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Shine bright like a star: Hotel performance and guests' expectations based on star ratings

ABSTRACT

Service excellence requires continuous efforts to sustain consistency it is destroyed relatively quickly. The expanding competition in the hotel industry needs to evaluate its service quality models continually to counteract high levels of homogeneity and deal with intense demand of the hotel guests. This study is designed to accomplish a dual purpose: 1) to evaluate the service quality offered by hotels in Lisbon based on an importance-performance analysis (IPA) scale and, 2) to measure the importance of specific dimensions for guests staying in three, four, and five star hotels. Segmentation, as an important outcome of the IPA, is used to identify key differences for better planning and decision-making. The findings extend the research on service quality relying on IPA theory and contributes to the literature on hotel service quality by adding new insights based on data from an under researched region of the European Union.

Keywords: Importance-performance analysis Service quality Hotels Lisbon

1. Introduction

Portugal now stands as a top tourism destination in Europe winning the World's Best Destination award. In addition, its capital, Lisbon, was chosen as the World's Leading City Break Destination and Europe's Leading Cruise Port in 2017 (World Travel Awards, 2017), as well as Europe's Leading City Destination in 2018 (World Travel Awards, 2018). The recent boom means that Lisbon is experiencing one of the highest tourism growth rates in Portugal, it has benefited the local luxury hotel industry. The number of hotels in Lisbon grew 88% in 10 years, and 5-, 4-star and 3-star hotels registered an increase of 119%, 90% and 38%, respectively between 2009 and 2018. In 2018, 5 star hotels (46 hotels, 20% of the offer) account for 40% of the profits, 4-star (114 hotels, 51%) account for 44% and 3-star (65 hotels, 29%) for the remaining 13% (Turismo de Portugal, 2019).

Lisbon hotels have also earned accolades such as when Readers' Travel Awards (Condé Nast Traveller, 2017) ranked the Four Seasons Hotel Ritz, Lisbon, as the fourteenth best hotel in Europe. This shows that the Portuguese capital's hotel industry can pride itself on its fine dining and trendy decor. Three hotels in Lisbon have also recently been named Best Business Hotel, Best Green Hotel in Europe, and Best Landmark Hotel by Pricewaterhouse Coopers, 2016.

Though, Lisbon hotels have earned appreciations, the lodging industry generally faces a continuous criticism for not delivering quality service and not meeting expected standards (Cai, 2004; Cai and Robert, 1993; Cook, 1989; Cullen, 1988; Tsang and Qu, 2000). The hotel management needs to understand and prioritise the important issues linked to service quality and customer satisfaction. Largely, these issues relate to cleanliness, safety, product and service quality. Hence, conducting research helps to highlight gaps that exist or might exist between hotels' service and product quality and customers' expectations and actual experience. Identifying such gaps helps quality improvements.

The significance of service and product quality is also established by the fact that it positively impacts customers' loyalty and their opinion towards the service providers (Anton et al., 2007; Bell et al., 2005; Aydin and Ozer, 2005). Service quality has been determined as a key factor in influencing customers' brand loyalty with the lodging industry in developed countries (Suhartanto (2011). Salomon back in 1994 had stated in his findings that if hotels failed to understand and meet customers' service standards, the hotel is unlikely to survive its business beyond 7-9 years (Salomon, 1994). Recently Wu et. al. (2012) established that if the quality of a hotel does not meet customer expectations, perceived quality may be lowered, and perceived risk may be raised automatically (Wu et al., 2012).

The prospering tourism industry has had implications for construction of new hotels and transportation systems in Portugal. Every year, the number of inbound flights have increased to all of this country's major airports. A record 44 million air passengers entered Portugal in 2016, which was an almost 50% rise over 2011 statistics (Eurostat, 2017).

The unprecedented increase in tourism has led to increased demand for hotel rooms, which has implications for hotels' performance in terms of service and product quality. In this context, star ratings are a reference point guests use to assess hotel service quality (Huang et al., 2018) which has implications for hotel management, guests, and the literature on hotel service quality.

The present study is based on importance-Performance analysis (IPA) theory (Martilla and James, 1977). The notion of actual performance in relation to the perceived importance of specific measures of quality is now considered a determinant of service quality. Measuring service quality must be a continuous process to ensure consistency and suitability. The level of importance guests give to different service quality measures is linked to the star ratings given to hotels, which has implications for service quality outcomes (Huang et al., 2018).

The IPA has been validated across multiple fields of research (Lai and Hitchcock, 2016). The IPA is practical to apply when management seeks to sustain consistency in hotel service quality and, hence, their establishments' competitive advantages (Chen, 2014).

The present research has two principal objectives:

- To evaluate service quality with an IPA scale developed for Lisbon hotels
- To measure and compare the level of importance-Performance implications for guests of three-, four-, and five-star hotels

Determining the service quality gaps between what hotel guests perceive to be important and what their actual experiences of hotels' performance has been should help management to develop appropriate services and marketing strategies. These strategies are important to ensure that hotels can maintain the edge require to compete successfully (Chu and Choi, 2000). In addition, as suggested by Lai and Lai and Hitchcock, 2016 the current research findings suggest implications relevant to market segmentation.

The current study thus extends the research on service quality applying the IPA theory and contributing to the literature on hotel service quality by adding new insights based on data from an under researched region of the Europe Union. Past studies using IPA theory within the context of hotel service quality have been limited to specific geographical areas, such as luxury hotels in India (Mohsin and Lockyer, 2010), hotel lodges near hot springs in Taiwan (Deng et al., 2008), hotel lodges in the United States (US) (Beldona and Cobanoglu, 2007), and the lodging industry in New Zealand (Mohsin, 2007). The present study provided a fresh opportunity to compare the commonalities and variations of different geographic regions with regard to hotel service quality and its assessment based on the IPA.

2. Literature review

2.1. Current research objectives and literature: a contextual relationship

In past studies have identified that customer preferences are usually based on their backgrounds which determine their experiences and level of satisfaction from those experiences (Wong and Kwong, 2004; Reisinger and Turner, 1999). Hence, the hotel's ability to meet customers' expectations impacts their level of satisfaction. Authors Kandampully and Hu., 2007 have established that reception, house-keeping, food and beverage, and price are important factors that affect customer satisfaction. As part of service quality, Juwaheer and Ross (2003) state in their study

that behaviour of the manager and staff in the hotel when in contact with hotel guests impacts their experience and satisfaction.

