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## Article

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Article

# A Rating of the Online Reputation Balance in Lodgings

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**Abstract:** Online reputation is a strategic aspect of lodgings' image and commercialization. Websites containing tourism reviews have increased their influence on customers' decisions, leading to the effective management of Internet social media accounts. Customer evaluations of lodgings vary across websites because of differences in the scales used, the variables measured, and the reliability of opinions. The diverse information available on the Internet can produce communication problems in lodgings because the evaluations on online portals can differ. The objective of this paper is to propose an indicator to establish the rating of the online reputation balance, so that lodgings can determine the level of coherence of their communication and image on the Internet. One target for lodging community managers should be to converge different evaluations around a similar value that defines a coherent and real online reputation. The indicator proposed is tested on lodgings of distinct categories in different tourism destinations. Among the aims of the study is to try to provide a simple and practical method for directors to improve the management of hotel communication on the Internet. This is an issue for which research should propose methodologies because it is a new challenge for the competitiveness of accommodations.

**Keywords:** online reputation; lodging; tourism destination; community manager; customer online review; rating of online reputation

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## 1. Introduction

The consolidation of digital technology in tourism is influencing the communication and image strategies of lodgings and destinations (Law et al. 2014; Rodríguez-Díaz et al. 2015; Kim and Park 2017; Baka 2016). Tourists' online reviews and the appearance of new Internet sales channels (Mauri and Minazzi 2013; Ye et al. 2014) have had a strong impact. Social media allow travelers to share information about their experiences, influencing the decision-making process of tourism customers (Chan and Guillet 2011; Cantallops and Salvi 2014).

Social media distributes tourist information through different platforms, such as review websites (e.g., Booking.com, TripAdvisor, HolidayCheck, Expedia.com, Hotels.com), social networks (e.g., Facebook, Instagram, Twitter, YouTube), and leading opinion blogs (Kim and Park 2017). These platforms share experiences, evaluations, conversations, images, and information (Chan and Guillet 2011), offering a new way to promote word-of-mouth communication through the Internet (E-WOM) (Filiari and McLeavy 2014; Chen et al. 2011; Leung et al. 2013; Chevalier and Mayzlin 2006; Litvin et al. 2008).

Consumer experience shared on the Internet generates a current of opinions that create the online reputation and image of lodgings and tourism destinations, which affects customers' behavioral

decision processes (Liu et al. 2013; Park and Allen 2013; Sparks and Browning 2011; Aureli and Supino 2017). The importance of reputation today is such that Capraro et al. (2016) affirms it plays an important role in human societies and influences cooperative behavior in addition to the evolution of relationships. The demand influences the performance of firms in terms of revenue and customers' level of satisfaction and fidelity (Chevalier and Mayzlin 2006; Vermeulen and Seegers 2009; Ye et al. 2011; Kim et al. 2015; Lee and Ro 2016; Anderson 2012; Luca 2011; Noone et al. 2011; Ye et al. 2009). Customer satisfaction evaluations have been considered key tools in the financial performance of lodgings (Pizam and Ellis 1999; Chi and Gursoy 2009). Nowadays, the measure of the results of tourist companies in terms of customer evaluations has moved to specialized websites, such as Booking.com or TripAdvisor, where the price policy is defined moment to moment depending on the evolution of the market (Rodríguez-Díaz et al. 2015).

The information from online customer reviews can be divided into two categories: quantity and quality. The number of comments made generally or about a specific attribute determines the quantity of data available. The service quality is the main information collected on the most influential websites (Wirtz and Chew 2002). The dimensions used to measure service quality are attitudinal variables usually rated on numerical scales (Ye et al. 2014). Furthermore, online customer reviews also include comments and quality evaluations that are studied using content analysis to establish the customers' satisfaction with lodgings, destinations, or services (Li et al. 2013; O'Connor 2010).

Therefore, lodgings and destinations need a solid and coherent online reputation in order to obtain their communication, image, and income objectives (Hernández Estárico et al. 2012). In this context, the main problem tourism companies face is the definition of communication management in different channels. The E-WOM is now an essential aspect of the competitiveness of accommodations because it influences the image they communicate and their ability to attract customers, which has a direct impact on the financial results of companies in the tourism sector. E-WOM is transmitted through different channels, which means that managers must act adequately to maintain a competitive and clearly defined image (Ladhari and Michaud 2015; Micera and Crispino 2017; Wahab et al. 2015; Raguseo and Vitari 2017; Yang et al. 2016; Pourabedin and Migin 2015; Bataineh 2015; Cantalops and Salvi 2014; Inversini et al. 2009; Mauri and Minazzi 2013). Thus, the new rating of the online reputation balance (RORB) indicator is proposed. The aim of this indicator is to measure the degree of coherence and homogeneity of the quantitative communication of accommodations in the different communication channels used on the Internet by users. The online reputation balance establishes the degree to which the communication transmitted by a particular accommodation or group of accommodations in a destination is similar in the different channels used by customers to form an opinion that influences their decisions about acquiring a tourist package. In this context, the RORB is determined as the coefficient of variation of the quantitative online evaluations expressed as a percentage. In this regard, some authors are analyzing the effect that the online reputation of accommodations and complementary services has on the image of tourist destinations on the Internet (Micera and Crispino 2017; Wahab et al. 2015; Raguseo and Vitari 2017; Yang et al. 2016; Pourabedin and Migin 2015; Bataineh 2015; Cantalops and Salvi 2014; Inversini et al. 2009).

In this study, the research focuses on the analysis of quantity online customer reviews on specific websites. Thus, the coherence of the consumers' evaluation is a key driver of the image and income performance of lodging firms. The question is what types of scales, variables, and methodology are applied by websites to establish the online reputation scores for hospitality companies (Rodríguez-Díaz and Espino-Rodríguez 2018a, 2018b).

In this context, Rodríguez-Díaz et al. (Rodríguez-Díaz et al. 2018a), in their online reputation gap analysis model, formulate the need to transmit coherent communication, which they conceptualize as a specific gap that should reduce the offer of lodging and services in tourist destinations (gap 2). This study is based on this model because communication is a strategic aspect of the competitiveness of companies and destinations that, through their online reputation, are constantly transmitting updated assessments of the quality of service and value perceived by users. The economic sustainability of accommodations

and destinations today depends on their communication with customers (Rodríguez-Díaz and Rodríguez 2016), which, through the Internet, is reflected in a solid and coherent online reputation. The online reputation also considers customers' qualitative assessments of the sustainable practices of their accommodations and destinations. In fact, the quantitative assessment of facilities includes energy and environmental sustainability as a customer requirement. However, a variable that specifically measures the sustainability of the accommodation might also be included in the scales.

