

## An Analysis of Open-Ended Online Reviews about Bed and Breakfast and Inns in Portugal

Uma análise de Avaliações Online sobre B&Bs e Albergues em Portugal

Un Análisis de los Comentarios Online Abiertos sobre Bed and Breakfast y hostales en Portugal

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**Abstract:** *Researches about User-Generated Content (UGC) have gained attention in the fields of Tourism and Hospitality in the last years. This study focus on online reviews about alternative accommodations – B&Bs and Inns. The development of this work was realized applying inductive methods and using an exploratory approach. We collected a sample of 450 online reviews and analyzed them segment by segment, making a total of 4621 segments. We used the Appraisal Theory to assess what attitudes online reviewers are expressing about B&Bs and Inns in Lisbon. We verified that positive appreciation is the most frequent attitude while expressions of affect and judgment are more rare. This study contributes to the academy as it brings a new parameter of analysis of UGC using the Appraisal Theory in the field of Hospitality.*

**Keywords:** *Tourism; B&B's and Inns; Online reviews; Appraisal Theory.*

**Resumo:** Pesquisas sobre o Conteúdo Gerado pelo Usuário (CGU) ganharam atenção nas áreas de Turismo e Hotelaria nos últimos anos. Este estudo foca em avaliações on-line sobre hospedagens alternativas - B&Bs e albergues. O desenvolvimento deste trabalho foi realizado com a aplicação de métodos indutivos e usando uma abordagem exploratória. Foi coletada uma amostra de 450 avaliações online e analisados segmento por segmento, em um total de 4.621 segmentos. Foi utilizada a Teoria de Avaliação para avaliar as atitudes que os avaliadores on-line estão expressando sobre B&Bs e albergues em Lisboa. Verificou-se que a apreciação positiva é a atitude mais frequente enquanto expressões de afeto e julgamento são mais raras. Este estudo contribui para a academia, pois traz um novo parâmetro de análise do CGU utilizando a Teoria de Avaliação na área de Hotelaria.

**Palavras-chave:** Turismo; B&Bs e Albergues; Avaliações Online; Teoria de Avaliação.

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**Resumen:** Investigaciones sobre el contenido generado por los usuarios han ganado la atención en las áreas de Turismo y Hospitalidad en los últimos años. El estudio centra en la revisión en línea sobre alojamiento alternativo - B&B y hostales. El desarrollo de este trabajo ha sido la aplicación de métodos inductivos y utilizando un enfoque exploratorio. Hemos recogido una muestra de 450 comentarios en línea y los analizamos por segmentos, haciendo un total de 4621 segmentos. Se utilizó la teoría de la valoración para determinar qué actitudes revisores en línea están expresando sobre B&B y hostales en Lisboa. Verificamos que la apreciación positiva es la actitud más expresada mientras que las expresiones de afecto y juicio son menos frecuentes. Este estudio contribuye a la academia, ya que trae un nuevo parámetro de análisis de UGC utilizando la Teoría de evaluación en el campo de la hospitalidad.

**Palabras clave:** Turismo; B&B y Hostales; Comentarios en Línea; Teoría de la Valoración.

## 1 INTRODUCTION

One of the major contributions of Web 2.0 to society, specifically in the Hospitality domain, has been user-generated, open-ended online reviews. These make it easy for users to evaluate whether or not they think an accommodation or a restaurant is appropriate for the kind of holidays they are looking for, based on the experiences of others. It also allows hotel managers and restaurateurs to have honest feedback from their customers and to take appropriate action. Since hospitality services are intangible, it is important for travelers to listen to the voice of experience through online reviews (Cox, Burgess, Sellitto & Buultjens, 2009).

Fine-grained studies on the textual content of online reviews have gained attention in the tourism industry and, specifically, in the hospitality industry in the last years (Park, Lee, & Han, 2007; Gretzel & Yoo, 2008; Litvin, Goldsmith, & Pan, 2008; Ye, Law, & Bin, 2009; Lopez, Gidumal, Taño, & Armas, 2011; Chaves, Gomes & Pedron, 2012). Online reviews are particularly relevant for smaller and cheaper types of lodging like Bread & Breakfast (B&B is a small lodging establishment that offers overnight accommodation and breakfast, but usually does not offer other meals) and Inns because the quality and service vary more than that of hotel chains. Consumers are also more likely to find a small property in an online review website than to find the actual website of the property (Gretzel, 2006). In addition, the present economic situation means that these types of lodging are now a good and attractive alternative to accommodation in the most of the European cities.

