Service quality in airport hotel chains through the lens of online reviewers

Abstract

Airport hotel chains target the specific and important segment of accommodation near airports, thus benefiting from travelers seeking to stay near an airport. This study addresses service quality by analyzing TripAdvisor online reviews over units from both a high-end and a low-end chain in five European cities (Amsterdam, Brussels, Frankfurt, London, Paris). Using text mining and topic modeling, ten heat matrices were drawn (one per unit) to summarize the main services characterizing the computed topics. Seven hypotheses grounded on existing literature were tested, from which some interesting findings emerged (e.g., related to transfer services, staff, food and beverage, cleanliness, and punctuality). This study contributes to the standardization versus adaptation debate by unveiling a globalized strategy in staff management and breakfast services, while bar services adopt a localized strategy. Transportation services, while not offered by the hotels, are frequently mentioned, which signals hoteliers to interact with local authorities to improve accessibilities.

Keywords

Hotel chain; airport hotel; service quality; customer feedback; online reviews.

1. Introduction

Large hotel chains can target several hospitality and tourism market segments while covering a large geography area within each segment (Johnson & Vanetti, 2005). Such is the case of the relevant segment of airport hotels, sought by guests looking to stay

overnight near the airport to facilitate traveling (Casidy & Shin, 2015). The target market of airport hotels includes travelers with long period connection flights, business travelers needing for a quick in-person meeting at a destination, and airlines crews (Lee & Jang, 2011). Also, airport hotels usually have agreements with airlines to receive travelers that are affected by missed connection or cancelled flights (McNeill, 2009). Thus, the specificities of such segment justify research focused on airport hotels. Nevertheless, research on such segment is still scarce and studies summarizing main guests' points of view are lacking.

Social media has leveraged consumer empowerment worldwide (de Oliveira et al., 2019) and customer feedback provides valuable hints in the form of textual comments written and published in online reviews (Costa et al., 2019). Therefore, large volumes of users' opinions can be directly collected without the need to develop data collection instruments such as questionnaires (Wang et al., 2020) to leverage decision support (Huang et al., 2019). Nevertheless, the challenge raised by such large volume requires for automated text mining techniques that are specifically able to deal with the unstructured nature of freely written text (Wang et al., 2018). One of such techniques is topic modeling, which enables to summarize the reviews into topics to better highlight the factors that significant segments of guests are devoting most of their attention to (Canito et al., 2018).

In this study, we unveil the main variables characterizing ten hotels from two distinct chains, a low-end, and a high-end chain in five European alpha cities (Amsterdam, Brussels, Frankfurt, London, Paris). To address the challenge of analyzing the large set of 20,288 collected reviews constituted by unstructured text, we adopted an automated approach based on text mining and topic modeling. We chose the Sheraton for the high-end chain case, considering it is a worldwide recognized brand with a strong online presence that has been the subject of numerous studies (Cervellon & Galipienzo, 2015).

As for the low-end chain, we chose Ibis, which is an economy-class brand belonging to the French Accor group, one of the largest within the hospitality industry (Aung, 2000). Although the results cannot be generalized based on just two chains, by analyzing the two extremes in terms of hotel category, we are able to highlight the main differences instantiated on these two cases based on existing literature for high-end and low-end chains.

This study contributes to existing literature by unveiling the characteristics that are more relevant to guests within the important airport hotel segment. Specifically, we analyze dimensions that may be considered differently by guests of both chains: transportation, staff, food and drink, cleanliness, price, and booking service. By analyzing five cities for the same two chains, we contribute to the globalization versus adaptation theory for those six dimensions within the hospitality industry. Also, the recommendations stemming from our study can guide managers by showing to which features guests are paying the most attention, helping to adjust chains' strategies.

This paper is structured as follows. Next section is devoted to reviewing related theory to support the raised research hypotheses. In the section "data and methods", the experimental procedure is described, including the data characterization and the undertaken approach. In the following section, the results are described and analyzed, with a critical discussion taking place in section 5. Finally, the "conclusions and implications" section presents the main contributions and implications from the study.

2. Theory and research hypotheses

2.1. Airport hotels and chains

Airports are important city hubs enabling mobility across long distances. Therefore, airports are essential for a city's economic development and demographic growth in the global economy, helping to increase its influence worldwide (Stevens et al., 2010). Thus, airports are attractive locations for hotels by offering the proximity advantage (Urtasun & Gutiérrez, 2006). In fact, according to Boffa and Sucurro (2012), airports' high density in cities (i.e., the ratio between total number of civil airports and total area) reduces the seasonality effect observed in occupancy rate. Travelers staying in airport hotels are usually business men/women or tourists who intend to stay near the airport to facilitate transfer between the hotel and the airport (McNeill, 2009). Many travelers on flight scales also take advantage of that proximity factor, thus representing an important market segment for airport hotels (van der Torre, 2003). Specifically, cancelled flights may lead to additional bookings in nearby hotels to avoid extra transfer charges (Grossmann et al., 2011). In addition to these factors, an airport hotel may also be regarded as a business space where meetings often occur gathering employees from delocalized companies (McNeill, 2009). All the above premises justify the importance for hoteliers to locate their units near the airport. Nevertheless, there is a lack of research in this domain since studies focusing in airport hotels are scarce. In addition, they are mostly devoted to analyzing the importance of the hotel distance to airport and to city center (e.g., Lee & Jang, 2011; Yang et al., 2018), only addressing the customer perspective regarding location/distance in the distinctive market segment of airport hotels. In this paper we investigate other factors that may influence the perceived airport hotel chains service quality, as usually an airport hotel offers services beyond the standard hotel, such as meals, including breakfast, and over a

wider timeframe in order to meet its guests' specific needs that being the case of meeting rooms renting (Chandu, 2017).

The other dimension that is investigated in this paper focuses on eventual differences on these aspects between the cities where both low and high-end hotel chains operate, as large hotel chains have specifically developed units targeting this market (Sutthijakra, 2011). These include worldwide renowned brands such as Holiday Inn, Ibis, Marriot, and Sheraton. Typically, these chains take advantage of their size to benefit from economy of scale by offering similar units and services to travelers (Johnson & Vanetti, 2005). Some of the benefits of such chains include renowned brand names, staff training programs and more sophisticated websites (Zervas et al., 2017; Dunning & McQueen, 1982; Yeung & Law, 2004). Thus, chain uniformization is important so that guests familiarized with the brand may rely on what is offered in other units from the same brand (Whitla et al., 2007). Yet, no studies were found specifically devoted to understanding airport hotel chains service quality.

2.2.Perceived hotel service quality

Understanding service quality is vital for every organization's success (Johnston, 1995). Several dimensions have emerged as relevant to service quality. The most widely adopted conceptual model is SERVQUAL, proposed by Parasuraman et al. (1988), which highlights five important types of dimensions: tangibles, reliability, responsiveness, assurance, and empathy. This model was adopted to evaluate hotel service in several studies (e.g., Saleh & Ryan, 1992; Akbaba, 2006). However, several years after its inception some researchers have criticized its lack of generalizability (Buttle, 1996) in a discussion that extends to the hospitality industry (Nadiri & Hussain, 2005). As a result,

studies emerged that focused specifically on the dimensions related to hospitality. Mohsin and Lockyer (2010) highlighted the relevance of hotel ambience and staff courtesy, food and beverage product and service quality, staff presentation and knowledge, reservation services, and overall value for money. Such results are confirmed in other empirical scenarios (e.g., Davras & Caber, 2019; Hu et al., 2019). In a complementary line of research, Barber and Scarcelli (2010) identified cleanliness as an influencing factor of the perceived service quality. The more recent studies by Sun et al. (2019) and Lari et al. (2020) corroborate such finding by exploring two major online hospitality platforms, Airbnb and TripAdvisor, respectively. Additionally, since airport hotels are intrinsically connected to airports, issues related to transportation to the city center as well as flight related issues are also highly relevant from a service quality perspective (Tam et al., 2008). Next, we develop a set of hypotheses that will be tested on the two chosen cases, Sheraton and Ibis. By choosing both a high-end and a low-end chain, we are able to compare the results. However, the findings unveiled for both cases cannot lead to extrapolating to other chains from both types, given the large hospitality market and number of existing chains.

