backdrop of experiential economy, the mediating effect of perceived value on behavioral intention was examined in the study.

Behavioral Intention

Relevant studies and approaches researching behavioral intention are reviewed in this part. Albayrak, Caber, and Comen (2016) studied the behavioral intention of shopping tourists by modeling the effects of relationships among tourist's satisfaction of product distinctiveness, the perceived value of shopping, and behavioral intention. Findings of the study revealed that tourists value the service standard more than the distinctiveness of product offerings. In terms of shopping values, the practical value of goods has the most prominent impact on the behavioral intention of tourists. In addition, both hedonic and avoidant values also have impacts on tourist's shopping behavior. Huang (2019) established a theoretical model of tourists' perception on restorative environment, satisfaction, and behavioral intention using data collected from 367 domestic tourists in Kanas Scenic Area. SPSS and other software were used to test reliability and validity, and structural equation model was established. It is concluded that tourist's perception on restorative environment has a positive impact on tourists' satisfaction and behavioral intention.

Next, the dimensions and measurements of behavioral intention are reviewed. In the study of Sun (2015), behavioral intention is considered a key predictor of customer behavior. The dimensions that the study proposed for customer behavioral intentions, i.e., repeat purchase intention, intention to recommend intention to recommend and premium purchase intention, are widely recognized in the field. In the context of souvenir authenticity, Fu et al. (2018) studied the influencing factors of customer behavioral intentions in the context of experience economy, and also divided customer behavioral intentions into repurchase intentions, positive evaluation intentions, and recommendation intentions. With six different perceived values as the intermediary, they studied the influence of authenticity of souvenirs on them.

Satisfaction

One of the most widely used satisfaction theory—Expectation Difference Theory Oliver (1980) proposed that the judgment of customer depends on the difference between the perceived expectation and the actual performance. If the actual performance is greater than the expectation, the customer is satisfied. On the contrary, if the actual performance is less than expected, the customer will feel dissatisfied. In a study related to smart phones, Zhao (2017) believes that brand satisfaction can be measured from two perspectives: overall measurement and sub-project measurement. His study explored the relationship between brand experience and satisfaction and related variables as a whole, so overall measurement is adopted and measured satisfaction through the demand, selection, and overall dimensions. In a study of service chatbot of a luxury brand, Chung, Ko, Joung, and Kim (2018) measured satisfaction in three aspects: overall satisfaction, expectation comparison satisfaction, and service quality satisfaction. Song, Wang, and Han (2019) measured satisfaction in six dimensions, i.e., product, customer service, store atmosphere, price, competitor comparison, and overall satisfaction when they discussed the relationship between brand image, brand satisfaction, brand trust, and brand loyalty. Finally, a structural equation model was established to examine the relationships among these variables.

Research Hypotheses and Theoretical Model

The Relationship Between Brand Experience and Perceived Value

Past studies revealed that different dimensions of brand experience have a positive impact on the perceived value of customer Ou (2017), Klein, Falk, Esch, and Gloukhovtsev (2016), and Jiang, Luk, and Cardinali (2018), while perceived value of customer is a vector to brand experience and loyalty.

Secondly, as for the dimension division of brand experience, Schmitt (1999) divided brand experience into sensory, feeling, thinking, action, and relationship. Zhang (2013) divided brand experience into sensory experience, emotional experience, achievement experience, inner experience, and spiritual experience. Zhou (2016) divided brand experience into sensory experience, emotional experience, thinking experience, and action experience. Chen (2018) divided brand experience into functional experience, propagating experience, emotional experience, and related experience. Therefore, based on the division of previous scholars and the actual circumstances of Shanghai Disneyland, brand experience was decided into sensory experience, pleasant experience, thinking experience, associated experience, and functional experience. Thirdly, for the dimension division of perceived value, Wang (2018) classified perceived value into functional value, emotional value, situational value, aesthetic value, and experience value. In the study of Li (2011), it was divided into functional value, economic value, cognitive value, and emotional value, while Luo et al. (2018) divided it into functional value, emotional value, societal value, monetary value, and cognitive value. Therefore, based on the division of former researchers and the real situation of Shanghai Disneyland, the perceived value was decided into entertainment value, societal value, and emotional value.

Therefore, this study hypothesizes the following (H_{1a}-H_{1o}): H_{1a}: Sensory experience has a significant positive impact on societal value; H_{1b}: Sensory experience has a significant positive impact on emotional value; H_{1c}: Sensory experience has a significant positive impact on entertainment value; H_{1d}: Pleasant experience has a significant positive impact on societal value; H_{1e}: Pleasant experience has a significant positive impact on emotional value; H_{1f}: Pleasant experience has a significant positive impact on entertainment value; H_{1g}: Thinking experience has a significant positive impact on societal value; H_{1h}: Thinking experience has a significant positive impact on emotional value; H_{1i}: Thinking experience has a significant positive impact on entertainment value; H_{1j}: Associated experience has a significant positive impact on societal value; H_{1k}: Associated experience has a significant positive impact on emotional value; H_{1l}: Associated experience has a significant positive impact on entertainment value; H_{1m}: Functional experience has a significant positive impact on societal value; H_{1n}: Functional experience has a significant positive impact on emotional value; H_{1o}: Functional experience has a significant positive impact on entertainment value.

The Relationship Between Brand Experience and Satisfaction

Studies have found that brand experience has positive impact on tourist satisfaction (Iglesias, Markovic, & Rialp, 2019; Bao, 2017). As for the dimensions of brand experience based on the division of brand experience by Schmitt (1999) and referring to the contents from Zhang (2013), Zhou (2016), and Chen (2018), brand experience was divided into sensory experience, pleasant experience, thinking experience, associated experience, and functional experience. Therefore, this study hypothesizes as follows: H_{2a}: Sensory experience has a significant positive effect on satisfaction; H_{2b}: Pleasant experience has a significant positive effect on satisfaction; H_{2c}: Thinking experience has a significant positive impact on satisfaction; H_{2d}: Associated experience has a significant positive impact on satisfaction; H_{2e}: Functional experience has a significant positive impact on satisfaction.

The Relationship Between Perceived Value and Satisfaction

Luo et al. (2018) and Albayrak et al. (2016) found that all five dimensions of perceived value have a positive impact on behavioral intention. Interestingly, Yoo and Park (2016) found that satisfaction mediates the positive impact of perceived value on customers' behavioral intention. Carlson, O'Cass, and Ahrholdt (2015),

Zhao (2018), Wang (2018), and other scholars concluded that perceived value has a positive impact on satisfaction and behavioral intention. Hence, based on the findings of previous studies, the following hypotheses were proposed: H_{3a}: Societal value has a significant positive impact on satisfaction; H_{3b}: Emotional value has a significant positive impact on satisfaction; H_{3c}: Entertainment value has a significant positive impact on satisfaction.

Relationship Between Satisfaction and Behavioral Intention

Tourist satisfaction is one of the most important indicators that a service expectation has been fulfilled. The more expectations a tourist towards a service experience, the stronger is the satisfaction of the experience when the expectation is fulfilled by the service provider (Oliver, 1980). Past studies revealed that tourist satisfaction has positive impact on tourist motivations and behavioral intention (Yoon & Uysal, 2005; Song et al., 2019). Besides, repeat purchase intention and the intention to recommend (Sun, 2015; Li, 2011; Fu et al., 2018), positive review, preference, and willingness to pay (Li, 2011, Fu et al., 2018) are some of the widely recognized measurement scale for behavioral intention. Hence, by taking into the situational conditions for Shanghai Disneyland, this study measures behavioral intention using a three-dimensional scale consisting intention to recommend, intention to consume, and revisit intention, in this case, revisit intention. Hence, this study posits that as follows: H_{4a}: Tourist satisfaction has a significant positive impact on the intention to recommend intention to recommend; H_{4b}: Tourist satisfaction has a significant positive impact on the intention to intention to consume; H_{4c}: Tourist satisfaction has a significant positive impact on revisit intention.

To sum up, the theoretical hypothesized model of this study is illustrated as Figure 1.

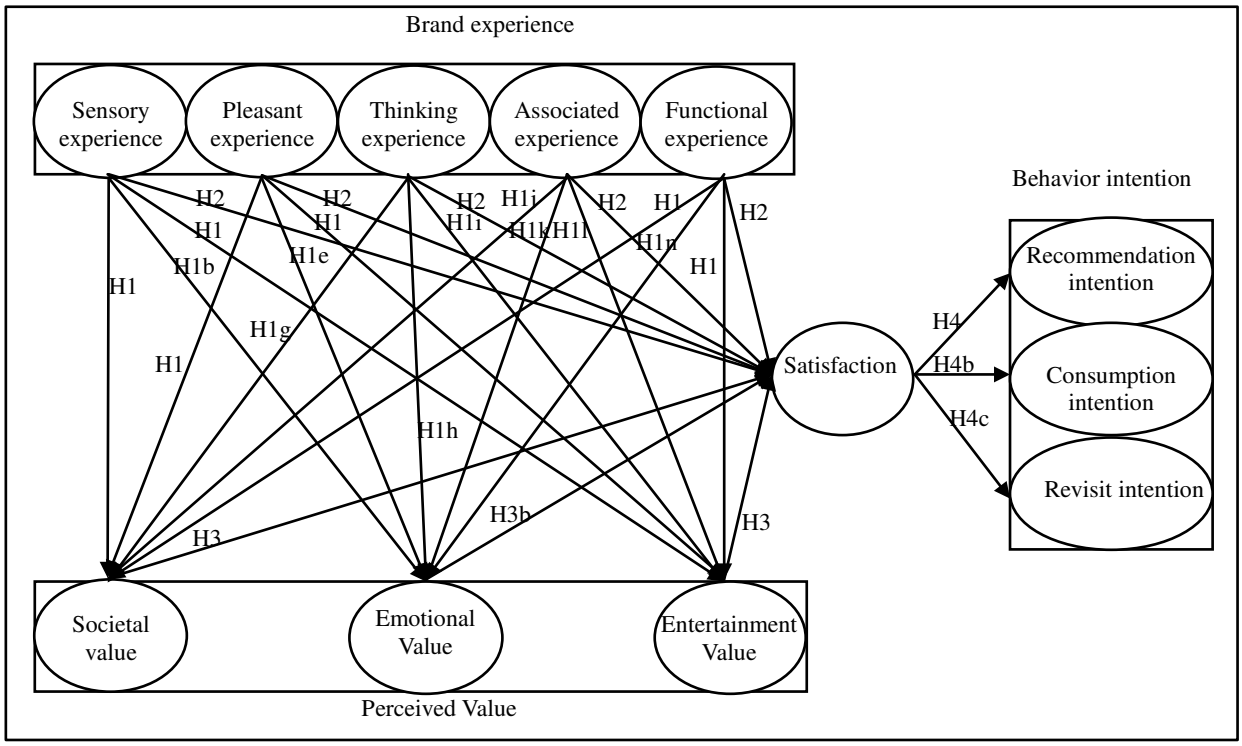

Figure 1. Theoretical hypothesis model of the research.

Data Sources

Questionnaires Design

Based on the conceptual development, five-section questionnaires were developed for the pilot study. The first section measured respondents' brand experience of Shanghai Disneyland. The second section measured respondents' perceived value of Shanghai Disneyland. The third section measured the behavioral intention of the respondents towards Shanghai Disneyland, followed by a section measuring respondents' satisfaction towards Shanghai Disneyland, and lastly, the questionnaires concluded with a section collecting demographical information from respondents, including gender, marital status, age, education, monthly income and occupation. All questions were measured by a five-point Likert scale.

In addition, with the research support from the Department of Tourism of Fudan University, an in-depth interview and brainstorming sessions were conducted with senior managers from tourism enterprises such as Mafengwo and other domestic tourism experts. The findings of the interview and the brainstorming sessions were further validated by two tourism scholars from the Department of Tourism, Fudan University, and other tourism experts from the industry. The questionnaires for the pilot study were further supplemented by findings from semi-structured interviews with 25 Shanghai Disneyland's visitors. The refined questionnaires developed from the exploratory phases were later on adapted as the key data collection instrument in the main study.

The questionnaires of the main study consisted questions and wordings that have taken into consideration characteristics that are unique to Shanghai Disneyland. The final version of the questionnaires consists four dimensions, i.e., brand experience, perceived value, behavioral intention, and satisfaction. The measurement scales for brand experience include sensory experience, pleasant experience, thinking experience, action, and functional experience. Perceive value is measured by societal values, entertainment values, and emotional values. The third construct—behavioral intention was measured by revisit intention, intention to recommend, and willingness to spend. And lastly, the measurement scale for satisfaction was measured by tourist satisfaction, relative satisfaction, and overall satisfaction.