The current literature continues to identify major inconsistencies in service quality across small, medium and large hotels. Authors have found in Scotland that many quality programmes fail due to lack of commitment and interest on part of management and staff (Briggs et al., 2007; Keating and Harrington, 2003). In China it is noted that tourists' perceptions of service quality in hotels were consistently lower than their expectations (Tsang and Qu, 2000). Service quality is an outcome of a comparison between expectations and perception of what has been received as a service (Li and Krit, 2012). As stated further, implications from the literature suggest that hotel service quality is an incessant challenge. Thus, requiring a continued research.

2.2. Hotel service quality: why should hotels care?

Over the past decades, various studies have confirmed that service quality is a key determinant of competitive advantage in the hospitality industry and that service quality enhances customer retention (Callan and Kyndt, 2001). Customers do not buy services but instead buy offers that provide services and create value for consumers (Gummesson, 2006). Hotels' service evaluations depend on both tangible and intangible measures of service quality, for example, price versus quality or location, courtesy of personnel, safety, and security (Lai and Hitchcock, 2016). Zhang and Mao (2012) report that comfortable, clean accommodations; hotel location; and efficient staff are the main hotel attributes that influence service quality and thus customer loyalty.

Service standards may vary significantly, but high standards of service in hotels produce higher levels of guest satisfaction (Yang and Cai, 2016; Chu and Choi (2000)). The physical environment significantly impacts hotel guests' emotions and satisfaction levels (Marković et al., 2014). Other researchers (e.g., Reimer and Kuehn, 2005) assert that tangible dimensions of service influence guests' evaluations of perceived service quality. Overall, when expectations (i.e., perceived importance) do not match actual experiences (i.e., performance), customers express their displeasure (Zeelenberg and Pieters, 2004). Sparks and Browning (2011) confirmed that customers who experience service failures tend to spread negative electronic word-of-mouth, which influences hotels' reputation. Similarly, Ayeh et al., 2013 suggest that negative reviews not only damage corporate reputation but also have an impact on hotels' profitability and sales. Continuous research on service quality has helped hotel management to rectify service failures and recover from bad service reviews by improving performance.

2.3. Measuring service quality in the hotel industry

Much of the empirical research on service quality has relied on the theoretical model (Parasuraman et al., 1988) expressed in the SERVQUAL scale. The 22 items cover five dimensions—tangibles, empathy, reliability, responsiveness, and assurance—and the SERVQUAL scale can be tailored to suit basically any service (Brady et al., 2002). Cronin and Taylor (1992) were among the first authors to propose an alternative theoretical approach, the SERVPERF scale, which was formulated to measure service through “performance measures” based on consumers' perceptions of the service provided (Brady et al., 2002). The authors' findings suggest that only using the performance component measure yields better psychometric properties and offers higher explanatory power regarding the variation of overall service quality than does measuring the gap between expectations and performance (E-P). Therefore, despite the SERVQUAL instrument's popularity, it has been repeatedly criticized in the literature (e.g., Buttle, 1996; Cronin and Taylor, 1994).

In addition, Carrillat et al., 2007 study compared SERVQUAL and SERVPERF using meta-analysis and revealed that, from a measurement perspective, the approaches are equivalent in terms of predictive validity and should be tailored to work in specific service contexts. SERVQUAL is still a popular in hotel service quality research and the analyses of the E-P gaps might be used to access service quality experiences according to different groups to enhance service managerial implications (e.g., Kumarasinghe et al., 2019).

Crick and Spencer (2011a, Crick and Spencer, 2011b) in turn, argue that extended service encounters differentiate the accommodation sector from the other service industries. Lodging services are more intense because these are provided for prolonged periods in which employees act as guests' hosts. Thus, hotels need to provide service quality over guests' entire stay (i.e., room, restaurant, and reception).

Researchers have thus proposed specific scales to assess service quality in the accommodation industry (Dortyol et al., 2014; Luo and Qu, 2016). Scales developed for the hotel sector include LODGSERV (Knutson et al., 1991), LOGQUAL (Getty and Thompson, 1994), HOLSERV (Mei et al., 1999), and SSQH (Wu and Ko, 2013). Mohsin (2007) and Mohsin and Lockyer (2010) also assessed service quality in hotels and luxury hotels using IPA. Frochot and Hughes (2000) specifically created the HISTOQUAL scale to measure perceived service quality in historic houses.

Table 1
Research on hotels using IPA.

Brochado and Rita (2018), in turn, developed a new scale targeting hostel accommodations. Lee and Cheng (2018) adapted LODGSERV (Knutson et al., 1991) to measure service quality in green hotels, which resulted in the GLSERV scale, while Brochado and Pereira (2017) constructed the GlampingExp scale to assess glamorous camping service quality.

Román and Martín (2016) state that evaluating hotel service quality and guest satisfaction is and always will be a challenge in development of quality. Achieving service excellence requires time and consistency to achieve and it can be destroyed relatively quickly. The expanding hotel industry, therefore, needs to continue evaluating its service quality models in order to counteract the high level of hotel homogeneity and deal with intensified demand (Chen, 2014). From a management point of view, improving hotel service quality can have a significant positive effect on hotels' financial success and market share (Lai and Hitchcock, 2016).

Previous studies' results have emphasized that service quality dimensions in the accommodation industry may differ according to the service under analysis (Brochado and Rita, 2018; Luo and Qu, 2016). It is argued that service quality assessment might vary with the country, time, and levels of accommodation services. Hence, star ratings in hotels are globally used and validated to evaluate service quality (Huang et al., 2018). However, the fierce competition among booking platforms has put further pressure on hotels to provide outstanding services to attract and retain customers. Customers' evaluations support potential guests' decision-making processes, but, most of all, reviews encourage hotels to improve their service quality (Schuckert et al., 2015).

Measuring performance has always been a key challenge for the hospitality sector (Assaf and Magnini, 2012), however, performance evaluations are a key strategic tool for competitive advantage. This tool enables hotels to measure their efficiency and help decision-making to improve performance and gain competitive advantage (Arbelo-Pérez et al., 2017; Assaf and Josiassen, 2016).

External variables such as location, close to industrial areas, visa policies and efficient governmental policies can have a positive effect on hotels' business and competitiveness. In contrast, high tax rates and fuel prices, disasters, and hotel locations tend to have a negative effect on hotel performance (George Assaf et al., 2017). The relationship between the hotel industry and the measurement of consumption experiences requires careful assessment as it can reveal the industry's competitive drivers and implicates marketing and management decisions (Azzopardi and Nash, 2013). In summary, understanding the key drivers of hotel performance is critical to ensure that hotel operators make informed decisions and achieve the highest possible performance (George Assaf et al., 2017). The IPA scales have been used in multiple studies particularly in hospitality and tourism businesses, as shown in Table 1. This scale's effectiveness is noted in generating practical results that can help hotel management to achieve competitive advantages through guest satisfaction and service quality improvements (Azzopardi and Nash, 2013).

