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Determining the Relationships between Price and Online Reputation in Lodgings

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Abstract: Currently, lodgings' competitiveness depends on pricing, based on the online reputation measured by quantitative scales of variables. The purpose of this article is to analyze the different prices set by lodgings by season in relation to the variables that measure their online reputation. This is an essential aspect in determining prices competitively in a constantly changing market. The study analyzes the offer of three tourist destinations (Gran Canaria and Tenerife in Spain and Agadir in Morocco) and online customer reviews on the quality of service, value, and added value obtained from Booking.com. Bivariate regressions with different functions were carried out to determine which one best matches these variables to the prices. The results show that added value has the greater relationship with prices. The cubic and quadratic functions have the best fit between quality of service and added value with regard to lodging prices. Based on the results obtained, it is possible to determine the most competitive prices lodgings can set depending on the quality of service and the added value offered to customers. To the extent that destinations from different countries are analyzed, the research reaches an international scope that is in line with the competitive reality of the tourism market.

Keywords: tourism destination; online customer review; lodging; price; service quality; added value

1. Introduction

In today's digital age, the competitiveness of tourist destinations and lodgings is conditioned by their online reputation (Rodríguez-Díaz and Espino-Rodríguez 2017a, 2017b). Therefore, competitiveness in tourism develops according to the image transmitted by lodgings and destinations (Govers et al. 2007; Lai and Li 2016; Sancho Esper and Rateike 2010). The intense exchange of information between customers and companies on the Internet generates an online reputation that directly influences consumer behavior and is a source of competitive advantage (Ye et al. 2014; Therkelsen 2003; Yacouel and Fleischer 2012; Chun 2005; Hernández Estárico et al. 2012). Likewise, online reputation also affects revenue level, with the relationship existing between price level and online reputation measured through the quality of service scales on websites specializing in the online opinions of tourism customers (Varini and Sirsi 2012; Kim and Park 2017).

The competitiveness of lodgings depends on their strategic positioning in the market, which is defined by Hooley et al. (1998) as a combination of the company's choice of its target market and the differential advantage that can be exploited to secure that market. In this context, positioning is determined on the basis of consumer ratings that assess companies competing in a market, focusing on certain variables (Lovelock 1991). Currently, a large amount of quantitative and qualitative information can be obtained on the Internet that facilitates positioning studies on tourism companies, based on online customer opinions (Rodríguez-Díaz et al. 2015). Quantitative data normally measure the service quality and perceived value of lodgings, whereas the price variable can be obtained from the lodgings' own websites or specialized webs (Yacouel and Fleischer 2012); Rodríguez-Díaz and Espino-Rodríguez (2017a, 2017b).

Quantitative and qualitative information available in specialized databases generates the online reputation of lodgings, influencing companies' performance (Noone et al. 2011; Ye et al. 2009; Varini and Sirsi 2012; Anderson 2012). From this perspective, Lee and Jang (2013) differentiate lodgings in terms of quality, and rates are probably determined on the basis of their most direct competitors. These authors also point out that, whereas competition between lodgings has been the subject of various studies, price competition between lodgings, and its implications for commercial strategies, has not been addressed as much. Furthermore, according to Masiero and Nicolau (2012a), the identification of patterns in tourists based on their sensitivity to prices contributes to price fixing and to more clearly defining the target segments that lodgings and destinations attract.

In this new environment of Internet communications, tourist accommodation companies need to establish mechanisms to determine whether their pricing strategy agrees with the expectations created by customers at all times (Abrate et al. 2012). They need to apply methods of analysis and pricing in an international competitive environment such as tourist destinations (Crouch 1992). Insofar as online reputation directly influences customer decisions, it is essential to establish whether the strategy of creating value for customers matches the price level offered (Martens and Hilbert 2011; Conti 2013). According to Hernández Estárico et al. (2012), online reputation is based on the evaluations, comments, and images of a good or service that are transmitted on the Internet. In this regard, the value perceived by customers is directly related to quality of service and inversely to price (Holbrook 1994; Rust and Oliver 1994), and these factors are directly related to online reputation (Ye et al. 2009; Rodríguez-Díaz et al. 2015). Jena and Jog (Jena and Jog 2017, p. 1236) establish that "rapid changes can occur in pricing policies (as a reaction to a rival's action) by making it a flexible tool and an influential competitive element". Therefore, price is a tactical marketing variable that has high strategic value because it is essential in defining the competitive positioning of companies and the market segments on which they are going to focus (Lovelock 1991; Lockyer 2005; Hung et al. 2010; Masiero and Nicolau 2012a), due to the fact that room prices affect perceived service quality (Oh 1999, 2000; Oh and Kim 2017) and consumer satisfaction (Mattila and O'Neill 2003; Kim and Park 2017).

The purpose of this article is to determine the relationship between the price level of a lodging and its online reputation, measured by the scale used on the Booking.com website. To accomplish this objective, we have collected information about the opinions of lodging customers of three tourist destinations and the price levels of these destinations in different seasons (high season and low season): South of Gran Canaria (Canary Islands, Spain), South of Tenerife (Canary Islands, Spain), and Agadir (Morocco). In order to determine what relationship fits best, a different type of regression analysis was carried out. In order to achieve the objective established in this article, the study begins with a review of the academic literature and then describes the methodology applied in the research. The next section describes the results obtained, both jointly and individually for each destination. Finally, the article presents the main conclusions reached, limitations, and suggestions for future research.

2. Literature Review

One of the main problems faced by lodging managers is how to set prices based on the online reputation determined by customers (Rodríguez-Díaz et al. 2018). From a practical point of view, this is an essential objective that requires technological tools to facilitate constant price updating (Yacouel and Fleischer 2012). Therefore, there are two essential aspects of this research; an aspect associated with prices, on the one hand, and the determination of online reputation, on the other. Cross et al. (2009) explains how the concept and scope of revenue management in lodging has evolved. At first, it basically focused on the task of fixing room prices according to the expected occupancy level, in order to obtain the maximum amount of income. At present, this is a more dynamic task, taking on a more strategic role in tourism companies, including the definition of marketing, sales, and design, and the selection of sales channels. Thus, the responsibility of revenue management has been extended to include pricing and demand management (Noone et al. 2011; Li et al. 2013). This involves the implementation of a customer-focused approach to attract the necessary demand in terms of volume and specific target segments in a market dominated by Internet communication and mass media (Abrate et al. 2012).

Yacouel and Fleischer (2012, p. 225) studied online travel agencies and their impact on lodging prices, concluding that "since the information on hotels' past quality is revealed to the guests, the guests are willing to pay higher price to hotels with a good record (hotels that they expect to keep on providing high service quality). This price premium for a good reputation motivates the hoteliers to actually invest in providing high standards of service quality". Ye et al. (2009) also established the direct relationship between users' online reviews and hotel sales levels. Furthermore, Kim and Park (2017) demonstrated that the social media rating has greater predictive power of hotel performance than the measure of traditional consumer satisfaction. They point out that it is a more effective procedure for managers to use to determine the performance of the accommodation. Likewise, Xie et al. (2014) concluded in their study that ratings of the hotel's purchase value, location, and cleanliness are the three important attributes that can influence hotel performance.

Therefore, the relationship between online reputation and price level has been observed by several authors (Varini and Sirsi 2012; Ye et al. 2009; Noone et al. 2011; Yacouel and Fleischer 2012; Mauri and Minazzi 2013; Xie et al. 2014; Kim and Park 2017). However, there has not been much research on the relationship between prices and the online reputation of accommodations, measured in different ways (e.g., quality of service, value, and added value). The research on prices in tourism has focused on analyzing different aspects, such as price asymmetry (Lee and Jang 2013), the identification of factors influencing price evolution (Lee 2011), the effect of discounts (Croes and Semrad 2012; Blal and Graf 2013), dynamic pricing strategies (Abrate et al. 2012), the impact of oil prices on tourism (Lennox 2012), the relationship between hotel room prices and location (Zhang et al. 2011), the impact of advertising on pricing and profit in the tourism supply chain (Jena and Jog 2017), the relationships with the category of lodgings (Israeli 2012; Tanford et al. 2012), price elasticity of the lodging demand depending on advertising (Chen et al. 2015), customers' price perceptions (Kleinsasser and Wagner 2011; Masiero and Nicolau 2012b), pricing determinants in hotels (Hung et al. 2010; Espinet et al. 2003), the competitive positioning of lodgings (Rodríguez-Díaz et al. 2015, 2018), the importance of price in hotel selection (Lockyer 2005), and the relationship between the room rate and lodging performance (Qu et al. 2002; Enz et al. 2009; Ye et al. 2009; Chen et al. 2011; Noone et al. 2011; Chen and Chang 2012; Xie et al. 2014).