In this context and considering the lack of studies about B&Bs and Inns or other alternative accommodations in Portugal, this research seeks to fill this gap. Although there are many studies about user-generated content (UGC) in hospitality, most of them focus on hotels and restaurants. This study explores an alternative hospitality industry.

Moreover, while most of the works focus on the analysis of the main aspects that appear in these reviews, in this paper we go a step ahead and analyze attitudes expressed in user-generated, open-ended online reviews. We use an interdisciplinary approach asking borrowed the Appraisal Theory (Martin & White, 2005) from Linguistics to support the evaluation of online reviews. We recognize attitudes – affect, judgment or appreciation – that guests express about

their experiences in B&Bs and Inns.

The results of this study can help managers to know their guests better as well as to make more appropriate decisions in response to the type of evaluation their guests make. It will allow them to use their strengths in the areas of accommodation the guests express more (or less) positive (or negative) appreciations, judgments, and affects.

This paper consists of five sections. We will start by presenting the current literature on the subject in Section 2, before describing the methodology adopted in Section 3. Section 4 presents the results of our study and Section 5 discusses them. Finally, we present the conclusions, the limitations and suggestions for further studies in Section 6.

## **2 THEORETICAL BACKGROUND**

This section will address the following topics: User-Generated Content (UGC) and hospitality with the subtopic Alternative Accommodation and Online Review Websites and Appraisal Theory.

### **2.1 User-Generated Content and the Hospitality Industry**

UGC is all the content available on the Internet that is digitalized and uploaded by users (Munar, 2010). According to López, Gigumal, Taño & Armas (2011), UGC is considered to be one of the fastest growing segments on the web, including various different types of opinion sharing such as blogs, social photo and video sharing. When used by consumers sharing their own experiences, UGC generates a non-structured text with indirect experiences of products or services and gives the perspective of real consumers that have purchased and used a certain product containing experiences, evaluations and personal opinions that will then be resumed in a final rating (Park, Lee & Han, 2007; Ricci & Wietsma, 2006). These online opinions about products or services experiences can be interpreted as electronic word-of-mouth (eWOM) and contrary to the regular word-of-mouth – which we share personally after an experience with our close ones, mostly immediately after that experience (50% in the same day) (Cox et al., 2009) – it will be stored online and available to be accessed, linked and searched (Litvin, Goldsmith and Pan, 2008) giving a much larger scale to the term word-of-mouth.

In Tourism and hospitality, UGC plays a central role because tourists use Web 2.0 tools to get information about tourism destinations and also to share their own experiences (Munar, 2010). Since hospitality services are intangible it is understandable that travelers embrace the information given by experienced travelers through UGC (Cox et al., 2009). They are of greatest use during the planning phase of a trip, when travelers are still deciding on their accommodation, places to visit and activities to make (Saranow, 2004). Although, not greatly used until now, UGC can also be useful during en-route decision-making to help generate ideas (Gretzel & Yoo, 2008).

The content provided by UGC is, however, a different type of information than the content

provided in guidebooks. A guidebook will give consumers information about museum opening hours for example, while UGC will give information about security issues in a country with political problems (Saranow, 2004). A majority of travelers agree that online reviews help them avoid places they would not enjoy and discover new places with other ideas (Gretzel, 2007).

In a study made by Gretzel in 2007, over 80 percent of those enquired agreed that online travel reviews increase confidence in decisions, allow them to picture what the destination would look like, reduce the risk and uncertainty and helps plan holidays more efficiently. With the emergence of UGC, it has become easier for consumers to materialize hospitality services into products. It is also commonly agreed by various authors, such as Stringam, Gerdes & Vanleeuwen (2010), that travelers consider online reviews to be more updated, detailed and relevant than other traditional travel resources, such as a hotel official website.

Many authors have already studied the profile of the average traveller that searches for UGC related with hospitality. Online review readers, are considered to be highly educated, with a high income, people who travel regularly, use the Internet considerably and mainly men, since women tend to be less influenced by other reviews and base their decisions based on their own opinion. According to these characteristics, online review readers are a very important target to Hoteliers (Gretzel & Yoo, 2008; Ricci & Wietsma 2006).