Data Collection

The questionnaires were distributed in Shanghai Disneyland Resort on two occasions. The research team visited Shanghai Disneyland Resort for the fieldwork between September and October, 2019, as well as mid-November and mid-December of the same year. To ensure that the respondents of the survey were indeed samples with real immersive Disneyland experience and also considering that the surveys were conducted in the afternoon (after 2 pm), each respondent of the survey was given a Disney Theme Souvenir after the survey. A total of 450 questionnaires were distributed, the response rate was 93.33%. After eliminating responses that were invalid with data entry errors, 420 responses remained valid.

Funding

Social Demographic Characteristics of Respondents

The study shows the socio-demographic characteristics of the tourist respondents of the relationship path mechanism of Shanghai Disney brand experience. The proportion of female respondents (51.2%) was slightly higher than that of male respondents (48.8%), indicating good representation. The interviewees are mainly aged between 18 and 30 (41.9%), which also conforms to the characteristics of the main target groups of Shanghai

Disney. The educational level was mainly high school/secondary technical school (31.7%) and university/junior college (40.2%). The majority of respondents were students (32.6%). Respondents' monthly income is mainly less than 9,000 yuan, among which 1,000 yuan or less (20.5%) accounts for the most. The reason for this is that students account for a large proportion, but students do not count their income. The income of permanent residence is mainly divided into two statistical methods. The first is residents of Jiangsu, Zhejiang, and Shanghai (27.6%) and non-residents of Jiangsu, Zhejiang, and Shanghai (72.4%), and the other is residents of Shanghai (10.2%) and non-Shanghai (89.8%).

In addition, it also reflects the statistical characteristics of tourist information of Shanghai Disneyland brand experience relationship path mechanism. Some respondents have visited Shanghai Disneyland for four or less times. More than half of the tourists visited Shanghai Disneyland for the first time (52.9%). Only 4.3% of the tourists visited Shanghai Disneyland for five or more times. Respondents mainly purchased standard tickets (53.6%), double admission tickets (15.5%), and Sunday annual pass (15.5%). Most of their travel companions were family members (32.4%), friends (29.5%), and colleagues (13.6%). The main ways of travel were self-travel/free travel (51.7%) and semi-free travel with travel agencies (20.5%), indicating that a rather flexible schedule of tourists' activities in the park.

Exploratory Factor Analysis

Principal component analysis was employed to minimize the dimensions of the brand experience, perceived value, satisfaction, and behavioral intention constructs. Among them, seven principal components of brand experience were extracted, which are functional experience, sensory experience, pleasant experience, association experience, thinking experience, action experience, and communication experience. Five principal components of perceived value were extracted, respectively, entertainment value, societal value, emotional value, impression value, and cost value. Three principal component factors were extracted for satisfaction, which were relative satisfaction, visiting satisfaction, and overall satisfaction. Three principal components of behavioral intention were extracted, namely, revisit intention, intention to recommend, and intention to consume intention to consume. Cronbach's α coefficient of each variable is between 0.888 and 0.964, which met the threshold for internal consistency.

Confirmatory Factor Analysis

On the basis of the exploratory factor analysis, a confirmatory factor analysis was conducted using AMOS (Table 1).

Table 1
Model Fitting Degree of Shanghai Disneyland Brand Experience, Perceived Value, Satisfaction, and Behavioral Intention

Confirmatory factor	Correction	χ^2	df	χ^2/df	RMSEA	CFI	NFI
Brand experience	Uncorrected	70.528	179	3.930	0.089	0.876	0.842
	Corrected	570.376	484	1.178	0.021	0.991	0.946
Perceived value	Uncorrected	1,986.620	573	3.467	0.082	0.824	0.771
	Corrected	400.450	351	1.248	0.024	0.991	0.955
Satisfaction	Unnecessary	312.293	272	1.148	0.019	0.995	0.963
Behavioral intention	Unnecessary	191.144	149	1.283	0.026	0.992	0.967
Structural equation	Unnecessary	3,610.114	2,898	1.246	0.024	0.970	0.865

First, the confirmatory factor analysis of the Shanghai Disneyland brand experience model of the tourism respondents. As indicated in Table 1, before correction, the value of χ^2/df (χ^2 = 703.468, df = 179) is 3.930 > 3 and RMSEA = 0.089 > 0.08, indicating that the fitting model fit for brand experience was merely on par. Combined with the relevant factor loading and the theoretical hypothesis model, to improve the model fit, communication experience and action experience were excluded from the model. Items with factor loading less than 0.7 were excluded, and the final model fit after the adjustment is shown in Table 1. The fitting degree of the model is good (χ^2/df = 1.178, RMSEA = 0.021, CFI = 0.991, NFI = 0.946). As a result, a model for the brand experience of Shanghai Disneyland was established.

For the perceived value model, the model fit was χ^2/DF (χ^2 = 938.450, df = 203) which is 4.623 > 3, and RMSEA = 0.110 > 0.08 prior to adjustment, indicating an acceptable model fit. To further improve the model fit, impression value and cost value, and items with a less than 0.7 factor lading were removed from the model. As indicated in Table 1, the model fit (χ^2/df = 1.248, RMSEA = 0.024, CFI = 0.991, NFI = 0.955) was excellent after the adjustment. As a result, a model of perceived value of Shanghai Disneyland was established.

The next part is the confirmative factor analysis of the satisfaction model of tourism respondents to Disney in Shanghai. The results presented that χ^2/DF (χ^2 = 312.293, DF = 272) value was 1.148, and RMSEA = 0.019, indicating a good model fit (χ^2/DF = 1.148, RMSEA = 0.019, CFI = 0.995, NFI = 0.963). Hence, there was no further adjustment to the model. As a result, a satisfaction model for Shanghai Disneyland was established.

For the tourist behavioral intention model, the model fit was χ^2/DF (χ^2 = 191.144, DF = 149) value which was 1.283, and RMSEA = 0.026 (χ^2/DF = 1.283, RMSEA = 0.026, CFI = 0.992, NFI = 0.967), indicating an excellent model fit. As a result, a behavioral intention model for Shanghai Disneyland was established.

Finally, the structural equation model of the relationship path mechanism of theme park brand experience showed that the χ^2/DF (χ^2 = 312.293, df = 272) value was 1.246, and RMSEA = 0.024. Similarly, the satisfaction model had a good fitting degree (χ^2/df = 1.248, RMSEA = 0.029, CFI = 0.970, NFI = 0.865). All fitting degrees of factors in the model were excellent, forecasting that the overall structural equation model of the relationship path mechanism of theme park brand experience was established through confirmatory factor analysis.

Structural Equation Model

Table 2 indicates the test result of the structural equation mode. A good fit of the model provides statistically significant parameter estimates. Table 2 tabulates the correlation coefficient estimates of brand experience (sensory experience, pleasant experience, thought experience, functional experience, and association experience), perceived value (societal value, emotional value, and entertainment value), satisfaction (tourist satisfaction, relative satisfaction, and overall satisfaction), and behavioral intention (intention to recommend, intention to consume, and revisit intention). The probability of association with the null hypothesis where the test is zero is shown in column P, where a P value less than 0.05 is significant, indicating that there is a positive or negative significant relationship between the two non-observed variables.

The findings of analysis indicate that all hypotheses are supported, except Ih, Ii, and Io; the test results of the theoretical model are as follows: First, the brand experience of Shanghai Disneyland theme park has a significant positive impact on the perceived value. Among them, sensory experience has a significant positive effect on societal value, emotional value, and entertainment value. The societal value, emotional value, and entertainment value were significantly positively affected by the pleasant experience. Thinking experience has

a prominent positive influence on societal value. Related experience has a remarkable positive effect on societal value, emotional value, and entertainment value. Functional experience has a conspicuous positive effect on societal value and emotional value. However, thinking experience has no significant effect on emotional value and societal value, and functional experience has no significant effect on entertainment value. Secondly, the brand experience of Shanghai Disneyland theme park has an outstanding positive impact on satisfaction. The results revealed that sensory experience, pleasant experience, thinking experience, functional experience, and related experience all had significant positive effects on satisfaction. Then the perceived value of Shanghai Disneyland theme park has a significant positive impact on satisfaction. Moreover, societal value, emotional value, and entertainment value have significant positive effects on satisfaction. Finally, the satisfaction of Shanghai Disneyland theme park has a noticeable positive effect on behavioral intention. Satisfaction has a remarkable positive effect on intention to recommend, intention to consume, and revisit intention.

Table 2

Coefficient Estimation Results of the Structural Equation Model of the Relationship Path Mechanism of Theme Park Brand Experience

Latent variable	Path analysis	Latent variable	Unstandardized path coefficient estimation	S.E.	C.R.	P	Standardized path coefficient estimation
Societal value	←	Sensory experience	0.254	0.049	5.204	0.000***	0.284
Emotional value	←	Sensory experience	0.124	0.044	2.798	0.005**	0.154
Entertainment value	←	Sensory experience	0.212	0.049	4.365	0.000***	0.238
Societal value	←	Pleasant experience	0.117	0.050	2.352	0.019*	0.124
Emotional value	←	Pleasant experience	0.137	0.046	2.985	0.003**	0.163
Entertainment value	←	Pleasant experience	0.108	0.050	2.159	0.031*	0.115
Societal value	←	Thinking experience	0.268	0.052	5.185	0.000***	0.283
Emotional value	←	Thinking experience	0.008	0.046	0.176	0.861	0.010
Entertainment value	←	Thinking experience	0.085	0.051	1.677	0.093	0.090
Societal value	←	Related experience	0.127	0.055	2.296	0.022*	0.136
Emotional value	←	Related experience	0.199	0.047	4.272	0.000***	0.240
Entertainment value	←	Related experience	0.276	0.051	5.406	0.000***	0.299
Societal value	←	Functional experience	0.122	0.049	2.497	0.013*	0.131
Emotional value	←	Functional experience	0.178	0.046	3.902	0.000***	0.214
Entertainment value	←	Functional experience	0.050	0.049	1.028	0.304	0.054
Satisfaction	←	Societal value	0.072	0.027	2.640	0.008**	0.160
Satisfaction	←	Emotional value	0.075	0.030	2.527	0.012*	0.149
Satisfaction	←	Entertainment value	0.083	0.027	3.020	0.003**	0.183
Satisfaction	←	Sensory experience	0.106	0.027	4.000	0.000***	0.262
Satisfaction	←	Pleasant experience	0.128	0.028	4.598	0.000***	0.302
Satisfaction	←	Thinking experience	0.109	0.028	3.913	0.000***	0.256
Satisfaction	←	Functional experience	0.111	0.026	4.222	0.000***	0.263
Satisfaction	←	Related experience	0.076	0.026	2.921	0.003**	0.182
Intention to recommend	←	Satisfaction	1.016	0.127	8.002	0.000***	0.466
Revisit intention	←	Satisfaction	0.978	0.123	7.971	0.000***	0.467
Intention to consume	←	Satisfaction	0.985	0.122	8.059	0.000***	0.473

Notes. * indicates significant at level $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; C.R. value is the value of t.

Conclusion and Managerial Implications

The conclusions of this study are as follows. Disney Group can consider the following hypotheses from four aspects: brand experience, perceived value, satisfaction, and behavioral intention. First, brand experience has a significant positive impact on perceived value. Secondly, brand experience has a significant positive impact on satisfaction. Third, perceived value has a significant positive impact on satisfaction. Fourth, satisfaction has a significant positive impact on behavioral intention. And the following management implications are proposed for Shanghai Disney and other theme parks of similar nature.

Firstly, in view of brand experience it has a significant positive impact on perceived value; product and service offerings involving visual experience should be emphasized by the management. This may include architectural design, auditory experience of music and sound effects, tactile experience of elements in the theme park. As suggested by the findings of this study, sensory and functional experiences, as part of the brand experience, strongly promote the perception of entertainment of the theme park among tourists. In light of the findings, pleasant experience does have an impact on the perception of tourists. Hence, aside from enhancing the physical built of the theme park, the management should also ensure that the emotional experience of the tourists is fulfilled through the product and service offerings. Such experience includes the interactions among the tourist's friends and family. As suggested by the findings of this study, association and pleasant experience promote the perception of emotional value among tourists visiting the theme park.

Secondly, brand experience has significant positive impact on satisfaction. From the aspect of material demand, given that price is one of the key factors in influencing the satisfaction of consumers, this study suggests that the price level of the merchandises shelved in the theme park to be reviewed, so that the merchandises may be viewed as less expensive or more value for money. This is one of the factors that could directly influence tourist satisfaction. Aside from the price level, the varieties of merchandises are essential to ensure a wider range of tourist segments in the park are accommodated during their visits. A strategy focuses on cultural connotation and intellectual property. A destination without a story behind it is a place without its personal identity. Rich stories, worldviews, cultures and intellectual property are some of the vital elements that may be used to set as the differentiating elements, which may serve as the source for competitive advantage development. Therefore, it is necessary to improve the emotional experience of tourists. For example, it is possible to combine the new ancient Chinese culture with Disney culture, such as the story of Hua Mulan, to improve people's cultural identity and freshness, so as to improve brand experience and thus accelerate satisfaction.