Jena and Jog (2017) regard the seasonality of tourist markets as a decisive factor in the price variable. Prices tend to be altered depending on the occupancy level and the decisions of competitors (Espinet et al. 2003). Hung et al. (2010, p. 378) find tourism demand to be uncertain and fluctuating. In this context, tourism is an unmodifiable service and causes problems due to cancellations or overbooking. Rodríguez-Díaz et al. (2018) show the differences between the prices of lodgings in high season and low season, considering price alterations within each season. All of this means that managers have to make dynamic and constant decisions in order to achieve the desired results. (Abrate et al. 2012). Hence, it can be deduced that the pricing strategy for lodgings can be adapted according to the period of time when substantial changes in demand are detected, either by segment type or total demand.

Because online reputation has a direct influence on prices, the content and scope of this concept should be determined. Online reputation is the idea that is generated from the image, positioning, or assessment of a particular company, brand, or product/service, through the opinions shared by customers through the Internet. This is an activity of shared communication between customers, and/or the company produces a mental image that influences customers' purchasing behavior. Therefore, it is an interactive process where users share and exchange information through different online communication channels and mass media (Einwiller 2003; Mudambi and Schuff 2010). From this perspective, companies largely lose control of communication about their goods and services, forcing them to develop new marketing strategies adapted to the digital era (Vermeulen and Seegers 2009; Pantelidis 2010; Ryu and Han 2010; Zhang et al. 2010; Gössling Stefan and Anderson 2016).

The flow of information shared about lodgings over the Internet is a public way of assessing the perceived quality of service and perceived value for clients (Xie et al. 2014; Ye et al. 2014; Hu et al. 2008; Rodríguez-Díaz et al. 2015). Online customer feedback can be shared through qualitative feedback and quantitative assessments of specific attributes or constructs related to the lodgings' activity (Rodríguez-Díaz and Espino-Rodríguez 2017b). Torres (2014) states that service quality is a result that is usually measured quantitatively, whereas customer satisfaction is often measured qualitatively through content analysis (Li et al. 2013; O'Connor 2010). Value is a widely studied concept in the academic literature on marketing and management, because companies must be oriented toward generating the greatest possible value for their clients (Porter 1980; Oh 1999; Grönroos 2007; Payne and Frow 2005; Payne and Holt 2001). In service companies, the subjective characteristic of this construct is highlighted (Zeithaml 1988; Anderson and Narus 1998; Oh 2000; Holbrook 1994; Rust and Oliver 1994) and is directly related to the quality of service and inversely related to the price level of goods and services (Holbrook 1994; Rodríguez-Díaz and Espino-Rodríguez 2017a).

Perceived value has been the object of study in relation to the quality of service, (Parasuraman et al. 1988; Oh 2000; Xie et al. 2014; Sparks et al. 2008; Nasution and Mavondo 2008; Núñez-Serrano et al. 2014) and customer satisfaction (Oliver 1997; Oh 1999; Li et al. 2013; O'Connor 2010). According to Prebensen et al. (2012), the perceived value in tourism is usually assessed through a single variable measuring the "quality-price relationship" or "value for money". However, some authors believe that this way of measuring perceived value is insufficient (Gallarza and Saura 2006; Gallarza et al. 2011; Sweeney et al. 1999), although the reality of the Internet requires the use of scales with very few variables in order to make it easy for users to share their assessments.

Regarding the added value of lodgings (Jeong 2002), Rodríguez-Díaz et al. (2015) proposed an approach to measure it based on online customer ratings, by subtracting the perceived quality of service from the perceived value by customers. The results obtained showed that higher-category lodgings tended to have a lower added value because of higher prices. These results agree with those obtained by López Fernández and Bedia (2004) and O'Connor (2010), showing that the more stars an accommodation has, the more demanding the customers are. This study will analyze the relationships between the price variable and online reputation, measured through perceived value, perceived quality of service, and added value, based on the quantitative information available on Booking.com for lodgings in three tourist destinations. The aim is to establish what type of function and construct obtains a better fit between the analyzed variables.

3. Research Methodology

The empirical study of the relationship between price and the dimensions of perceived value, perceived service quality, and added value was carried out using a database of 403 lodgings. These tourism companies are located in three tourist destinations specialized in sun and beach tourism that compete with each other: South of Gran Canaria (Canary Islands, Spain), South of Tenerife (Canary Islands, Spain), and Agadir (Morocco). The Canary Islands receive more than 12 million tourists per year, making it one of the main destinations in Europe (ISTAC 2015), whereas Agadir is located in the Moroccan region of Souss Massa Drâa, which receives 4 million tourists a year (ICEX 2011).

The data were collected from the Booking.com website. There were a total of 69,024 customer ratings of the lodgings. Of them, 38,096 were from the destination of Gran Canaria, where 272 accommodations were analyzed. In Tenerife, 82 lodgings with 20,950 comments were studied, whereas in Agadir 49 lodgings were considered, with 9,978 customer evaluations. The information gathered on Booking.com has a strong guarantee of reliability because it corresponds to real customers (Rodríguez-Díaz et al. 2015). The scale used by Booking.com has seven variables measured with

10 points (1 = very low rating; 10 = very high rating). However, this score is not the same as the one given in the customer survey because, according to Mellinas et al. (2015), only four response alternatives are offered to customers, later transformed into a 10-point scale. Despite the bias of Booking.com, Rodríguez-Díaz and Espino-Rodríguez (2017a, 2017b) show that it is one of the most reliable and valid tools available on the Internet.

The quantitative variables used by web portals to evaluate customer opinions usually measure the quality of service perceived and the perceived value (Rodríguez-Díaz and Espino-Rodríguez 2017b). Booking.com uses a scale that currently consists of seven variables, one that measures perceived value (value for money V) and six that measure quality of service: personnel (S), service/installations (F), cleaning (Cl), comfort (Cl), location (L), and wifi (W) (see Table 1). On this basis, Booking.com also calculates an average score for these variables in order to give a global hotel score (HAS). Furthermore, information on lodging categories and their prices is also available on this website. According to authors such as Espinet et al. (2003), Hung et al. (2010), and Jena and Jog (2017), tourism prices change throughout the year depending on fluctuations in demand, the level of competitiveness at any given time, and the market segments to which they are oriented in each period of time.

In the destinations studied, a distinction is made between high season (winter) and low season (summer) because their greatest demand occurs when other competitive destinations are closed in winter. There are also periods of higher demand and prices within each season and vice versa. Therefore, this study differentiates between the highest and lowest common prices in each season. In winter, the highest common prices are usually offered in the months of November, February, and March, whereas the lowest prices are usually offered in the first 20 days of December and April. It should be noted that the highest prices are those paid at Christmas, but it is only one week, and so it is not considered the most common price in winter. On the other hand, the highest prices in the summer season are found in the last ten days of July, August, and October, whereas the lowest are found in the months of May, June, and the first twenty days of July. This information was obtained from interviews with lodging and tour operation managers, and subsequently compared to the prices obtained on the Booking.com website.

Table 1. Description of variables.