However, it is very important that reviewers provide information about themselves and about the trip they made so that the information is contextualized and readers can identify or not with the review (Gretzel, 2007). When related with the readers, online reviews – eWOM – can be one of the most influential sources of information during travel planning (Burgess, Sellitto & Cox, 2009).

Besides identifying with the reviewer, the quantity and quality of the reviews is also relevant. According to Park, Lee & Han (2007), “Purchase intentions of consumers will increase along with the number of reviews”, which makes us believe that a large number of reviews indicates that a product is popular. Regarding quality, a review has to be logical, credible and with adequate reasons based on specific facts about the product to have a positive influence on purchasing intentions.

The fact that consumers are now using the Internet in different ways to find information about products or services they intend to purchase and also that three quarters of travelers have been influenced by online reviews, raises concerns for Hoteliers (Ye, Law & Bin, 2009; Burgess et al., 2009). These are valid concerns since web branding content is no longer controlled by organizations and corporations but is now dominated by the interaction and participation of users that have become incredibly active when it comes to creating web content (Munar, 2010). This means that Hoteliers should harvest all the UGC found about their Hotel and use it in a productive way in order to improve consumers’ satisfaction through product improvement, solving problems described online, discovering what consumers complement and criticize about their stay, analyzing competitive strategies and keeping up to date with the Hotel’s online image (Litvin et al., 2008).

It is also relevant that Hoteliers are aware that negative reviews have a greater impact than

positive reviews and it is likely that when reviewers are disappointed with one aspect of the hotel, the whole review will be influenced negatively by that aspect (Stringam, Gerdes & Vanleeuwen, 2010). It is plausible that a hotel with more and better reviews than others will be more trusted and get more booking than a hotel with bad reviews (Gidumal, Gonzalez & Valcarcel, 2011). For this reason, it is important for Hoteliers to encourage and stimulate their guests to spread positive eWOM so as to develop business activity (Litvin et al., 2008).

In order to succeed in this Web 2.0 era, Hoteliers must use all emerging technologies and take online reviews into consideration, replying to them when the websites in question allow it to demonstrate concern to their customers and prospects. Hoteliers must gain competitive advantage by taking the lead and control, instead of being controlled by UGC (Ye et al., 2010; Litvin et al., 2008).

In hospitality, UGC has undeniably changed the way people plan and decide their holidays, influencing popularity of accommodation and therefore changing the hospitality industry performance.

## **2.2 Alternative Accommodations and Online Review Websites**

Bed and Breakfast (B&Bs) and Inns are small unique and individualized places with a low rate of customization that have gained popularity in the last decade with guests who do not want to stay in conventional Hotels (Lituchy & Rail, 2000; Lee, Reynolds & Kennon, 2003). These accommodation units contribute to tourism's diversity and are popular for providing a friendly atmosphere for guests. This concept is not new and was first seen in Europe (Nuntsu, Tassiopoulos & Haydam, 2002). A stay in a B&B or Inn is always interactive and unique, in that the personality of the operator/owner will influence its operation (Lee et al, 2003; Kline, Morrison and John, 2004).

Marketing is an important task for B&Bs and frequently gets neglected, maybe because owners were used to getting reservations by email or even through guests that were wandering past looking for accommodation. Nowadays, travelers prefer to book online and therefore owners should embrace the new technologies to promote and advertise online (Lee et al., 2003; Huang, 2008).

When promoting themselves, B&B websites should clearly describe the property and innkeepers and also the experiences provided. This is very important since guests do not know what to expect, giving chain hotels that have a clear brand identity a big advantage (Kline et al., 2004).

It has been shown in previous studies that Word-of-Mouth is one of the most effective marketing strategies for this type of unit. Consequently, it is important for owners and operators to assure maximum quality consistence in order for the feedback from guests to be positive (Lee et al., 2003). It is essential for B&Bs to do it right the first time since they will not get another opportunity to impress their guests; this gives chain hotels the advantage as they can use other powerful marketing strategies to protect themselves from bad feedback from customers (Kaufman

& Weaver, 1998).

The above paragraph shows that online reviews are therefore of particular importance for alternative accommodation. According to Gretzel (2006), “especially for smaller properties, a consumer is very likely to stumble across reviews before even reaching the branded website.”