The airport, as a major city hub, needs to be tightly linked with the rest of the city through a proper transportation network which usually includes bus and train, among others (Tam et al., 2010). Therefore, transportation services available are of paramount importance for guests choosing to stay near the airport (de Barros et al., 2007). In addition to this, meetings often occur in airport hotels, emphasizing the need for transportation services (McNeill, 2009). As such, we posit that:

H1: The convenience of transfers is acknowledged by online reviewers as relevant to service quality expressed in written comments, regardless of the city and chain.

An organization's success is built by the hired human resources (Pfeffer & Veiga, 1999). In hotels, staff are key to deliver quality service (Briggs et al., 2007). Top-end hotels charge higher fees from their guests and accordingly their staff is composed by more experienced and qualified personnel to meet higher guests' expectations (Kong & Baum, 2006). Additionally, Kimpakorn and Tocquer (2009) confirmed the relevance of staff commitment to deliver premium service in a luxury hotel brand chain and validated their hypotheses on a luxury hotel brand chain. On the opposite, low-end hotels cannot afford to pay high salaries and are built on a low-cost strategy (Fortanier & Van Wijk, 2010). The abovementioned effects are uniformly propagated over hotels of the same chain through training and a central strategy (Whitla et al., 2007). Thus, we hypothesize that:

H2: The frequency that staff is mentioned in online reviews is evenly distributed through the different cities in which the chain has units.

Thus, H2 reflects the same institutional philosophy transferred between staff through both formal and informal training. Despite the different nationalities, we suggest that the brand label stands above and leads to an uniformized service provided by staff.

Food and beverage are important factors to customer satisfaction in hotels (Kandampully & Suhartanto, 2000). Specifically, food presentation and quality, as well as having bars with a wide variety of drinks are usually present in high-end hotels and guests acknowledge its importance to their satisfaction (Wilkins et al., 2007). On the opposite, low-end hotels receive negative scores of greater magnitudes than high-end for food and drink (Fernández & Bedia, 2004). As different guests have different tastes, understanding the visitor's profile is relevant to disaggregate the written opinions according to such profile (Bonhard et al., 2006). Nevertheless, numerous studies have analyzed reviews by considering other aggregating dimensions without the granularity of users' specific profiles, with interesting results (e.g., Zhang et al., 2010). Additionally, it should be noted

that chains tend to consider a local management strategy for food and drink services to benefit from local experience and at a less expensive rate by adopting local products (Whitla et al., 2007; Munsters & de Klumbis, 2006). Therefore, the following hypothesis is raised:

H3: The frequency that food and drink is mentioned in online reviews is different between the cities in which the chain has units.

Cleanliness is a relevant criterion contributing to guests' satisfaction on both low-end (Rahimi & Kozak, 2017) and high-end hotels (Mohsin & Lockyer, 2010). In fact, according to Zhang et al. (2011) cleanliness has become standard across the hospitality industry and it is not anymore an exclusive feature of high-end hotels. Thus, travelers expect a clean room not only on high-end but also on low-end hotels, suggesting this is a cross-cutting characteristic independent of star level:

H4: Cleanliness is an important issue regardless of the city and chain, and it is dependent of guests' own experience and cultural background.

In any service the perceived quality is also dependent on the punctuality of service providers (Brady et al., 2002). Several factors are accountable for delivering service on time in hotels, including the adoption of teamworking, empowerment and communication (Hope, 2004), which are higher for better trained staff in high-end chains (Kimpakorn & Tocquer, 2009). On a related realm, Medina-Muñoz et al. (2018) unveiled distinct dimensions affecting airline service quality, including price, and punctuality. The same authors also found that business travelers are willing to pay more for high punctuality. The main target market of airport hotels is constituted by guests that cannot afford to wait for hotel services such as check-out, breakfast/meal delivery, and luggage carrying. Those guests include connecting flight travelers that cannot risk losing the next flight and airline

crews who need to be on-time to service flights (Lee & Jang, 2011). Indeed, the need to stay on-time to catch the next flight turns this market segment more sensitive to the punctuality of the services delivered by the hotel, when compared to the prices charged per service. As such, some guests are willing to pay more if they believe the hotel will deliver more on-time services, while for others such as crews pricing is not an issue since the stay is supported by the company for which they work for. Therefore, we can argue that:

H5: Online reviewers more concerned with the punctuality of scheduled services are less concerned with price (thus, they mention less price-related words), and this effect is greater for guests staying on high-end chains.

H6: Online reviewers concerned with their scheduled flights are also highly concerned with the hotel services punctuality.

Social media and electronic commerce have emerged, enabling online platforms where users can read others' opinions before making the purchase on the same platform (Jansson, 2018). TripAdvisor and Booking.com are two of those platforms developed to offer accommodation services, and while the first appeared as an online reviews website and the second as an online booking platform, both have converged by simultaneously offering customer feedback support and reservation services (Moro & Rita, 2018). Yet, hotel websites still play an important role as distribution channels (Lee et al., 2016). Hotel chains take advantage of the brand by using the same website and call center for receiving reservation requests, and thus we posit that:

H7: The booking service is homogeneously perceived (i.e., mentioned) by online reviewers across hotels from the same chain on different cities. This assumes that words about booking are equally related to topics discovered within the same chain.

3. Data and methods

Two distinct hotel chains were selected for the experiments: Ibis and Sheraton. The former is a low-end chain, while the latter is a high-end chain, thus enabling the comparison of results between the two distinct segments (Yavas & Babakus, 2005). Both chains have airport hotels in large cities worldwide. Specifically, the Globalization and World Cities (GaWC, 2018) Research Network classification system was adopted for choosing the cities. This system focuses on the external relations of world cities to classify them into alpha, beta, and gamma cities, and has been adopted by researchers within the travel and tourism context (e.g., Jones & Newsome, 2015; Schaafsma, 2014). Therefore, the chosen five alpha-level cities (GaWC, 2018) within the European Union are: Amsterdam, Brussels, Frankfurt, London, Paris. All five cities have busy airport hubs to manage airline traffic. Table 1 shows traffic information for the five selected cities while Table 2 exhibits the same information for the five busiest airports in the world.

Table 1 - Selected airports.

City	Flight passengers	Movements	Destinations
Amsterdam	71.1M	499k	327
Brussels	25.7M	235k	248
Frankfurt	69.5M	512k	306
London	80.1M	476k	203
Paris	69.5M	488k	325

Table 2 - The 5 busiest airports[1].

City	Flight passengers	Movements	Destinations
Atlanta	107.0M	879k	247
Beijing	101.0M	614k	250
Dubai	89.1M	408k	270
Los Angeles	87.5M	708k	199
Tokyo	87.1M	407k	155

[1] Ranking provided by the Airports Council International (https://aci.aero/)

Data was extracted from TripAdvisor by a specifically developed web scraping script (Moro et al., 2019). In total, 20,288 reviews written between 2005 and August/2018 by actual airport hotel guests who stayed on the selected units from the two chains and freely decided to write their opinions were collected. In addition to the overall quantitative score (1-5) and textual review, TripAdvisor also provides quantitative scores for six specific categories, also in a 1-5 discrete (integer) scale: value, location, sleep quality, rooms, cleanliness, and service. In a textual review a user can write anything (s)he pleases. However, as we focused on service quality; data was filtered for considering only those reviews where the user has granted a service score, i.e., those where the user devoted attention to quantify service quality. Such procedure resulted in a total of 14,878 reviews, distributed per chain and city as shown in Table 3. This table shows also statistics such as the average service score and the service score levels granted per chain and city, as well as the distribution of the initially collected reviews (column labeled "collected) and the ones used, i.e., those that scored "service" (column labeled "used"). As expected, Ibis achieved a lower score for all cities when compared to Sheraton.