This paper has the aim of developing a method to determine the rating of the online reputation balance, in order to assess the level of similarity and coherence of customer evaluations on different websites. Furthermore, the method is empirically applied to the lodgings in three tourist destinations (South of Gran Canaria-Spain, South of Tenerife-Spain, and Agadir-Morocco). Therefore, the objectives formulated in this study are the following:

1. Define an indicator (RORB) to establish the dispersion level of the lodgings' online reputation on the three websites studied. Hence, lodgings with convergent scores on a similar average will be considered to have a balanced online reputation, whereas lodgings with significant dispersion will have an unbalanced online reputation. This indicator is a method to measure coherence gap 2 formulated by Rodríguez-Díaz et al. (Rodríguez-Díaz et al. 2018a) when online reputation is assessed in quantitative terms.
2. Determine the level of RORB of the customer evaluations on Booking.com, TripAdvisor, and HolidayCheck according to the average, standard deviation, and category of the lodgings in the tourism destination analyzed. Likewise, the study will test whether there are significant differences between destinations in their RORBs, in order to determine whether a destination's accommodation offer communicates a consistent image and online reputation.

To obtain these objectives, the study begins with a literature review, presenting the main theoretical concepts used in the statistical analysis. Then, the methodology applied is presented, where the most relevant problem to solve is the transformation of the measurement scales used by the websites. With the adaptation of the scales, the RORB indicator will be calculated. The analysis of results is presented in the next section, first studying each destination independently, and then performing an analysis. A one-way ANOVA is carried out to determine the differences between destinations' means on the RORBs. The paper ends with the main conclusions drawn from the study.

## 2. Literature Review

A company's online reputation is mainly composed of a set of reviews, experiences, evaluations, comments, emotions, photos, and videos shared by customers on the Internet about goods, services, or brands (Hernández Estárico et al. 2012). Therefore, the online reputation can be considered an activity performed by customers in an external environment, beyond the direct control of firms (Xiang and Gretzel 2010). The interrelationships with consumers allow companies to counteract negative comments and stimulate favorable opinions about their goods, services, brands, and image (Gössling et al. 2016).

In tourism, the online reputation conditions the communication strategy of firms, influencing the image, sales, and financial performance (Li et al. 2013; Dinçer and Alrawadieh 2017). The visibility in Internet and the positioning on key websites such as Booking.com, TripAdvisor, and HolidayCheck influence lodgings' competitiveness. The implications of online customer reviews have been studied in relation to consumer behavior, performance (Rodríguez-Díaz et al. 2015; Vermeulen and Seegers 2009; Ye et al. 2011; Kim et al. 2015; Lee and Ro 2016; Rodríguez-Díaz et al. 2018b), price strategies, revenue management (Varini and Sirsi 2012; Yacouel and Fleischer 2012), satisfaction, and the service quality delivery (Ye et al. 2014; Hernández Estárico et al. 2012; Hu et al. 2008; Mudambi and Schuff 2010; Horster and Gottschalk 2012; Chun 2005; Grönroos 2007).

The online reputation is defined by Einwiller (Einwiller 2003) as the communicative and interactive processes of exchanging information among actors on social media. The communication strategy of

lodgings must focus on the trustworthiness and credibility of the information shared by customers (Ladhari and Michaud 2015; Sparks and Browning 2011). Gössling et al. (2016) defines trust in terms of the reliability of online contents, whereas credibility deals with the honesty of the online reviews by customers. Along the same lines, Yacouel and Fleischer (2012) consider trustworthiness and credibility to be basic elements in the online reputation of hospitality firms, which must avoid false or tendentious evaluations and comments.

One of the problems with using quantitative variables to measure the online reputation is the extent to which this information is reliable and valid. This line of research is being developed and has an impact on the RORB because the information handled by researchers and directors must be truthful. The trust and credibility of the information available on websites containing online customer reviews depends on the reliability and validity of the measurement scales used and the coherence of the evaluations on the different platforms. The level of internal consistency between different measures of a dimension establishes the reliability of the scales (Bagozzy 1996; Hair et al. 1999). Moreover, the validity verifies the degree to which a measure represents the concept analyzed (Hair et al. 1999; Hayes 1992) and the most accepted types of validity are convergent, discriminant, predictive, and nomological (Bagozzy 1996). However, Rodríguez-Díaz and Espino-Rodríguez (2018a, 2018b) showed that in some cases these indicators do not guarantee the validity of scales and instead defined a new scale called the validity of similarities or differences between goods or services, which was tested in different tourist destinations.

In relation to the reliability and validity of the scales used by Booking.com, TripAdvisor, and HolidayCheck, Rodríguez-Díaz and Espino-Rodríguez (2018a, 2018b) demonstrated that the lodging evaluations on the three tourism websites are reliable and valid following the traditional statistic method. Nevertheless, only Booking.com accomplishes this with the new validity scale because it is the only website that uses variables that detect significant differences between destinations.

Based on the results of these investigations, it can be confirmed that the information used to validate the RORB is reliable and valid on these websites. However, another decisive concept in evaluating the online reputation of lodgings is the degree of coherence of the evaluations available in different communication channels like the platforms analyzed. In this context, a new concept called the rating of online reputation balance (RORB) is formulated in this study. RORB is defined as the level of coherence communicated by a firm, brand, or product through different Internet channels. The method used to calculate this indicator is the coefficient of variation of the online reputation scales analyzed, valued as a percentage.

The main objective of this paper is to develop a methodology to calculate the RORB. The method proposed in this article is a means of establishing the coherence gap that service companies should reduce in order to improve competitiveness through their online reputation (Rodríguez-Díaz et al. 2018a). The problems to solve are related to the variables, constructs, and sizes of the scales evaluated in the websites. Most of the variables used measure the service quality construct (Ye et al. 2014; Rodríguez-Díaz and Espino-Rodríguez 2018a; Parasuraman et al. 1988). Nevertheless, there is a single variable included in these scales that measures the perceived value concept. Only HolidayCheck does not consider this dimension, but it can be substituted by the variable recommendation percentage (Micera and Crispino 2017). Rodríguez-Díaz et al. (2015) proposed a method to measure the added value of lodgings by finding the difference between the perceived value and the service quality.

The value concept is directly related to service quality and inversely related to the price of goods or services bought by customers (Parasuraman et al. 1988; Holbrook 1994; Oliver 1997; Rust and Oliver 1994; Zeithaml 1988; Gallarza et al. 2011; Nasution and Mavondo 2008; Oh 2000; Sparks et al. 2008). Value has been studied in tourism in relation to the predictive validity of scales (Rodríguez-Díaz and Espino-Rodríguez 2018a, 2018b), satisfaction of customers (Li et al. 2013; Chadee and Mattsson 1996; Baker and Crompton 2000; Fuller et al. 2006; Nam et al. 2011; Oh and Kim 2017), competitive positioning of lodgings (Rodríguez-Díaz et al. 2018b), and added value (Rodríguez-Díaz et al. 2015; Jeong 2002). Although value is a construct measured by a scale of



variables (Gallarza and Saura 2006; Sweeney et al. 1999; Oh 1999; Xie et al. 2014), in tourism normally only one variable is used due to the small size of the scales employed on the tourism websites (Prebensen et al. 2012).

In conclusion, the online reputation on the websites analyzed is measured through quantitative scales of variables that must be trustworthy and credible. The statistical methodology applies the analysis of the reliability and validity of scales in order to determine their capacity to evaluate the constructs measured. Furthermore, the coherence level of the online reputation through different communication channels is also critical in designing and implementing a marketing strategy on tourism websites and social media. The marketing actions will be aimed at promoting a solid brand image in all the communication channels, encouraging customers to share their experiences as a way to enhance online reputation, capture demand, and improve competitive positioning. In the following section, a methodology and empirical study are carried out to assess the level of coherence of the online reputation of lodgings by means of the RORB.