2.4. Hotel star ratings

Traditionally, the best indicator of a hotel's quality and range of services is its star category. Star ratings and hotel prices offer guests a reference point to evaluate service quality (Huang et al., 2018). According to the World Tourism Organization (2018), a 5-star hotel is commonly expected to provide enhanced services, while, for example, a 4-star hotel provides essential services as needed. However, this system of hotel classification has currently lost some of its influence as many tourists now put their trust more strongly in other customers' reviews and comments based on past experiences (Leung et al., 2013). Nonetheless, star ratings remain a crucial consideration for tourists searching hotel accommodations, while online reviews provide further information related to quality standards.

Hotels are usually rated on a scale of 1-5 stars, where 1 star represents an extremely basic level of service and 5 stars represent greater luxury (Ariffin and Maghzi, 2012). This commonly accepted rating system seeks to provide an objective appraisal of hotels. Forbes Travel Guide (2017), formerly known as Mobil Travel Guide, launched its star rating system in 1958. A wide variety of rating schemes are also used by different organizations around the world. For example, in the US, the American Automobile Association and its affiliated agencies use diamonds instead of stars to provide hotel and restaurant ratings.

In Europe, the European Consumer Centres Network (European Commission, 2018) is responsible for studying all hotel classifications and analysing any discrepancies to guarantee that consumers can rely on hotel star rankings (Meltem, Albayrak, and Matzler 2012). However, in the European Union, except for Finland, each country provides an official classification based on hotel stars. In Portugal, hotel classification based on stars is handled by the Portuguese Tourism Bureau (Turismo de Portugal, 2018) that enforces the Portuguese legislation. The implementation of the 135 requirements depend on the hotel star rate for example in Portugal to earn the category of five-star hotel 61 requirements are mandatory; four-star hotels 50 requirements and for three-star hotels 44 requirements.

Thus, no international standard exists for hotel star allocation, but the system is still used for guidance and consumers universally accept that the more stars hotels have, the better they are.

3. Methodology

3.1. Theoretical background and research instrument

This study uses survey technique and evaluates hotel guests' service quality perceptions and their actual experiences in Lisbon using the IPA to determine service quality standards for business success (Chu and

Table 3

Choi, 2000).

The questionnaire had two main sections. The first section comprised 15 hotel attributes of reception and room facilities, 6 attributes of room service, and 6 attributes of restaurant services. The scale items were developed with input from local hotel managers and with measures adapted from Lockyer (2000); Mohsin (2003); Mohsin and Lockyer (2010), and Mohsin and Ryan (2005) studies. The questionnaire measured how guests ranked the importance of each attribute in their selection of a hotel and performance as their actual experience of each attribute when they last stayed in a Lisbon hotel. The responses used a 7-point Likert scale (1 = “Extremely unimportant” ; 7 = “Extremely important”). The second part of the questionnaire was designed to measure the hotel’s star rating and the respondents’ demographic and travel information.

3.2. Sampling method

The respondents were tourists visiting Portugal and staying in hotels in Lisbon from October 2017 to February 2018. The questionnaire was printed in English, so its targeted visitors who were comfortable communicating in English. The respondents were from the United Kingdom, France, Italy, Germany, Holland, United States of America, Spain, Brazil, and other nations. The list of countries in our survey were based on the official numbers from Statistics Portugal (INE) and they represent the top 8 nations (guests) that stayed in Lisbon Hotels. A convenience sample was used that ensured the respondents had stayed at least one night in a hotel in a 3-, 4-, and 5-star in Lisbon. The sample size was determined by Lohr (2010) method and the questionnaire generated 730 valid responses after 38 incompletes were eliminated.

3.3. Tourists’ profiles

Most of the respondents are females representing 682% of the sample, the largest percentage is between 31-40 years old 378%, also important to remark that the tourists between 31-50 years old represent 605% of our sample. Geographical and cultural proximity is important as most tourists visiting Lisbon come from the neighbouring country Spain accounting for 17%, followed by Portuguese speaking country, Brazil that represents 148%, the countries. More than half of the participants 50,4% demonstrate that the main purpose to visit the city is on holiday, and 444% and prefer to stay in a five-star facility, most tourists opting to travel with friends 303% or as a couple 248%.

3.4. Data analysis process

This study uses the IPA framework developed by Ka, Lai and Hitchcock, 2016. Thus, the analyses comprised the following steps:

- Step 1 - descriptive analysis including a normality test
- Step 2 - confirmation of reliability and validity with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA)
- Step 3 - calculation of importance levels through repeated measures analysis of variance (ANOVA)
- Step 4 - measurement of the gaps between importance and performance with paired-sample *t*-tests
- Step 5 - interpretation of the results using IPA mapping

The IPA was applied to measure service attributes for 3-star, 4-star, and 5-star hotel ratings. This process of segmentation based on star rating generated insights specific to each star category to identify measures that can improve managers’ planning and decision-making (Ka et al., 2015).

In addition, as part of the IPA framework, the present study adapted the approach developed by Boley, McGehee and Hammett (2017) to obtain more accurate values and fresh insights. This included the following additional steps:

Table 2

Tourists’ profile.

Variable	Category	N	%
Gender	Male	232	31.8%
	Female	498	68.2%
Age group	= < 20	20	2.7%
	21-30	111	15.2%
	31-40	276	37.8%
	41-50	166	22.7%
	51-60	48	6.6%
	= > 61	109	14.9%
Nationality	Spanish	124	17.0%
	Brazilian	108	14.8%
	UK	97	13.3%
	USA	60	8.2%
	German	32	4.4%
	French	32	4.4%
	Italian	32	4.4%
	Dutch	30	4.1%
	Other	215	29.5%
Main reason for visiting Lisbon	Business	108	14.8%
	Holiday	368	50.4%
	Mixture	241	33.0%
	Other	13	1.8%
Star rating of the last hotel	3	107	14.7%
	4	299	41.0%

Table 3

	5	324	44.4%
Traveller type	Family	173	23.7%
	Couple	181	24.8%
	Friends	221	30.3%
	Solo	155	21.2%

- Step 6 - multivariate ANOVA (MANOVA) tests
- Step 7 - paired-sample *t*-tests of the three-star rating segments
- Step 8 - IPA mapping for each segment

The IPA results (Martilla and James, 1977) are usually interpreted based on importance-Performance (i.e., two-dimensional) maps that classify the importance and performance values on a scale running from low to high scores. The selection of crosshairs is thus a critical decision that allows researchers to identify into which quadrant attributes will fall. The current study employed a hybrid approach that combined crosshairs centered on data points and a 45° diagonal isline representing the points at which importance and performance scores are equal (Ka et al., 2015). Accordingly, for attributes located above the 45° diagonal isline importance is higher than the performance.