Table 3 - Collected online reviews.

Chain	City	Nr. reviews		Statistics			Service scores granted				
		Collected	Used	Avg	SD	Avg chain	1	2	3	4	5
Ibis	Amsterdam	2,295	1,643	3.85	1.08	3.66	81	100	325	621	516
	Brussels	313	232	3.29	1.08		22	18	89	76	27
	Frankfurt	620	497	3.87	1.03		20	26	105	195	151
	London	4,215	3,313	3.71	1.15		232	243	709	1,212	917
	Paris	2,240	1,515	3.57	1.17		125	119	387	533	351
Sheraton	Amsterdam	1,830	1,385	4.25	0.97	4.07	35	47	163	427	713
	Brussels	1,075	779	3.90	1.09		41	39	141	293	265
	Frankfurt	3,343	2,218	4.18	1.09		97	95	288	577	1,161
	London	2,815	2,114	4.07	1.09		108	87	279	707	933
	Paris	1,542	1,182	3.94	1.19		75	77	187	350	493
Total		20,288	14,878								

As tourism and marketing researchers adopt more advanced empirical approaches (e.g., Tian et al., 2020; Ji et al., 2018), larger volumes of data can be more efficiently analyzed (Nie et al., 2020; Tian et al., 2018). The adopted approach is shown as a sequence of procedures in Figure 1. These procedures are executed for each different hotel (i.e., pair chain, city). In a first stage, several text mining tasks are applied to the textual content of the reviews. Text mining encompasses a wide range of techniques aiming to deal with the unstructured format of text (Gupta & Lehal, 2009). In this case, part-of-speech tagging was performed to extract only the nouns and verbs used in the reviews. We discarded the remaining parts of sentences since we aimed to focus on the characteristics and actions, not on the qualities (which would be uncovered using adjectives). Also, some undesired words for the analysis were removed (stop words), including the names of the cities, which do not bring any value to our perceived service quality analysis. Next, stemming was applied to reduce all words to their root (e.g., "working" is reduced to "work") (Calheiros et al., 2017). Such procedure avoids that related words (e.g., from the same family) are considered as different words. Finally, a document-term matrix is computed, which is a matrix-format structure where each row represents a review, each column a word, and within each cell appears the number of times a word occurs within a review. To remove the least frequent terms, the matrix was slightly reduced in its sparsity, in a similar procedure to Guerreiro and Moro (2017).

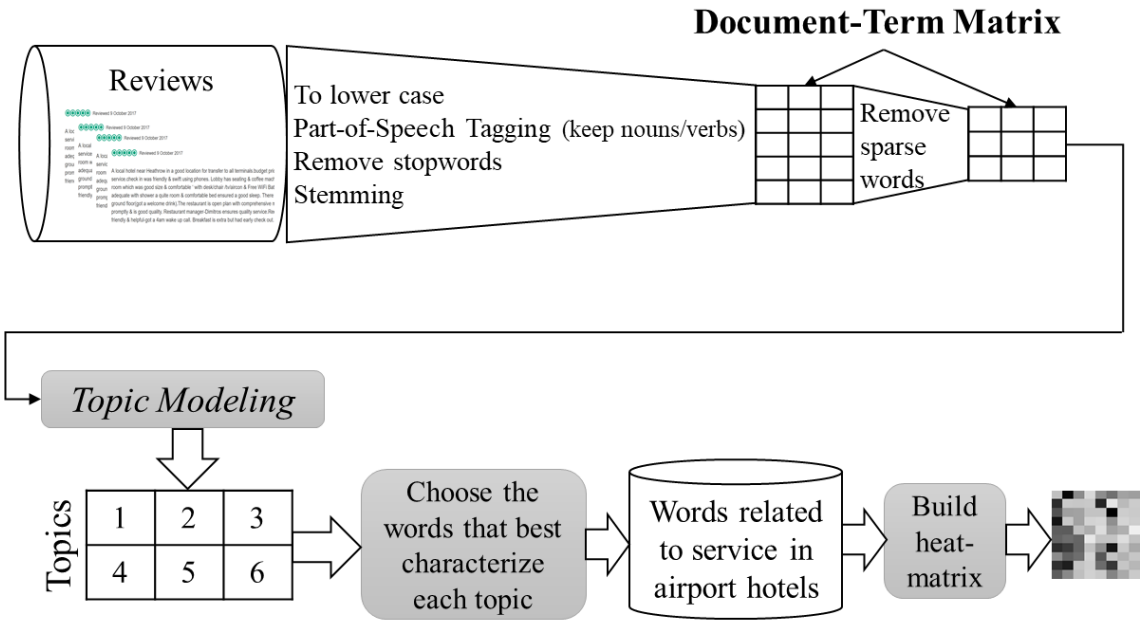

Figure 1 - Undertaken approach.

Topic modeling is a technic that aggregates a corpus of documents into a coherent set of topics characterized by its relation to each document and each word contained within the documents (Moro et al., 2017). Specifically, we adopted the popular latent Dirichlet allocation (LDA) algorithm (Blei et al., 2003) which has previously been successfully applied to online reviews by Calheiros et al. (2017). In our case, we are focused on the words that characterize each topic through the β distribution value (the lower the value, the stronger the relation).

We developed an R script for conducting all the experiments. R is a statistical open source tool implemented for data analysis tasks, including a myriad of packages contributed by enthusiastic developers worldwide (Cortez, 2014). Specifically, we adopted the package "tm" for producing the document-term matrix, and the "topicmodels" for computing the topics through LDA. The number of topics in LDA is an input parameter that must be set *a-priori*. To compute the ideal number of topics, we adopted the "ldatuning", following the same approach of Canito et al. (2018) and Amado et al. (2018).

To offer a consistent common characterization of each hotel, the words that best characterized each topic for all hotels were gathered under a list of 14 unique words, from which product related words such as “bed” and “shower” were previously removed (Table 4). This procedure is similar to the one proposed by Moro et al. (2020). For ascertaining the relevance of this lexicon, the words were analyzed to assess their mapping to existing literature. Finally, the topics for each of the 10 hotels (2 chains times 5 cities) are exhibited in a heat matrix format, which enables a visual picture through contrasting gray tones (with a dark cell representing a topic that is highly related to the corresponding word).

Table 4 - Words characterizing hotel service and link to existing literature.

	Reference		
Word	(Mohsin & Lockyer, 2010)	(Barber & Scarcelli, 2010)	(Tam et al., 2008)
book	reservation services		
free price	value for money		
bus flight park train travel			transportation services
hour time			schedule
clean		cleanliness	
bar breakfast	food & beverage		
staff	staff courtesy & presentation		

4. Results and analysis

The results are displayed in simple and easy to read heat matrices, similarly to the study by Moro et al. (2020). Accordingly, each line represents a topic. Topics are numbered

from one to ten to facilitate referencing within the remaining document only. Thus, there is no order for the ten topics listed in each heat matrix. Each cell within a matrix represents the β distribution value which indicates how closely a topic is associated with a given word. Thus, without the use of gray shades to produce the heat matrices, each cell would be filled with a numeric value, resulting in matrices with 140 numeric values (10 rows times 14 columns), and making them difficult to read. Hence, a darker gray cell indicates that the topic (line) is highly associated to that word (column). Thus, one matrix per hotel (i.e., per chain and city) is exhibited in figures 2 to 11. The ten topics (numbered on the first column for referencing purposes) are characterized according to each of the 17 words unveiled in Table 4, for the seven dimensions identified during the data analysis procedure. Additionally, the total number of reviews that best match each topic is also shown, as well as the average service score granted in those reviews. The raised hypotheses are tested by assessing the differences between shades within each analyzed dimension for the units within the same chain. This approach is similar to the one by Moro et al. (2019), where the interpretation of a heat matrix enabled to answer to research questions.