These reviews can be found in specific online review websites that are becoming increasingly popular and are now of obligatory passage for many travelers when going through the buying process (Jeacle & Carter, 2011). These websites are mostly visited by frequent travelers (more than 5 weeks’ holiday a year) (Harwood, 2007).

For inexperienced B&B customers, these websites are very important and they are looking for information not only about rooms and location but also reputation. The online reviews can have a big influence on the customers’ choice (Jeong, 2004).

Online review websites can act as travel agents and travel advisors at the same time; not only do they offer reviews, but also airline tickets, hotel reservations, rental car reservations, and other travel services (Stringam et al., 2010). Nevertheless, the greatest phenomenon of online review websites is Tripadvisor.com – an unbiased website that provides reviews about hotels and other travel information. Tripadvisor.com is one of the few online review websites that provides impartial information and that does not make reservations. It only allows users to find rates for the same hotel from the major suppliers (Law, 2006).

### 2.3 Appraisal Theory

Martin and White (2005, p. 1) shaped an Appraisal Theory dealing with “the interpersonal in language, with the subjective presence of writers/speakers in texts as they adopt stances towards both the material they present and those with whom they communicate”. It also addresses the way in which writers and speakers not only react positively or negatively but also manipulate their readers and listeners to do the same. It deals with the way communities that share feelings and values are constructed through text, and the way language is used to share sensations, preferences and normative assessments. In addition, it looks at the way writers and speakers interpret identities and how they associate themselves or not with real or possible respondents. Finally, it is concerned with the way they create the perfect or intended audience for their text.

The appraisals are relevant because they show how the speaker and/or writer feel and what they value; they also show how the text perceives the position and authority of the speaker and/or writer; they serve to build links or relationships between the writer and/or speaker and/or the potential respondents.

For Martin and White (2005), feelings can be divided into two types – the feelings we are born with (affect) and institutionalized feelings (judgement and appreciation). Affect refers to positive and negative feelings expressed, such as happiness and sadness. However, affect can be expressed in different grammatical forms. It can be expressed as a quality, when one is describing

someone; as a process, when referring to an affective mental or affective behavioral process; and also as a comment – desiderative – using modal adjunct.

In order to obtain a better understanding of how to classify affect, Martin and White (2005) presented a list of when to use this attitude: Positive or negative affect; behavioral surge or mental process; reaction to other or undirected mood; scale of intensity that evaluates feelings: Low, median, high; feelings that involve intention; variation of affect: Un/happiness, in/security and dis/satisfaction. Examples of the attitude affect include sentences such as “This place and the people who run it favored my desire.” and “We loved this Guesthouse.”

Judgement as an attitude moves into people’s character and behavior – how we should or should not behave. In online reviews, most commonly we find judgement when reference is made to the staff, as we can observe in the following examples:

- “They spoke excellent English and were a great resource for my daily plans.”
- “We arrived at around midnight, but they had made arrangements in advance for us to access the room – thoughtful & organized”

Regarding the attitude appreciation, it is the attitude where we express our evaluations of semiotic and natural phenomena. It can reveal our reactions to ‘things’, their composition and their value:

- Reaction: impact and quality, e.g. “Breakfast was very good.”
- Composition: balance and complexity, e.g. “The room was simple, but well decorated.”
- Valuation: ‘worthwhile’, e.g. “Our room was absolutely unique.”

The Appraisal Theory helps us classify sentences in terms of their attitude, but nevertheless it is a subjective theory that will always have a certain dependence on every evaluator’s way of understanding each sentence that is the object of evaluation.

### 3 METHODOLOGY

Since we are searching for a better understanding of the content in online reviews, we used inductive methods and conducted an exploratory study (Babbie, 2010) in order to attain this objective. A comprehensive analysis was made of 450 online reviews on B&Bs and Inns in Lisbon taken from Tripadvisor, an independent website, which has a total of 108 B&Bs and Inns in Lisbon. We obtained a total of 3409 sentences and 4621 segments following our segment by segment analysis of these 450 online reviews.

Lisbon was the chosen city because the National Strategic Plan for Tourism, drawn up by Tourism of Portugal in 2006, claims it is the most suitable city for the “city break” type of tourism; this is a large target for B&Bs and Inns as the standard consumer spends at least €60 per day and chooses cheap accommodation. City Break tourism is expected to grow 13.5 per cent per year between 2004 and 2015 and it also has a low degree of seasonality (Turismo de Portugal, 2006).