4. Results

The results are discussed below based on the eight steps of the data set analysis (Table 2).

4.1. Step 1 – descriptive analysis

The descriptive statistics include the mean and SD values and the hotel attributes in relation to importance and performance (see Table 3).

4.2. Step 2 – Validity and reliability

The validity and reliability of the measurement instrument were assessed through EFA and CFA. Kaiser-Meyer-Olkin (KMO) and Bartlett's test results revealed sample adequacy. EFA was conducted using principal component analysis, with eigenvalues exceeding 1 and factor loadings exceeding 0.4 (Ka et al., 2015). A clear factorial structure matrix was obtained that summarized the 29 attributes into 5 components accounting for 57% of the total variance (Tables 4 and 5). To test the predictive validity of the identified dimensions, partial least squares path modelling (PLS-PM) was used to assess the dependent variables' correlation with guests' likelihood to recommend their hotel and recommend the city. The model was estimated using PLS structural equation modelling Hair et al., 2017 because this is a distribution-free method and offers robust results. The measurement model evaluation for the reflective constructs included assessments of internal consistency (i.e., composite reliability), indicator reliability, convergent validity (i.e., average variance extracted [AVE]), and discriminant validity (i.e., Fornell-Larcker criterion).

The results of these analyses reveal that all item loadings are higher than or equal to 0.70 for the dimensions of restaurant menu and restaurant ambience. The items included in the reservation and reception, room facilities, and room service dimensions registered loadings between 0.4 and 0.7 and loadings higher than 0.7. As the AVE scores are all higher than 0.5, every indicator was retained for all the dimensions (Hair et al., 2017). Composite reliability meets the threshold criterion of 0.70. These constructs thus have consistent reliability (Hair et al., 2017). The Fornell-Larcker criterion was next applied to test for discriminant validity, revealing that the square root of the AVE for each construct (i.e., on the diagonal) is higher than the highest correlation with any other construct.

Regarding the guests' likelihood to recommend their hotel, the structural model's results based on the bootstrapping method reveal that 4 out of 5 dimensions are statistically significant. The strongest path coefficient is associated with the variable of room service ($\beta = 0.175$; $p = 0.000$), followed by reservation and reception ($\beta = 0.147$; $p = 0.000$), restaurant menu ($\beta = 0.137$; $p = 0.000$), and room facilities ($\beta = 0.137$; $p = 0.003$). Concerning the likelihood to recommend the city as a dependent variable, the structural model's results confirm that 4 out of 5 dimensions are statistically significant. The strongest path is associated with room facilities ($\beta = 0.154$; $p = 0.002$), followed by reservation and reception ($\beta = 0.148$; $p = 0.001$), restaurant ambience ($\beta = 0.148$; $p = 0.002$), and room service ($\beta = 0.140$; $p = 0.001$). The collinearity statistics (i.e., variance inflation factor) for all constructs are lower than 2.

Table 3

Descriptive statistics.

No.	Attribute	Importance (I)				Performance (P)					
		Mean	SD	Rank	Normality test	Mean	SD	Rank	Normality test		
1	Reservation easy to make	5.94	1.03	13	0.25	*	5.87	1.23	9	0.28	*
2	Prompt confirmation of reservation	6.09	0.99	1	0.26	*	5.86	1.21	11	0.29	*
3	First contact with the hotel staff	6.02	1.00	7	0.26	*	5.88	1.10	5	0.27	*
4	Helpful and friendly staff	6.04	1.01	5	0.27	*	5.83	1.15	13	0.28	*
5	First impressions of the hotel	6.01	1.02	8	0.25	*	5.87	1.05	8	0.26	*
6	Hotel check in and out procedure	5.92	1.06	14	0.24	*	5.88	1.05	7	0.27	*
7	Room furnishings	5.88	1.06	21	0.25	*	5.86	1.09	10	0.28	*
8	Room cleanliness	6.02	1.03	6	0.23	*	5.89	1.06	4	0.28	*
9	Bathroom cleanliness	6.09	0.99	2	0.24	*	5.88	1.07	6	0.26	*
10	Bed comfort	6.08	0.98	3	0.25	*	5.93	1.08	3	0.25	*
11	Standard of fixtures and fittings	5.97	1.03	12	0.26	*	5.84	1.11	12	0.27	*
12	Range of complimentary services	5.90	1.08	19	0.26	*	5.78	1.17	16	0.26	*
13	Internet access	5.91	1.10	16	0.26	*	5.77	1.23	19	0.25	*
14	Television screen size	5.74	1.29	28	0.25	*	5.72	1.27	21	0.27	*
15	Hotel value for money	5.90	1.19	18	0.27	*	5.72	1.23	20	0.27	*
16	Prompt response from order taker	5.78	1.20	26	0.26	*	5.77	1.39	18	0.27	*
17	Variety of items on the menu	5.78	1.19	25	0.26	*	5.57	1.50	25	0.26	*
18	Prompt room service if used	5.85	1.17	23	0.25	*	5.55	1.56	26	0.26	*
19	Food quality	5.91	1.19	17	0.25	*	5.44	1.65	28	0.26	*
20	Overall selection of beverages	5.80	1.29	24	0.27	*	5.43	1.60	29	0.26	*
21	Room service value for money	6.00	1.14	10	0.25	*	5.47	1.61	27	0.25	*
22	Restaurant ambience	5.57	1.48	29	0.27	*	5.96	1.14	1	0.25	*
23	Staff's appearance	5.75	1.32	27	0.28	*	5.96	1.15	2	0.25	*
24	Service quality	5.92	1.10	15	0.26	*	5.79	1.27	14	0.23	*
25	Timely service	5.87	1.29	22	0.28	*	5.79	1.40	15	0.26	*
26	Staff's product knowledge	5.89	1.31	20	0.28	*	5.72	1.36	22	0.24	*
27	Restaurant value for money	5.98	1.20	11	0.27	*	5.70	1.31	23	0.25	*
28	Handling of complaints	6.01	1.17	9	0.25	*	5.65	1.40	24	0.24	*
29	Restaurant food quality	6.08	1.08	4	0.25	*	5.78	1.32	17	0.26	*
	All	5.92					5.76				

Note: * null hypothesis of normality rejected ($\alpha = 5\%$).