Thirdly, the next is the management implication from the perceived value of theme parks which has a significant positive impact on satisfaction. In terms of intellectual property rights, more attention may need to be placed in localizing the architectural design, characters, amusement events and parades that are close to the locals. For instance, the theme park may organize events during the Spring Festival. Similarly, more events may be organized during some of the most popular festivals that are unique to the locals, both couples (e.g., the "520" day) or for family (e.g., Dragon Boat Festival). Such extents of localizations are expected to strengthen the perceived value of tourists. Reasonable classification and recommendation of products in theme park. The reasonable classification and recommendation of commodities can reduce the decision-making cost of customers. So tourists can avoid difficult choices, which will take a higher perceived value of commodity bundles to tourists, and significantly improve their satisfaction. For example, daily specials can be provided in

theme park restaurant, and "The most popular products" can be launched in souvenir shops. In addition, different types of products in the park can be packaged to meet customers' shopping demand once for all.

Fourthly, door gifts on special holidays or events may be handed-out to first time tourists. Such strategy would be effective in terms of improving satisfaction as well as cost given the relatively lower number of new (compared to returning) tourists to the park. It is also crucial not to neglect the strategy needed to continuously enhance the satisfaction of returning customers as the cost to acquire a new customer is much higher than attracting a returning one. Personalized services such as concierge service or exclusive loyalty programs for benefits may be introduced in the membership system to enhance the satisfaction of the tourists, and hence behavioral intention, i.e., to return in the future. Finally, it is the management enlightenment that theme park satisfaction has a significant positive effect on behavioral intention. Given the diverse segments of theme park due to the large population of the Chinese market, targeting and understanding tourists through big data and digital marketing are fundamental to the sustainability of the park. Demographic market segmentation based on visitor behavior and visitor satisfaction can be used to establish their user profiles. Thus, different marketing strategies and consumer behavior guidance can be obtained according to the corresponding consumer. AI, big data, digital marketing, and the adoption of other emerging technologies such as blockchain technology would enable the automation of various processes, which would result in better experience and satisfaction of tourists in the park, hence higher propensity for them to return in future.

As with any research, this study is not without any limitations. First, lack the breadth of research. Only Shanghai Disneyland was used as the reference case for analysis (instead of all other types of theme park). Hence, the findings may not be generalized for theme parks of other nature. Second, the sample of the study is small and most of the respondents in the survey are non-local tourists. Local visitors are more likely to revisit because of the lower cost of revisiting. This may bias the results of behavioral intention analysis.

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A Socio-demographic Profile of the Calabrian Linguistic Minorities

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In Italy it is possible to identify 11 linguistic groups of ancient settlement, divided as follows: border minorities, who speak a language of a neighboring state; minorities that occupy some internal areas as a consequence of emigrations and diasporas; the so-called residual groups of formerly majority populations. Three of these minority groups are present in Calabria: the Albanian minority, the Greek minority, and the Occitan minority. The Albanian community (Arbëreshë) is one of the most numerous. It is present in various areas of the South, but the most important colonies are found in Calabria. During the course of time these populations have undergone a strong assimilation process with the consequence that in many municipalities the spread of the Albanian language has been increasingly reduced or has completely disappeared. From 1951 onwards the Albanian-speaking communities of Calabria have shown the first signs of demographic malaise. The resident population gradually decreases and in many municipalities, especially the inland ones, there is a strong depopulation that still continues nowadays. In the Byzantine period the whole of Calabria was Hellenophone. Only the southern part of Calabria remained Hellenophone in the Norman age. Over time, the Grecanic area has been increasingly reduced and today it survives only in a limited area of the province of Reggio Calabria. Among the most remote causes of the decrease in Greek civilization we recall the abolition of the Greek rite in religious ceremonies, while after the Unity (Unita' d'Italia), an important role played the fight against the Greek language by the Italian school. Today this area has 11,211 residents and the speakers should be just 2,724. The Occitan-Waldensians are the smallest linguistic minority of Calabria. They came to Calabria, from Piedmont, towards the end of the 14th century to escape religious persecution. Today the Occitan-Waldensian colonies survive only in Guardia Piemontese, San Sisto dei Valdesi, and San Vincenzo la Costa, but the language is present only in Guardia Piemontese. The population of Guardia Piemontese, like that of many other Calabrian areas, experienced an intense migratory exodus after the Unification of Italy as well as a strong demographic malaise. Of these three Calabrian minority populations, which are characterized by a valuable cultural heritage, we will analyze the socio-demographic traits with the objective to grasp those potentialities (e.g., cultural, touristic) in order to mitigate the phenomenon of depopulation which in these areas is more pronounced than in the remaining "Calabrese" territory.

Keywords: linguistic minorities, demography, Calabria

Introduction

Soon after the investigations of ethnic minorities in the last century conducted by Italian statistician Corrado Gini in the 1930s, the study of ethnic or linguistic minorities present in Italian territory has caught the attention of

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Italian demographers since 1980, although this trend has been a long tradition in the United States and in Canada. In Canada, in particular, the French-speaking population of Québec has been the subject of sturdy demographic analysis and the term demolinguistique (demolinguistics) is due to Canadian demographers, i.e., the demographic approach to the study of linguistic minorities (De Vries, 1987), an approach that we have tried to follow in this research on Calabrian historical minorities with the aim of grasping both the degree of permanence of the language and the most significant current demographic and perspective traits. A geography of Italian ethnic and linguistic minorities is found in Pahor (1980), Chiassino and Papa (1988), Cortese (1988), Bellinello (1991; 1992). For Calabrian ethnic and linguistic minorities, see the studies by Piromalli (1981), Genre (1984), Stancati (1984), Spano (1965), Minuto (1976), Mosino (1988), Rother (1968), Micali (2016). For an analysis with a more demographic approach, see De Bartolo (1989; 1995).

The work is divided into three parts. The first part illustrates the problems and general characteristics of the ethnic and linguistic minorities present on the Italian territory; in the second part the demographic analysis of those who are present in Calabria is completed; in the third part the summary of the results is presented.

Traditional Ethnic and Linguistic Minorities

The ethnic geography of our country has become more and more distinct in recent decades since the 1970s of the last century, after Italy has been affected by increasingly intense immigrant flows from the Third World and Eastern European countries. Given this new reality, Italian ethnic minorities can be divided into recent and ancient settlements. The latter, also called historical or traditional minorities, have undergone intense assimilation processes over the centuries, decreasing in number but retaining, even if to an increasingly limited extent, the language.

Eleven traditional ethnic-linguistic groups can be identified on the Italian territory, divided into: border minorities, that is, who speak a language of a neighboring state (the Germans of South Tyrol, the Slovenians of Friuli, the French of the Valle d'Aosta); minorities occupying some internal areas following emigrations and diasporas, such as the Albanians of the Mezzogiorno (a region in Italy roughly coextensive with the former Kingdom of Naples), the Serbo-Croats, the Occitans, the Catalans of Sardinia; residual minorities of once majority populations (Greek, Ladin, Friulian, and Sardinian). Amid these minorities, three are present in Calabria: the Albanian, the Occitan, and the Greek.

After the Unification, the ethnic-linguistic minorities have made a whole series of social and economic claims, aimed at the rediscovery and revaluation of their diversity. These claims, after the Second World War, became a real cultural movement with the aim of giving political and juridical body to their reality and their ideals, in an attempt to slow down the process of assimilation which, as in the case of the Greek, is now in a very advanced stage.

The protection of minorities is enshrined in Art. 6 of the Constitution, but has found application only in some regions with special enactment which, due to their frontier position, have considerable political importance. In the year of 1992 when finally Article 1 of Law 482 was passed, the Italian state finally became aware of the existence of other historical linguistic minorities so that it recognized a total of 12 (Albanian, German, Greek, Slovenian, Croatian, Francophone, French Provencal, Friulian, Ladin dolomitic, Occitan, Sardinian) minority groups whose population in 1995 was estimated as 3,261,600 people by the Interior Ministry.

In Italy, the preservation of minority groups is unfortunately a process that experiences serious delays. In fact, there are no updated official data concerning them; data are not available even for linguistic minorities

who are undoubtedly the most interesting from a cultural point of view. In truth, in the past, numerous efforts have been made to register the spoken languages. We recall that on the occasion of the census of 1981 the attempt to include in the questionnaire some questions concerning the spoken language failed, as had happened during the censuses that went from 1861 to 1921, a practice that the fascist regime had then interrupted, suppressing the question about the spoken language or dialect.

The Albanian Minority (Arbëreshë)

The Albanians probably descended from the Illyrians, who in the 6th century BC, were definitively a part of the Roman Empire. From the 6th century they were called Arbëreshë. Their emigration to Italy occurred several times between the second half of the 15th and the middle of the 17th century (Piromalli, 1981). They spread to several points in the South, but the most important colonies were formed in Calabria and the largest was formed in a hilly area located in the northern part of the Province of Cosenza (Piromalli, 1981).

The Arbëreshë have preserved a certain territorial unity and limited the communion with the Italian-speaking populations over time. This was favored by the Greek rite which was the only language used in religious ceremonies. Over time these populations have undergone a strong assimilation process. Consequently in many municipalities the diffusion of the Albanian language has decreased more and more or completely disappeared, which resulted the dropped off use of the language, that it is now present only in 19 municipalities of the Province of Cosenza and in three in Catanzaro and Crotone. As of 1/1/2018 the population of the entire Arbëreshë area aggregated to 38,832 residents (Table 1).

Table 1

Population Residing in the Albanian Municipalities of Calabria on 1/1/2018

Provincial municipalities of Cosenza	Resident population	Provincial municipalities of Catanzaro	Resident population
Acquaformosa	1,108	Andali	723
Castroregio	276	Caraffa	1,814
Cerzeto	1,359	Marcedusa	436
Civita	912	Total	2,973
Falconara Albanese	1,456		
Firmo	2,044	Provincial municipalities of Crotone	Resident population
Frascineto	2,074	Carfizzi	638
Lungro	2,504	Pallagorio	1,164
Plataci	733	S. Nicola dell'Alto	786
S. Basile	1,034	Total	2,588
S. Benedetto Ullano	1,511	Total of Calabria	38,832
S. Cosmo Albanese	582		
S. Demetrio Corone	3,442		
S. Giorgio Albanese	1,406		
S. Martino di Finita	1,036		
S. Caterina Albanese	1,207		
S. Sofia d'Epiro	2,528		
Spezzano Albanese	6,977		
Vaccarizzo Albanese	1,082		
Total	33,271		

Source: Istat.

After the Second World War, the only information on the percentage of Albanians in the Municipalities of the Arbëreshë Area, dates back to 1966, thanks to the research made by the German scholar Rother (1968). From his research it was possible to obtain an estimation of the percentage of speakers both for the Albanian area and for the Province of Cosenza (83.7% for 1921 and 82.6% for 1966) and for that of Catanzaro and Crotone (80.6% for 1921 and 90.5% for 1966) (De Bartolo, 1989).

The Demographic Malaise of the Arbëreshë Minority

From 1951 onwards the Albanian communities of Calabria show the first signs of demographic unease. Over time, the resident population decreased in many municipalities; especially in the internal parts, there was an intense depopulation caused by emigration. In 2018, it was observed that in all Arbëreshë municipalities, negative natural growth rates were higher than the average value of Calabria.

These trends have strongly marked the population structure. In fact, the age pyramid (not shown here) has the typical shape of those populations with a high level of demographic ageing. I would like to mention that today the aging index in Italy is 168.9% (population over 65 years old divided by population 0-14 years old); in Calabria it is 158.4%, while in the Arbëreshë community it is 254%, with municipalities that register old age indices above 300% (Table 2).

Table 2

Ranking of Old Age Indices in Albanian Municipalities: Comparison With Calabria and Italy (Year 2018)

Municipalities	Old age indices %	Municipalities	Old age indices %
Calabria	158.4	Frascineto	261.5
Spezzano Albanese	161.4	Cerzeto	262.8
Italia	168.9	Acquaformosa	270.5
S. Benedetto Ullano	180.3	S. Giorgio Albanese	289.4
Caraffa	194.2	S. Martino di Finita	322.9
Falconara Albanese	208.8	Lungro	340.3
S. Caterina Albanese	222.2	Plataci	347.8
Marcedusa	226.3	Andali	381.0
S. Cosmo Albanese	236.8	Civita	423.5
Firmo	246.7	S. Basile	432.5
S. Demetrio Corone	246.9	Pallagorio	448.4
Vaccarizzo Albanese	248.3	S. Nicola dell'Alto	610.2
S. Sofia d'Epiro	248.6	Carfizzi	651.3
Total Albanian municipalities	254.1	Castroregio	720.0

Source: Istat.