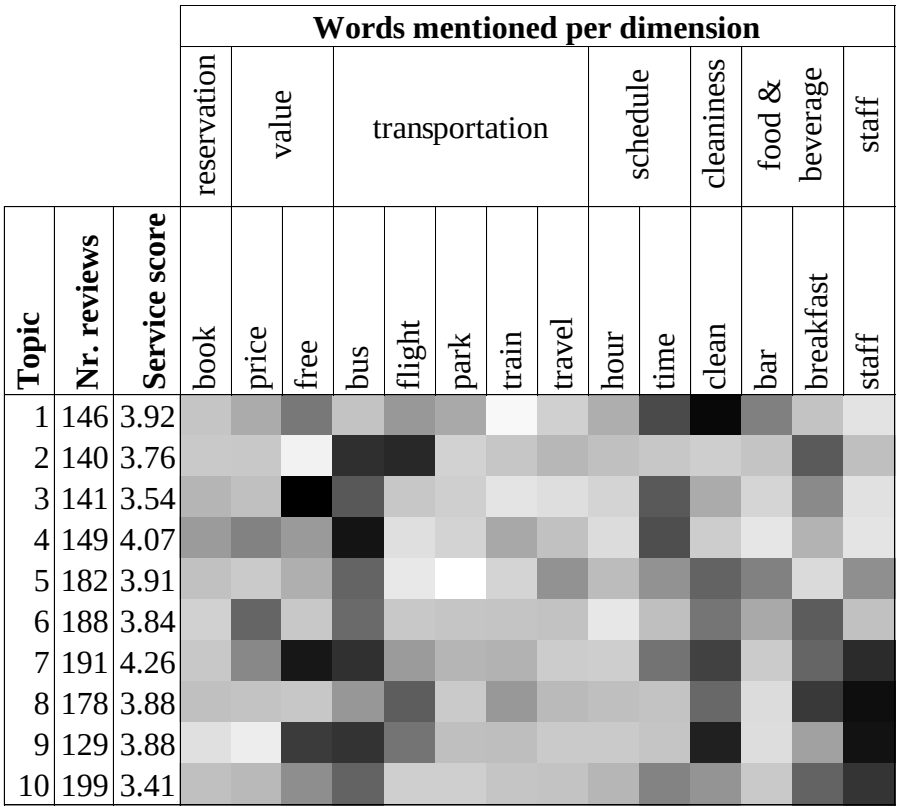

Figure 2 - Topics unveiled for Ibis of Amsterdam.

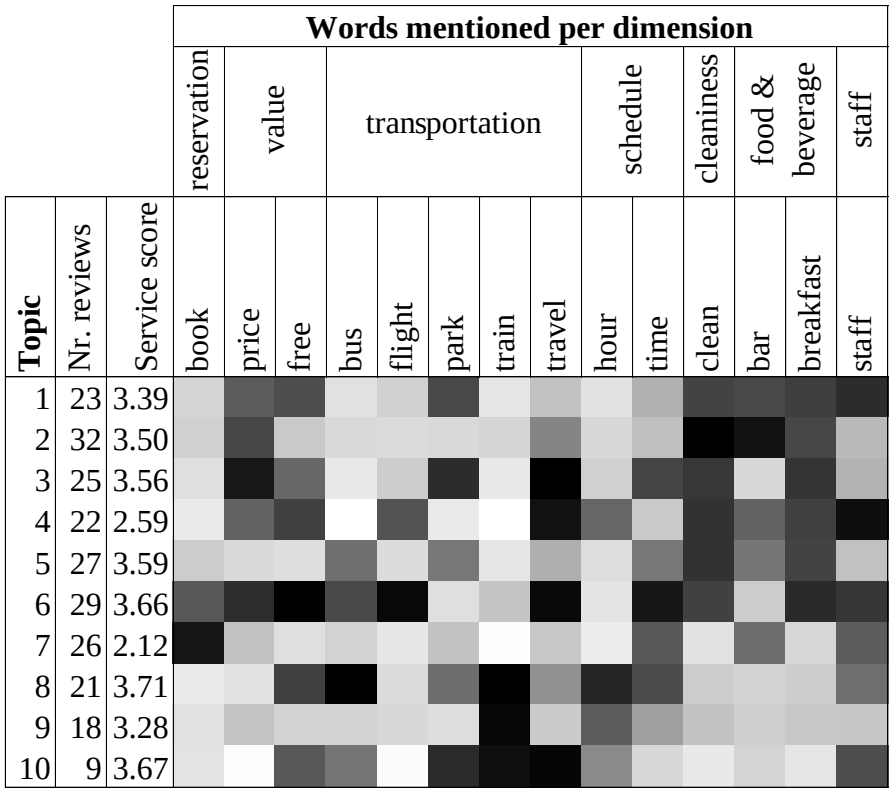

Figure 3 - Topics unveiled for Ibis of Brussels.

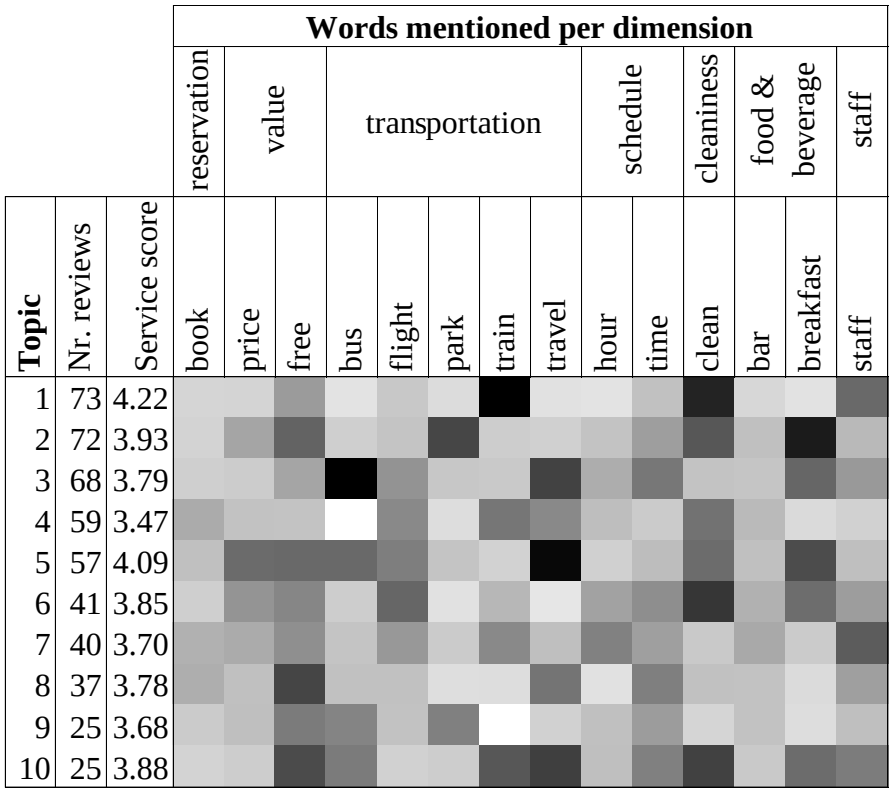

Figure 4 - Topics unveiled for Ibis of Frankfurt.