4.3. Step 3 – Calculation of importance levels

IPA assumes that the importance levels of hotel attributes are different. To validate this assumption, the analysis included repeated measures ANOVA. After Mauchly's test of sphericity rejected the null hypothesis of homogeneity of covariance (Mauchly's $W = 0.004$; $p = 0.000$), the Greenhouse-Geisser correction was applied. The test for within-subjects effects revealed significant differences in the attributes' importance levels ($F = 10.609$; $p = 0.000$).

4.4. Step 4 – Measurement of the gaps between importance and performance

The paired sample *t*-test's results reveal that a gap exists between importance and performance for 23 (80%) of the 29 items (See Table 6) and only 2 out of the 23 attributes registered performance higher than the importance.

4.5. Step 5 – interpretation of IPA results

The IPA's results indicate that all Lisbon hotels in Quadrant I: "Keep up the good work" show major strengths in multiple areas. These include their reception and room facilities, prompt confirmation of reservations, first contact with the hotel staff, helpful and friendly staff, first impressions of the hotel, room cleanliness, bathroom cleanliness, bed comfort, standard of fixtures and fittings, and restaurant food quality.

Quadrant II: "Concentrate here" indicates attributes with high importance but low performance from the customers' perspective. These are related mainly to value for money (i.e., room and restaurant value for money) and the restaurant (i.e., handling of complaints).

Model' s validity and reliability.

Attribute No.	Component				
	Restaurant menu and service	Room service	Room facilities	Reservation and reception	Restaurant ambience
1				0.749	
2				0.701	
3				0.528	
4				0.733	
5				0.684	
6				0.529	
7			0.670		
8			0.646		
9			0.602		
10			0.640		
11			0.733		
12			0.641		
13			0.549		
14			0.518		
15			0.637		
16		0.525			
17		0.697			
18		0.794			
19		0.838			
20		0.835			
21		0.808			
22					0.704
23					0.641
24	0.755				
25	0.785				
26	0.783				
27	0.761				
28	0.677				
29	0.736				
KMO test and Bartlett' s test of sphericity	KMO = 0.915; Bartlett' s test ($\chi^2 = 10.162; p = 0.000$)				
Percentage of variance explained	15.609	30.100	43.263	51.094	57.251
Cronbach' s alpha	0.852	0.801	0.737	0.745	0.748
PLS-PM results					
Composite reliability	0.890	0.855	0.771	0.823	0.888
AVE	0.574	0.500	0.501	0.537	0.789
Dependent variable: likelihood to recommend the hotel: $\beta (p) R^2 = 0.225$	0.147 ($p = 0.003$)	0.175 ($p = 0.000$)	0.137 ($p = 0.003$)	0.147 ($p = 0.000$)	0.005 ($p = 0.913$)
Dependent variable: likelihood to recommend the city: $\beta (p) R^2 = 0.228$	0.011($p = 0.808$)	0.140 ($p = 0.001$)	0.154($p = 0.002$)	0.148($p = 0.001$)	0.148 ($p = 0.002$)

Quadrant III: “Low priority” includes the attributes that customers see as unimportant and low performance areas, which are mainly connected to reception and room facilities, room service, and the restaurant. More specifically, the attributes are hotel value for money, variety of items on the menu, prompt room service if used, food quality, overall selection of beverages, and the staff' s product knowledge (Fig.1).

Quadrant IV: “Possible overkill” represents major hotel weaknesses. These fall under reception and room facilities, including the range of complimentary services, Internet access, and the restaurant, including restaurant ambience, the staff' s appearance, and service quality. The diagonal isoline shows that only two items registered a performance score higher than the importance score: restaurant ambience and the staff' s appearance (see Fig. 2).

4.6. Step 6 – Importance- and performance-based MANOVA test

Two separate MANOVA tests were conducted to test for differences between the scores of both importance and performance attributes across the three groups of hotels. The Box' s M test results reveal that the assumption of equal population covariance matrices was rejected for the 29 importance attributes (Box' s M = 19,420.47; $p = 0.000$) and for the 29 performance attributes (Box' s M = 19,420.47; $p = 0.000$). To cope with these results, bootstrapping estimation was used in the MANOVA procedure. The results indicate that statistically significant differences exist among guests across the three groups of hotels regarding importance (Pillai' s trace = 0.122; $F = 1.569; p = 0.005$) and performance (Pillai' s trace = 0.122; $F = 1.569; p = 0.005$) attributes.

4.7. Step 7 – Measurement of gaps between importance and performance by hotel star group

The results of the paired sample *t*-test reveal a significant gap between importance and performance for 11 items for 3-star hotels, 14 for 4-star, and 19 for 5-star hotels. The most significant gaps include performance rated higher than importance for 1 item in 3-star hotels, 3 for 4-star lodgings, and 2 for 5-star accommodations.

4.8. Step 8 – Interpretation of IPA results by hotel star group

The segmentation analysis based on hotel star ratings highlighted some similarities and a few differences. In Quadrant I, 9 similarities exist across 3-, 4-, and 5-star hotels, including bathroom cleanliness. The main differences appear in 3-star hotels, which received the best appraisals for helpful and friendly staff, while 4-star hotels are the best in terms of first impressions of the hotel and room cleanliness. Five-star hotels present strong performance for three attributes: bed comfort, standard of fixtures and fittings, and range of complimentary services. Quadrant II's 3- and 5-star hotels have in common good quality restaurant food. Differences can be seen in 3-star hotels' food quality.

Table 5
Paired sample *t*-tests (entire sample).