### 3. Research Methodology

To carry out the research, a sample of lodgings with different categories was selected in three tourism destinations: 136 lodgings in the South of Gran Canaria (Canary Islands, Spain), 49 in the South of Tenerife (Canary Islands, Spain), and 38 in Agadir (Morocco). The condition for selecting the hospitality complexes was that they had to be evaluated on the tourism websites of [Booking.com](#), [TripAdvisor](#), and [HolidayCheck](#). This restriction meant that the number of accommodations under study was reduced because there were relevant accommodations that were not marketed through [Booking.com](#). The total number of customer comments used by the online portals to measure the online reputation of lodgings was 57.919 in [Booking.com](#), 102.794 in [TripAdvisor](#), and 49.973 in [HolidayCheck](#), respectively.

The Canary Islands receive 12 million tourists (ISTAC 2017) per year, of whom 4 million go to Gran Canaria and 5 million visit Tenerife Island. Moreover, Agadir and the region of Souss Massa Drâa receive 4 million tourists (ICCEX 2011). Both destinations are specialized in sun and beach tourism because they are located very close to the Atlantic Ocean near the Tropic of Cancer. The distance between the Canary Islands and Agadir is 420 km.

The methodology to follow in determining the RORB is presented in Figure 1. The first step is to analyze the variables on the scales used by the websites. It is crucial to obtain information about the most relevant variables measuring the attributes of the lodgings. The second step deals with the constructs measured in order to achieve significant internal coherence of the variables. The third step is to homogenize the size of the scales because [Booking.com](#) utilizes a 10-point scale (1 = very poor evaluation; 10 = excellent), whereas [TripAdvisor](#) uses a 5-point scale (1 = very poor evaluation; 5 = excellent), and [HolidayCheck](#) has opted for a 6-point scale (1 = very poor evaluation; 6 = excellent). [Mellinas et al. \(2015\)](#) established that [Booking.com](#) actually uses a 4-point scale, which is adapted to a new 10-point scale where the minimum value is 2.5. The fourth step consists of calculating the average of the constructs homogenized from the websites. The fifth step is to calculate the standard deviation of each construct. Finally, the RORB is calculated by the coefficient of variation, dividing the standard deviation by the average, and obtaining a percentage of deviation that defines the level of coherence of the online reputation on different websites. All the variables and indicators have been calculated individually for each accommodation and aggregated for each category and destination.

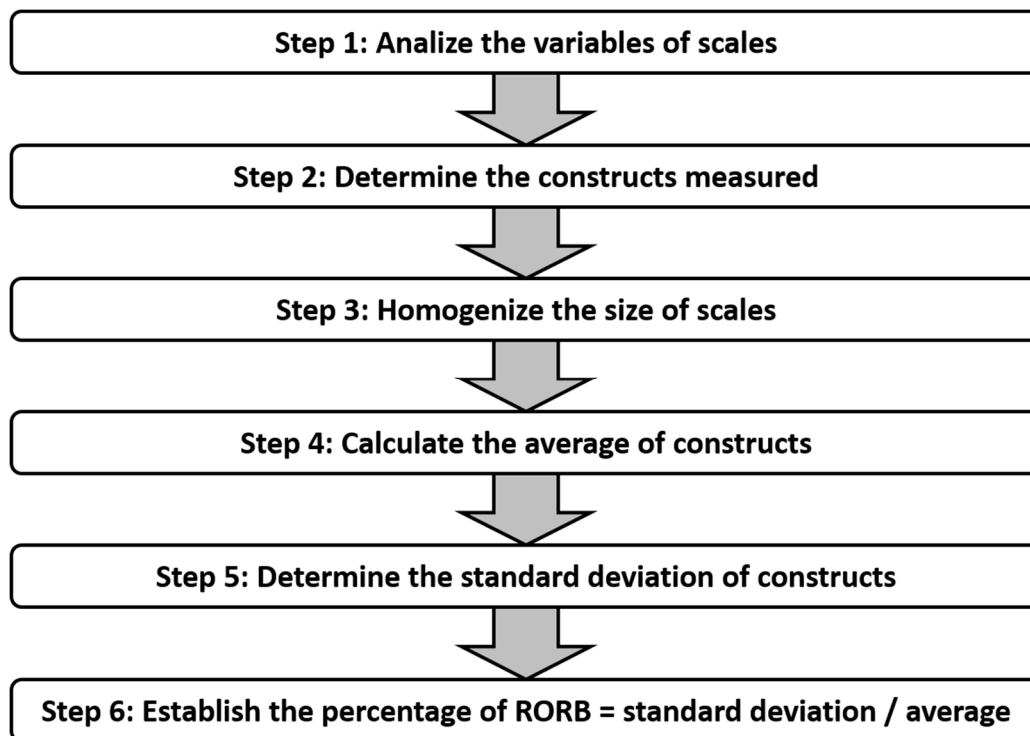
#### 3.1. Variables, Constructs, and Homogenization

The constructs measured on the scales of [Booking.com](#) and [TripAdvisor](#) are service quality and perceived value (Ye et al. 2014; Rodríguez-Díaz et al. 2015). The service quality is evaluated by [Booking.com](#) through the variables of staff (S), comfort (Co), facilities (F), location (L), cleanliness (Cl), and Wi-Fi (W). [TripAdvisor](#) utilizes the dimensions of location (L), sleep quality (Sq), comfort (Co), facilities (F), and cleanliness (Cl). The [HolidayCheck](#) scale is composed of room (R), service (Se),

location (L), gastronomy (G), and sport and leisure (SI) variables. In this case, the gastronomy variable was not introduced in service quality because it is not a service offered by all the lodgings analyzed. In relation to the perceived value, [Booking.com](#) uses the variable value for money (Vp), TripAdvisor uses the quality/price relationship (Vp), and HolidayCheck has no specific variable to measure this construct. [Rodríguez-Díaz and Espino-Rodríguez \(2018a, 2018b\)](#) demonstrated that the percentage of recommendations (Pr) of customers is a useful variable to estimate the perceived value. Because the percentage of recommendations has an upper limit of 100%, the scores were converted to a 10-point scale. To homogenize the scales, they were all adapted to 10-point scales using the following formulas:

$$\text{TripAdvisor: (score of variable} \times 10)/5 = \text{score of variable} \times 2$$

$$\text{HolidayCheck: (score of variable} \times 10)/6$$



**Figure 1.** Methodology to determine the rating of the online reputation balance.

At this point, it is necessary to clarify that [Mellinas et al. \(2015\)](#) demonstrated that [Booking.com](#) uses a scale where the minimum value is 2.5 and the maximum is 10. The adaptation of scales proposed in this study and the calculation of the rating of the online reputation balance is a way to demonstrate whether the adaptation of the 4-point scale to a 10-point scale by [Booking.com](#) affects the final evaluation by customers. If the results of this study do not detect significant differences between the evaluations of the websites, this will be a way to validate the homogeneity of the adaptations to 10-point scales. The opposite case would show that [Booking.com](#)'s adaptation to a 10-point scale is biased.