The demographic projection developed by us, although with fairly optimistic hypotheses of fertility and mortality (1.29 children per fertile woman, survival values similar to the 2015 regional mortality table, absence of migratory movement), shows that the population Arbëreshë in half a century will not reach 21 thousand units (Table 3) and will be characterized by a high demographic malaise (reaching an aging index of 378.8% in the year 2068).

Table 3

Evolution of the Arbëreshë Population From 1861 to 2018 and Forecast to 2068

Year	Population	Year	Population	Year	Population	Year	Population
1861	45,958	1951	63,360	2023	37,316	2048	28,192
1871	50,092	1961	59,820	2028	35,669	2053	26,212
1881	51,338	1971	53,499	2033	33,931	2058	24,283
1901	52,833	1981	51,637	2038	32,097	2063	22,446
1911	51,652	1991	51,351	2043	30,171	2068	20,727
1921	50,111	2001	46,139				
1931	53,430	2011	42,004				
1936	56,443	2018	38,832				

Source: Our elaborations on Istat data.

The Hellenophone Minority of Calabria

Among the Italian ethnolinguistic minorities, the Greek language is perhaps the most threatened one. Once present in a large area of southern Italy, today it is reduced to only two linguistic islands: the first in the extreme southern part of Calabria, the second in Salento area of Apulia.

In the Byzantine age, all of Calabria was Hellenophone. In Norman times only Southern Calabria remained Hellenophone. In the second half of the 16th century, the territorial units that made up the Greek island were 30. In 1921 the Calabrian Grecìa was limited to the Municipalities of Roghudi, Roccaforte del Greco, Condofuri, Bova, Bova Marina, and Palizzi, all in the Province of Reggio Calabria (Piromalli, 1981). From 1963 onwards the area has shrunk again, since the Greek language has completely disappeared among the inhabitants of Palizzi. The data in Table 4 describe the implosion process of this linguistic area.

Table 4

Reduction Over Time of the Grecìa Calabra

Era	N. municipalities	Population	Greek-speakers	Surface kmq
XVI sec.	30	30,590	=	1060.5
1669	25	19,398	=	959.9
1780	16	25,488	=	661.2
1828	15	19,561	=	614.5
1861	11	17,835	10,536	412.8
1911	7	17,999	8,535	291.4
1921	6	14,728	3,639	223.2
1964	5	14,871	3,900	227.5
1990	5	13,460	3,278	227.5
2011	5	11,399	2,770	227.5
2018	5	11,211	2,724*	227.5

Source: Cortese, 1988; Spano, 1965; Bellinello, 1991; * our estimate.

Among the causes that contributed most to further regress of the Hellenophone area, in addition to the suppression of the Greek rite (Spano, 1965; Piromalli, 1981), it is the emigration, more intense in the Calabrian Hellenophone area compared to the Salento one. In recent times, the negative role of mass media must not be overlooked either.

An estimate, even if outdated, of the degree of persistence of the Grecanico in Calabria is due to Spano (1965) and Bellinello (1991). The first estimated that in 1964 the speakers of Grecanico were 3,900 out of 14,871 total residents (26.2%), while the second in 1990 estimated the speakers to be Grecanico in 3,278 out of 13,460 residents (24.3%). At the end of the 1980s, other sources indicated the Greek language to five thousand speakers, including also the Greek speakers living in the San Giorgio-Extra—a district of Reggio Calabria—and the emigrants of Switzerland (Verduci, 1988).

As of 1/1/2018 this area had 11,211 residents and, assuming that the percentage of those who still speak Greek has remained unchanged at 24.3%, as estimated by Bellinello (1991), it can be deduced that today speakers would not exceed 2,724 units (Table 4).

Demographic Aspects of the Grecìa of Calabria

The demographic analysis concerned the Municipalities of Roghudi, Roccaforte del Greco, Condofuri, Bova, and Bova Marina all in the Province of Reggio Calabria, where clear traces of Greek speech still persist.

Table 5 allows us to grasp the essential features of the demographic evolution of these populations from the unification of Italy until today. As can be seen, from 1861 to 1951 they experienced a period of considerable growth; subsequently the reference territories are depopulated due to an intense emigration (within the same province, towards Northern Italy and Switzerland) not absorbed by the natural balance (Nobile, 1977; Izzo, 1965). These trends have left traces deep in age structure: In fact, at 1/1/2018 these populations had a high aging index, equal to 196.3%, a value higher than both the regional average (158.4%) and to that of Italy (168.9%).

Table 5

Resident Population at the Censuses in the Hellenophonic Municipalities on 1/1/2018

Years	Condofuri	Roccaforte del Greco	Roghudi	Bova	Bova Marina	Total population	Total population index Base 1951 = 100
1861	2,718	1,524	1,082	1,813	854	7,991	51
1871	2,442	1,217	1,067	2,356	1,109	8,191	52
1881	2,586	1,392	1,118	2,208	1,040	8,344	53
1901	3,636	1,392	1,276	2,448	2,140	10,892	69
1911	4,171	1,556	1,457	2,293	2,639	12,116	77
1921	4,384	2,048	1,592	2,476	3,258	13,758	87
1931	4,825	1,940	1,571	2,375	3,491	14,202	90
1936	5,168	1,933	1,623	2,512	3,801	15,037	95
1951	5,865	1,778	1,782	2,155	4,192	15,772	100
1961	5,777	1,740	1,691	1,893	4,068	15,169	96
1971	5,447	1,377	1,650	1,401	4,008	13,883	88
1981	5,316	1,186	1,868	1,175	3,786	13,331	85
1991	5,461	1,213	1,530	602	4,371	13,177	84
2001	5,055	802	1,365	474	3,967	11,663	74
2011	5,074	550	1,172	461	4,142	11,399	72
2018	5,053	445	1,036	457	4,220	11,211	71

Source: Our elaborations on Istat data.

A demographic projection was also carried out for the Hellenophone Area, building a scenario with the same assumptions adopted for the forecast of the Albanian minority. Keeping it in our minds, it is possible to

hypothesize that in a span of 50 years this population would be reduced by half compared to the value of the beginning of this century. That is, there would be a lack of inhabitants equal to the total number of Bova and Roccaforte del Greco (Table 6) and there would be a worsening of the aging process already underway: From 2018 to 2068 the old-age index would increase from 196% to 369%.

Table 6

Past Evolution and Forecast to 2068 of the Hellenophone Population of Calabria

Year	Population	Year	Population	Year	Population	Year	Population
1861	7,991	1951	15,772	2023	10,908	2048	8,684
1871	8,191	1961	15,169	2028	10,555	2053	8,146
1881	8,344	1971	13,883	2033	10,152	2058	7,600
1901	10,892	1981	13,331	2038	9,700	2063	7,053
1911	12,116	1991	13,177	2043	9,206	2068	6,518
1921	13,758	2001	11,663				
1931	14,202	2011	11,399				
1936	15,037	2018	11,211				

Source: Our elaborations on Istat data.

The Occitan Minority From Calabria

The Occitan-Waldensians of Piedmont arrived in the South by land and sea towards the end of the 14th century to escape religious persecution, taking two directions: Naples and Paola. The Occitans-Waldensians landed in Naples reached Irpinia, Daunia, and Capitanata. The others, who arrived in Paola, went inland, founding the settlements of San Sisto, La Guardia, Vaccarizzo, Rose, Argentina, San Vincenzo, Borgo degli Ultramontani and Montalto (Montalto Uffugo). They were called “Ultramontani” because they came from beyond the mountains that are from the Alps. Over the centuries these populations have lost the religious trait while the linguistic one has gradually reduced.

Today the Occitan-Waldensian colonies in Calabria are represented by Guardia Piemontese, S. Sisto dei Valdesi, and San Vincenzo la Costa, but the language “guardiolo” is present only in Guardia Piemontese and S. Sisto dei Valdesi, fraction of San Vincenzo la Costa.

Let’s remember that the guardiolo, in addition to contaminations of the Calabrian dialect, has much in common with the idioms of the Val Pellice, which is the southernmost of the Waldensian Valleys (Kunert, 1999; Genre, 1984). Bellinello (1992) estimates that in 1988 there were 1,501 speakers of the mother tongue, of which 1,263 were in Guardia Piemontese and 238 were in S. Sisto dei Valdesi.

Over the past few decades, the process of “contamination” with the surrounding population and the disappearance of the older generations who had kept the use of the language alive, has meant that the speakers of the “guardiolo” have been reduced significantly to no more of 200-300 units (Femia, 2018).

Demographic Aspects of the Occitan-Waldensians

The population of Guardia Piemontese after the Unification and until 1921 experienced a strong emigrant exodus that resumed in the Second Post-War period with renewed intensity. These events limited their population growth so much so that in 1971 population census it was documented as 15% lower than that of 1861.

Since the 1970s of the last century the whole region has been affected by an intense phenomenon of urbanization: The small internal centers are depopulated; the cities and the municipalities of the coastal area have grown considerably; there is an uncontrolled and speculative building growth. Guardia Piemontese, like other towns on the Tyrrhenian coast, experiences this phase of population growth, also favored by the presence on its territory of an important thermal center.

As a result, its population has increased since 1981 until it reached the peak of almost two thousand residents at the beginning of 2018 (Table 7). This trend manages to hide the incipient demographic malaise that can be grasped both by the high aging index observed in 2018 of 220%, and by the negative rates of natural increase recorded in the last 10 years.

Table 7

Past Evolution and Forecast Till 2068 of the Occitan Population of Calabria

Years	Population	Year	Population	Year	Population	Year	Population
1861	1,336	1951	1,326	2023	1,867	2048	1,463
1871	1,338	1961	1,145	2028	1,811	2053	1,358
1881	1,248	1971	1,154	2033	1,742	2058	1,253
1901	1,344	1981	1,467	2038	1,661	2063	1,152
1911	1,228	1991	1,630	2043	1,566	2068	1,058
1921	1,431	2001	1,525				
1931	1,320	2011	1,895				
1936	1,238	2018	1,913				

Source: Our elaborations on Istat data.

The demographic malaise is likely to grow even more in the near future, when the positive impact of the social balance is exhausted and the negative fundamentals of the natural components of the population will emerge fully. More specifically, based on the results of the demographic forecasts developed by us, built with the same assumptions that were used for the projections of the other two minorities, in 2068 Guardia Piemontese would reduce to just over a thousand inhabitants (almost 45% less than in 2018) (Table 7), showing an increasingly growing aging that from 220% in 2018 would pass to 362.7% in 2068.

Conclusions

The historical ethnic-linguistic populations of Calabria (Arbëreshë, Greek-speaking, and Occitan), as highlighted in the present work, as a consequence of the assimilation process to which they have been subjected over time, have experienced an intense, continuous reduction of the trait in linguistic, especially after Unity. Furthermore, these areas, especially the internal ones, have experienced a strong depopulation and an intense demographic malaise since 1951. As shown by the results of the demographic projections made by us, these populations more than others have walked along a path that leads to their doom, with the risk of losing remarkable original cultural heritage, if effective social and economic policies do not intervene soon.

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Carbon Footprint of Tourism Sector in Portugal—Calculator Development

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A carbon footprint (CF) calculator was developed to apply to a Portuguese touristic accommodation to contribute to a sustainable touristic activity. Although some calculators are available online, they are related to the country reality or use outdated emission factors. A calculator based on national emission factors is important. The calculator was developed in Microsoft Excel (version 365) and is based on the CO_2e emissions resulting from electricity, water, fuels and food use, laundry and waste production. The calculator development involved: study the accommodation emission sources, selection the environmental indicators, determination of the emission factors and development of the CF formulas. Total CF calculation was made considering the partial CF per component, a monthly and annual comparison of each indicator's emissions contribution using graphs. The emissions amount per overnight stay, per room, per area, were also assessed and these values were transformed into global hectare (gha). Avoided emissions calculation gives the information about the efforts in CF reduction, and two indicators were considered: electricity production from renewable energy sources and the amount of separated waste for recycling. It was considered reforestation measures to achieve carbon neutrality. This calculator incorporates four components not often used: water, laundry, waste, food, and avoided emissions.

Keywords: calculator, carbon footprint, greenhouse gases, environmental indicators, sustainable tourism

Introduction

The impact of human activities on the Earth's climate and temperature is increasingly more significant due to the increase in anthropogenic emissions of greenhouse gases (GHG) from fossil fuels burning, deforestation and livestock use (European Commission, 2016a; The Core Writing Team, Pachauri, & Meyer, 2015). Reducing GHG emissions and achieving sustainable economic development is the primary response to climate change (Liu & Lu, 2015). The European Union (EU) aims to become the first carbon-neutral continent by

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implementing ambitious policies setting targets for the current year 2020, 2030, and 2050 (European Commission, 2016b). In addition, growing environmental awareness in society, as well as increased legislation, has pushed most organizations in the various sectors of activity to move towards making their activities sustainable. There is also a tendency for tourists to be more concerned about the environmental effects of their products and services what has driven the development of sustainable tourism.