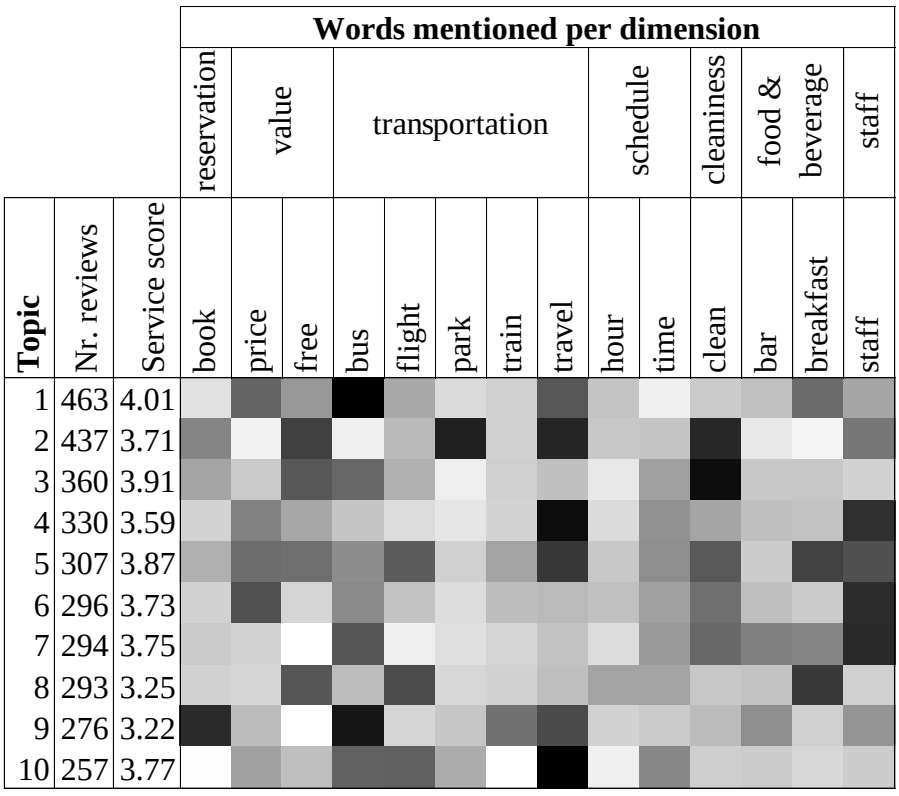

Figure 5 - Topics unveiled for Ibis of London.

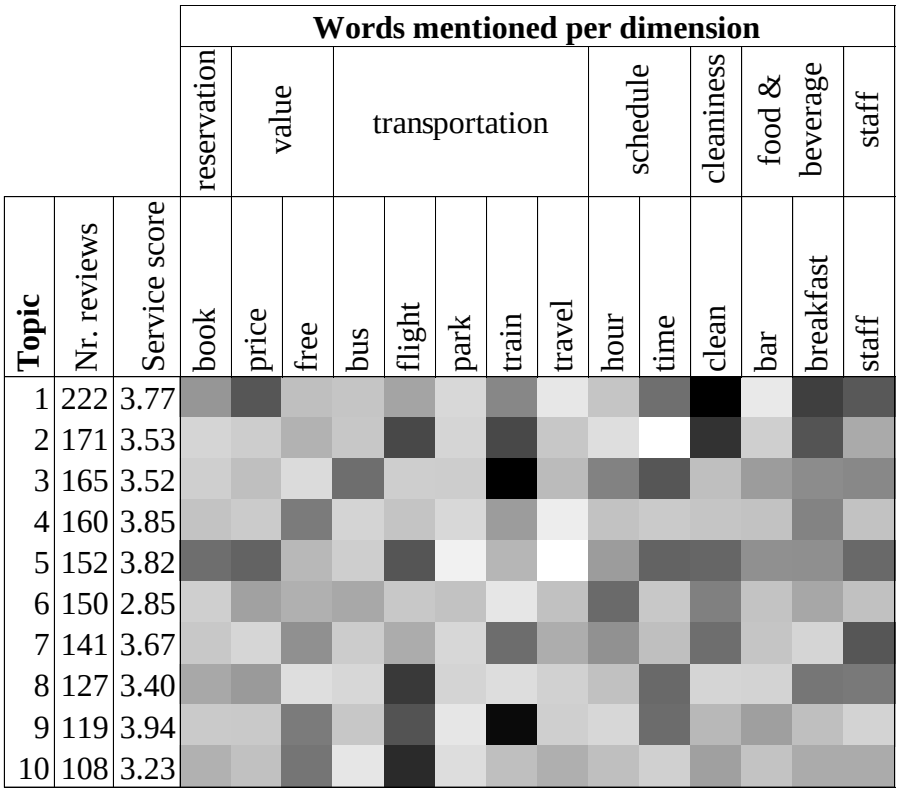

Figure 6 - Topics unveiled for Ibis of Paris.

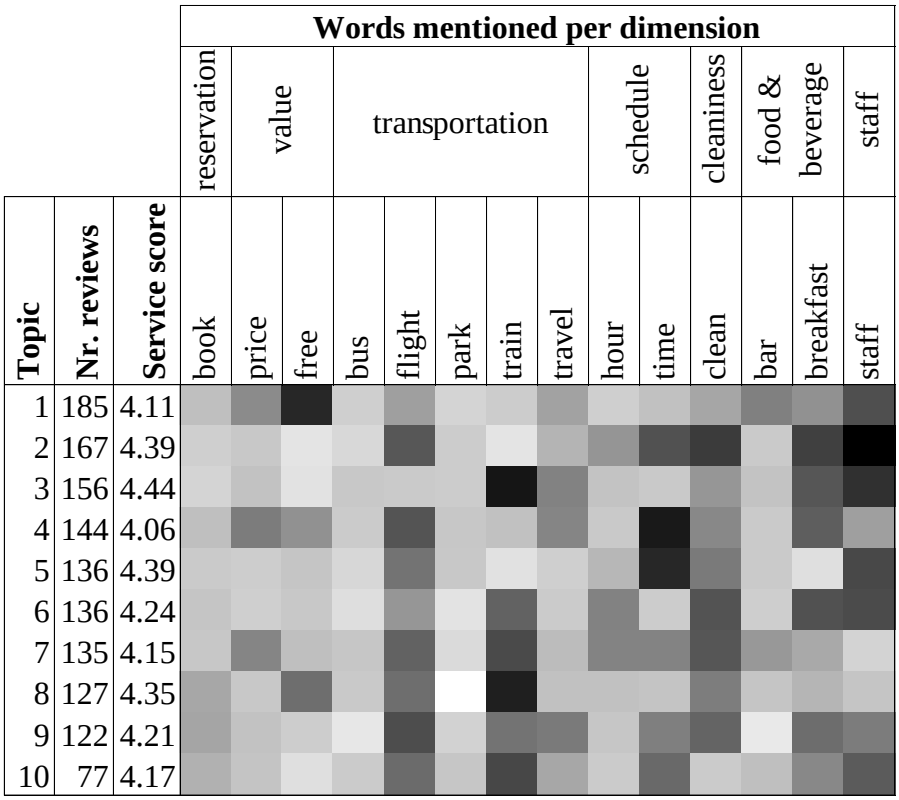

Figure 7 - Topics unveiled for Sheraton of Amsterdam.

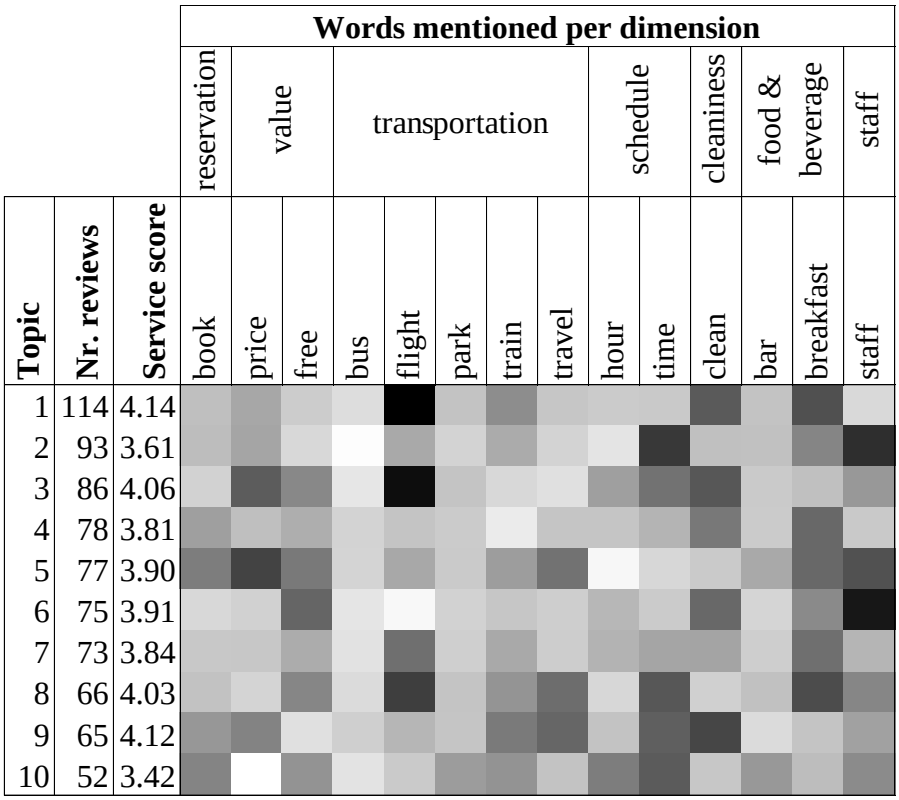

Figure 8 - Topics unveiled for Sheraton of Brussels.