Other variables included in the study were the average score (AS) and the average service quality (Q). The average score is calculated by the websites by averaging all the variables on the scales without separating the constructs measured. Moreover, the service quality average is established in this study by utilizing only the variables used to measure this construct. The Wi-Fi variable was not included in

the average Q because it depends largely on the public infrastructure of the destinations. The formulas utilized are the following:

$$\text{Booking.com AS} = (S + Co + F + L + Cl + W + Vp)/7$$

$$\text{Booking.com Q} = (S + Co + F + L + Cl)/5$$

$$\text{TripAdvisor AS} = (L + Sq + Co + F + Cl + Vp)/6$$

$$\text{TripAdvisor Q} = (L + Sq + Co + F + Cl)/5$$

$$\text{HolidayCheck AS} = (R + Se + L + G + Sl)/5$$

$$\text{HolidayCheck Q} = (R + Se + L + Sl)/4$$

### 3.2. Rating of Online Reputation Balance (RORB)

Because there are diverse websites measuring the online reputation of lodgings, it is necessary to evaluate the degree of balance between them. If the ratings of a construct on the three portals analyzed in this study converge on the average score, the conclusion will be that the perceptions about a specific lodging in customer reviews are coherent. Therefore, it is possible to state that its online reputation is balanced. Otherwise, if the averages obtained in the three portals differ from each other, it means that the customers' opinions do not tend to converge in a definite score. In this case, the online reputation of the lodging would be unbalanced (see Figure 2).

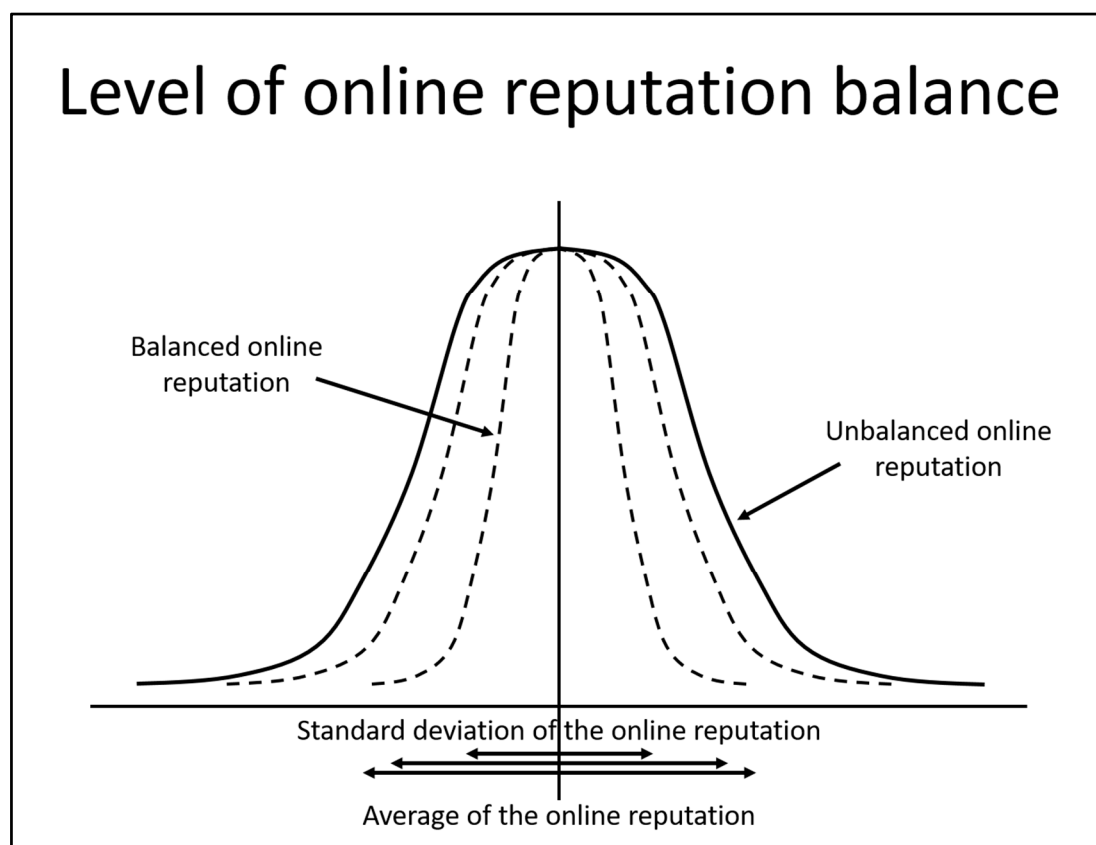


Figure 2. Level of balance of online reputation.

To evaluate the level of balance of the online reputations of lodgings in different communication channels, it is necessary to use a dispersion measure as the standard deviation. As Figure 2 shows, a small deviation from the average indicates a balanced online reputation, whereas a large standard deviation represents an unbalanced online reputation because there are different customer evaluations of a lodging on the websites. When tourism companies encounter this situation, they must try to improve the coherence of the online reputation and the image communicated on the Internet.



It is necessary to clarify that the proposed indicator is intended to define the consistency of the communication from the consumer's point of view. Internet users do not differentiate between different types of scales. They only consider whether the attributes of the product or service are more or less valued. Furthermore, users do not analyze whether measurement scales or opinions are biased. From this perspective, this study is not intended to establish whether the scales are adequate or not or whether they are biased. To this end, the conclusions propose a method for using the RORB so that it can be evaluated in future research.

An indicator to measure the level of balance of the online reputation of lodgings requires, first, the homogenization of the websites' scales, and second, the calculation of two statistics: the average ( $\mu$ ) and standard deviation ( $\sigma$ ) of the constructs evaluated in the Internet portals. In this study, the dimensions analyzed are the average score (AS), service quality (Q), and perceived value (Vp) on the websites of [Booking.com](#) (BO), [TripAdvisor](#) (TA), and [HolidayCheck](#) (HC). The average of these dimensions on the websites of lodging j is calculated according to the following formulas:

$$\begin{aligned}\mu AS_j &= (AS-BO_j + AS-TA_j + AS-HC_j)/3 \\ \mu Q_j &= (Q-BO_j + Q-TA_j + Q-HC_j)/3 \\ \mu Vp_j &= (Vp-BO_j + Vp-TA_j + Vp-HC_j)/3\end{aligned}$$

The most important characteristics of an indicator are the clarity and simplicity in evaluating the online reputation balance of lodgings. For this purpose, the standard deviation is required for each of the aforementioned dimensions ( $\sigma AS_j$ ,  $\sigma Q_j$ ,  $\sigma Vp_j$ ). Finally, the rating of the online reputation balance of a construct or dimension used to evaluate lodging j is calculated with the coefficient of variation according to the percentage of dispersion in relation to the average of each indicator, using the formulas:

$$\begin{aligned}RORB-AS_j &= (\sigma AS_j / \mu AS_j) * 100 \\ RORB-Q_j &= (\sigma Q_j / \mu Q_j) * 100 \\ RORB-Vp_j &= (\sigma Vp_j / \mu Vp_j) * 100\end{aligned}$$