The first step of this analysis was to collect the reviews of the B&Bs and Inns in the Lisbon area from the corresponding area of the website. We analyzed 30 reviews from 15 B&Bs and Inns.

The criteria used for selection were as follows: the B&Bs and Inns had at least 40 online reviews; the dates of the reviews went from June 1<sup>st</sup> 2012 until March 25<sup>th</sup> 2013; reviews written in English, Portuguese, Spanish and French were collected. We followed Tripadvisor's ranking to select the B&Bs and Inns, beginning with the one with the top ranking, and in accordance with all the above criteria.

The next step of the methodology process was to transfer the 4621 segments from the online reviews collected to a spreadsheet and analyze them using a number of parameters described below:

- **Concept of the Ontology (CO)** – The online reviews will be evaluated based on an ontology of the hotel domain used to standardize accommodation concepts and their relationships. This ontology – named Hontology (H stands for Hotel) – was originally developed by Chaves and Trojahn (2010) and extended and updated by Chaves, Freitas and Vieira (2012). We defined 10 CO's basing ourselves on Gomes, Chaves and Pedron (2012), which also used Hontology and we identified the CO present in each segment, when it exists; however, since we are dealing with a different kind of accommodation, we altered three of the original concepts (Parking, Restaurant and Service). We replaced parking for neighborhood, because this type of tourist typically does not have a car on their holidays; restaurant for facilities, as the B&Bs and Inns analyzed did not feature a restaurant but included common areas in their facilities instead such as a kitchen and living room; finally, we integrated the service concept into the Staff concept as these are alike mostly in these accommodation that have a low amount of staff and that generally deal with all tasks of the B&B or Inn. Moreover, we added the value concept, as it is important in this kind of distinctive accommodation for customers to know the ratio between quality and price – value;
- **Strength of the Polarity** – The strength of the positive or negative adjectives, adverbs and other expressions, e.g. spotless, clean, filthy were measured using a Likert scale of 5 points: 1 = very positive and 5 = very negative;
- **Qualifier of each Concept of Ontology (CO)** – The word or expression used that reveals a positive, neutral or negative feeling of the guest, e.g. spotless;
- **Attitude** – Three types of attitude were classified - affect, appreciation and judgment, according to the Appraisal Theory;
- **Fact** – Defined as something known to exist; truth; reality. This parameter allowed us to locate expressions of veracity and reality of the online reviewers; i.e. “well informed staff” as opposed to “the staff seemed well informed”; “room clean with comfortable bed” as opposed to “I slept well and thought the bed quite was comfortable”;
- **Type of Customer, rating and country** according to the Tripadvisor categories indicated by the guests e.g. solo traveller, 5 star, Portugal;

The third step of the methodological process was to use Excel's pivot table function, which

can summarize, sort, count and intersect variables from the Excel spreadsheet, to analyze the collected data. With this function, we were able to study the variables and identify if patterns existed that could help managers better understand their guests.

The final step was to validate the degree of agreement of the attitude evaluation. For that, we made a random selection of 20% of the sample – an approximate amount of reviews for each hotel - reviews were selected as a whole in case any sentences would lose their meaning unless they were contextualized. This sample was given to two external evaluators.

## 4 DATA ANALYSIS

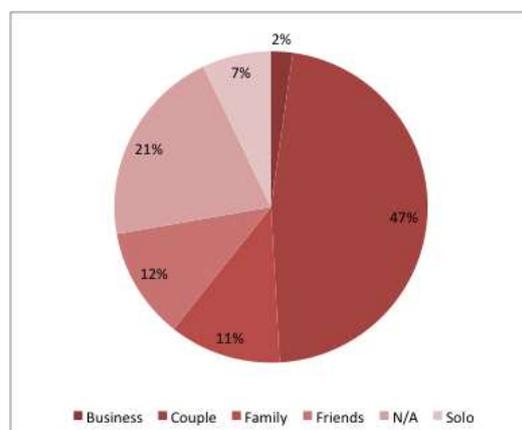
This section holds the analysis of the online reviews of the top B&Bs and Inns in Lisbon gathered from Tripadvisor, which follow our criteria. First we characterize the sample studied, followed by a deeper analysis of the online reviews – correlating several parameters in order to attain more information about the subject. We will also analyze the degree of agreement with the external evaluators.