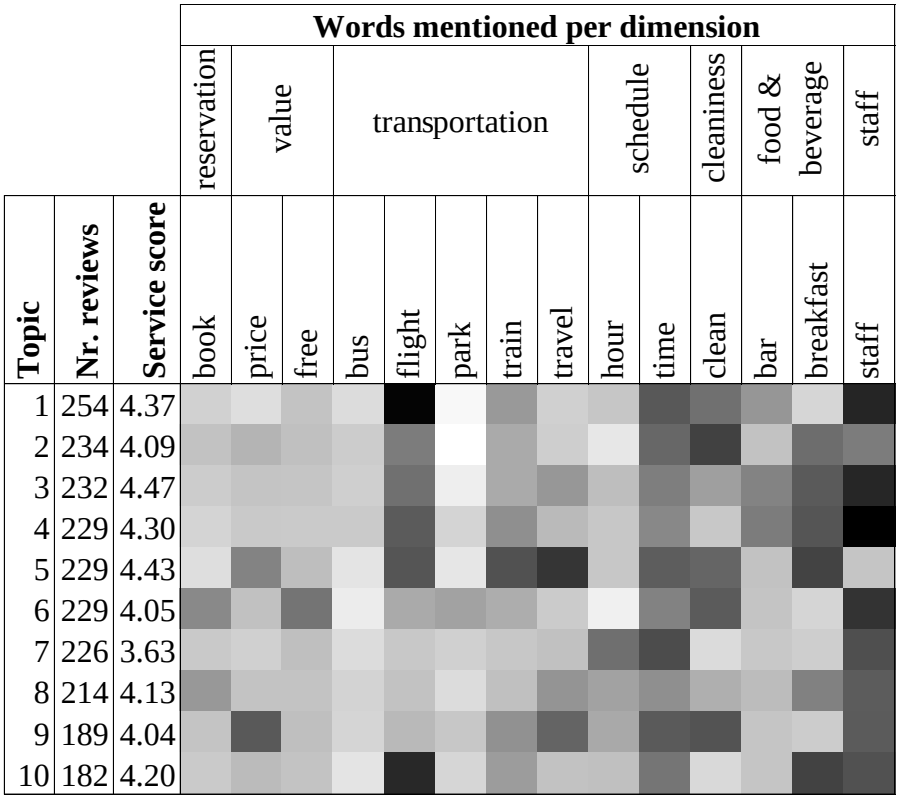

Figure 9 - Topics unveiled for Sheraton of Frankfurt.

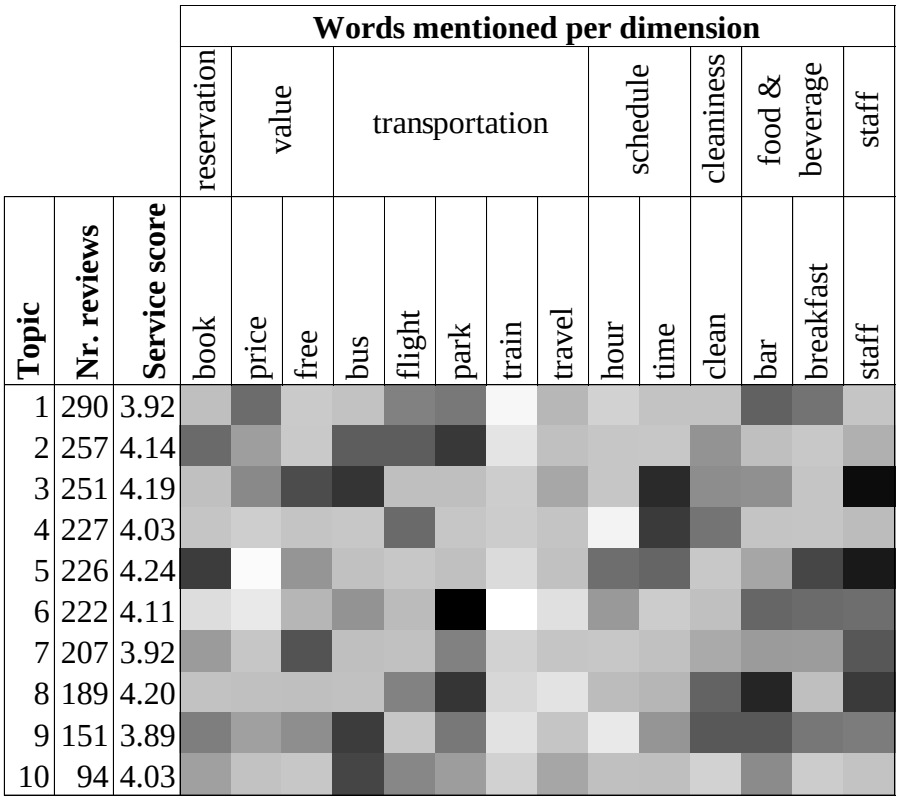

Figure 10 - Topics unveiled for Sheraton of London.

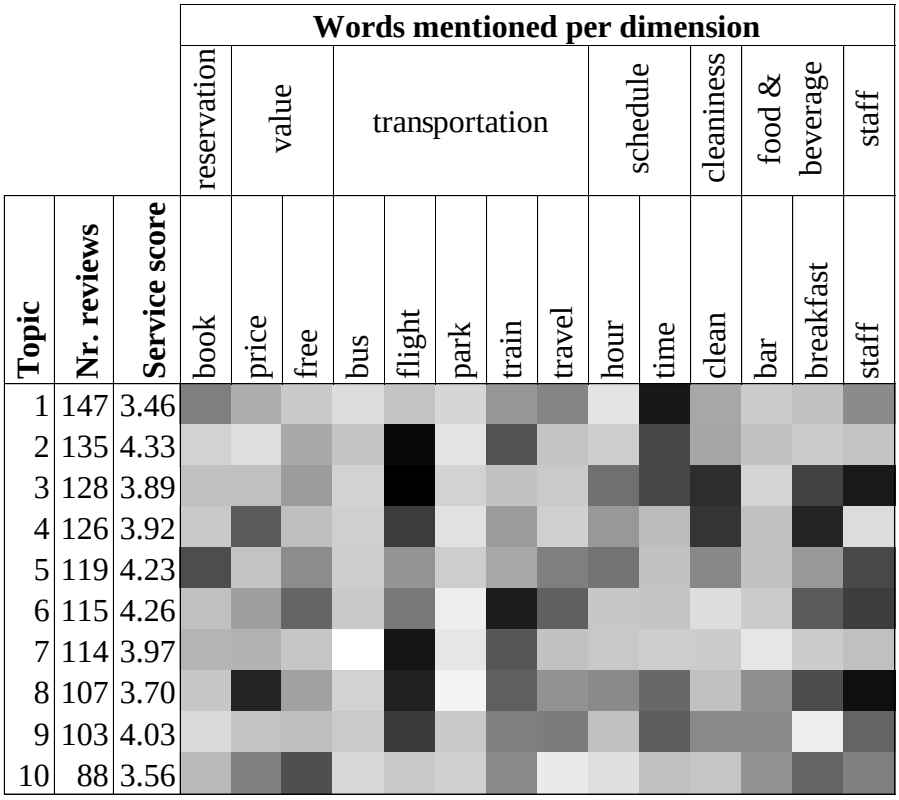

Figure 11 - Topics unveiled for Sheraton of Paris.