With these percentages, it is possible to define the limits within which an online reputation is balanced. There is no general norm to specify the threshold for the balanced-unbalanced online reputation. Because this indicator or a similar one has not been formulated, the study can be considered exploratory, and, therefore, the limits proposed should also be validated in future research. However, 5% dispersion in relation to the average can be considered a prudent limit. Therefore, a dimension to measure the online reputation with a rating equal to or less than 5% is balanced, whereas if it is greater than 5%, the online reputation is unbalanced. Moreover, each destination can set a different threshold depending on its particular characteristics. For example, a limit of 3% can establish an optimal balance, whereas a rating greater than 10% would imply a critical imbalance for lodgings and the need to take corrective actions. Therefore, a guide to establish the level of balance is the following:

$$\begin{aligned}RORB \leq 3\% &\rightarrow \text{the level of online reputation balance is optimal.} \\ 3\% < RORB \leq 5\% &\rightarrow \text{the level of online reputation balance is acceptable.} \\ 5\% < RORB \leq 10\% &\rightarrow \text{the online reputation is unbalanced.} \\ 10\% < RORB &\rightarrow \text{the online reputation is critically unbalanced.}\end{aligned}$$

## 4. Results

### 4.1. Analysis of Results

The first analysis was carried out individually by destination with the aim to determine the similarities and differences between the South of Gran Canaria, South of Tenerife, and Agadir. The study was carried out taking the lodging categories into account in order to evaluate whether there are significant differences in the results obtained. The constructs analyzed were service quality (Q) and perceived value (Vp). Likewise, the average score (AS) was also included because it is the main

measure used by online reputation websites. The correlation analysis was carried out between the variable category of the accommodation and each of the variables studied. A one-way ANOVA was also applied to find out whether there are differences between the RORBs calculated in the three tourism destinations. The averages have been calculated for each of the accommodations. The average of each variable was then calculated in order to simplify the data presented in the tables. Therefore, the averages of each variable analyzed are not exactly equal to the mean of the averages presented in the tables. The reason is that this procedure has been preferred in order to make the data as reliable as possible and, at the same time, to simplify the presentation of the results.

Table 1 shows the results obtained in the tourist destination of the south of Gran Canaria. With regard to the average score, the correlation analysis demonstrates that there are direct relationships between the number of stars and the average score achieved on Booking.com, TripAdvisor, and HolidayCheck, as well as the means of the three evaluations. Nevertheless, the correlation coefficients for the standard deviation ( $-0.272$ ) and the RORB of the average ( $-0.234$ ) score are also significant ( $p < 0.05$ ), but in an inverse direction. This means that the higher the category, the lower the online reputation dispersion and, therefore, the more balanced the online reputation is. It should be highlighted that the level of balance is very high in lodgings with 4 (3.76%) and 5 stars (1.72%), whereas 2-star lodgings exhibit an unbalanced online reputation (10.77%). These results demonstrate that hospitality companies with a high category communicate a more coherent and effective image on the websites analyzed.

**Table 1.** Rating of online reputation balance in the South of Gran Canaria destination.

| Rating of online reputation balance in average score   |                   |                   |                    |                          |                                          |                           |
|--------------------------------------------------------|-------------------|-------------------|--------------------|--------------------------|------------------------------------------|---------------------------|
| Number of Stars                                        | AS<br>Booking.com | AS<br>TripAdvisor | AS<br>HolidayCheck | Means of<br>AS ( $\mu$ ) | Standard deviation<br>of AS ( $\sigma$ ) | RORB AS %<br>$\sigma/\mu$ |
| 2 stars                                                | 7.68              | 6.94              | 7.69               | 7.41                     | 0.71                                     | 10.77%                    |
| 3 stars                                                | 8.01              | 7.70              | 8.03               | 7.92                     | 0.44                                     | 5.80%                     |
| 4 stars                                                | 8.30              | 8.42              | 8.63               | 8.44                     | 0.31                                     | 3.76%                     |
| 5 stars                                                | 9.06              | 9.20              | 9.07               | 9.11                     | 0.16                                     | 1.72%                     |
| TOTALS                                                 | 8.26              | 8.07              | 8.35               | 8.22                     | 0.40                                     | 5.51%                     |
| Correlation                                            | 0.329             | 0.348             | 0.386              | 0.432                    | $-0.272$                                 | $-0.234$                  |
| Significant                                            | 0.000             | 0.000             | 0.000              | 0.000                    | 0.001                                    | 0.003                     |
| Rating of online reputation balance in service quality |                   |                   |                    |                          |                                          |                           |
| Number of stars                                        | Q<br>Booking.com  | Q<br>TripAdvisor  | Q<br>HolidayCheck  | Means of Q<br>( $\mu$ )  | Standard deviation<br>of Q ( $\sigma$ )  | RORB Q %<br>$\sigma/\mu$  |
| 2 stars                                                | 7.67              | 7.46              | 7.77               | 7.62                     | 0.47                                     | 6.40%                     |
| 3 stars                                                | 8.04              | 7.77              | 8.11               | 7.97                     | 0.42                                     | 5.57%                     |
| 4 stars                                                | 8.40              | 8.36              | 8.66               | 8.47                     | 0.29                                     | 3.60%                     |
| 5 stars                                                | 9.23              | 9.12              | 9.07               | 9.14                     | 0.13                                     | 1.40%                     |
| TOTALS                                                 | 8.33              | 8.18              | 8.40               | 8.30                     | 0.33                                     | 4.24%                     |
| Correlation                                            | 0.440             | 0.351             | 0.399              | 0.449                    | $-0.234$                                 | $-0.242$                  |
| Significant                                            | 0.000             | 0.000             | 0.000              | 0.000                    | 0.004                                    | 0.003                     |
| Rating of online reputation balance in perceived value |                   |                   |                    |                          |                                          |                           |
| Number of stars                                        | Vp<br>Booking.com | Vp<br>TripAdvisor | Pr<br>HolidayCheck | Means of<br>Vp ( $\mu$ ) | Standard deviation<br>of Vp ( $\sigma$ ) | RORB Vp %<br>$\sigma/\mu$ |
| 2 stars                                                | 7.73              | 7.54              | 6.44               | 7.24                     | 1.66                                     | 28.86%                    |
| 3 stars                                                | 7.89              | 7.76              | 7.72               | 7.79                     | 1.07                                     | 16.15%                    |
| 4 stars                                                | 7.87              | 8.25              | 8.28               | 8.13                     | 0.98                                     | 14.47%                    |
| 5 stars                                                | 8.22              | 8.40              | 9.32               | 8.65                     | 0.61                                     | 7.10%                     |
| TOTALS                                                 | 7.81              | 7.76              | 7.22               | 7.60                     | 1.34                                     | 22.06%                    |
| Correlation                                            | 0.088             | 0.161             | 0.237              | 0.267                    | $-0.230$                                 | $-0.228$                  |
| Significant                                            | 0.287             | 0.050             | 0.004              | 0.001                    | 0.005                                    | 0.005                     |

The service quality also shows similar results once the relationships of the Q variable on the three websites and their means are positive. Moreover, the relationships are negative for the standard deviation ( $-0.234$ ,  $p < 0.05$ ) and the RORB of service quality ( $-0.242$ ,  $p < 0.05$ ). Again, lodgings with a

higher category have a more balanced online reputation on this construct because the 4-star lodgings have an RORB of 3.60% and the RORB of the 5-star hotels is 1.40%.