### 4.1 Sample Characterization

Once the data was collected and uploaded to spreadsheets as described in the above methodology, we obtained a sample with the mentioned criteria that we will now describe. This sample comprised 450 online reviews and 3409 sentences; however, in cases where a sentence had more than one Concept of the Ontology (CO), it was analyzed for each concept thus giving rise to 4621 segments.

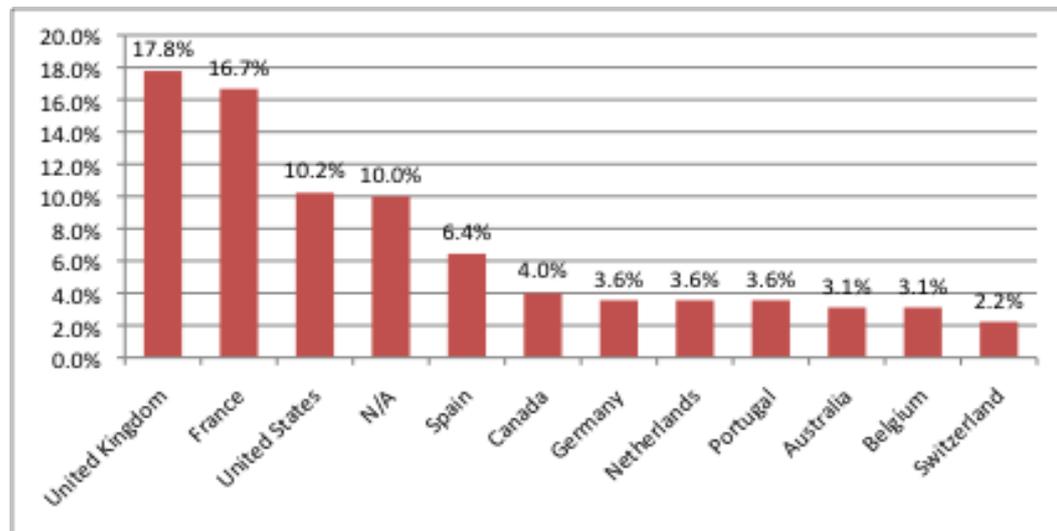
**Types of customer:** The types of customer defined by Tripadvisor website are business, couple, friends, solo and family. In this sample, according to Figure 1, couple travelers are the most common with 46.9% of reviews. 20.7% of the reviewers did not identify which type of traveler they were.

**Figure 1** - Distribution of the types of customer in the sample analyzed



**Country of Origin:** Forty-five different countries were identified, such as Sudan, Chile, Mozambique, but the top two, according to Figure 2, were the United Kingdom (17.8%) and France (16.7%). Also, 10% of the reviewers did not identify their country of origin.

**Figure 2 - Top countries of origin of the reviewers**



**Language:** Given that the reviews from the sample were limited to four languages (English, French, Portuguese and Spanish), the English reviews summed more than half of the sample (67.6%) followed by the reviews written in French (21.3%), Spanish (7%) and Portuguese (4%).

**Rating:** Tripadvisor's scale for the ranking goes from one star (terrible) to 5 stars (excellent). Positive rankings (4 and 5 stars) summed a total of 96.9% whereas only one reviewer gave a poor ranking (0.2%).

**Concepts of the Ontology:** Considering this parameter and according to Table 1, 13.4% of segments did not mention any of the defined CO's. However, Hotel was the most mentioned concept by reviewers with 17.9% of all the defined concepts. Staff and Room were also very relevant with 17.3% and 14.9%.

**Table 1-** Percentage of each concept of the ontology in the sample analyzed

CO	%
Hotel	17.94
Staff	17.31
Room	14.91
Location	10.99
Breakfast	8.89
Facilities	6.12
Bathroom	3.68
Neighborhood	2.55
Others	2.47
Value	1.71

**Qualifiers:** The most strongly expressed qualifier in the 4621 segments were general appreciation, cleanliness and helpfulness, as shown in Table 2. Also in this criteria 13.4% were non applicable. Possibly due to the uniqueness of B&Bs and Inns, we collected a high number of qualifiers – a total of 451 in the 4621 segments. The most popular ones were general appreciation (e.g. the best, good, perfect, amazing) with 15.3%, followed by the non-applicable sentences (13.4%). After these two most strongly expressed qualifiers, cleanliness, helpfulness and decoration were the most mentioned.