Attribute No.	Paired sample <i>t</i> -test		Rank difference	Quadrant	
	Mean difference	<i>t</i>		Data points (DP)	Diagonal (45°)
1	0.08	1.33	23	I	I > P
2	0.23	4.42	* 8	I	I > P
3	0.14	2.75	* 17	I	I > P
4	0.21	4.43	* 10	I	I > P
5	0.14	3.07	* 16	I	I > P
6	0.05	1.02	24	I	I > P
7	0.01	0.24	26	IV	I > P
8	0.13	2.78	* 18	I	I > P
9	0.20	4.29	* 11	I	I > P
10	0.15	3.00	* 14	I	I > P
11	0.13	2.51	* 19	I	I > P
12	0.11	2.18	* 21	IV	I > P
13	0.15	2.74	* 15	IV	I > P
14	0.02	0.27	25	III	I > P
15	0.18	3.21	* 12	III	I > P
16	0.01	0.16	27	IV	I > P
17	0.21	3.54	* 9	III	I > P
18	0.30	5.16	* 6	III	I > P
19	0.47	7.37	* 2	III	I > P
20	0.37	6.27	* 3	III	I > P
21	0.54	8.73	* 1	II	I > P
22	-0.39	-6.42	* 29	IV	P > I
23	-0.21	-3.55	* 28	IV	P > I
24	0.12	2.39	* 20	IV	I > P
25	0.08	1.40	22	IV	I > P
26	0.17	3.03	* 13	III	I > P
27	0.27	4.92	* 7	II	I > P
28	0.35	5.96	* 4	II	I > P
29	0.30	5.40	* 5	I	I > P

Note: * importance-Performance difference statistically significant.

and the staff's product knowledge, but 4-star hotels are differentiated by their prompt confirmation of reservations, guests' first contact with the hotel staff, and helpful and friendly staff. Five-star hotels stand out for their restaurants' value for money, service quality, and handling of complaints.

For Quadrant III hotels, the main similarities are prompt room service if used and the overall selection of beverages. Three- and 4-star hotels show similarities in having a variety of items in their menu. The main differences for 3-star hotels are related to their room service value for money and handling of complaints, while the major differences for 5-star hotels are Internet access, television screen size, hotel value for money, food quality, timely service, and the staff's product knowledge. Four- and 5-star hotels in Quadrant IV have in common good restaurant ambience and their staff's appearance. The main difference is the television screen size in 3-star hotels and the 4-star hotels' timely service (see Figs. 3, 4, and 5).

5. Discussion

5.1. Importance-performance scores for Lisbon hotels

The findings suggest that Lisbon hotels deliver quality services with a competitive position. It confirmed that reception, room facilities, prompt confirmation of reservations rank high in the pre-travel phase, thus improving hotels' competence. It is in line with Callan and Kyndt (2001) findings. Importance of pre-travel phase is also highlighted by Neal et al., 2007. The findings also highlight the importance of guests' first impressions of the hotel and encounters with the friendly hotel staff which corroborates Mohsin and Lockyer (2010) study. Servicescapes especially in hotels and restaurants are the first impression that guests get even before they interact with the hotel staff, thereby shaping their expectations of overall service quality (Lin, 2004).

The current study suggests that quality of room and bathroom cleanliness, bed comfort, and standard fixtures are also crucial for acceptable service in hotels, thereby confirming Zhang and Cole (2016) findings. In addition, food quality in Lisbon hotels influenced tourists' satisfaction with service quality.

Dwyer et al., 2012 notes attributes that are perceived as unimportant by hotel guests. But from a management perspective these features are operationally important as they contribute to good performance and perceived value for money. The hotel attributes that fall within Quadrant III include, among others, items that add to hotels' costs like standard meals and/or breakfast.

Quadrant IV, in turn, represents hotels' major threats vis-à-vis the competition. These attributes are associated with underperforming hotels, such as their lack of complimentary services, their restaurants' low quality, and the staff's unappealing appearance. The present analysis further found that, in the hotel restaurants, the staff's knowledge and ability to communicate with guests influence service quality, customer satisfaction, and customer loyalty, which corroborates Kim (2009) results. Overall, the importance of establishing long-lasting customer relationships is broadly accepted in the literature on marketing.

5.2. Level of importance segmented by 3-, 4-, and 5-star hotels

In Quadrant I, the standard services shared by 3-, 4-, and 5-star hotels indicate that guests expect bathroom cleanliness as a basic requirement for all hotel categories. Notably, the number of items expected increase with the number of stars, thus the few competitive differences remaining for 3-star hotels are the best appraisal for 1 item—helpful and friendly staff. Four-star hotels are differentiated by 2 items: guests' first impressions of the hotel and room cleanliness. Five-star hotels are perceived as achieving strong performance in 3 items: bed comfort, standard of fixtures and fittings, and range of complimentary services. Tourists' expectations of hotel services clearly increase based on the number of stars, so management must concentrate efforts on premium services to deal with growing competition, which is forcing hotels worldwide to provide noteworthy services to their guests (Ekiz et al., 2012). The number of hotel stars is thus still commonly accepted as a benchmark for quality services (Arbelo-Pérez et al., 2017).

The present study's findings also include that Quadrant II 3- and 5- star hotels have in common good restaurant food quality. Differences can be seen in 3-star hotels' food quality and their staff's product knowledge. In addition, 4-star hotels are differentiated by their prompt confirmation of reservations, guests' first contact with the hotel staff, and helpful and friendly staff, while 5-star hotels excel in their restaurants' value for money, service quality, and handling of complaints. Travel, 2016 lists "20 reasons why Portugal should be on every foodie traveller's list." The country's cuisine is not only rooted in the availability of fresh fish but also uses the freshest local ingredients and captures all international tastes. Hotel managers clearly need to concentrate on the quality of their restaurants and food while creating offers that meet all budgets.

The present results thus have important implications for hotel management because strategies should be implemented to increase the value of the services rendered and/or services with higher margins to achieve sustainable competitive advantages. More specifically, hotels of the highest categories should improve their employees' qualifications as this has a great impact on service quality, as well as expanding the range of services that offer higher margins and improving customer service. In addition, hotel managers need to enhance brand loyalty and image through promotion and communication strategies. These strategies can contribute to greater customer loyalty and quality, which translates into higher sales and occupation rates and, consequently, a reduction in revenue inefficiency.

Regarding Quadrant II, the differences must be acknowledged. For example, three-star hotels emphasize the importance of food in hospitality as guests mention restaurants' food quality and staff's product knowledge. Food and beverage attract a quite large number of tourists, and this type of tourism has potential for growth as the quality and price of food and wine is an important motivation to visit Portugal (Xu et al., 2016). Marketing strategies can thus target current and potential tourists who visit countries because of food and wine tourism.

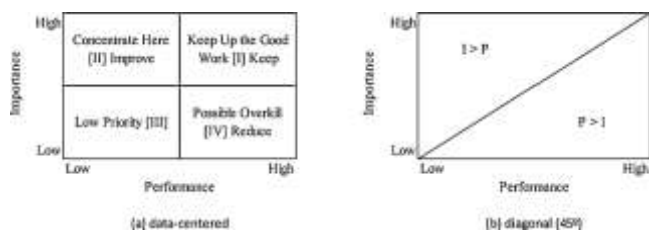


Fig. 1. IPA mapping.

Table 6
Paired sample *t*-test by hotel star ratings.