Regarding perceived value, with the exception of Booking.com, the results for the other websites and the averages are positively related ( $p < 0.05$ ). However, the correlations between the standard deviation and the RORB of the perceived value are negative ( $-0.230$  and  $-0.288$ , respectively,  $p < 0.05$ ) with regard to the lodgings' categories. Nevertheless, the RORBs by category are all unbalanced, surpassing the 5% recommended. Therefore, lodgings with a high category and service quality level can be evaluated by customers as having a low score on the quality-service relation or value for money variables.

The results obtained in the South of Tenerife destination are presented in Table 2. The average score follows the same trend as in the Gran Canaria destination. The relationships with the number of stars and their means are positive on all the websites. Inversely, the correlations between the standard deviations and the RORBs of the average score are negative ( $-0.406$  and  $-0.386$ , respectively,  $p < 0.05$ ). Another relevant result is the level of balance of this variable, where only the 5-star lodgings achieved a useful percentage (3.23%).

**Table 2.** Rating of online reputation balance in the South of Tenerife destination.

| Rating of online reputation balance in average score   |                |                |                 |                       |                                       |                        |
|--------------------------------------------------------|----------------|----------------|-----------------|-----------------------|---------------------------------------|------------------------|
| Number of stars                                        | AS Booking.com | AS TripAdvisor | AS HolidayCheck | Means of AS ( $\mu$ ) | Standard deviation of AS ( $\sigma$ ) | RORB AS % $\sigma/\mu$ |
| 2 stars                                                | 7.65           | 7.12           | 7.48            | 7.38                  | 0.90                                  | 13.37%                 |
| 3 stars                                                | 8.02           | 7.62           | 7.99            | 7.87                  | 0.54                                  | 6.86%                  |
| 4 stars                                                | 8.02           | 7.87           | 8.24            | 8.03                  | 0.51                                  | 6.59%                  |
| 5 stars                                                | 8.65           | 9.00           | 8.75            | 8.80                  | 0.29                                  | 3.23%                  |
| TOTALS                                                 | 8.08           | 7.90           | 8.11            | 8.02                  | 0.56                                  | 7.51%                  |
| Correlation                                            | 0.317          | 0.379          | 0.354           | 0.399                 | -0.406                                | -0.386                 |
| Significant                                            | 0.028          | 0.007          | 0.029           | 0.005                 | 0.004                                 | 0.006                  |
| Rating of online reputation balance in service quality |                |                |                 |                       |                                       |                        |
| Number of stars                                        | Q Booking.com  | Q TripAdvisor  | Q HolidayCheck  | Means of Q ( $\mu$ )  | Standard deviation of Q ( $\sigma$ )  | RORB Q % $\sigma/\mu$  |
| 2 stars                                                | 7.64           | 7.40           | 7.36            | 7.49                  | 0.75                                  | 10.55%                 |
| 3 stars                                                | 7.98           | 7.91           | 8.11            | 8.03                  | 0.41                                  | 4.97%                  |
| 4 stars                                                | 8.10           | 8.23           | 8.38            | 8.23                  | 0.38                                  | 4.76%                  |
| 5 stars                                                | 8.86           | 8.90           | 8.80            | 8.85                  | 0.12                                  | 1.44%                  |
| TOTALS                                                 | 8.15           | 8.11           | 8.16            | 8.15                  | 0.42                                  | 5.43%                  |
| Correlation                                            | 0.375          | 0.426          | 0.465           | 0.472                 | -0.419                                | -0.430                 |
| Significant                                            | 0.008          | 0.002          | 0.003           | 0.001                 | 0.003                                 | 0.002                  |
| Rating of online reputation balance in perceived value |                |                |                 |                       |                                       |                        |
| Number of stars                                        | Vp Booking.com | Vp TripAdvisor | Pr HolidayCheck | Means of Vp ( $\mu$ ) | Standard deviation of Vp ( $\sigma$ ) | RORB Vp % $\sigma/\mu$ |
| 2 stars                                                | 7.68           | 7.18           | 7.30            | 7.37                  | 1.30                                  | 21.70%                 |
| 3 stars                                                | 7.88           | 8.00           | 7.77            | 7.92                  | 1.14                                  | 15.48%                 |
| 4 stars                                                | 7.59           | 7.73           | 8.21            | 7.84                  | 0.66                                  | 8.94%                  |
| 5 stars                                                | 7.78           | 8.25           | 8.00            | 8.01                  | 0.66                                  | 8.42%                  |
| TOTALS                                                 | 7.1            | 7.65           | 7.86            | 7.71                  | 1.01                                  | 15.06%                 |
| Correlation                                            | 0.043          | 0.210          | 0.145           | 0.188                 | -0.279                                | -0.254                 |
| Significant                                            | 0.771          | 0.147          | 0.385           | 0.195                 | 0.053                                 | 0.078                  |

In the case of service quality, the results are more significant. Again, the evaluations of this construct are positively related to the category of the lodgings on the three websites and the means. As expected, the standard deviation and RORB of service quality obtained a negative ( $0.419$ ,  $0.430$ , respectively,  $p < 0.05$ ) correlation. Thus, the RORBs show more coherent percentages because the 5-star lodgings achieve an RORB of 1.44%, whereas the 4- and 3-star lodgings have RORBs in the range between 3% and 5%.

Perceived value achieved different results. The correlations between this variable and the lodging categories on the three websites and the means have not been verified. Likewise, the correlation of the

RORB for perceived value is not significant (0.078) and the standard deviation is not significant by a small margin (0.053), with a negative relationship (−0.279). Analyzing the level of coherence of the online reputation for perceived value, the information in Table 2 demonstrated that all the lodgings have problems with balance because they have scores of more than 5%.

The results for the destination of Agadir are shown in Table 3. Regarding the average score for this destination, the results are radically different. Thus, all the correlations between the average scores of the three websites and the means in relation to the category have not been verified. Moreover, the standard deviation and the RORB are not significant, demonstrating that the coherence of the online reputation is low, and there are no differences between the categories of the lodgings in the destination. Another result that confirms this conclusion is the percentage of RORB, where the lowest score is 6.85% in the 3-star lodgings.