Variables	Description
Hotel's average score (HAS)	Reviewer's overall rating of the lodging
Hotel staff (S)	Reviewer's overall rating of the lodging staff
Service/facilities (F)	Reviewer's overall rating of the lodging service and facilities
Cleanliness (Cl)	Reviewer's overall rating of the cleanliness of the lodging
Comfort (Co)	Reviewer's overall rating of the comfort of the lodging
Location (L)	Reviewer's overall rating of the location of the lodging
Value for money (V)	Reviewer's overall rating of the perceived value of the lodging
Wifi (W)	Reviewer's overall rating of the wifi connection
Minimum price in low season	Minimum price per night in low season
Maximum price in low season	Maximum price per night in low season
Minimum price in high season	Minimum price per night in high season
Maximum price in high season	Maximum price per night in high season
Category	Star rating of the lodging
Quality average (Q)	Average of quality service variables (S, F, Cl, Co, and L)
Added value (AV)	Difference between value (V) and quality average (Q)

The study carried out consists of determining the relationship between prices and the variables of perceived value (V), perceived service quality (Q), and added value (AV). The variable value for money included in the Booking.com scale is used to measure the price variable. In order to quantify the average of the perceived quality of service (Q), the average of the personnel (S), service/facilities (F), cleaning (Cl), comfort (Co), and location (L) variables were calculated. The wifi variable was not included, because it depends to a large extent on public infrastructure and telecommunications companies external to lodgings. Finally, the value-added variable was established following the procedure proposed by Rodríguez-Díaz et al. (2015), and is the result of subtracting the average quality of service (Q) from the value (V). This variable can have positive, negative, or zero scores. When the added value of a lodging is zero, it is offering a quality of service in accordance with the price it establishes. If the added value has a positive score, it means that customers think the price to be paid for the lodging is lower than the quality of the service they receive. By contrast, a negative added value indicates that customers think they pay extra for the quality of the service received. The latter is usually the case for higher category lodgings.

The statistical analysis carried out was the regression of curve estimation models using the SPSS statistical program. The regressions were bivariate; prices were the independent variables, and the perceived value (V), the average of the perceived quality of service (Q), and the added value (AV) were dependent variables. The aim of the study was to determine the function with the best fit of the relationships in the different types of prices. To this end, the regression was carried out in the linear, logarithmic, inverse, quadratic, and cubic functions, as described below:

Linear: Model with the equation y = b0 + b1*t.
Logarithmic: Model with the equation y = b0 + b1*ln(t).
Inverse: Model with the equation y = b0 + (b1/t).
Quadratic: Model with the equation y = b0 + b1*t + b2*t2.
Cubic: Model with the equation y = b0 + b1*t + b2*t2 + b3*t3.

4. Analysis of Results

Bivariate regression analyses were carried out with the information collected on prices in different seasons and time periods, as well as online customer evaluations of the perceived value, perceived average service quality, and added value variables. The aim was to determine which of the three online reputation variables examined was most closely related to price. To this end, all the information from the three tourist destinations together was analyzed first. Subsequently, the same regression analysis was carried out for each of the destinations to find out whether the results were consistent.

4.1. All Destinations

The results of the regressions of the perceived value variable as a dependent variable and the four prices as independent variables are shown in Table 2. It can be observed that all the results have a very low adjusted R2, which shows that there is no significant relationship between perceived value and price. The results for the average quality of service are shown in Table 3 and confirm that the adjusted R2 scores are relevant for a social science study. With regard to minimum prices in low season, the function that obtained the highest R2 (0.2019) was logarithmic, as it was for maximum prices in low season (0.1885) and high season (0.2415). On the other hand, the cubic function obtained the highest R2 (0.2751) for the lowest prices in high season. Finally, the added value achieved much higher results than the previous ones, as Table 4 reveals. Thus, the cubic function obtained an adjusted R2 of 0.3264 for the lowest prices in low season 0.3248 for the maximum prices in low season 0.3208 for the minimum prices in high season, and 0.3171 for the maximum prices in low season. However, the quadratic and logarithmic functions also performed strongly, demonstrating that value added is the variable most closely linked to price. These results are shown in Figure 1, where all the functions analyzed are represented in the variables that obtained the best fit to each type of price.

Table 2. Model summary and parameter estimates of regression analysis in all destinations, with value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0036	1.3821	1	376	0.2404	7.5623	0.0007		
Logarithmic	0.0028	1.0641	1	376	0.3029	7.3075	0.0749		
Inverse	0.0022	0.8438	1	376	0.3588	7.6894	−3.9329		
Quadratic	0.0040	0.7612	2	375	0.4678	7.5404	0.0011	−5.6958E−07	
Cubic	0.0057	0.7271	3	374	0.5363	7.6228	−0.0010	1.074E−05	−9.3635E−09
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0027	1.0282	1	376	0.3112	7.5583	0.0006		
Logarithmic	0.0009	0.3406	1	376	0.5597	7.4498	0.0388		
Inverse	0.0009	0.3451	1	376	0.5572	7.6561	−2.4417		
Quadratic	0.0070	1.3237	2	375	0.2673	7.6507	−0.0011	5.4956E−06	
Cubic	0.0080	1.0077	3	374	0.3893	7.7182	−0.0030	1.808E−05	−1.9231E−08
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0167	4.6237	1	271	0.0324	7.4549	0.0012		
Logarithmic	0.0269	7.5070	1	271	0.0065	6.5605	0.2290		
Inverse	0.0340	9.5592	1	271	0.0021	7.8539	−20.5299		
Quadratic	0.0233	3.2224	2	270	0.0413	7.3272	0.0030	−3.7714E−06	
Cubic	0.0248	2.2881	3	269	0.0788	7.2368	0.0049	−1.245E−05	9.6741E−09
Independent variable: Maximum price in high season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0155	4.2744	1	271	0.0396	7.4634	0.0010		
Logarithmic	0.0182	5.0515	1	271	0.0254	6.7836	0.1745		
Inverse	0.0236	6.5612	1	271	0.0109	7.7946	−17.6062		
Quadratic	0.0157	2.1641	2	270	0.1168	7.4388	0.0013	−6.3579E−07	
Cubic	0.0158	1.4473	3	269	0.2293	7.4137	0.0018	−2.8195E−06	2.3948E−09

Table 3. Model summary and parameter estimates of regression analysis in all destinations with quality average (Q) as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	0.1090	46.0051	1	376	4.5914E−11	7.4712	0.0043		
Logarithmic	0.2019	95.1389	1	376	3.4700E−20	4.8864	0.7095		
Inverse	0.1950	91.0936	1	376	1.7855E−19	8.5754	−41.0781		
Quadratic	0.1800	41.1597	2	375	6.9132E−17	7.1357	0.0102	−8.6992E−06	
Cubic	0.1971	30.6145	3	374	1.0171E−17	6.8474	0.0178	−4.825E−05	3.2759E−08
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1723	78.3070	1	376	3.5001E−17	7.2914	0.0059		
Logarithmic	0.1885	87.3766	1	376	8.1509E−19	5.1368	0.6276		
Inverse	0.1698	76.9322	1	376	6.2321E−17	8.4312	−37.1929		
Quadratic	0.1797	41.0799	2	375	7.3805E−17	7.1559	0.0086	−8.058E−06	
Cubic	0.1870	28.6865	3	374	1.0254E−16	6.9519	0.0144	−4.609E−05	5.8106E−08
Independent variable: Minimum price in high season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1583	50.9744	1	271	8.6048E−12	7.3381	0.0043		
Logarithmic	0.2549	92.7262	1	271	4.5675E−19	4.2449	0.7918		
Inverse	0.2381	84.7115	1	271	9.6659E−18	8.5873	−61.0279		
Quadratic	0.2640	48.4472	2	270	1.0496E−18	6.7607	0.0126	−1.7056E−05	
Cubic	0.2751	34.0419	3	269	1.1043E−18	6.4907	0.0181	−4.2984E−05	2.8905E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1885	62.9835	1	271	5.5373E−14	7.3108	0.0039		
Logarithmic	0.2415	86.3131	1	271	5.2225E−18	4.5131	0.7129		
Inverse	0.2120	72.9356	1	271	9.7899E−16	8.4935	−59.2934		
Quadratic	0.2330	41.0154	2	270	2.7906E−16	6.9405	0.0088	−9.5376E−06	
Cubic	0.2373	27.9002	3	269	9.6887E−16	6.7628	0.0123	−2.5049E−05	1.7011E−08