Attribute No.	Three-star hotels						Four-star hotels						Five-star hotels								
	I	P	Dif.	R	Paired <i>t</i> -test	DP	Diagonal (45°)	I	P	Dif.	R	Paired <i>t</i> -test	DP	Diagonal (45°)	I	P	Dif.	R	Paired <i>t</i> -test	DP	Diagonal (45°)
1	6.07	5.94	0.13	19	1.06		I I > P	5.94	5.84	0.10	16	1.17		I I > P	5.90	5.86	0.04	25	0.41		IV I > P
2	6.12	6.04	0.08	21	0.77		I I > P	6.12	5.76	0.36	4	4.75	*	II I > P	6.05	5.89	0.16	16	1.82		I I > P
3	5.99	6.01	-0.02	26	-0.17		I P > I	6.06	5.80	0.25	8	3.39	*	II I > P	6.00	5.92	0.08	21	0.98		I I > P
4	6.08	5.83	0.25	10	2.01	*	I I > P	6.04	5.73	0.32	7	4.32	*	II I > P	6.01	5.92	0.10	19	1.35		I I > P
5	6.00	5.82	0.18	16	1.35		I I > P	6.01	5.81	0.20	11	2.81	*	I I > P	6.01	5.94	0.07	22	1.11		I I > P
6	5.97	5.79	0.19	13	1.39		I I > P	5.85	5.88	-0.03	21	-0.33		IV P > I	5.98	5.90	0.07	23	1.13		I I > P
7	5.80	5.79	0.02	24	0.12		IV I > P	5.82	5.88	-0.06	25	-0.70		IV P > I	5.95	5.88	0.07	23	1.04		I I > P
8	5.98	5.93	0.06	22	0.42		I I > P	6.17	5.95	0.22	10	2.74	*	I I > P	5.91	5.82	0.08	20	1.25		IV I > P
9	6.15	5.86	0.29	9	1.98	*	I I > P	6.13	5.89	0.24	9	3.32	*	I I > P	6.02	5.89	0.14	18	2.06	*	I I > P
10	6.03	5.87	0.16	17	1.11		I I > P	6.01	5.97	0.04	20	0.51		I I > P	6.16	5.92	0.25	10	3.46	*	I I > P
11	5.82	5.79	0.04	23	0.26		IV I > P	5.91	5.84	0.06	19	0.83		IV I > P	6.07	5.86	0.22	14	2.87	*	I I > P
12	5.81	5.58	0.23	11	1.56		III I > P	5.79	5.84	-0.05	24	-0.57		IV IV	6.02	5.80	0.22	13	3.03	*	I I > P
13	5.97	5.79	0.18	15	1.20		I I > P	5.93	5.84	0.10	17	1.05		I P > I	5.88	5.69	0.19	15	2.58	*	III I > P
14	5.50	6.00	-0.50	29	-3.00	*	IV P > I	5.70	5.73	-0.03	22	-0.38		III P > I	5.86	5.63	0.23	12	3.03	*	III I > P
15	5.98	5.82	0.16	17	1.15		I I > P	5.89	5.78	0.11	15	1.33		III I > P	5.89	5.65	0.24	11	2.85	*	III I > P
16	5.85	5.76	0.09	20	0.52		IV I > P	5.82	5.73	0.09	18	0.95		III I > P	5.72	5.81	-0.09	27	-1.13		IV P > I
17	5.83	5.43	0.40	4	2.39	*	III I > P	5.81	5.46	0.34	6	3.63	*	III I > P	5.74	5.71	0.03	26	0.36		III I > P
18	5.89	5.51	0.37	6	2.37	*	III I > P	5.90	5.46	0.43	3	4.35	*	III I > P	5.80	5.64	0.16	16	2.01	*	III I > P
19	5.99	5.30	0.69	1	3.38	*	II I > P	5.99	5.37	0.61	2	5.72	*	II I > P	5.82	5.56	0.27	9	3.38	*	III I > P
20	5.72	5.35	0.37	6	2.16	*	III I > P	5.75	5.39	0.36	5	3.68	*	III I > P	5.87	5.49	0.38	5	4.76	*	III I > P
21	5.88	5.51	0.36	8	2.02	*	III I > P	6.13	5.47	0.66	1	6.44	*	II I > P	5.93	5.45	0.48	1	5.86	*	II I > P
22	5.74	5.84	-0.10	28	-0.68		IV P > I	5.59	5.97	-0.37	29	-3.60	*	IV P > I	5.49	5.99	-0.50	29	-5.99	*	IV P > I
23	5.74	5.80	-0.07	27	-0.43		IV P > I	5.80	6.09	-0.28	28	-3.00	*	IV P > I	5.71	5.90	-0.19	28	-2.17	*	IV P > I
24	5.72	5.71	0.01	25	0.06		III I > P	5.99	6.03	-0.04	23	-0.49		I P > I	5.92	5.60	0.31	6	4.22	*	II I > P
25	5.75	5.56	0.19	13	1.18		III I > P	5.92	6.12	-0.20	27	-2.20	*	IV P > I	5.85	5.55	0.30	8	3.81	*	III I > P
26	6.03	5.56	0.47	2	3.04	*	II I > P	5.83	5.91	-0.08	26	-0.85		IV P > I	5.91	5.60	0.31	6	4.18	*	III I > P
27	5.88	5.68	0.20	12	1.34		III I > P	6.00	5.86	0.14	13	1.52		I I > P	5.99	5.57	0.42	4	5.59	*	II I > P
28	5.88	5.41	0.47	2	3.12	*	III I > P	6.03	5.86	0.18	12	1.75		I I > P	6.02	5.55	0.48	1	5.90	*	II I > P
29	6.03	5.64	0.38	5	2.43	*	II I > P	6.15	6.04	0.11	14	1.22		I I > P	6.03	5.58	0.46	3	5.74	*	II I > P
All	5.90	5.72						5.93	5.80						5.91	5.74					

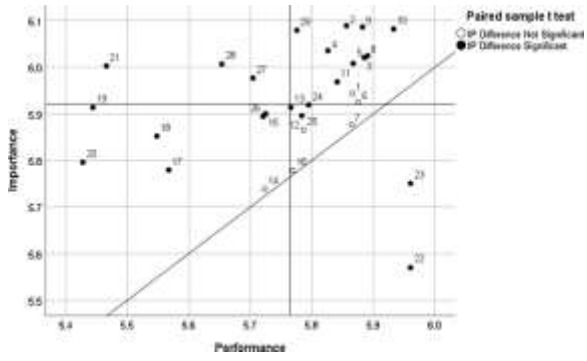


Fig. 2. Importance-Performance mapping.