**Table 3.** Rating of online reputation balance in Agadir destination.

| Rating of online reputation balance in average score   |                   |                   |                    |                 |                              |                  |
|--------------------------------------------------------|-------------------|-------------------|--------------------|-----------------|------------------------------|------------------|
| Number of stars                                        | AS<br>Booking.com | AS<br>TripAdvisor | AS<br>HolidayCheck | Means of AS (μ) | Standard deviation of AS (σ) | RORB AS %<br>σ/μ |
| 2 stars                                                | 7.32              | 7.20              | 8.06               | 7.39            | 0.76                         | 10.81%           |
| 3 stars                                                | 7.41              | 7.25              | 7.58               | 7.38            | 0.47                         | 6.85%            |
| 4 stars                                                | 7.53              | 7.50              | 8.19               | 7.71            | 0.57                         | 7.66%            |
| 5 stars                                                | 7.56              | 8.40              | 8.21               | 7.98            | 0.59                         | 7.87%            |
| TOTALS                                                 | 7.46              | 7.59              | 8.01               | 7.62            | 0.60                         | 8.30%            |
| Correlation                                            | 0.141             | 0.239             | 0.130              | 0.188           | −0.076                       | −0.111           |
| Significance                                           | 0.397             | 0.149             | 0.494              | 0.258           | 0.652                        | 0.506            |
| Rating of online reputation balance in service quality |                   |                   |                    |                 |                              |                  |
| Number of stars                                        | Q Booking.com     | Q<br>TripAdvisor  | Q<br>HolidayCheck  | Means of Q (μ)  | Standard deviation of Q (σ)  | RORB Q %<br>σ/μ  |
| 2 stars                                                | 7.27              | 7.44              | 7.66               | 7.39            | 0.82                         | 11.46%           |
| 3 stars                                                | 7.37              | 7.53              | 7.37               | 7.44            | 0.46                         | 6.37%            |
| 4 stars                                                | 7.60              | 7.75              | 8.30               | 7.85            | 0.53                         | 6.85%            |
| 5 stars                                                | 7.69              | 8.64              | 8.26               | 8.12            | 0.57                         | 7.46%            |
| TOTALS                                                 | 7.48              | 7.84              | 7.89               | 7.70            | 0.60                         | 8.03%            |
| Correlation                                            | 0.161             | 0.300             | 0.259              | 0.271           | −0.139                       | −0.186           |
| Significance                                           | 0.336             | 0.067             | 0.167              | 0.100           | 0.404                        | 0.264            |
| Rating of online reputation balance in perceived value |                   |                   |                    |                 |                              |                  |
| Number of stars                                        | Vp<br>Booking.com | Vp<br>TripAdvisor | Pr<br>HolidayCheck | Means of Vp (μ) | Standard deviation of Vp (σ) | RORB Vp %<br>σ/μ |
| 2 stars                                                | 7.46              | 7.80              | 8.50               | 7.74            | 0.61                         | 7.81%            |
| 3 stars                                                | 7.44              | 7.63              | 7.28               | 7.46            | 0.65                         | 9.04%            |
| 4 stars                                                | 7.22              | 7.70              | 8.09               | 7.66            | 0.97                         | 13.02%           |
| 5 stars                                                | 6.74              | 8.00              | 8.50               | 7.61            | 1.25                         | 17.16%           |
| TOTALS                                                 | 7.23              | 7.74              | 8.03               | 7.62            | 0.89                         | 12.04%           |
| Correlation                                            | −0.182            | 0.046             | 0.080              | 0.000           | 0.406                        | 0.377            |
| Significance                                           | 0.273             | 0.784             | 0.675              | 0.999           | 0.011                        | 0.020            |

Along the same lines, the results of the service quality construct, due to all the correlations, are not significant. Thus, the percentages of RORB are greater than 5%, demonstrating that this destination has problems with coherence in the online reputation of its lodgings. The perceived value has similar outputs in the sense that all the correlation coefficients are non-significant, with the exception of the standard deviation and RORB, which has positive coefficients (0.406 and 0.377, respectively,  $p < 0.05$ ). These results indicate that the coherence of the lodgings in Agadir is higher in the firms with a lower category, unlike the other destinations analyzed, where hospitality firms with a higher category communicate a more coherent online reputation.

A one-way ANOVA was carried out to establish whether there are relevant differences in the means of the variables in the three destinations based on the lodging category. Table 4 shows that on the average score, only lodgings with 4 stars have different means ( $p < 0.05$ ) in the destination analyzed,

with a  $F$  value of 4.305. Regarding the service quality dimension, the results reveal that lodgings with 2 and 4 stars have different means between the destinations (0.009 and 0.043, respectively). In relation to perceived value, only the 5-star lodgings exhibit differences between destinations. Likewise, considering all the categories studied, perceived value is also the only variable that shows differences between destinations ( $F = 3.314, p < 0.05$ ).

**Table 4.** One-way ANOVA of the rating of online reputation balance in the destinations.

| Number of Stars | RORB AS |              | RORB Q |              | RORB Vp |              |
|-----------------|---------|--------------|--------|--------------|---------|--------------|
|                 | F       | Significance | F      | Significance | F       | Significance |
| 2 stars         | 0.228   | 0.798        | 4.938  | 0.009        | 0.865   | 0.425        |
| 3 stars         | 0.289   | 0.751        | 0.095  | 0.910        | 0.421   | 0.658        |
| 4 stars         | 4.305   | 0.018        | 3.327  | 0.043        | 0.586   | 0.560        |
| 5 stars         | 2.243   | 0.152        | 2.506  | 0.127        | 3.838   | 0.054        |
| All categories  | 0.117   | 0.890        | 1.397  | 0.249        | 3.314   | 0.038        |

#### 4.2. Discussion of Results

The results obtained validate the RORB proposed to evaluate the level of coherence of the online reputation. Likewise, they show the need to use this new indicator to calibrate and improve the communication strategy of hospitality firms. The analysis carried out by categories demonstrates that some companies have more effective and coherent communication through tourism customer opinion websites than others.

The majority of the results show that lodgings with a higher category obtain the lowest percentage of RORBs and, therefore, a more coherent online reputation. The dimensions of average score and service quality are positively correlated with the lodging category, in such a way that firms with a greater number of stars obtain higher ratings than lodgings with a lower category. The only exception is Agadir, where the correlation coefficients are not significant and the result of the perceived value measured by [Booking.com](#) was not successful ( $p > 0.05$ ).

These results reveal that the perceived value is a very subjective variable because the price negatively affects the value construct ([O'Connor 2010](#); [Rodríguez-Díaz and Espino-Rodríguez 2018a, 2018b](#)). In this context, the correlation coefficient levels were the lowest, where many results did not show relationships with the category of hotels. According to [Rodríguez-Díaz et al. \(2015\)](#), the perceived value is evaluated by customers according to the price level. The reason for this result is that lodgings with a higher category are evaluated with high service quality but lower perceived value because customers who pay higher prices are more demanding about the services requested.

Analyzing the RORB indicator, the percentages proposed to determine the level of coherence are found to be appropriate because the results show that lodgings with a higher category achieve a greater degree of coherence. Furthermore, the RORBs for the average score and service quality in the destination of Gran Canaria and Tenerife obtain percentages below 5%, demonstrating that it is a useful indicator to be included in the communication and positioning strategy of lodgings.

With regard to the study of the destinations, the RORB can be used as a measure of the competitiveness and performance of destinations ([Choi and Sirakaya 2006](#); [Farrell and Twining-Ward 2004](#); [Beritelli et al. 2007](#)). The ANOVA reveals relevant differences between destinations in specific categories. Furthermore, the perceived value RORB achieved useful results when analyzing all the lodgings of the destinations together.