H1 proposes that the existence of adequate transportation is highlighted by online reviewers, thus emphasizing its importance to the overall service, independent of the chosen city and chain. Yet, each city has its own transportation systems, and five transport-related words emerged from the analyzed reviews. From these, “flight” is specific of airport hotels and highlights the alignment between hotels and the corresponding airports, while “travel” is a broader word which is often used in more generic statements (e.g., “*The best location you can find in you are travelling through CDG*”). The remaining three transport words are specific of 3 types of transportation: “bus”, “train”, and “park” (this one can be traced to travelers who need to park their own or rented car - e.g., Lee and Jang, 2011). Regarding the Ibis chain, train was consistently mentioned as an important issue in topics with high service scores for the cities of Brussels, Frankfurt, and Paris (word "train" column in strong gray/black in the heat matrices). Interestingly, similar results have emerged for the same three cities in the Sheraton chain. This finding shows that the train is a transportation system important and appreciated by airport hotels regardless of the chain and city. In London, a train from Heathrow airport to the city center requires a train transfer at Paddington station. This justifies that the word “train” has not been frequently mentioned neither in the Ibis unit, nor in the Sheraton, with guests choosing bus, which is clearly more mentioned by reviewers.

Parking is an issue in any large city. By comparing the results between the Sheraton units, parking has been more highlighted on the topics unveiled for London. This contrasts with the lower relevance of train for the same city and is a result of each city's own mobility related infrastructures. Also, it is worth mentioning that current prices for trains/buses from the hotel to the city center show a strong asymmetry in London (£25.00/£6.00) and Brussels (€12.70/€2.10) whilst their differences are negligible in Frankfurt (€4.65/€4.35),

Amsterdam (€5.40/€4.00), and Paris (€10.30/€11.50). In what concerns the decision of using or not a car, London's congestion fee may also be an important factor. Nevertheless, it is important to emphasize that online reviewers staying in airport hotels give enough importance to transport related issues to mention them in their reviews. Thus, while the transportation service is not offered by the hotel, it has shown to influence service quality, according to the online reviewers (i.e., topics of comments mentioning more transfer are associated to higher service quality). Thus, convenient transfers have an impact in airport hotels perceived service quality from the online reviewers' perspective, as expressed in their written comments, confirming H1.

H2 tests the globalization effect associated with staff training and brand awareness from the employee perspective. When analyzing the low-end chain (Ibis) heat matrices, it is possible to see in all five cities both topics that highlight a high frequency of words related to staff as well as low frequency within the same city/unit (for example, in Brussels there are six topics aggregating reviews where staff is highly mentioned and four where is not; the same distribution occurs for London). This is a good indicator that there is not a distinctive service provided by staff within the same chain, despite the cultural differences between the employees. Interestingly, in the Sheraton chain, similar observations can be made. For example, for both London and Paris Sheraton units, topic modeling uncovered six topics highly related to "staff" – where staff was frequently mentioned – and four where it did not. Thus, in both chains the results expressed in online reviews corroborate current theory, showing the power of globalization in attaching employees to the brand through training and brand culture, and confirming H2.

In what concerns food and beverage services, the two distinct types of services mostly identified in the literature (Table 4) refer to breakfast, which is included in the room booking price for the selected units of both chains, and bar services, which are an add-on

for both chains and require a pay-per-request. Since breakfast is typically included by default, every customer will take this meal. Thus, it is of chief importance to customer satisfaction by reaching all guests (Lee et al., 2018). Bars are also important for hotels as places to relax and also to have informal meetings (Geerts, 2014). Within each individual unit from the five Ibis hotels, there is heterogeneity between mentioning breakfast often (thus, online reviewers to which this meal was important enough to be frequently mentioned) and topics where breakfast had little relevance. For example, in the Amsterdam and Brussels units, breakfast is shaded in strong gray for six topics, whereas in the Frankfurt unit that number is of five topics. Hence, we can observe that the importance of breakfast is evenly distributed, showing evidence of a globalization effect potentiated by the chain baseline regarding the feedback gathered in online reviews and the importance attributed to breakfast in the written comments, not providing support for H3 for the low-end chain. As in what concerns to bar services, the results are uneven. While in the Brussels unit, bar services were relevant for five topics, in the Amsterdam and London units, only two topics were associated with bar. Also, in the Frankfurt and Paris units, the relevance of bar appears to be homogeneously distributed across the ten topics. Thus, H3 is confirmed for bar services for the low-end chain. Interestingly, for the high-end chain, the results are similar. The frequency in which breakfast is mentioned is heterogenous among the five units, while bar services have only been emphasized in online reviews for the London unit, with the remaining showing just a few topics that paid more attention to bar (e.g., Brussels, one topic; Amsterdam, two topics; Frankfurt, three topics). Therefore, the results from both chains support H3 for bar services, but not for breakfast services. The higher importance of bar services for the low-end chain may reflect the lesser possibilities that their guests have in comparison to high-end chain guests, that can afford to go somewhere else for drinking.

Guests staying in a hotel appreciate its cleanliness, which helps in creating a cozy and pleasant environment (Barber & Scarcelli, 2010). Especially the room, which is a private space, needs to be properly cleaned prior to each new guest's arrival (Zhang & Mao, 2012). The globalization effect worldwide, allied with large chain brands operating in many countries, has spread hygiene standards across the globe (Ivanov & Ivanova, 2016), with low-end brands keeping up with premium ones (Liu & Liu, 1993). The results shown on the heat matrices support those findings from previous studies, with several topics of reviews for all cities on both Ibis and Sheraton exhibiting a high relevance when compared to the remaining words. Also, the heterogeneity proposed on H4 is confirmed, with all matrices showing topics where reviewers mentioned often cleanliness, while others did not.

H5 addresses the price versus time binomial, i.e., guests more concerned with time are less concerned with price. In the high-end Sheraton chain, there are topics showing evidence of groups of reviewers in this situation, such as the case of Paris (topics 1 to 3 and 9), and of Brussels (topics 2, 8, and 10). Nevertheless, the same hotels also show topics where reviewers mentioned both time and price (e.g., topic 3 in Brussels). A similar result is found for Ibis, showing the effect is independent of the chain. Thus, although there are topics that confirm H5, there are also some who reject it. Hence, H5 is only confirmed for specific groups of guests.

Time is key when taking flights and in airport hotels H6 suggests that this effect is amplified. By looking at topics with a darker "flight" cell, we expect to find that these topics also have darker cells for "time" or "hour". This happens for topics 4 and 6 for Ibis in Brussels, for topics 8 and 9 for Ibis in Paris, and for topics 1 to 5 and 10 for Sheraton in Frankfurt, for example. Yet, the results are not totally consistent for all topics emphasizing "flight". That is the case for topic 2 in Ibis, Paris, and for topic 1 in Sheraton,

Brussels, for example. Thus, it seems there are groups of guests (according to their written reviews) that are highly concerned with both time and flight, although other groups of guests concerned with the flight do not share a similar concern with time. Therefore, H6 is only partially supported.

Regarding the booking service, H7 proposes that reservation is similarly perceived by guests from the same chain, since this type of service is usually centralized within the same customer care unit (Rahimi & Kozak, 2017). Hence, by looking at shades of the "book" word of the heat matrices, one would expect similar tones within the same chain. Clearly this is not the case of Ibis, with both the London and Brussels units showing topics with opposite tones (i.e., white and black). As for the Sheraton, there is a homogeneity in what guests' state about booking, i.e., apart from two darker topics for London and for Paris, the tones to not change drastically. Therefore, H7 is only confirmed for the Sheraton.