**Table 2** - Percentage of each qualifier in the sample analyzed

Qualifiers	%
<b>General Appreciation</b>	15.30
<b>Cleanliness</b>	4.22
<b>Helpfulness</b>	3.77
<b>Decoration</b>	2.99
<b>Size</b>	2.66
<b>Friendliness</b>	2.60
<b>Centrality</b>	2.53
<b>Proximity to Public Transport</b>	2.51
<b>Variety</b>	2.42
<b>Recommendations</b>	2.25
<b>Comfortable</b>	1.69

**Strength of the Polarity (SP):** The most frequent SP was very positive with 49% followed by positive with 26.8% forming a total of 75.9% of the sample. Neutral polarity had 2.8%, negative 6.6%, very negative 1.3% and N/A 13.4%.

**Facts:** The expressions of facts by the reviewers in our sample was relatively equally divided between yes and no. Forty-seven percent expressed facts vis-à-vis 53% that did not express any facts.

**Attitudes:** The majority of the sentences from the sample express appreciation from the guests (67.8%), followed by 13.4% of judgment and also 5.4% of sentences expressing affect.

#### 4.2 Fine-grained Analysis of the Reviews

In this section, we will correlate different parameters to gain a deeper understanding of the online reviewer’s behavior. We will focus on the CO, Strength of the Polarity (SP) and the types of attitude expressed by the reviewers.

**CO and SP:** With this analysis we understand the most appealing concepts to the customers. Staff and Hotel are the concepts that stand out as the most appreciated with the highest percentage of very positive evaluations (74.2% and 73%). Regarding the negative and very negative SP, Neighborhood clearly stands out with 37.3% of segments with these SP giving us the

idea that the neighborhood and surroundings of B&Bs and Inns are not truly appreciated by guests. Neutral SP represents 13.42% of the sample. Table 3 shows us this analysis in detail. Also we present some examples.

**Table 3** - Concepts of the Ontology vs. Strength of the Polarity

CO/SP(%)	Very Positive	Positive	Neutral	Negative	Very Negative
<b>Bathroom</b>	23.53	46.47	8.82	17.65	3.53
<b>Breakfast</b>	65.94	23.36	4.62	6.08	0.00
<b>Facilities</b>	34.98	40.99	7.07	15.19	1.77
<b>Hotel</b>	74.19	17.01	2.65	5.55	0.60
<b>Location</b>	58.46	34.65	0.98	5.12	0.79
<b>Neighborhood</b>	22.88	33.05	6.78	33.90	3.39
<b>Others</b>	27.19	42.98	11.40	12.28	6.14
<b>Room</b>	36.14	46.30	3.92	10.45	3.19
<b>Staff</b>	73.00	25.75	0.13	0.88	0.25
<b>Value</b>	64.56	26.58	1.27	3.80	3.80

Examples of sentences where these concepts are expressed include:

- “The shower is a little tight and some people may have trouble with that.” Bathroom with Negative SP;
- “Steep stairs to rooms makes it less suitable for families with small children and disabled.” Facilities – Negative SP;
- “I simply fell in love with the Guesthouse.” Hotel – Very Positive SP.

**CO and Qualifier:** The most frequent qualifiers for Bathroom were cleanliness and shared; general appreciation and variety were the two most mentioned qualifiers for Breakfast, while common areas and terrace were stood out for Facilities. General appreciation and decoration were mentioned for Hotel. Regarding Location, centrality and proximity to public transports were the top qualifiers. For the concept Neighborhood, customers mention quiet and noise, while in others food & drinks and bathrobe are the most mentioned. Size and cleanliness are the most mentioned for Room; helpfulness and friendliness for Staff. Finally for the Value concept, general appreciation and reasonable are mentioned.

Here we present examples of the top qualifier for the most frequent CO:

- “Bathrooms were extremely clean”. In this segment the qualifier cleanliness is used to describe the bathrooms;
- “The rooms are very very spacious.” The size of the room is described in this segment;
- “The staff were incredibly helpful”. In this segment the reviewer characterizes the Staff using the qualifier Helpfulness.

**CO and Attitude:** Appreciation was undoubtedly the most expressed attitude in our sample

according to Table V. With the exception of Staff, where Judgement was the most observed, there is a large majority of appreciation in all the other concepts as Table 4 shows.