Table 4. Model summary and parameter estimates of regression analysis in all destinations with added value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1463	64.4652	1	376	1.2729E−14	0.0557	−0.0034		
Logarithmic	0.3071	166.7006	1	376	8.0496E−32	2.2425	−0.5959		
Inverse	0.2992	160.5439	1	376	6.9652E−31	−0.8585	34.6494		
Quadratic	0.2652	67.6985	2	375	7.9084E−26	0.3514	−0.0086	7.6674E−06	
Cubic	0.3264	60.4101	3	374	7.2272E−32	0.7220	−0.0184	5.852E−05	−4.2115E−08
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.2542	128.1962	1	376	9.0093E−26	0.2163	−0.0049		
Logarithmic	0.3186	175.8707	1	376	3.3872E−33	2.1525	−0.5556		
Inverse	0.2836	148.8921	1	376	4.4354E−29	−0.7605	32.7308		
Quadratic	0.3187	87.7143	2	375	5.6158E−32	0.4895	−0.0103	1.625E−05	
Cubic	0.3248	59.9807	3	374	1.1132E−31	0.6164	−0.0139	3.990E−05	−3.6140E−08
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1396	43.9818	1	271	1.7902E−10	0.0809	−0.0027		
Logarithmic	0.2524	91.5109	1	271	7.2228E−19	2.1941	−0.5365		
Inverse	0.2162	74.7877	1	271	4.6838E−16	−0.7254	39.6025		
Quadratic	0.3031	58.7304	2	270	6.6579E−22	0.5698	−0.0098	1.444E−05	
Cubic	0.3208	42.3524	3	269	1.8954E−22	0.8017	−0.0145	3.672E−05	−2.4837E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1805	59.6968	1	271	2.1597E−13	0.1112	−0.0026		
Logarithmic	0.2732	101.8816	1	271	1.5209E−20	2.1651	−0.5163		
Inverse	0.2228	77.7265	1	271	1.4664E−16	−0.6990	41.3926		
Quadratic	0.3103	60.7397	2	270	1.6533E−22	0.5421	−0.0083	1.1099E−05	
Cubic	0.3171	41.6434	3	269	3.8888E−22	0.6947	−0.0113	2.44232E−05	−1.4611E−08

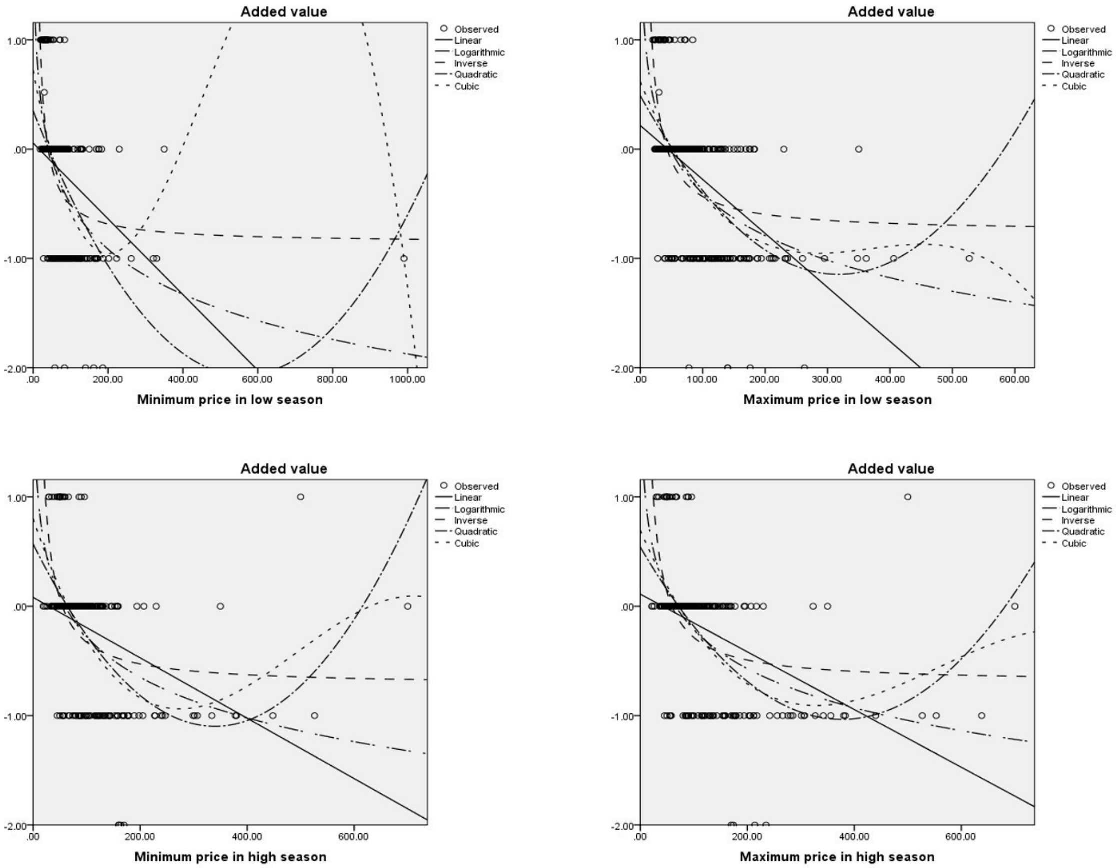

Figure 1. Functions of the regression analysis with the best fit in all destinations.

4.2. Gran Canaria Destination

The study carried out in the destination of Gran Canaria obtained very similar results. Table 5 shows that the models assessed with price and perceived value are not significant, because the adjusted R2 are very low, around zero. However, the average quality of service is directly related to price. The inverse (0.2085), cubic (0.2024), and logarithmic (0.1921) functions obtain the highest adjusted R2 at the lowest prices in low season (see Table 6). For the maximum price in low season, the inverse function obtains the highest adjusted R2 (0.1813), although the rest of the functions obtain similar results. For the lowest prices in high season, the cubic function has the best fit (0.2506), and for the highest prices in high season, the inverse function shows the best fit (0.2174), followed by the cubic function (0.2097). Regarding added value, Table 7 shows that this variable fits the three variables studied best. For the lowest prices in low season, the cubic function obtains the highest adjusted R2 (0.2839), as well as for the maximum prices in low season (0.2692), the lowest prices in high season (0.3410), and the highest prices in high season (0.3152). As the table shows, the adjusted R2 obtained are quite high, and the graphic representation of the functions that obtain the best fit to each type of price is shown in Figure 2.

Table 5. Model summary and parameter estimates of regression analysis in Gran Canaria destination with value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0035	0.8695	1	247	0.3520	7.7004	0.0005		
Logarithmic	0.0062	1.5510	1	247	0.2141	7.3304	0.1018		
Inverse	0.0061	1.5394	1	247	0.2158	7.8588	−5.8409		
Quadratic	0.0054	0.6692	2	246	0.5130	7.6531	0.0014	−1.1079E−06	
Cubic	0.0054	0.4493	3	245	0.7179	7.6398	0.0018	−3.0232E−06	1.5857E−09
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0027	0.6750	1	247	0.4121	7.6836	0.0007		
Logarithmic	0.0035	0.8907	1	247	0.3462	7.4346	0.0738		
Inverse	0.0049	1.2166	1	247	0.2710	7.8330	−4.9993		
Quadratic	0.0027	0.3380	2	246	0.7134	7.6893	0.0006	5.2965E−07	
Cubic	0.0042	0.3504	3	245	0.7888	7.5771	0.0044	−3.1134E−05	6.4340E−08
Independent variable: Minimum price in high season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0046	0.7881	1	168	0.3759	7.6281	0.0005		
Logarithmic	0.0117	1.9975	1	168	0.1594	7.0456	0.1412		
Inverse	0.0191	3.2858	1	168	0.0716	7.9040	−18.1871		
Quadratic	0.0094	0.7959	2	167	0.4528	7.5242	0.0019	−2.5973E−06	
Cubic	0.0179	1.0116	3	166	0.3890	7.3107	0.0059	−2.0666E−05	1.9315E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0039	0.6708	1	168	0.4139	7.6319	0.0004		
Logarithmic	0.0085	1.4504	1	168	0.2301	7.1710	0.1113		
Inverse	0.0155	2.6478	1	168	0.1055	7.8650	−16.0088		
Quadratic	0.0056	0.4765	2	167	0.6217	7.5730	0.0012	−1.4562E−06	
Cubic	0.0114	0.6397	3	166	0.5904	7.3914	0.0045	−1.5730E−05	1.5117E−08

Table 6. Model summary and parameter estimates of regression analysis in Gran Canaria destination with Q as dependent variable.