The calculation of the CF in terms of tourism allows not only the management of accommodation to monitor and control the emissions caused by them but also travellers, entrepreneurs and possible investors to choose the alternatives with less environmental impact. In this way, the CF can influence decision-making. Two of the methodological approaches used to calculate CF are PAS 2050-Publicly Available Specification and ISO 14067 (Garcia & Freire, 2014). PAS 2050 was developed to address the need for a consistent method for assessing life-cycle GHG emissions from goods and services (British Standards Institution [BSI], 2011). Its main objective is to provide an everyday basis for quantifying GHG emissions that will inform and enable significant GHG emission reduction programmes (BSI, 2011). According to Garcia and Freire (2014), PAS 2050 shows, for example, how to deal with common methodological issues and how to define and allocate the limits of the system. ISO 14067 arises to complement PAS 2050 and provides specific requirements and guidelines for the quantification and communication of CF products, based on existing ISO standards on life cycle evaluation and environmental labels and declarations (Garcia & Freire, 2014).

According to Birnik (2013), the CF calculators of private housing should be based on the 13 principles described in Table 1. Some of these principles are present in calculators developed by companies and organizations (see Table 2).

Table 1

Principles for the Elaboration of a CF Calculator

	Principles
1	Estimate at least CO_2, CH_4 and N_2O emissions
2	Present the units in CO_2 equivalent of GWP100
3	Estimating footprints based on consumption
4	Allow users to adjust their level of consumption and not the use of national averages
5	Adjust the relative distribution of consumption according to the level of invoicing
6	Adjust the number of people living in a house
7	Allow users to calculate housing emissions in detail
8	Analyse emissions from domestic energy use and emissions from furniture, household appliances, building materials and building maintenance
9	Allow users to calculate their food-related emissions in detail
10	Allow users to calculate their transport-related emissions in detail
11	Allow users to include the radioactive force of flights when calculating their emissions
12	Provide a comprehensive footprint, including the allocation of emissions to a variety of consumption categories
13	Emission factors should be updated and country/region-specific where possible

Padgett, Steinemann, Clarke, and Vandenbergh (2008) compared 10 CF calculators and concluded significant differences in CF estimates ranging from selected indicators to emission factors. Mulrow, Machaj, Deanes, and Derrible (2019) compared 31 calculators available online to identify the most important emission sources and environmental indicators and came to the conclusion that most emissions focus on electricity and fossil fuel consumption.

Table 2 details the emission sources for each component analyzed and the principles used (mentioned in Table 1) in six of the calculators studied by Birnik (2013) and Mulrow et al. (2019). The six calculators chosen are common to both studies and have obtained similar ratings. In Birnik (2013), the calculators are ranked according to the number of principles they comply with and are rated strong (seven or more principles), medium (Five or six principles) and weak (below five principles). Mulrow et al. (2019) classified these same calculators using an index according to the level of detail of each calculator (number of emission sources) and were also classified as strong, medium and weak. Of these calculators, Carbon Footprint Ltd. and WWF obtained the best rating.

Table 2

Emission Sources, Principles Used in Different Calculators and Their Classification

	Carbon Footprint Ltd.	WWF	Conservation International	US EPA	TerraPass	Climate Care
Energy	Electricity, natural gas, oil, coal, LPG, wood and propane	Electricity, natural gas, propane and oil	Electricity, natural gas, oil, wood and propane	Electricity, natural gas, propane and oil	Electricity, Natural gas, oil, propane, diesel and gasoline	Electricity, natural gas, propane, oil, wood, renewable energy
Transport	Car, motorbike, bus, train, electric, metro and taxi	Car, motorbike, bus and train,	Car	Car	Car, electric car, boat, train, bus, ferribote and taxi	Car
Air transport	Origin and destination	Distance to the United Kingdom	Short or long flight	No	Distance, total fuel	Airports based
Food	Yes	Yes	Yes	No	No	No
Water	No	No	No	No	No	No
Extra categories	Pharmaceuticals, electronics, education and leisure activities	Miscellaneous	No	Waste	No	Events
Numbered principles of Table 1	6, 7, 9, 10, 11, 12, 13	6, 7, 9, 10, 13	6, 7, 9, 10, 11, 13	6, 7, 10, 13	7, 10	7, 10, 13
Classification (Birnik, 2013)	Strong	Average	Average	Weak	Weak	Weak
Classification of (Mulrow et al., 2019)	Average	Strong	Average	Weak	Average	Weak

Source: Birnik (2013); Mulrow et al. (2019).

From Table 2, it can be seen that none of the calculators gives results concerning emissions resulting from water treatment and that for the other components; a variation in the number of indicators chosen makes some calculators more comprehensive than others.

The various calculators already developed by organizations or entities can be applied to various sectors, like tourism. Green Key is one of the entities that have developed a calculator oriented to the tourism sector, more specifically to accommodations. This calculator can be used to calculate CO_2e emissions from electricity consumption, natural gas consumption, heating oil consumption, gas leaks from air conditioners, laundry and

fuel-burning by cars belonging to the accommodation (Green Key, 2020).

In general, among the existing calculators, what varies are the indicators chosen and the emission factors. The database of emission factors usually comes from the country where the calculator is developed. However, the calculation methodology is the same, consisting of the multiplication between the quantification of the chosen environmental indicators and the respective emission factors.

This study focuses on a CF calculator development, which can be applied to calculate direct and indirect emissions from all types of tourist accommodation in Portugal.

Research Methodology

The methodology used for the CF calculation tool development associated with the accommodations was based on that defined by S. Jain et al. (2017) and is divided into two essential steps:

1. Selection of components and indicators;
2. Development of calculation formulas.

Findings and Analysis

The selection of components and indicators involved the sources (direct and indirect) identification of GHG emissions from the lodgings and defining the limits of this study. Subsequently, it was necessary to compile the GHG emission factors expressed in CO_2e.

The tourism CF should be assessed using methods that cover the life cycle or emissions of the tourism-related goods and services supply chain (Lenzen et al., 2018). Tourism infrastructure is responsible for direct and indirect emission of CO_2e from the construction to the use phase (these being the most significant emissions) (Castellani & Sala, 2012). In addition to these actions directly related to tourism, there are other associated impacts, particularly regarding food, water use and tourism activities.

Emissions can be grouped by the level of their control. They can be divided into direct emissions (scope 1), indirect emissions of electricity (scope 2), and other indirect emissions (scope 3) (World Resources Institute [WRI], 2004; Larsen, Pettersen, Solli, & Hertwich, 2013; Kent, 2018; Carbon Trust, 2018; Lai, 2015).

The components that contribute the most to the CF of a lodge were selected for the calculation tool, namely electricity, water, fuel, food, laundry and waste. Each of the components has been assigned the indicators for calculating the CF (see Table 3). In this study, in addition to air emissions, avoided emissions involving the production of electricity from renewable sources and the recycling and/or reuse of waste were also evaluated.

Table 3

Components and Indicators Used in the CF Calculation Tool

Components	Indicators	Description	Emissions type
Electricity	Electricity consumption	Electricity consumption (purchased from a supplier)	Indirect Emissions (Scope 2)
	Electricity produced (renewable energy)	Electricity produced through renewable energy sources	Avoided Emissions
Water	Water consumption	Volume of water consumption	Indirect Emissions (Scope 3)
	Production of wastewater	Volume of wastewater produced	Indirect

Laundry	Quantity of clothes washed	Amount of laundry to be done	Emissions (Scope 3) Indirect Emissions (Scope 3)
Fuels	Fuel consumption used for stationary combustion	Quantity of fuels used (petrol, diesel, biodiesel, natural gas, butane, propane, mixture and wood)	Direct Emission (Scope 1)

Table 3 to be continued

Waste	Distance travelled by cars	Fuel consumption by car, dependent of on distance made	Indirect Emissions (Scope 3)
	Production of Urban Waste	Quantity of unsorted waste (organic and undifferentiated	
	Amount of waste recycled or reused	Amount of waste recycled (paper, plastic, glass, metal, oil)	Avoided Emissions
Food	Food consumption	Consumption of food (food purchased by the accommodation)	Indirect Emissions (Scope 3)

Source: S. Jain et al. (2017); Larsen et al. (2013); Kent (2018); Lai (2015).

Of the six components mentioned in Table 3, four will have to be updated annually (electricity, water, laundry, and waste) as their emission factors may differ significantly from year to year.

Calculation Formulas Development

The calculation formulas development was based on the GHG protocol premise that for most emission sources, the calculation of emissions is done by multiplying activity data (indicator) by the emission factor associated with the indicator being measured (Equation 1) (WRI, 2004).

$$EGHG = Activity\ data * Ef \quad (1)$$

where *EGHG*—emissions of greenhouse gases; *Ef*—emission Factor of the same activity; the activity data refer to the consumption and/or production of each component described in Table 1, as defined in the indicators.

The CF calculator was developed using Microsoft Excel (version 365). The type of results to be obtained for each component is shown in Table 4. The monthly emission variations for each indicator are also revealed by graphs, and a summary report of the calculated emissions is presented.

Table 4

Projected Results in Each Component

Component	Results
Electricity	Total consumption (kWh) Average monthly consumption (kWh) Consumption of kWh/guest-night $KgCO_2e$ total Average monthly $kgCO_2e$ $KgCO_2e$/guest-night
Water	Results for potable water Total consumption (m^3) Average monthly consumption (m^3) Total consumption (L) Average monthly consumption (L) Consumption L/guest-night $KgCO_2e$ and total

	Results for the wastewater Total production (m^3) Average monthly production (m^3) Total production (L) Average monthly production (L) Production L/guest-night $KgCO_2e$ and total Result for potable water and wastewater $KgCO_2e$ total $KgCO_2e$/guest-night

Table 4 to be continued

Laundry	$KgCO_2e$ total Kgcloths/guest-night $KgCO_2e$/guest-night
Fuels	$KgCO_2e$ per fuel $KgCO_2e$ Total $KgCO_2e$/guest-night
Waste	$KgCO_2e$ for each waste $KgCO_2e$ total $KgCO_2e$/guest-night
Food	$KgCO_2e$ for each food $KgCO_2e$ total $KgCO_2e$/guest-night
Avoided Emissions	$KgCO_2e$ total $KgCO_2e$ and avoided in electricity $KgCO_2e$ and avoided in waste

The construction of the calculator involved a mass and energy flow assessment for each indicator analyzed. In general, the emission factors per indicator were researched and calculated to subsequently evaluate CO_2e emissions (monthly and annual). In some cases, it was necessary to make simplifications/adaptations as described below.

Electricity

In Portugal, the accommodation and restoration sectors were responsible for the consumption of 1.92 TWh of electricity in 2018, which corresponded to a total emission of 487 thousand tons of CO_2e (Pordata, 2020; Associação Portuguesa de Energias Renováveis [APREN], 2019). Electricity is responsible for about 40% of the energy consumed in a hotel (Hotel Energy Solutions, 2011). The calculation for CF regarding electricity consumption was made using Equation 2. Table 5 shows all the emission factors of this component present in the calculator.

$$ECF = EC * \quad (2)$$

where *CF*—electricity CF ($kgCO_2e$); *EC*—electricity consumption (kWh); *SEf*—supplier emission factor ($kgCO_2e$/kWh).

Table 5

Electrical Supplier Emission Factors

Electrical supplier		Emission factors ($kgCO_2e/kWh$)	
		2018	2019
EDP		0.257	0.216
SU electricity		-	0.211
ENDESA		0.399	-
Golden energy		0.337	-
GALP		0.355	-
ENAT		0.179	-
Simple energy		0.292	0.150
Madeira electricity	Madeira	0.427	0.531
	Porto Santo	0.545	0.603

Table 5 to be continued

Açores electricity	Santa Maria	0.624	-
	São Miguel	0.419	-
	Terceira	0.554	-
	Graciosa	0.705	-
	São Jorge	0.621	-
	Pico	0.634	-
	Faial	0.649	-
	Flores	0.424	-
	Corvo	0.747	-
APREN (national average)		0.254	0.213

Water

According to the Águas de Portugal (AdP, 2019) sustainability report, around 587 million m^3 were captured and transformed into potable water, and 512.5 million m^3 of wastewater were treated, meaning that about 87% of the water captured is treated and returned to watercourses.

Two emission factors were determined, one for potable water and the other for wastewater, assuming that the water treatment is the same in both indicators. The emission factor related to water consumption is related to the CO_2e emission for the treatment of the captured water, which considers the CO_2e emissions from electricity and fuels consumed by AdP. Thus, the emission factor used for potable water was 0.185 $kgCO_2e/m^3$.