Regarding the consideration by [Mellinas et al. \(2015\)](#) that the [Booking.com](#) scale ranges from 2.5 to 10 points, as well as the adaptation of the scales of TripAdvisor and HolidayCheck to 10 points, the results demonstrated that they do not affect the level of coherence defined by the RORBs. The internal calculations carried out by [Booking.com](#) to transform the 4-point customer evaluation to a 10-point scale of the final online reputation measure do not produce bias in the coherence of the RORBs. Therefore,

the results show that the adaptation of all the websites' scales to 10-point scales is useful to calculate the level of coherence and balance of the online reputation of lodgings.

## 5. Conclusions

The online reputation is critical in defining the communication, image, and sales strategy in the hospitality industry. Internet provides different channels to communicate the image and customer evaluations influencing the potential future income of lodgings. The problem companies face is how to manage coherent, truthful, and credible communication in such an open digital society. This paper develops and tests a methodology to evaluate the level of coherence of the online reputation transmitted through websites specialized in collecting quantitative evaluations from customers in lodgings.

The level of coherence and dispersion of the quantitative online reputation is measured through the RORB indicator, which is tested empirically, demonstrating that it is a useful tool for defining and correcting the online communication strategy of hospitality firms. It is important to clarify that this study should be considered exploratory because similar indicators have not been formulated in the academic literature. Therefore, future research should validate the proposed limits and try to make additional differentiations using the 10% threshold because there may be relevant differences between accommodations that have a RORB close to this limit compared to those with much larger disparities. This indicator was calculated in terms of a percentage, dividing the standard deviation of the variables' average score, service quality, and perceived value by their means. The first analysis consisted of establishing the relationships between the categories of lodgings with the variables studied.

The results obtained showed significant correlations in many of the destinations and variables studied. For the average score, service quality, and perceived value, the correlations were positive. The only exception was the perceived value variable for Agadir's lodgings measured at [Booking.com](https://www.booking.com), which was negative but ( $p > 0.05$ ). Moreover, the average score and service quality achieved relevant scores in the correlations in the destinations of Gran Canaria and Tenerife, whereas in Agadir all the results were non-significant.

Furthermore, in the standard deviations and RORBs of the variables considered, the correlation coefficients were negative. This result shows that the degree of consistency of the online reputation is higher as the lodging category increases. The destinations of Gran Canaria and Tenerife obtained useful results in the correlations in these indicators. However, Agadir obtained non-significant and positive results in the RORB of perceived value. These results show that the online reputation of Agadir lodgings has a lower level of consistency, especially in companies with a higher category. This can be considered a competitiveness problem for the most relevant companies in the destination.

When analyzing the RORBs, the results confirmed that some lodging categories obtain percentages below 3%, which indicates a balanced online reputation. These are usually 5-star accommodations in the dimensions of average score and service quality. There are also companies with percentages between 3% and 5%, which are considered balanced. The perceived value obtains the highest percentages, which leads us to conclude that the effect of the price produces a higher percentage and, therefore, an unbalanced reputation. Again, Agadir's offer shows the greatest imbalance, once the lodgings in the highest category reach higher percentages than those in the lowest category. This incoherence can influence the global online image transmitted by this destination. It would be interesting to check in future research whether there are any factors that may be influencing the results obtained in Agadir, such as the level of control or definition of the categories by the public administration.

The study confirms that the proposed percentage thresholds for the RORBs to determine the level of balance are satisfactory. The proposed percentage of 5% as the maximum threshold for determining a balanced RORB is shown to be reasonable. Moreover, there are relevant differences between categories, in some cases exceeding 10%. Therefore, the RORB indicator can be used to define competitive positioning and measure the performance of tourism companies in relation to customer evaluations. In this context, the adaptation of the website scales to 10 points was found to be satisfactory. The results also demonstrated that the Booking.com scale from 2.5 to 10 points does not generate bias because



lodgings with a higher category obtain RORB percentages below 3%. If bias had been present, it would have been impossible to obtain these outputs.

The comparative study using ANOVAs showed that there are differences in certain variables between destinations. Thus, perceived value obtains different averages when all the sample cases are considered, and, in a special way, the 5-star lodgings have great coherence in Gran Canaria and Tenerife, whereas in Agadir there is greater disparity. These results demonstrate that the RORB can be used to study the level of competitiveness of the online communication strategy of tourist destinations. Therefore, it has been demonstrated that this indicator is effective to measure the level of coherence of the quantitative communication of the accommodation and, therefore, to measure deficiency 2 of the Gap Analysis of Online Reputation model proposed by [Rodríguez-Díaz et al. \(2018a\)](#).

The study has several implications for accommodation managers. First of all, the E-WOM is currently one of the main means by which lodgings can achieve a competitive market position based on a solid online reputation. The impact that this type of communication has on potential customers forces managers to take effective action in the different communication channels on the Internet. The proposed indicator can be of great help in determining corrective actions in those channels where the transmitted image does not fit the reality. Possible remedial actions may include enhancing customer feedback on certain channels, applying new methods to establish the real reputation, and communicating or responding to feedback by clarifying the true quality of service of the accommodations. Second, this indicator can be used as a means of measuring the performance of tourist accommodation. Third, it can also be used to determine the level of bias of the different scales used by websites. Along these lines, one of the possible problems is that the [Booking.com](#) scale is really a scale that goes from 2.5 to 10. Although the objective of this study is not to assess the bias levels of the scales, it is possible to use the RORB to verify the possible bias. This would require direct and random surveys of actual customers in order to evaluate actual reputation. The RORB would be applied to the results obtained in such a way that if there are no significant differences it can be deduced that the scales do not bias the clients' evaluations; on the contrary, if there are discrepancies, it can be concluded that the scales are biased. Fourth, the simplicity of the indicator can be seen as an advantage from a practical perspective because managers often look for easily understandable indicators for their scorecards. Finally, proposing this indicator opens up a debate at both management and research levels about the most appropriate means and indicators to determine whether the online communication of an accommodation is appropriate.

Future research should confirm the RORB thresholds established in other destinations and companies. It would also be useful to analyze whether it is an appropriate indicator for studying the differences in competitiveness between businesses and tourist destinations. Another aspect to be assessed is the extent to which RORB is beginning to be used in tourism companies as a critical indicator for the communication strategy. Other research could be focused on determining the degree of efficiency in lodging sales based on the level of consistency of RORBs. It is also advisable to carry out research to check whether the degree of consistency of the online reputation is related to the category of accommodation using other samples from other destinations. The improvement in the online reputation of the accommodation offer will influence the overall image of the destination. The online reputation of the destination's complementary offering should also be included in future research. Another aspect to be investigated in the future is the development of indicators to measure the level of coherence of the qualitative communication transmitted on the websites. A limitation of this work is that HolidayCheck does not have a specific variable to measure the perceived value and so future research should verify whether the recommendation percentage can be used as a substitute. Further research can also be carried out to establish whether the standardization of scales makes it possible to compare the results to determine whether accommodations' communication is coherent. A content analysis can also be carried out to establish the number and type of customer reviews related to the sustainability of accommodations and destinations.

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