Equation	Model Summary					Parameter Estimates			
Independent Variable: Minimum Price in Low Season									
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0737	19.6726	1	247	1.3844E−05	7.6539	0.0031		
Logarithmic	0.1921	58.7520	1	247	4.0854E−13	5.1916	0.6657		
Inverse	0.2085	65.0814	1	247	3.1271E−14	8.6815	−39.9275		
Quadratic	0.1470	21.2127	2	246	3.1687E−09	7.3081	0.0094	−8.1015E−06	
Cubic	0.2024	20.7297	3	245	5.2888E−12	6.8376	0.0223	−7.5886E−05	5.6123E−08
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1364	39.0367	1	247	1.8079E−09	7.4010	0.0063		
Logarithmic	0.1789	53.8448	1	247	3.1178E−12	5.3318	0.6140		
Inverse	0.1813	54.6991	1	247	2.1831E−12	8.5365	−35.8205		
Quadratic	0.1718	25.5246	2	246	8.4552E−11	7.0778	0.0138	−2.9948E−05	
Cubic	0.1778	17.6674	3	245	2.0498E−10	6.8161	0.0228	−0.0001	1.5005E−07
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0888	16.3776	1	168	7.9019E−05	7.5324	0.0028		
Logarithmic	0.1947	40.6321	1	168	1.7055E−09	4.6540	0.7031		
Inverse	0.2456	54.7196	1	168	6.3123E−12	8.7971	−79.5819		
Quadratic	0.2062	21.6937	2	167	4.2136E−09	6.9027	0.0113	−1.5750E−05	
Cubic	0.2507	18.5166	3	166	2.0697E−10	6.3057	0.0226	−6.6269E−05	5.4002E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1150	21.8519	1	168	6.0173E−06	7.4829	0.0029		
Logarithmic	0.1907	39.6007	1	168	2.6116E−09	4.8675	0.6429		
Inverse	0.2174	46.6713	1	168	1.4729E−10	8.6620	−73.2698		–
Quadratic	0.1933	20.0173	2	167	1.6115E−08	6.9939	0.0092	−1.2090E−05	–
Cubic	0.2097	14.6874	3	166	1.5786E−08	6.6191	0.0161	−4.1543E−05	3.1191E−08

Table 7. Model summary and parameter estimates of regression analysis in Gran Canaria destination with added value as dependent variable.

Independent variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0989	27.1366	1	247	3.9981E−07	0.0074	−0.0023		
Logarithmic	0.2597	86.6519	1	247	7.3178E−18	1.8825	−0.5068		
Inverse	0.2807	96.4120	1	247	2.0021E−19	−0.7730	30.3368		
Quadratic	0.2008	30.9137	2	246	1.0548E−12	0.2743	−0.0072	6.253E−06	
Cubic	0.2839	32.3848	3	245	1.1467E−17	0.6518	−0.0175	6.0639E−05	−4.5030E−08
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.2053	63.8447	1	247	5.1439E−14	0.2199	−0.0050		
Logarithmic	0.2618	87.6059	1	247	5.1231E−18	1.8535	−0.4863		
Inverse	0.2544	84.3020	1	247	1.7691E−17	−0.6736	27.7887		
Quadratic	0.2682	45.0901	2	246	2.0731E−17	0.5020	−0.0116	2.6140E−05	
Cubic	0.2692	30.0890	3	245	1.3491E−16	0.5716	−0.0140	4.5770E−05	−3.9887E−08
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1080	20.3454	1	168	1.2095E−05	0.0692	−0.0020		
Logarithmic	0.2423	53.7399	1	168	9.2012E−12	2.1969	−0.5191		
Inverse	0.2805	65.5119	1	168	1.1125E−13	−0.8324	56.2817		
Quadratic	0.3037	36.4303	2	167	7.4170E−14	0.6073	−0.0093	1.346E−05	
Cubic	0.3410	28.6382	3	166	5.6257E−15	0.9689	−0.0161	4.4061E−05	−3.2712E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1484	29.2779	1	168	2.1315E−07	0.1133	−0.0022		
Logarithmic	0.2511	56.3402	1	168	3.3973E−12	2.1023	−0.4882		
Inverse	0.2550	57.5214	1	168	2.1694E−12	−0.7447	52.5227		
Quadratic	0.3040	36.4789	2	167	7.1706E−14	0.5696	−0.0081	1.1283E−05	
Cubic	0.3152	25.4768	3	166	1.3093E−13	0.7749	−0.0118	2.7414E−05	−1.7083E−08

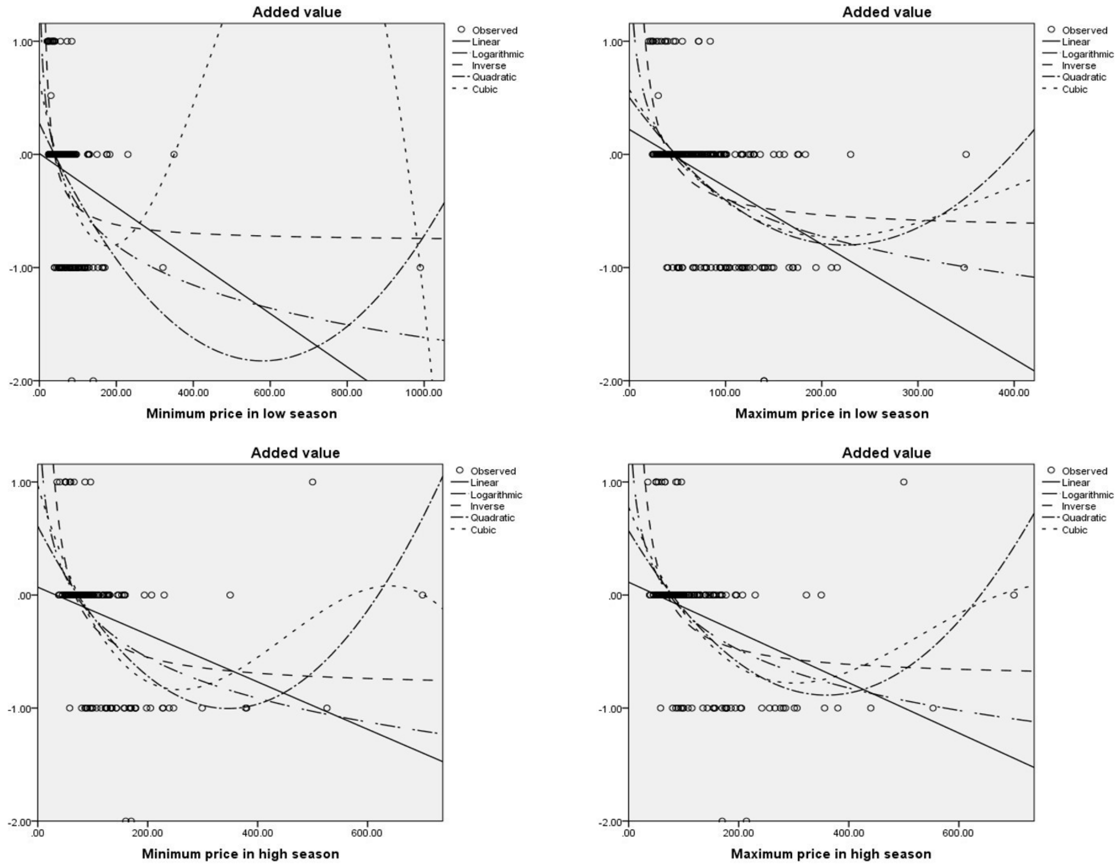

Figure 2. Functions of the regression analysis with the best fit in the Gran Canaria destination.