Regarding the emission factor of WW treatment, the CO_2e emission factor related to the treatment of sludge produced in wastewater treatment plants (WWTPs) was added to the previous emission factor (0.185 $kgCO_2e/m^3$). The sludge emission factor was calculated using data available in Agência Portuguesa do Ambiente (APA) (2020a) and the 2018 sustainability report of the AdP group. After calculating the sludge emission factor (1.062 $kgCO_2e/m^3$), it was possible to reach the WW treatment emission factor, 1.25 $kgCO_2e/m^3$. The calculation of emissions for this component is done using Equation 3.

$$WCF = (WEf_{PW} * C_{PW}) + \left(WEf_{WW} * (C_{Pw} * R_{ww}\right) \quad (3)$$

where *WCF*—Water CF; WEf_{PW}—Water emission factor of potable water; C_{PW}—Consumption of Potable Water (m^3); WEf_{WW}—Water emission factor of wastewater; $R_{WW/PW}$—Ratio between wastewater production/Consumption of potable water.

Laundry

According to Styles, Schönberger, and Martos (2013), a medium-scale laundry needs an average of 1.5

kWh of electricity and 12 L of water to wash, dry and iron 1 kg of clothing. With these values and the emission factors of the electricity and water component, it was possible to calculate the emission from the washing process of 1 kg of clothes. The emission factor obtained was 0.396 $kgCO_2e$/kg clothing. The calculation of this component is only performed if the laundry is outsourced. The calculation can take two paths:

1. When the accommodation knows the weight of clothes sent to the laundry, the calculation is made using Equation 4.

$$LCF = CF_{1KgClothes} * Cw \quad (4)$$

where *LCF*—laundry CF; $CF_{1kgClothes}$—CF of the entire washing process of 1 kg of clothes; *Cw*—clothes weight (kg).

2. When the accommodation managers are unaware of the clothes weight that are sent to the laundry, the calculation is made using Equation 5.

$$LCF = CF_{1KgClothes} * (4 * Bedroc \quad (5)$$

where Bedrooms—number of rooms occupied per night.

Fuels

The fuels emission calculation factors were based on data from the Guidelines for National Greenhouse Gas Inventories (Eggleston, Buendia, Miwa, Ngara, & Tanabe, 2006). The amount of CO_2, CH_4, and N_2O released by terajoule of energy used is indicated. Through the Intergovernmental Panel on Climate Change (The Core Writing Team et al., 2015), the conversion was made to $kgCO_2e$/kWh (see Table 6).

Table 6

Fuel Emission Factors

Fuels	Emission factors ($kgCO_2e$/kWh)
Natural gas	0.203
Butane Propane	0.228
Gasoline	0.251
Diesel	0.268
Biodiesel	0.256

Subsequently, conversion was done to the units accepted in the calculator, fuels in cubic meters (natural gas), kilograms (butane, propane and wood), and litres (gasoline, diesel and biodiesel) (see Table 7). The values of electricity production (kWh) per unit of fuel consumption were all based on Portgás data except for gasoline and biodiesel, based on Ordinance No. 228/90 of March 27[1], and on Fruergaard, Astrup, and Ekvall (2009), respectively.

Table 7

Emission Factors per Measure Unit

Fuel	Emission factors ($kgCO_2e$/unit)
Natural gas (m^3)	2.179

[1] Portaria No. 228/901990. "Aprova o Regulamento da Gestão do Consumo de Energia para o Sector dos Transportes", Diário da República I Série. No. 72/1990, de 1990-03-27, 1491-1493.

Butane (kg)	2.897
Propane (kg)	2.928
Gasoline (L)	2.255
Diesel (L)	2.688
Biodiesel (L)	2.4

Equations 6 and 7 were used to calculate the stationary combustion and cars emissions, respectively.

$$FCF = Fc * FEf \quad (6)$$

where *FCG*—fuels CF; *Fc*—fuel consumption; *FEf*—fuel emission factor.

$$ACF = Km * AEf \quad (7)$$

where ACF—automobile CF; Km—kilometers traveled; AEf—automobile emission factor (automobile document).

Waste

The waste produced in tourist accommodations has a composition and nature, similar to that produced in houses, so they are classified as urban waste. The calculation of the emission factor for undifferentiated urban waste was based on the waste destinations according to APA (2020b). It is assumed that about 90% of undifferentiated urban waste is landfilled, and the remaining 10% go through organic recovery, which is mainly by anaerobic digestion.

All emission factors and specific weights used in calculating this component emission are shown in Table 8.

Table 8

Waste Emission Factor Related With Material Production

Waste	Emission factor ($kgCO_2e$/kg or L)	Specific weight (kg/L) (1)
Undifferentiated (kg)	0.922	0.10
Organic (kg)	0.0224 (2)	0.52
Vegetable oil (L)	3.5 (3)	-
Paper (kg)	1.1 (4)	0.08
Plastic (kg)	2.1 (4)	0.05
Glass (kg)	0.9 (4)	0.27
Metal (kg)	6.7 (4)	0.05

Source: APA (2020a); WRAP (2011); Poore & Nemecek (2018); Hillman, Damgaard, Eriksson, Jonsson, & Fluck (2015).

From the data referred above and using Equation 8, the wastes CO_2e emission calculation from the accommodation was made except for the oil calculation (Equation 9).

$$WCF = LW * 0.8 * p_r * WEF \quad (8)$$

where *WCF*—waste CF; *LW*—litres of waste; 0.8—filling factor from containers; *pr*—specific weight; *WEF*—waste emission factor.

$$VoCF = L * VoEf \quad (9)$$

where *VoCF*—vegetable oil CF; *L*—liters of oil; *VoEf*—vegetable oil emission factor.

Food

The entire food supply chain emits approximately 13.7 billion tons of CO_2e annually, equivalent to more

than a quarter of anthropogenic GHG emissions (Poore & Nemecek, 2018). The food CF calculation is based on emission factors (see Table 9) determined in a study by Poore and Nemecek (2018).

Table 9

Emission Factors of Food Products

Foods	Emission factors	
	$KgCO_2e$/kg or L (Worldwide)	$KgCO_2e$/kg or L (European)
Beer (L)	1.2	1.2
Wine (L)	1.8	1.9
Tomatoes (kg)	2.1	1.1
Onions and Leek (kg)	0.5	0.5
Root vegetables (kg)	0.4	0.4
Cabbage/cabbages (kg)	0.5	0.8
Other vegetables (kg)	0.5	0.8
Citrus (kg)	0.4	0.5
Banana (kg)	0.9	-
Apple (kg)	0.4	0.4
Wild fruits and grapes (kg)	1.5	1.3
Other fruits (kg)	1.1	0.6
Avocado (kg)	2.5	-
Table 9 to be continued		
Soy milk (L)	1.0	0.9
Milk (L)	3.2	2.2
Almond milk (L)	0.7	-
Oat milk (L)	0.9	0.6
Rice milk (L)	1.2	0.9
Soybean oil (L)	6.3	4.5
Palm oil (L)	7.3	-
Sunflower oil (L)	3.6	3.5
Rapeseed oil (L)	3.8	3.5
Olive oil (L)	5.4	5.3
Beans/broad beans (kg)	1.8	1.1
Peas (kg)	1.0	1.1
Nuts (kg)	0.4	2.4
Peanuts (kg)	3.2	-
Tofu (kg)	3.2	2.5
Beef (kg)	99	46
Bovine meat (dairy cattle) (kg)	33	37
Beef (average) (kg)	71	39
Sheep/goat (kg)	40	43
Pork meat (kg)	12	10
Poultry meat (kg)	10	8.7
Cheese (kg)	24	16
Eggs (kg)	4.7	5.1
Fish (aquaculture) (kg)	14	14
Crustaceans (aquaculture) (kg)	27	-
Bread (kg)	1.6	1.5
Corn flour (kg)	1.7	1.5
Oat flakes (kg)	2.5	1.7

Rice (kg)	4.5	3.4
Potatoes (kg)	0.5	0.5
Cassava (kg)	1.3	-
Coffee (kg)	29	-
Tea (kg)	21	-
Chocolate (kg)	47	-
Sugar (sugar cane) (kg)	3.2	-
Sugar (beet) (kg)	1.8	1.7
Dark chocolate (70% cocoa) (kg)	34	-
Milk chocolate (kg)	23	-
Mass (kg)	1.6	-
Lentil (kg)	2.8	-

The equation used to calculate the emission of this component is as follows:

$$FdCF = FdEf * Fc \quad (10)$$

where *FdCF*—food CF; *FdEf*—food emission factor; *Fc*—Food consumption.

Total Carbon Footprint Calculation

The total CF calculation of the accommodation is carried out, taking into account the partial values of the CF per component, and the results are presented as defined in Table 2. Additionally, a monthly and annual comparison of the contribution of each indicator's emissions is made using graphs. The emissions amount per overnight stay (annual and monthly), per room, per m^2 of the accommodation, is also calculated. The total emission value is also transformed into global hectare (gha), which, according to Lin et al. (2019), each ton of CO_2e emitted is equivalent to 0.256 gha.

Calculation of Avoided Emissions

The avoided emissions were defined as a correct environmental action taken by the accommodation management. Two indicators were considered, the production of electricity from renewable energy sources (solar thermal, photovoltaic, hydro and wind) installed by the accommodation and the amount of recyclable waste separated and/or reuse.

As regards the electricity indicator of production through the use of renewable energy sources, the calculation for photovoltaic, wind and hydro energy is made by multiplying the kWh produced monthly by the CO_2e emission factor and the electrical supplier emission factor (Equation 11). Since solar thermal energy kWh produced is difficult to obtain, it was decided to multiply the area of the panels by the monthly solar irradiation of the district of the accommodation (see Table 10) and by the yield which, according to the study on "Solar Thermal Energy" carried out by the Energy Portal of 2004, would be 35% to 40% (Equation 12).

$$Ea_{shw} = \mathrm{SEf} * kWh \quad (11)$$

where Ea_{shw}—Emissions avoided with solar, hydro and wind energy; *SEf*—Electrical Supplier Emission factor ($kgCO_2e/kWh$); *kWh*—Kilowatt-hour produced in the accommodation.

Table 10

Annual Solar Radiation (kWh/m^2)

District	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.

Faro	85	103	154	191	229	241	253	222	173	128	91	76
Setúbal (Sines)	76	98	144	183	226	234	245	218	168	119	83	70
Beja	83	99	147	176	216	241	259	223	169	122	86	72
Évora	74	96	142	176	215	237	254	222	165	115	78	64
Lisboa	70	93	136	174	212	229	242	215	160	113	76	63
Portalegre	68	90	131	162	209	226	249	213	159	105	72	57
Leiria	66	88	134	167	210	202	215	188	152	111	71	57
Castelo Branco	71	93	136	174	218	238	255	220	166	110	73	61
Coimbra	64	84	125	157	203	209	225	199	153	104	69	59
Guarda	71	89	136	146	202	227	252	212	160	96	65	53
Viseu	61	87	119	154	198	217	234	207	153	97	65	55
Porto	61	82	126	167	207	213	223	195	149	98	65	51
Vila Real	49	75	114	151	201	219	233	204	146	90	56	43
Bragança	53	80	127	160	206	222	241	209	154	98	59	47
Braga	65	82	107	138	178	195	190	166	128	80	65	56
Santarém	66	100	131	171	218	223	245	212	155	105	66	53
Aveiro	64	91	126	166	209	203	220	196	148	98	67	58
Viana do Castelo	52	78	111	159	193	205	216	185	140	87	59	46

Source: Cavaco et al. (2016); Vieira, Neto, & Silva (2008).

$$Ea_{st} = Fe_f * A * SI * n \quad (12)$$

where Ea_{st}—emissions avoided with solar thermal energy; A—panel area (m^2); SI—solar irradiation (monthly) (kWh/m^2); n—panel yield (35%).

Concerning the indicator of the amount of recyclable waste separated and/or reused, the calculation is made through the difference between the emission factor of primary production and the secondary production of recyclable and/or reused materials in order to calculate the CO_2e emission is avoided, when it is not necessary to extract the raw materials following a circular economy (see Table 11). This difference was calculated according to Hillman et al. (2015). As previously considered, the metal emission factor used is the average of aluminium (10.6 $kgCO_2e/kg$) and steel (2.1 $kgCO_2e/kg$).

Table 11

Emissions Avoided With Recycling

Waste (kg)	Emissions avoided $kgCO_2/kg$
Paper	0.4
Plastic	0.8
Glass	0.4
Metal	6.35

Source: Hillman et al. (2015).

Organic waste is only considered as avoided emissions if it is reused (for animal feed, fertilizer or biogas production). When this happens, the emission avoidance factor adopted is the same as in the CF of organic waste calculation (assuming that there is no production of this waste), which is 0.0224 $kgCO_2e/kg$. The calculation of the avoided emissions for the indicator of recyclable and/or reuse waste generation is made from equation 13.

$$Ea_w = \mathrm{Lw} * 0.8 * \rho_r * Efa_w \quad (13)$$

where *Eaw*—Emissions avoided in waste; Efa_W—Emission factor avoided in waste.