5. Discussion

In this section, we discuss and highlight the main contributions stemming from the findings unfolded in the previous section to existing literature. Before diving into the discussion, however, we should note that the findings and subsequent discussion is limited to just two chains, not enabling a broader generalization. In a broader context, hospitality literature acknowledges transportation facilities near a hotel as key towards the hotel's success (Aksoy & Ozbuk, 2017). Nevertheless, current state-of-the-art had not yet evaluated its relevance for the specific case of airport hotels, only for airports (de Barros et al., 2007) which may not be so close from the airport hotel to go walking with luggage (e.g., the Ibis Amsterdam is more than 5 km far from the Schiphol hub). Thus,

our study contributes to existing literature by confirming the importance of transportation facilities to guest satisfaction. Moreover, we show that the relevance of the type of transportation system is dependent of the hotel category. From a practical standpoint, managers of airport hotels cannot ignore transportation by assuming the location near the airport is enough to please guests. While managers cannot directly influence public transportation availability, they can make agreements with private transportation companies to meet guests' needs. Also, they can create pressure over local government to improve public transportation systems. Furthermore, connecting flight travelers and airline crews rely on efficient transport to and from the city center for sightseeing to meet their tight schedules.

Our results show that the service provided by staff is homogeneously perceived by guests, in consequence of similar training by each brand, which is reflected in the online reviews for airport hotels in distinct cities. Such finding contributes to the adaptation versus globalization debate by showing evidence of the power of the two large brands in minimizing local staff contrast in their units in the hospitality industry, corroborating previous studies' findings for worldwide brands (e.g., Moro et al., 2018). Regarding food services, our study contributes to existing literature by unveiling different guests' perceived relevance depending on the type of service. Thus, the breakfast seems to benefit from the brand effect, with similar perceived relevance for each brand, in an opposite direction of the study by Whitla et al. (2007). However, bar services enjoy of the differentiation factor, meaning that managers can create specific services aimed for each local context to attract segments of guests appreciating bar amenities. The target market of airport hotels includes guests that usually stay for shorter than usual periods, including travelers staying overnight for connecting flights and airline crews (Lee & Jang, 2011).

This further emphasizes the relevance of cleanliness (Zhang et al., 2011), which we demonstrated to be an important issue regardless of the city and even the chain category.

Although punctuality is an important issue for guests, no study has so far provided clear evidence for the hospitality industry. Ours is the first to clarify on the relevance of delivering on-time services for airport hotels, where guests usually have tight time-schedules (Lee & Jang, 2011). Such result emphasizes the need for managers to devote efforts for not leaving the guest waiting. Regarding the booking service, our findings provide evidence of a homogeneous service for the high-end chain only. While current literature acknowledges that large brands benefit from a centralized customer care service (Rahimi & Kozak, 2017), ours is the first to provide evidence of a difference between high-end versus low-end chain, with the increased concern of a high-end chain toward staff training to better serve customers during their reservation being recognized by guests in terms of homogeneity of the service provided. Yet, the lack of a completely homogeneous booking service in online reviews may be due to the influence of the mediation traveling online platforms, with the guests' statements being influenced by these third-party service providers.

6. Conclusions and implications

The results drawn from assessing the seven raised hypotheses provide a picture of the current status of airport hotel chains for several important dimensions: transportation, staff, food and drink, cleanliness, price, and booking service. While transportation is typically not provided by the hotel units, it was found influencing the service score granted on TripAdvisor. Since reviewers are willing to freely express their feelings regarding a service that was not provided by the hotel, our results show that transportation

is an external factor that directly affects guests' opinions in social media, which play an important role in electronic word-of-mouth, influencing others. Thus, from the theoretical standpoint, this phenomenon indicates transportation as a moderating variable that influences satisfaction translated into the granted scores. Previous literature acknowledged the relevance of transportation facilities to both airports (de Barros et al., 2007) and hotels (Aksoy & Ozbuk, 2017). Our contribution extends it to the segment of airport hotels by confirming transportation systems' relevance. Furthermore, we show that such relevance is dependent on the hotel category. From a practical perspective, this finding puts additional pressure in hoteliers from a perspective they do not fully control. Nevertheless, we recommend that different categories of hotels focus on the transportation type mostly adopted by their guests, with low-end hotels developing strategies focused on mass transportation systems (e.g., bus/train) accessibilities such as shuttles from the hotel to railway/bus stations, while high-end hotels should aim to find parking solutions for their guests.

The globalization versus adaptation debate is an interesting challenge within the hospitality industry as large chains spread their brands throughout the globe, opening units in many cities worldwide. Specifically, the hypotheses drawn from the literature suggest that such chains are taking advantage of a global strategy to staff management while in food and beverage the effort goes toward an adaptation strategy that benefits from local knowledge and cuisine. Although our study only pinpoints the importance attributed to both dimensions (i.e., staff, and food and beverage) from the perspective of online reviewers in TripAdvisor, the large sample collected (all the reviews published on the selected hotels) shows evidence of a globalization strategy on both chains regarding staff management and breakfast service. This finding contributes to the existing body of knowledge by showing evidence that chains on the two ends (low versus high-end) are

adopting a globalized strategy toward staff and breakfast, uniformizing services. While the adoption of globalized strategies by chains for their units spread worldwide may increase efficiency (Whitla et al., 2007), it also limits the potential to develop a personalized local environment which is highly appreciated by guests when visiting a new location (Ariffin et al., 2011). Some guests of high-end chain are expecting local differentiated services, including local breakfast, which contributes to an increased customer satisfaction (Giazitzi et al., 2019). Moreover, the chain's training effort to "acculturate" their staff may displease employees, who are influenced by their own cultural backgrounds (You, 2001) and even within Western Europe, there are differences between Spanish and Dutch, for example. Nevertheless, one may hypothesize that the appreciation of differentiated services is marginal for airport hotels, as the segments of guests that mostly stay in such units are frequent travelers who are more interested in a well-located place to stay for a short stopover, since they already know local cuisine. While such claim is supported by our results, this is a subject requiring further investigation to assess if the inexistence of local adaptation of units spread throughout the globe is more relevant to guests of other hotels when compared to airport hotels. Interestingly, a globalized strategy for both chains is not evident in the bar services provided by hotels, which tend to be more dependent on local management and tastes (Smith & Xiao, 2008). Additionally, an extended analysis is proposed as future research to assess if the results which unveiled a globalization trend are sustained when units from other continents within the same chains are analyzed, where there is a stronger cultural contrast (Zervas et al., 2017).

There are several limitations to this study. The first important limitation is related to using only two hotel chains, which limits generalization of the results to other hotel chains. Regarding the data analysis procedure, by using a secondary data source (i.e.,

TripAdvisor), the analysis is limited to the available data. For example, it is not possible to fully characterize each reviewer. Services literature acknowledges that each individual has a specific context that influences his/her mood. For example, travelers affected by unexpected cancelled service are usually more upset than the remaining (McCollough et al., 2000). Also, flight crews usually stay on airport hotels and have different perceptions from travelers (Bennett, 2003). Additionally, we are not able to effectively test the choices of guests; rather, only the online reviewers' perspective regarding service satisfaction can be assessed. To deal with this limitation, we propose a complementary approach by adopting primary data through specifically designed questionnaires that better characterize each traveler. Important information about guests' expectations and price could lead to new insights that enable disaggregating the findings into user profiles. Additionally, the points of view expressed only reflect the opinions of online reviewers and cannot be extended beyond this strict scope. Nevertheless, it would not be possible to gather all guests' opinions, since even with a large-scale survey, nobody is obliged to answer it. Therefore, most studies in hospitality adopting traditional primary data-based methodologies use samples (e.g., Porcu et al., 2019). Furthermore, we emphasize that the online reviewers' perspective has been widely addressed in the hospitality literature, due to its importance in a world where most people use social media (Chan et al., 2017).

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