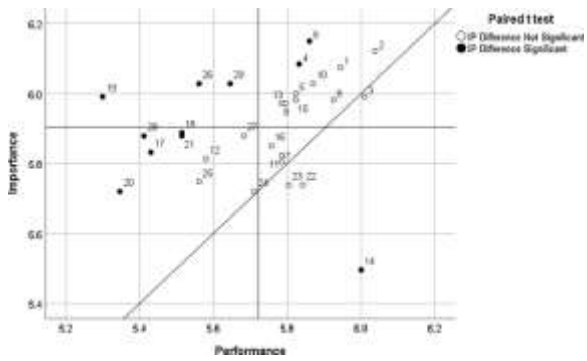


Fig. 3. Importance-Performance mapping for three-star hotels.

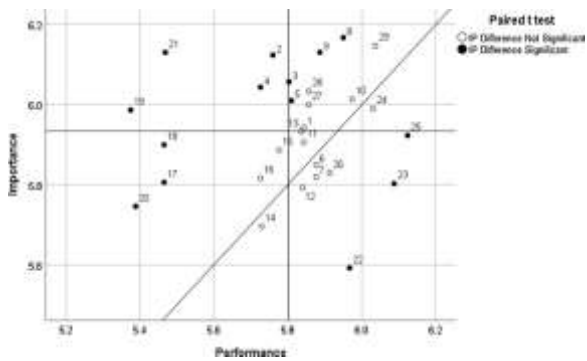


Fig. 4. Importance-Performance mapping for four-star hotels.

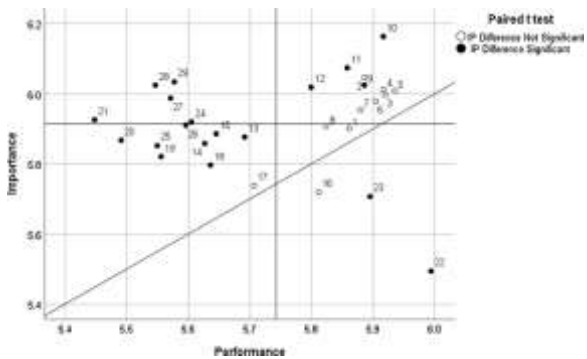


Fig. 5. Importance-Performance mapping for five-star hotels.

6. Conclusion

Service excellence requires time to attain and preserve, and it can be destroyed quite quickly. Therefore, the growing hotel industry needs to continue evaluating service quality to countermand the high level of homogeneity among hotels and meet the intense demand for quality services (Chen, 2014). From a management point of view, improving hotel service quality can have a significantly positive effect on hotels' financial success and market share (Lai and Hitchcock, 2016). The recent literature on this topic has also focused on how the rapid dissemination of online review systems of hospitality businesses has raised major concerns about identifying critical performance attributes that ensure hotel service quality. For instance, Mauri and Minazzi (2013) conducted a study on the impact of online reviews on hotel service expectations, getting results that indicate these reviews have a positive correlation with choice decisions and thus that hotel managers should consider service assessment fundamental. Evaluating hotels' service quality and guest satisfaction continues to be a challenge for those seeking to develop quality offerings (Román and Martín, 2016, p. 497). The current research has clear theoretical implications. First, the results contribute to a better understanding of the service quality offered by Lisbon hotels, thereby targeting an under researched geographical area that is becoming increasingly popular. This study's findings further contribute to the validation of Mohsin and Lockyer (2010) scale for a different research context. Second, in answer to calls in previous studies (Lai and Hitchcock, 2016), the present hotel service quality results were not only discussed in terms of the overall sample but also segmented by hotel star ratings (Huang et al., 2018). Last, from a methodological perspective, the application of IPA to tourism proposed by Ka et al. (2015) was extended by adding Boley et al. (2017) steps to facilitate analysis by star rating.

The present study also has managerial implications. The measurement of service gaps provided significant conclusions for management in hotels of different categories. First, the results indicate that guests perceive that importance is higher than performance and that the greatest differences appear in the price and/or value for money of upscale facilities, including 4- and 5-star luxury hotels. These findings emphasize the need to strengthen customer loyalty. Decreases in price elasticity for this type of hotel is irrelevant since loyal customers are less likely to switch brands if the price rises. Most of all, loyal customers rely on their positive interaction with hotels (Lai and Hitchcock, 2016), so efficient price management could improve revenue.

Second, the current results underline the importance of food and beverage in all hotel categories, especially food quality, the overall selection of beverages, restaurants, and restaurant food quality. Food quality, varied beverages, and restaurant ambience can positively affect guests' satisfaction (Han and Hyun, 2015). Thus, the evidence shows that good performance in four dimensions, including food and beverage, plays a pivotal role in guests' satisfaction. Last, the importance of how hotels handle complaints in guests' service evaluations has

practical implications for hotel managers since efficiently dealing with guests' complaints can lead to greater satisfaction and long-term customer loyalty (Ekiz, 2009). Therefore, hotels must establish complaint procedures that can promote service success and diminish failures.

The present study used IPA to provide results on guests' perceptions of the service quality offered by Lisbon hotels, categorizing these by star rating. However, the findings may not be generalizable to other countries, so additional research is needed to validate the results in other geographical areas.

A limitation of this study is the sampling method used to collect the data in a post experience phase. Future research could address hotel guests' importance perception before they experience the service. Another aspect that merits future research is the use of IPA to investigate other accommodation market segments with different levels of services and sustainability concerns, such as hostels, green hotels, resorts, or Airbnb offers the results from our questionnaire could be compared to User Generated Content (UGC) in form of guests' reviews in three, four- and five-star hotels.

7. So, what is the significance of the current study?

From a theoretical perspective, despite decades of research and published literature, service quality still poses a challenge for the hotel industry (Bhavani and Pawar, 2013; Soriano, 2002; Torres et al., 2014; Chen and Chen, 2014; Anton et al., 2007; Bell et al., 2005; Aydin and Ozer, 2005; Suhartanto, 2011). Using the IPA, a validated technique (see Table 1), the current study, through its investigations adds new insights by explaining the emerging trends and customers' quality perceptions based on star grading of hotels. This not only contributes to the service quality literature, it also helps the hotel management to develop service strategies to delight their customers and retain loyalty.

From a managerial perspective, the study provides an opportunity to recognise in a ranking order attributes considered important by hotel customers. By comparing their evaluation of actual experience with what they considered important, service gaps are identified. It helps the hotel management to take a targeted approach to address the issue.

The study also provides an opportunity to compare and benchmark results with other studies done globally.

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