4.3. Tenerife Destination

The results obtained in the destination of Tenerife differ moderately with regard to the rest of the analyses carried out. In the case of the perceived value, Table 8 shows that it is still not directly related to lodging prices because it obtains adjusted R2 values close to zero. The differences are found in Table 9, where the adjusted R2 of the average service quality perceived is higher than those of value added at the lowest prices in low season (square and cubic function 0.3797), minimum prices in high season (cubic function 0.4982), and maximum prices in high season (cubic function 0.4480). On the other hand, the added value obtains the highest R2 adjusted in the cubic function of the maximum prices in low season (0.3869). However, Table 10 shows that the adjusted R2 obtained by the added value is very similar to those of the average perceived quality of service, as the inverse function obtained an adjusted R2 of 0.3632 in the lowest low season prices 0.4531 in the minimum high season prices, and 0.4411 in the maximum high season prices. The reason the average quality of the service perceived obtained somewhat higher results than the added value may be that the sample from the Tenerife destination was more concentrated in a certain offer of lodgings, whereas in Gran Canaria the types of accommodations and categories were more diverse. Figure 3 shows the graphs with the functions considered in the analysis, with the variables that achieved the best fit in each type of price studied.

Table 8. Model summary and parameter estimates of regression analysis in Tenerife destination with value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0551	4.5564	1	78	0.0359	7.3191	0.0032		
Logarithmic	0.0390	3.1723	1	78	0.0787	6.3240	0.2953		
Inverse	0.0178	1.4207	1	78	0.2368	7.8319	−15.4348		
Quadratic	0.0552	2.2515	2	77	0.1121	7.3019	0.0036	−1.1524E−06	
Cubic	0.0944	2.6423	3	76	0.0553	8.1653	−0.0208	0.0001	−3.7422E−07
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0464	3.8036	1	78	0.0547	7.3960	0.0018		
Logarithmic	0.0241	1.9308	1	78	0.1686	6.7210	0.1954		
Inverse	0.0065	0.5157	1	78	0.4748	7.7236	−9.1209		
Quadratic	0.0480	1.9420	2	77	0.1503	7.4613	0.0009	2.1727E−06	
Cubic	0.0830	2.2949	3	76	0.0845	7.9809	−0.0104	6.2391E−05	−8.0814E−08
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0498	3.1480	1	60	0.0810	7.4748	0.0021		
Logarithmic	0.0393	2.4608	1	60	0.1219	6.4575	0.2743		
Inverse	0.0204	1.2501	1	60	0.2679	7.9419	−19.9153		
Quadratic	0.0504	1.5657	2	59	0.2174	7.4253	0.0028	−1.8146E−06	
Cubic	0.0651	1.3480	3	58	0.2677	7.8466	−0.0063	5.0819E−05	−7.9687E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.03917	2.4460	1	60	0.1230	7.5338	0.0012		
Logarithmic	0.0194	1.1888	1	60	0.2799	6.9225	0.1666		
Inverse	0.0043	0.2650	1	60	0.6085	7.8026	−9.0007		
Quadratic	0.0422	1.3029	2	59	0.2794	7.6251	0.0001	1.9679E−06	
Cubic	0.0691	1.4363	3	58	0.2414	8.0664	−0.0077	3.6305E−05	−3.7547E−08

Table 9. Model summary and parameter estimates of regression analysis in Tenerife destination with Q as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.3713	46.0678	1	78	1.9945E−09	6.9922	0.0101		
Logarithmic	0.3635	44.5452	1	78	3.2608E−09	3.2114	1.0746		
Inverse	0.2919	32.1677	1	78	2.2965E−07	8.9580	−74.403		
Quadratic	0.3797	23.5716	2	77	1.0324E−08	6.7445	0.0149	−1.6596E−05	
Cubic	0.3797	15.5103	3	76	5.7908E−08	6.7462	0.0148	−1.6224E−05	−7.5378E−10
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.3734	46.4841	1	78	1.7456E−09	7.1680	0.0063		
Logarithmic	0.3633	44.5094	1	78	3.299E−09	3.7748	0.9045		
Inverse	0.2750	29.5949	1	78	5.9330E−07	8.7583	−70.4231		
Quadratic	0.3825	23.8568	2	77	8.6535E−09	6.9768	0.0091	−6.3599E−06	
Cubic	0.3827	15.7075	3	76	4.8399E−08	6.9372	0.0099	−1.0954E−05	6.1659E−09
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.4776	54.8651	1	60	5.0470E−10	7.1396	0.0074		
Logarithmic	0.4872	57.0143	1	60	2.8671E−10	2.9517	1.0990		
Inverse	0.4022	40.3817	1	60	3.1175E−08	9.1423	−100.719		
Quadratic	0.4966	29.1129	2	59	1.5993E−09	6.8076	0.0123	−1.2185E−05	
Cubic	0.4982	19.1975	3	58	9.1091E−09	6.6527	0.0157	−3.1538E−05	2.9300E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.4390	46.9604	1	60	4.4576E−09	7.2973	0.0048		
Logarithmic	0.4250	44.3533	1	60	9.4877E−09	3.7739	0.8880		
Inverse	0.3231	28.6500	1	60	1.4350E−06	8.8753	−87.8931		
Quadratic	0.4474	23.8903	2	59	2.5095E−08	7.1266	0.0069	−3.6785E−06	
Cubic	0.4480	15.6911	3	58	1.3791E−07	7.0554	0.0082	−9.2231E−06	6.0629E−09

Table 10. Model summary and parameter estimates of regression analysis in Tenerife destination with added value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.2571	26.9946	1	78	1.5889E−06	0.2787	−0.0063		
Logarithmic	0.3426	40.6494	1	78	1.1818E−08	3.1244	−0.7820		
Inverse	0.3632	44.5023	1	78	3.3066E−09	−1.1721	62.2094		
Quadratic	0.3349	19.3886	2	77	1.5149E−07	0.8426	−0.0171	3.7783E−05	
Cubic	0.3574	14.0909	3	76	2.1585E−07	1.4275	−0.0337	0.0001	−2.5349E−07
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.2641	27.9940	1	78	1.0847E−06	0.1739	−0.0039		
Logarithmic	0.3810	48.0112	1	78	1.0748E−09	2.8790	−0.6943		
Inverse	0.3924	50.3826	1	78	5.1228E−10	−1.0560	63.0542		
Quadratic	0.3670	22.3310	2	77	2.2460E−08	0.6541	−0.0109	1.5975E−05	
Cubic	0.3869	15.9918	3	76	3.7423E−08	1.0041	−0.0186	5.6537E−05	−5.4435E−08
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.2956	25.1873	1	60	4.9383E−06	0.2344	−0.0045		
Logarithmic	0.4154	42.6368	1	60	1.5771E−08	3.3415	−0.7922		
Inverse	0.4531	49.7193	1	60	2.0458E−09	−1.2474	83.4526		
Quadratic	0.4178	21.1723	2	59	1.1722E−07	0.8907	−0.0143	2.4089E−05	
Cubic	0.4378	15.0554	3	58	2.3208E−07	1.3262	−0.0238	7.8503E−05	−8.2382E−08
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.2794	23.2725	1	60	1.0019E−05	0.1433	−0.0030		
Logarithmic	0.4146	42.4971	1	60	1.6444E−08	2.9593	−0.6847		
Inverse	0.4411	47.3589	1	60	3.9782E−09	−1.1019	80.1646		
Quadratic	0.4065	20.2055	2	59	2.0691E−07	0.6607	−0.0092	1.1153E−05	
Cubic	0.4314	14.6723	3	58	3.1903E−07	1.0391	−0.0160	4.0592E−05	−3.2191E−08