Also, concerning this indicator, it should be noted that the formula for determining the emissions avoided by oil recycling is carried out differently. The $kgCO_2e$ avoided per litre of recycled oil is 0.288. This figure was calculated by the difference in emissions between diesel and biodiesel from recycled cooking oil. The calculation of the emissions avoided by the recycling of oil is made using the following equation:

$$Ea_{vo} = L_o * 0.94 * Ef_{vo} \quad (14)$$

where Ea_{vo}—Emissions avoided by vegetable oil recycling; L_0—Litres of oil; 0.94—Percentage of cooking oil processed into biodiesel (Haigh, Abidin, Saha, & Vladisavljević, 2012; Sahar et al., 2018); Ff_{vo}—Emission factor for avoided oil vegetable emissions.

The avoided emissions calculation gives the accommodation management information about the results obtained from its efforts in CF reduction.

Carbon Sequestration Calculation

It is of utmost importance to compensate for the CF of the accommodation as it is somehow impossible to reduce the whole CF. Therefore, to move towards carbon neutrality, it is necessary to invest in compensation forms. One of the leading compensation forms is reforestation, and this option has been considered in the calculator.

In order to calculate the number of trees needed to be planted to offset the CO_2e emitted, Table 12 provides the tCO_2e retention of different tree species per hectare/year.

With these values and with the number of trees per hectare appropriate to each type of species, an average of CO_2e retained per tree can be calculated. Thus, it was possible to associate the total (annual) CO_2e emitted with the number of trees to be planted to compensate for this emission. It is essential to mention that this value considers the survival of the tree for 20 years.

Table 12

Data About the CO_2e Retention by Species

Species	CO_2e retention (tCO_2e/ha/year)
Pine Tree	6.08
Cork Oak	1.24
Eucalyptus	13.17
Holm Oak	1.23
Oak	6.10
Chestnut	6.33
Meek Pine	12.88

Source: APA (2020a).

Discussion

The tourism sector growth is causing an increase in GHG emissions. However, to reduce tourism emissions, it is not necessary to reduce the number of tourists. The solution is to implement CO_2e reduction and compensation measures. In order to reduce and compensate for the emissions, it is necessary to measure and

monitor them, and this is precisely where the CF calculator for the tourism sector comes in.

The development of this calculator is important because, although there are already some calculators online, they present the reality of the country where they were developed (the emission factors of that country) or use the outdated emission factors. Given this, it was important that the calculator was based on the emission factors of Portugal since it is the territory where it was intended to act, giving this information as accurate as possible. However, despite intensive research to obtain Portuguese emission factors, it was not possible to develop a calculator with exclusively Portuguese emission factors. Other sources for food (European emission factors), recyclable waste (emission factors from the Inventory of Average GHG Emissions from Denmark, Norway and Sweden), and fuels (universal emission factors provided by the IPCC) were used.

The developed calculator incorporates the most-used components in this field, such as electricity and fuels, and four others that are not customarily integrated, water, laundry, waste and food. This calculator also includes the avoided emissions.

Analyzing all the formulas and calculations made, the most general formula for CF calculation in the tourism sector that can be presented is the following:

$$CF = \sum(\text{Data of each component} * \text{Emission factor}) \quad (15)$$

The use of this tool in other countries implies the change of the indicators emission factors discussed above. It allows the CO_2e calculation on a scientific basis and supports the reduction targets up to 2100 since the tourism sector significantly weighs CO_2e emissions. Moreover, it permits travellers, entrepreneurs and investors to choose alternatives with less environmental impact. It can be applied in restaurants and residences since the indicators are similar in all cases.

This calculator must be validated, and more components and environmental indicators must be added to perform a broad analysis in all life cycle of a tourism accommodation.

Conclusions

The calculator developed in Microsoft Excel (version 365) was based on the accounting of GHG emissions resulting from the consumption of electricity, water, fuel and food, laundry and wastewater production. The ten indicators used to perform this accounting were: electricity consumption, electricity produced (renewable energy), potable water consumption, wastewater production, laundry production, consumption of fuels used in stationary combustion, distance travelled by automobiles, production of urban waste, amount of recycled or reused waste and food consumption.

The CF calculator could be a powerful tool for monitoring and reducing CO_2e emissions from the Portuguese tourism sector, particularly regarding the accommodation sector.

Although the calculator has been developed for the tourism sector, more specifically in lodgings, it can be applied in restaurants and even in residences since the indicators are similar in all three cases, extending the scope of application of the calculator with the same reliability.

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Food Cart: The Importance of Brand Recognition, Support, and Retention to Franchise Business

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The purpose of this study is to collect data from the owners of food cart businesses. This study benefits the franchisors in a way of learning the importance of the support, brand recognition, and retention of a franchise business. This may also convince young or future entrepreneurs to consider that franchising is a starting business amidst pandemic. Descriptive research is used in the study. The main instrument used of gathering data was questionnaire. In this study, the Pearson's correlation shows that the dependent and independent variables are highly correlated in which the brand recognition and perceived franchise support have an effect to the intention of retaining the franchise system positively and significantly. Furthermore, franchisor considers the opinion of the franchisee that they care about the general satisfaction and does not take advantage of the franchisee. The brand recognition is strong, as well as respected and considered it as an asset of the franchise business. The study also shows that the franchisee has the intention of retaining the franchise system and consider of introducing the franchise system to others as they consider it as their first priority.

Keywords: food cart, franchise, franchisor, franchisee

Introduction

Businesses in any form are said to be a big help to the country's economy as it provides the goods and services as well as the jobs. One of the most renowned forms of businesses in today's era is franchise businesses and best example of that is food cart business. Franchise is a contract in which the owner of the brand and business model grants one the right to use the same brand and business model (with all brands, products, services, etc.) in return for money. Throughout the franchise system, the owner is the franchisor and you are the franchisor. This is often how the franchise came to be: An entrepreneur begins an independent small business and, over time, refines it into a profitable and prosperous business model. Within that end, the success of the franchisor depends on the success of the franchisees. If the franchisees succeed, the franchisor will boost its brand and consumers reach because the franchisor does all the work.

As of today, the franchising industry continues to grow worldwide and locally. In an article published in Winmark (2018), franchising delivered a great impact in the National Economy of United States as franchise businesses produced goods and services amounting to the $868.1 billion in the United States in 2016 which accounted to 3.4% of the private sector Gross Domestic Product (GDP) according to an International Franchise Association report. Similarly, franchise industry in the Philippines alone was seen to grow in about

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15-20% after breaching the P1 trillion revenue marks in 2018 securing the country a dub of "franchise hub of Asia". During the same year, there are about 2,000 local and international franchise brands in the country. Meanwhile there are 50 Filipino brands dominating the global arena of the industry as well (Lim, 2018). Thus, it cannot be denied that franchising is a continuously growing industry. Franchises represent big businesses in smaller units.

According to the research of Sible et al. (2015), franchising is one of the Philippines' rising trends in the business industry. It is not a business itself, but basically a marketing concept, a creative way of selling goods and services and a progressive approach. The growth and sustainability of franchising, as a multifaceted form of entrepreneurship, is indeed very distant from entrepreneurship as a rapidly growing form of business in many countries worldwide. Although franchising industry continues to grow, let us know how franchise support and brand recognition relate to intention of retention to franchise system of food cart franchisee. Franchise support system is designed to strengthen the business of both the franchisee and the franchisor. But more than anything, it's planned to guarantee franchisees that they are not working on their own, but have the franchisor's support to back them up. The term brand recognition refers to the capacity of customers to distinguish a particular brand by its properties over another one.

Food cart has made its popularity in both franchisees and consumers in the Philippines and has a massive contribution in hospitality industry. It is in fact being patronized by many people because of the low consumable budget. A food cart is a mobile kitchen set up on the street to facilitate the selling and advertising of street food to local shoppers. Food carts are frequently seen in major cities around the world and can be seen offering food of just about any kind. Many food carts are connected to restaurants. Some of the food served in the cart is the same as the food in the restaurant. The food cart boom ignited the hunger of hungry consumers, and sparked brilliant entrepreneurs with a creative concept that would carry the mobile food industry to a whole new phase (De Asis et al., 2017).

Franchising was described by Tan et al. (2015) as being in business for you, but not fully for you. Moreover, he also stated that this is a way to development where there is a franchisor and franchisee engaging into a franchising agreement, although both partners have mutual agreement, one that strengthens and sustains the profitability of the franchise. It provides businesses a distinct opportunity to develop and grow strong. This is precisely what the franchisor is concerned with, because the profits and returns are depend on them. Since the franchising is the fastest growing way of doing business. It has become a trend all over the world. As a matter of fact, there are many scattered and growing rapidly food cart businesses, especially to those area that is near in schools, malls, stations, and even sidewalk.

Furthermore, almost all of the people who do not have business background decided to engage into franchising in the Philippines, mostly because it offers independence and ability to spend capital without much effort of researching of target market of the business. A lot of entrepreneurs are moving into the food cart industry today, considering the potential challenge they might face, first because it's cheaper than some other form of business, and second, it's easier to set up than restaurants. In reality, even major fast-food franchises use food carts for their celebrations or promotions. Based on the target market and marketing strategies, a food cart mobile or permanent food cart is a great factor in a business. And it is undeniable that food cart franchising business in the Philippines is one of the most popular businesses today. It is perceptible that many entrepreneurs invest in franchise instead of making their own businesses because franchising is inexpensive and they benefit in terms of brand recognition and franchise system.

However, this franchise system and brand recognition involves money to become a franchisee of one company. The system of franchising enables the franchisee to pay the company or the franchisor to have the right of using the franchise system of the franchisor and its trademark.

A lot of entrepreneurs nowadays are in a food cart business despite all the possible problems they might experience. First, it's far inexpensive to evaluate to the alternative kind of commercial enterprise, and second, it's far less complicated to construct than the restaurant. In fact, even big fast-food chains are using food carts for the events and promotions. Another cause is depending on the target market and marketing strategy. We can see that there are a lot of food cart businesses today.

This research focuses on the function of franchisor and franchisee. The franchisor lends his trademark or a trading name and a business system. On the other hand, it is the franchisee that can pay a royalty and initial fee for the right to do the business. More particularly, we want to examine what are the issues they usually encounter in a food cart franchising business and the reason why a lot of entrepreneurs are growing despite the risk in franchising.

Statement of the Problem

The general problem of the study is: How do franchise support and brand recognition relate to franchisee's intention of retention to food cart franchise system?

Specifically, this study sought answers on the following:

1. How is the support of franchisor to franchisee of food cart business assessed?
2. How is brand recognition of food cart franchise assessed?
3. How is the intention of retention to franchise system of the franchisee assessed?
4. Is there a significant relationship between franchise support and intention of retention to franchise system?
5. Is there a significant relationship between brand recognition and intention of retention to franchise system?

Relevant Literature

The social exchange theory has something to do with maximizing benefits and minimizing costs. According to George Homans—the sociologist who developed the theory, when the risks outweigh the rewards, people will terminate or abandon the relationship. In franchise business, if the franchisor failed to give reasonable benefits that is supposed to be part of the franchise system, possible that franchise would failed and would not be patronized. The benefits that the franchisee will gain may see as the positive attributes while the costs may see as negative attributes when it outweighs the benefits provided by the franchisor. The relationship between the franchisor and franchisee should establish give-and-take, but it does not mean that they are always equal. It can be analyzed depending on effort that both parties are putting into the relationship.

The concept of intention to remain in franchise system (ITR), first was presented by Morrison (1997), using four dimensions of ITR which are: thought of quitting, intention to search, evaluation of alternative intention to quit, and subsequent turnover. The work of Morrison (1997) studies the relationship between franchisee satisfaction and performance measured in terms of economic results, organizational commitment, relationships with the franchisor, and intention to remain in the system. Surprisingly, the results show a very weak (and moreover, negative) relationship between the franchisee-franchisor relationship and economic performance, although the methodology used does not allow causality to be established.

Conceptual Framework

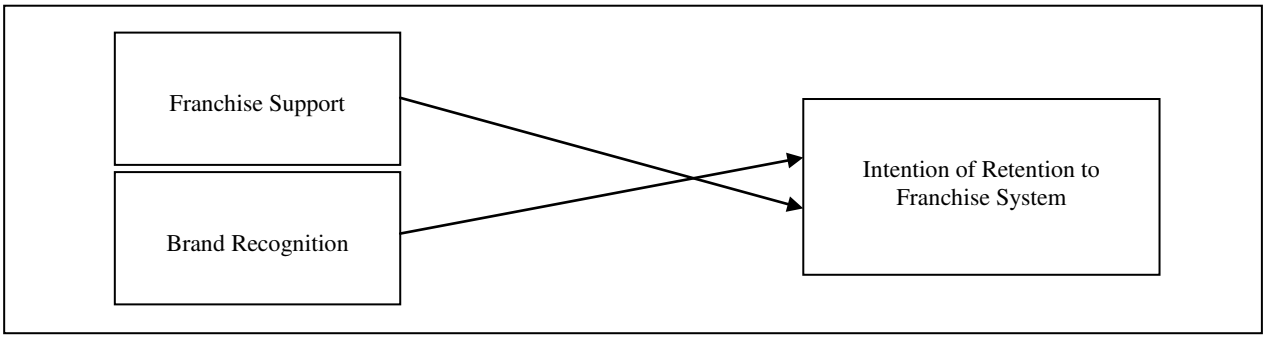

Figure 1. Conceptual framework of the study.