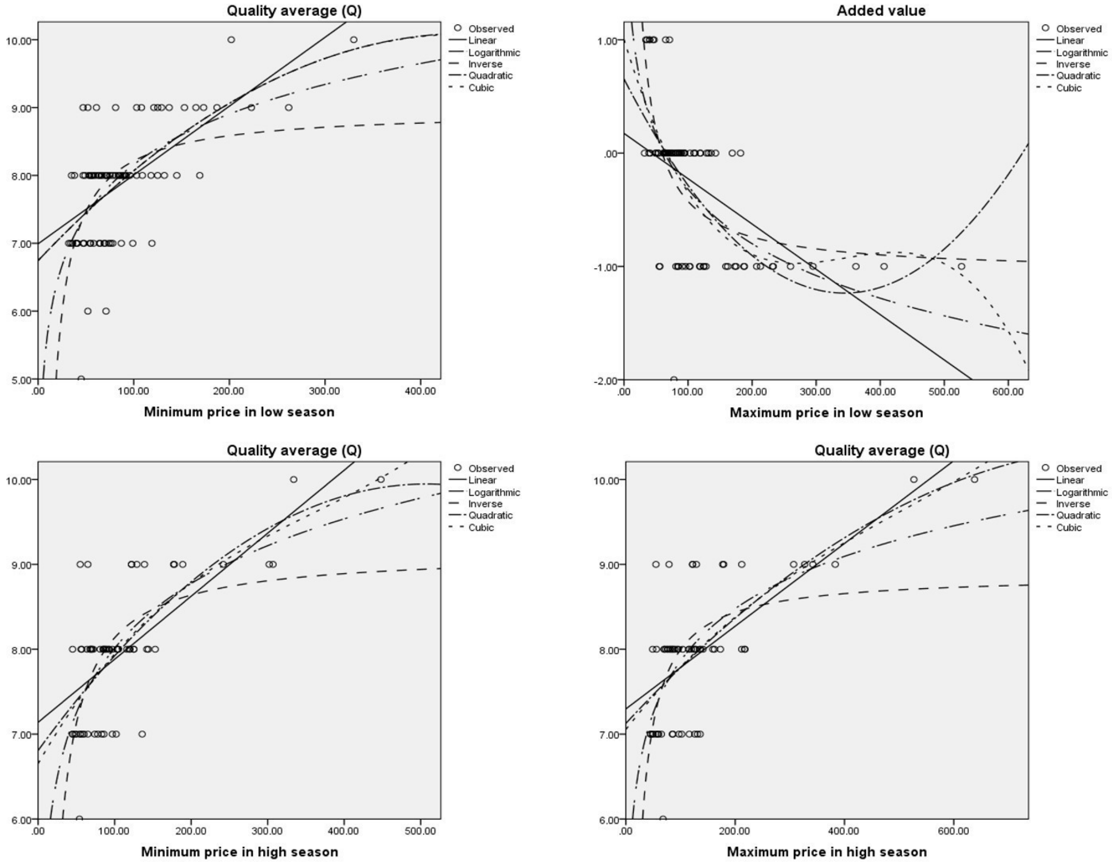

Figure 3. Functions of the regression analysis with the best fit in the Tenerife destination.

4.4. Agadir Destination

Finally, the results obtained from the regression analysis in the Agadir destination highlight the great difference in value added compared to the other two variables studied. In this destination, Table 11 shows once again that the perceived value is not related to the prices studied because the adjusted R2 are close to zero. It should also be noted that the adjusted R2 achieved by the average quality of service were particularly low, with the adjusted R2 of the cubic function for the maximum prices in the low season reaching only 0.1999 (see Table 12). In contrast, the adjustments attained by the added value variable were very high compared to the rest of the regressions carried out. Table 13 shows that the cubic function reaches an adjusted R2 of 0.5419 at the lowest prices in low season, followed very closely by the quadratic (0.5393) and linear (0.5372) functions. For the maximum prices in low season, the cubic function also obtains the best fit 0.5344, as well as ford the minimum prices in high season (0.534) and the maximum prices in high season (0.5125). It is necessary to emphasize that the quadratic and linear functions have also acquired some high adjusted R2 close to those of the quadratic function. The graphic summary of the results obtained in the Agadir destination is shown in Figure 4, where the added value is the variable that obtained the best results in all the regressions carried out.

Table 11. Model summary and parameter estimates of regression analysis in Agadir destination with value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0460	2.2672	1	47	0.1388	7.2969	−0.0049		
Logarithmic	0.0372	1.8179	1	47	0.1840	8.2652	−0.3211		
Inverse	0.0173	0.8313	1	47	0.3665	6.7363	11.6060		
Quadratic	0.0462	1.1158	2	46	0.3363	7.3460	−0.0064	7.9187E−06	
Cubic	0.0574	0.9141	3	45	0.4417	6.7045	0.0231	−0.0003	1.2748E−06
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0324	1.5786	1	47	0.2151	7.2255	−0.0031		
Logarithmic	0.0278	1.3479	1	47	0.2515	8.0222	−0.2504		
Inverse	0.0131	0.6259	1	47	0.4328	6.7923	10.1275		
Quadratic	0.0376	0.8988	2	46	0.4140	7.3865	−0.0070	1.6384E−05	
Cubic	0.0768	1.2480	3	45	0.3035	6.5085	0.0265	−0.0003	8.1339E−07
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0556	2.2971	1	39	0.1376	7.3517	−0.0056		
Logarithmic	0.0447	1.8259	1	39	0.1843	8.4196	−0.3562		
Inverse	0.0161	0.6411	1	39	0.4281	6.7539	11.0641		
Quadratic	0.0581	1.1739	2	38	0.3201	7.5266	−0.0108	2.9510E−05	
Cubic	0.0958	1.3067	3	37	0.2867	6.0971	0.0577	−0.0008	3,3711E−06
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0320	1.2911	1	39	0.2627	7.2459	−0.0033		
Logarithmic	0.0280	1.1249	1	39	0.2953	8.0673	−0.2586		
Inverse	0.0101	0.3992	1	39	0.5311	6.8189	8.9723		
Quadratic	0.0386	0.7633	2	38	0.4731	7.4564	−0.0085	2.3749E−05	
Cubic	0.0568	0.7440	3	37	0.5326	6.7625	0.0182	−0.0002	7.3379E−07

Table 12. Model summary and parameter estimates of regression analysis in Agadir destination with Q as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1196	6.3905	1	47	0.0148	6.7114	0.0076		
Logarithmic	0.1372	7.4781	1	47	0.0087	4.8283	0.5935		
Inverse	0.1444	7.9325	1	47	0.0070	7.8788	−32.1967		
Quadratic	0.1261	3.3196	2	46	0.0450	6.4722	0.0148	−3.85953E−05	
Cubic	0.1511	2.6707	3	45	0.0587	5.5484	0.0573	−0.000568131	1.83582E−06
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.1212	6.4850	1	47	0.0142	6.7468	0.0058		
Logarithmic	0.1332	7.2229	1	47	0.0099	5.0105	0.5269		
Inverse	0.1376	7.5042	1	47	0.0086	7.7873	−31.5490		
Quadratic	0.1215	3.1822	2	46	0.0507	6.7097	0.0067	−3.7774E−06	
Cubic	0.1999	3.7491	3	45	0.0173	5.5146	0.0525	−0.0004	1.1072E−06
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0636	2.6516	1	39	0.1114	6.8712	0.0059		
Logarithmic	0.0601	2.4954	1	39	0.1222	5.6161	0.4076		
Inverse	0.0651	2.7186	1	39	0.1072	7.7073	−21.9129		
Quadratic	0.0712	1.4568	2	38	0.2456	7.1674	−0.0029	4.9962E−05	
Cubic	0.1026	1.4112	3	37	0.2548	5.8773	0.0589	−0.0007	3.0422E−06
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.0810	3.4414	1	39	0.0711	6.8440	0.0052		
Logarithmic	0.0637	2.6548	1	39	0.1112	5.6442	0.3847		
Inverse	0.0577	2.3909	1	39	0.1301	7.6374	−21.1370		
Quadratic	0.1012	2.1413	2	38	0.1314	7.2081	−0.0038	4.1054E−05	
Cubic	0.1147	1.5981	3	37	0.2063	6.6211	0.0188	−0.0001	6.2069E−07

Table 13. Model summary and parameter estimates of regression analysis in Agadir destination with added value as dependent variable.

Independent Variable: Minimum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.5372	54.5699	1	47	2.1206E−09	0.6031	−0.0131		
Logarithmic	0.5129	49.5062	1	47	7.2063E−09	3.4867	−0.9322		
Inverse	0.4050	31.9954	1	47	8.8775E−07	−1.1630	43.8132		
Quadratic	0.5393	26.9345	2	46	1.8051E−08	0.7149	−0.0165	1.8054E−05	
Cubic	0.5419	17.7458	3	45	9.5782E−08	0.9537	−0.0275	0.0001	−4.7446E−07
Independent Variable: Maximum Price in Low Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.5206	51.0516	1	47	4.9270E−09	0.5250	−0.0098		
Logarithmic	0.4963	46.3173	1	47	1.6117E−08	3.1954	−0.8265		
Inverse	0.3849	29.4180	1	47	1.9809E−06	−1.0373	42.8646		
Quadratic	0.5310	26.0459	2	46	2.7282E−08	0.7044	−0.0142	1.8262E−05	
Cubic	0.5344	17.2170	3	45	1.3727E−07	0.5035	−0.0065	−5.5315E−05	1.8612E−07
Independent Variable: Minimum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.4724	34.9318	1	39	6.8996E−07	0.5043	−0.0118		
Logarithmic	0.4074	26.8126	1	39	7.1292E−06	2.8760	−0.7818		
Inverse	0.2934	16.1975	1	39	0.0002	−0.9791	34.2648		
Quadratic	0.4878	18.1005	2	38	3.0067E−06	0.1927	−0.0025	−5.2558E−05	
Cubic	0.5125	12.9684	3	37	6.1163E−06	1.0345	−0.0429	0.0004	−1.9850E−06
Independent Variable: Maximum Price in High Season									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	0.4676	34.2571	1	39	8.2890E−07	0.4580	−0.0092		
Logarithmic	0.3903	24.9659	1	39	1.2659E−05	2.6687	−0.7016		
Inverse	0.2683	14.3017	1	39	0.0005	−0.8789	33.5680		
Quadratic	0.4753	17.2124	2	38	4.7645E−06	0.2925	−0.0051	−1.8664E−05	
Cubic	0.4760	11.2036	3	37	2.2535E−05	0.1948	−0.0013	−5.6289E−05	1.0326E−07

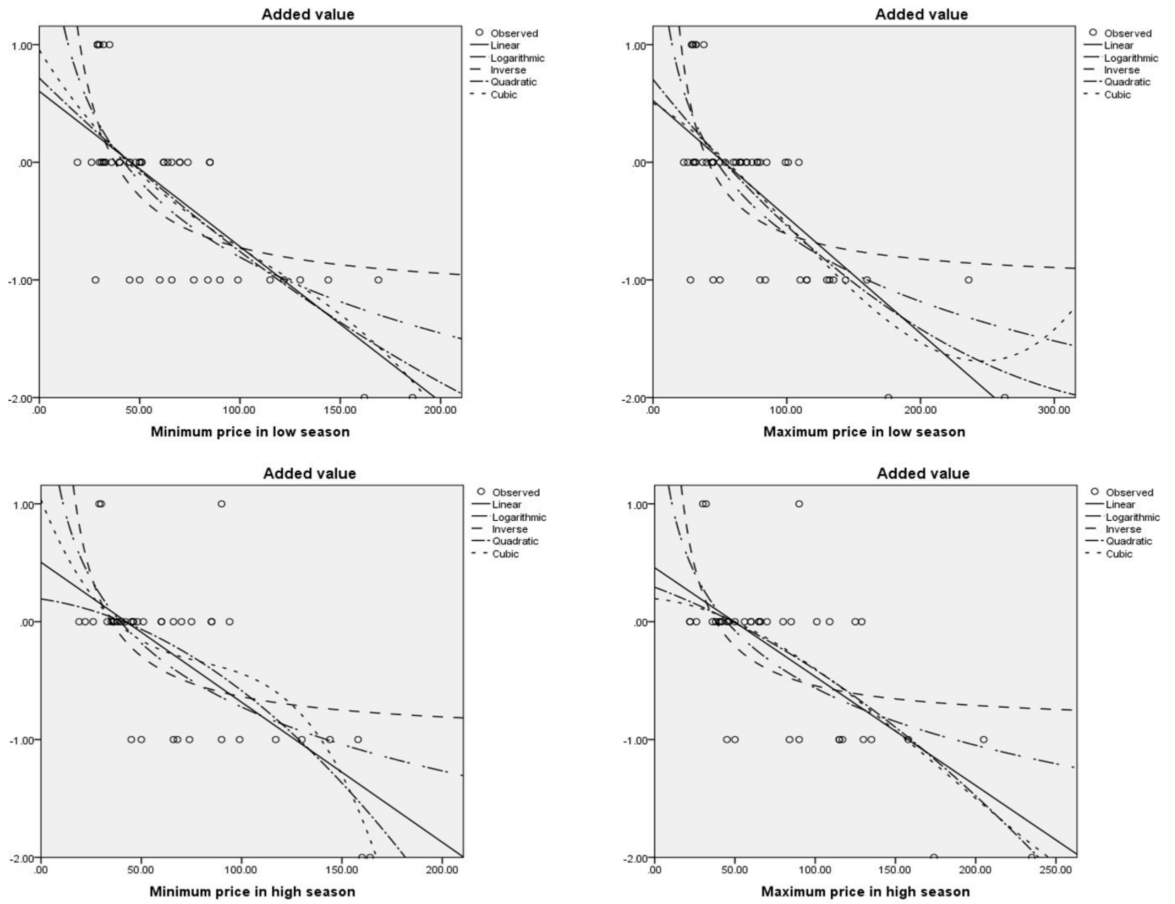

Figure 4. Functions of the regression analysis with the best fit in the Agadir destination.

5. Conclusions

The study presents a method for determining which online reputation variables are most closely related to lodging prices. This is a critical factor in the pricing process in the highly dynamic and competitive environment of the digital age. Online reputation has a direct influence on consumers' buying behavior and, therefore, on the demand for each lodging. At the same time, a price that does not match the quality of service level offered can have an impact on the creation of customer expectations, which, when frustrated, will reinforce the devaluation of online reputation.

Price is a variable that is inversely related to perceived value (Holbrook 1994) and, consequently, to added value, which is calculated by subtracting the average service quality perceived from the perceived value (Rodríguez-Díaz et al. 2015). However, price is also directly related to average quality of the service perceived because an increase in quality offered by a lodging normally involves a higher cost, which affects prices. This is the starting point for the study carried out in this article, to try to determine which online reputation variable is most related to price. In the tourism sector, demand tends to fluctuate over different periods of time, which is the reason for obtaining information about maximum and minimum prices in high season and low season.

The results demonstrate that added value is the variable with the best fit in the different statistical analyses carried out. The only exception was in the destination of Tenerife, where the average quality of service showed the best fit in three of the four types of prices studied, possibly because the lodgings analyzed in Tenerife may be more focused on similar competitive characteristics. However, this is a hypothesis that should be studied in future research. Another result that must be highlighted is that in the Agadir destination, the added value variable obtained a much higher adjusted R2 than the other variables. The finding that the perceived value variable did not maintain a relationship with price was unexpected. Moreover, all adjustments were close to zero, whereas added value, which is calculated on the basis of perceived value minus perceived service quality, was not only related to price but was also higher than average quality of service. Future research should contrast these results, because perceived value should also be related to lodging prices.

The functions that obtained the best results are cubic and quadratic. However, the results of logarithmic and inverse functions also achieved significant adjustments. The linear function obtained disparate results, whereas in all destinations and Gran Canaria it did not obtain satisfactory results, and in the destinations of Tenerife and Agadir it achieved high fits for the variables of average perceived quality of service and added value. Therefore, it can be concluded that the added value variable is the one most closely related to the different types of prices and tourist destinations, with cubic and quadratic functions being the most suitable. However, logarithmic and inverse functions can also be used to determine the relationship between prices and value added and average quality of service of lodgings in the tourist destinations analyzed.

This study makes a contribution from the competitive perspective of lodging, trying to determine the relationship and possible functions that best represent the relationships between prices and online reputation. In this context, it is of great interest the results obtained insofar as the methodology can be used in order to develop an artificial intelligence that determines the competitive prices at every moment of the accommodations. However, it has limitations that should be taken into account in future research. First, four types of prices were considered, differentiating between the high season and low season. However, prices may have more modifications than those studied, and so future research could analyze this aspect in more detail. Second, three competing tourist destinations in the sun and beach segment were examined. In this context, it would be interesting to carry out investigations in destinations with other characteristics, in order to determine whether there are significant relationships between price and online reputation. Third, the study did not differentiate the lodgings by category, which is also a highly price-related variable. It is possible that differentiating lodgings by category would produce different results where the average perceived service quality achieved the best fit, as occurred in the destination of Tenerife. Finally, value added is a new variable that has shown a strong relationship with price. It would be very interesting if this close relationship could be verified in other destinations and price levels.

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