The Figure 1 shows the conceptual framework to determine the interrelationship among the variables. The independent variables have two boxes which in Box 1 shows the franchise support, and which in Box 2 shows the brand recognition. On the other hand, the dependent variables have one box which shows the intention of retention in franchise system.

Materials and Methods

Research Design

The design used in the study is quantitative research. According to Hopkins (2000), quantitative research is to determine the relationship between independent variable and another dependent or outcome variable in a group of individual person. Quantitative research designs are either descriptive subjects usually measured once or experimental subjects measured before and after a treatment. A descriptive study establishes only associations between variables. An experiment establishes causality. For an accurate estimate of the relationship between variables, a descriptive study usually needs a sample of hundreds or even thousands of subjects experiment, especially a crossover, which may need only tens of subjects. The estimate of the relationship is less likely to be biased if you have a high participation rate in a sample selected randomly from a population. In experiments, bias is also less likely if subjects are randomly assigned to treatments, and if subjects and researchers are blind to the identity of the treatments. In all studies, subject characteristics can affect the relationship you are investigating. Limit their effect either by using a less heterogeneous sample of subjects or preferably by measuring the characteristics and including them in the analysis. In an experiment, try to measure variables that might explain the mechanism of the treatment. In an unblended experiment, such variables can help define the magnitude of any placebo effect. The descriptive method of this research was used in this study to assess the food cart franchise support, brand recognition, and retention to franchise system intention as it is involves gathering of data from the respondents.

This part should contain sufficient detail to reproduce reported data. It can be divided into subsections if several methods are described. Methods already published should be indicated by a reference; only relevant modifications should be described. This section should be written concisely in detail by maintaining continuity of the texts.

Sampling Techniques

According to the Almeida et al. (2016), purposive sampling procedure is a non-probability sampling in

which the elements are selected from the target population on the basis of their fit with the purposes of the study and specific inclusion and exclusion criteria.

According to Philippine Companies' website as of 2021, there are 290 business enterprises in the City of Malolos, Bulacan.

For the reason that there is an only limited classification, finding the respondents is based solely on small scale franchise companies, and the criteria stated are food cart stall located in the area and the one operating amidst of pandemic.

Data Analysis

Multiple Linear Regression (MLR) as the researcher thinks that it is more appropriate for the study. Multiple Linear Regression, also known simply as multiple regression, is a statistical technique that uses several explanatory variables to predict the outcome of a response variable. The goal of Multiple Linear Regression is to model the linear relationship between the explanatory (independent) variables and response (dependent) variable.

In essence, multiple regression is the extension of Ordinary Least-Squares (OLS) regression that involves more than one explanatory variable.

Formula and calculation of Multiple Linear Regression:

$$IRFS = \alpha + \beta 1\ PFS + \beta 2\ YFS + \varepsilon \quad (1)$$

$$IRFS = \alpha 1 + \beta 1\ 1\ BR + \beta 2\ 1\ YFS + \varepsilon \quad (2)$$

IRFS = Intention to Retain in Franchise System,

PFS = Perceived Franchise Support,

BR = Brand Recognition,

YFS = Years in Franchise System.

Statistical Treatment

A Likert scale is a form of rating scale that tests how individuals feel about something that in many different cases could be useful. The most often used psychometric tool is a Likert scale, named after its inventor, the American social scientist Rensis Likert, to ask the respondent about their opinion or emotions in survey research, typically using a selection of five or seven response choices. A negative, neutral, or positive response to a question may be given by the respondent. A Likert scale tries to claim that an attitude's strength/intensity is linear, that is, firmly agrees to disagree on a curve, and makes the statement that attitudes can be measured.

In order to evaluate the answers to the respondents, the researchers used Likert scale, which is 5 as the highest, that actually demonstrates that they strongly agreed while the lowest of interpretation is 1 that means they strongly disagreed.

Table 1

Likert Scale of the Study

Point	Scale	Verbal interpretation
5	4.50-5.00	Strongly agree
4	3.50-4.49	Agree
3	2.50-3.49	Neutral
2	1.50-2.49	Disagree
1	1.00-1.49	Strongly disagree

Results and Discussion

This area discusses the data analysis and interpretation based from the question formulated in this study.

Table 2

Descriptive Statistics and Correlation Matrix

	Mean	Std. deviation	IRFS	PFS	BR	YFS
IRFS	4.43	0.70	1.00			
PFS	4.32	0.63	0.76***	1.00		
BR	4.45	0.77	0.86	0.72***	1.00	
YFS	0.72	0.46	-0.12	-0.15	-0.11	1.00
N	32					

Table 2 shows the Pearson's correlation of the study. Though the PFS and BR are independent variables in relation to IRFS, it is examined if there is multicollinearity issue between them. The table shows that these two variables (PFS and BR) are highly correlated with a value of 0.72. We also run separate regressions for both independent variables in relation to IRFS.

There are two types of variables, the independent and dependent variable. Independent variables are brand recognition with a mean of 4.45 and perceived franchise support with a mean of 4.32. The dependent variable is the intention to retain of franchise support with a mean of 4.43. Therefore the results showed the overall interpretation of the data.

Table 3

Assessment of the Support of Franchisor to Franchisee of Food Cart Business

1	Average	Verbal interpretation
(1) The franchisor strongly considers my goals and values.	4.31	Agree
(2) The franchisor cares about my general satisfaction at my franchise.	4.38	Agree
(3) If given the opportunity the franchisor would not take advantage of me.	4.5	Agree
(4) The franchisor shows concern for me.	4.63	Strongly agree
(5) The franchisor cares about my opinions.	4.34	Agree
(6) The franchisor takes pride in my accomplishments at my franchise locations.	4.25	Agree
(7) The franchisor tries to make my job as easy as possible.	4.38	Agree
2		
(1) Our brand name recognition is strong.	4.47	Strongly agree
(2) Your franchise (chain) has a good reputation for quality and service.	4.78	Strongly agree
(3) Your franchise (chain) is well respected.	4.69	Strongly agree
(4) Your brand name is one of your most precious assets.	4.38	Agree
3		
(1) It is my pleasure to introduce this franchise system to others.	4.69	Strongly agree
(2) I am willing to collaborate with this franchisor in the future (for example open new stores under this franchise system).	4.31	Agree
(3) Although I can look for other franchise systems, I still consider the current franchise system as my first priority.	4.59	Strongly agree

Table 3.1 shows that the one with the highest average answer was the Question (4), which earned a total average of 4.63, where the franchisees responded that their franchisors shows concern to them. Second to get the highest average are Questions (2) and (7) with a total average of 4.38, explaining that franchisors show concern for their franchisees general satisfaction for their franchise and that they also consider making the

franchisees' job easier. The next one Question (5) got a total average of 4.34; it turned out that the franchisor cared about their franchisees opinion. Question (1) got a total average of 4.31, which explains that franchisors consider the goals and values of their franchisees. Question (6), which earned a total average of 4.25, explains where most franchisees respond that their franchisors are proud of the good things that have happened to their franchise. The one with the lowest score is Question (3) achieving a total average of 4.5, explains that they are not taken advantage of by their franchisors.

Table 3.2 shows that the one that got a highest average answer was the Question (2) that earned total average of 4.78 simply; it shows that their quality and service was doing great. Second to get the highest average was Question (3) with the total average of 4.69, explaining that their franchise (chain) was well respected. The next one that got a total average of 4.47 is Question (1) which states that their brand reputation or name is strong and it is also one of the good factors for their business. And lastly the question that got the lowest average of 4.38 is Question 4 which states that their brand reputation or name is not so strong compared from their other assets and to sum up everything has been stated above this question got the lowest rate.

Table 3.3 shows that the one that got a highest average answer was the Question (1) that earned total average of 4.69; this actually demonstrates that their willingness to introduce their current franchise system to a new possible franchisor was shown. Second to get the highest average was Question (3) that earned total average of 4.59, showing that even though they can find another franchisor they will still choice and consider their current franchise system now because for them that's their first priority. And lastly the question that got the lowest average was Question (2) a total average of 4.39; this actually demonstrates that if they have given a chance to work or collaborate with the same franchisor they will, so it also proves that franchisee was satisfied with the team up of their franchisor with them.

Table 4

Regression Results of Intention to Retain in Franchise System and Perceived Franchise Support

	IRFS
PFS	0.84
	(6.16)***
YFS	-0.01
	(-0.06)
(Constant)	0.80
	(1.26)
F	19.41
R	0.76
Adjusted R^2	0.54

The Table 4 shows the regression results of intention to retain in franchise system and perceived franchise support. As shown in this table, Hypothesis 1 is significant. Perceived franchise support appeared to have a positive and significant effect to intention of retention to franchise system (PFS = 0.84; $p < 0.01$). Most of the franchisees response, franchisor support is being properly assessed by providing fair relationship quality and the franchisor's support to the franchisee matters in terms of retention in franchise system.

This is supported by the study of J. E. Lee and S. S. Lee's study (2020) that fairness on relationship quality and re-contract intention have an effect in food service franchise industry. Distributive fairness and informational fairness increase the relationship quality, which franchisees perceive under the franchise system.

Table 5

Regression Results of Intention to Retain in Franchise System and Brand Recognition

	IRFS
BR	0.78
	(9.04) ***
YFS	-0.04
	(-0.26)
(Constant)	0.99
	(2.39)
F	41.63
R	0.86
Adjusted R^2	0.72

The Table 5 shows the regression results of intention to retain in franchise system and brand recognition. H2 appeared to have positive and significant effect to intention of retention to franchise system (BR = 0.78; $p < 0.01$). Most of the response of franchisee agreed that brand recognition in terms of quality and service is one of the important factors in franchising. On the other hand brand recognition refers to the ability of consumers to identify a specific brand by its attributes over another one.

This was supported by Erlinda, Afiff, and Helmi (2016); franchise support was designed to ensure the franchisee's intention to stay in the franchise system because the franchise is selling the brand; otherwise there would be a conflict of interests between the franchisor as the owner of the brand and the franchisee as the consumer of the franchisor's brand to manage the retail outlet and to be bound by the futures contract. This is also supported by Song, Chan, and Wu's paper (2019), the interaction impact of placement features and emotional experiences on the recognition of placed brands by consumers. Brand recognition is a fundamental step in the decision-making path of the customer. The authors developed a research model that combines placement features, emotional experiences, and brand awareness based on emotional process theory and cognitive ability theory.

Overall, the results showed that H1 and H2 are accepted where the brand recognition and perceived franchise support have an effect to intention of retention in franchise system positively and significantly.

Conclusion

Based on the findings of the study, the following conclusions were drawn:

The franchisor considers the values, goals, and opinion of the franchisee; they also care about the general satisfaction and do not take advantage to the franchisee. The brand recognition is strong, well respected, and considered as an asset of the franchise. The franchisee has the intention of retention to franchise system and consider of introducing the franchise system to others as they consider it as their first priority.

Significant relationship exists in franchise support to intention of retention to franchise system where the franchisors show concern to the franchisee. Significant relationship exists in brand recognition to intention of retention to franchise system where the quality and service of the franchise itself is great and has a good reputation in franchise system industry.

Recommendation

Based on the findings and conclusion of the study, the following recommendations are proposed:

The future franchisee and entrepreneurs should have the knowledge about what kind of franchise business is worthy to invest with and should know how the franchise business works and should thoroughly understand the advantages and disadvantages when starting a franchise business.

Franchisee and future franchisee should keep in mind the importance of franchisor's support to the franchisees in the franchise system. Franchisor should be able to keep in mind the importance of the support to the franchisee and to the franchise business, brand recognition, and retention of a franchise business. Franchisor and franchisee may consider trust, support, and satisfaction to strengthen the relationship between them to be able to keep the franchise business stay in the franchise system.

Customers should consider the importance of brand recognition, and retention to the business industry of a food cart franchise business and may consider patronizing the small businesses that will help the owners to grow.

The selection of the respondents was limited since this study was conducted during the pandemic and there was a place that was prohibited to visit. For future researcher may consider getting more respondents of food cart franchise businesses to be able to gather more relevant information about the study to strengthen the validity of the results.

Also, this is open for adaptation of future researchers as well as a supportive research in their study.

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