**Table 4 - Concept of the Ontology vs. Attitude**

CO/Attitude(%)	Affect	Appreciation	Judgement
<b>Bathroom</b>	2.35	97.65	0.00
<b>Breakfast</b>	3.41	96.59	0.00
<b>Facilities</b>	5.30	94.70	0.00
<b>Hotel</b>	11.22	88.54	0.24
<b>Location</b>	2.36	97.64	0.00
<b>Neighborhood</b>	5.93	91.53	2.54
<b>Others</b>	11.40	86.84	1.75
<b>Room</b>	3.48	96.52	0.00
<b>Staff</b>	7.88	15.38	76.75
<b>Value</b>	3.80	96.20	0.00

**CO and Fact:** the relation between these parameters is very balanced. Whereas some CO have more segments that are facts, others have a little less than 50%. Table 5 gives a better understanding of this. In the concepts Breakfast, Location and Room nearly 75% of the segments are expressed in the form of facts; these are the concepts where we can find most facts.

**Table 5 - Concept of Ontology vs. Fact**

CO/ Fact (%)	No	Yes
<b>Bathroom</b>	35.29	64.71
<b>Breakfast</b>	25.79	74.21
<b>Facilities</b>	33.92	66.08
<b>Hotel</b>	55.85	44.15
<b>Location</b>	26.97	73.03
<b>N/A</b>	97.90	2.10
<b>Neighborhood</b>	46.61	53.39
<b>Others</b>	71.05	28.95
<b>Room</b>	26.85	73.15
<b>Staff</b>	42.75	57.25
<b>Value</b>	49.37	50.63

An examples of the concept Breakfast mentioned as a fact is “Breakfast is excellent and bread is always fresh.”, while in “We loved the view from our room of the square.” the concept room is mentioned as a personal opinion.

**SP and Attitude:** Appreciation always has the largest percentage, as Table 6 demonstrates. However its lowest percentage is on the very positive segments (72.2%), where judgement has 19.7%. In the very negative segments, 8.6% of the segments express affect – the strength of the polarity where we can find most of this attitude.

**Table 6 - Strength of Polarity vs. Fact**

SP/Attitude(%)	Affect	Appreciation	Judgement
<b>Very Positive</b>	7.86	72.17	19.96
<b>Positive</b>	4.43	93.09	12.48
<b>Neutral</b>	2.29	95.42	2.29
<b>Negative</b>	2.29	95.10	2.61
<b>Very Negative</b>	8.62	86.21	5.17

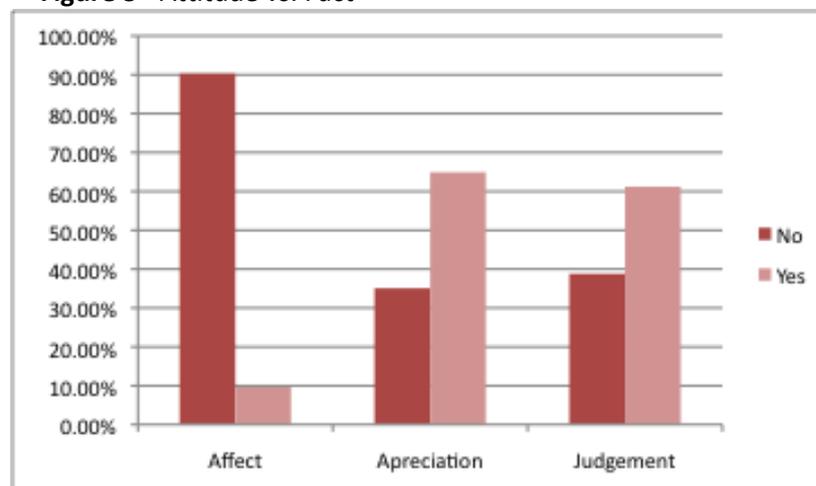
**SP and Fact:** It is in the positive segments that we can find the largest amount of facts, with 70.3% as shown in Table 7. In the very negative facts, only 37.9% of segments are expressions of certainty – facts. In the remaining SP the segments are relatively well divided between facts and non-facts. It is therefore possible to verify a tendency regarding the SP and Facts: in the positive and very positive segments there is a larger expression of facts (both over 50%) than in the negative and very negative (both below 50%).

**Table 7 – Strength of the Polarity and Fact**

SP/Fact(%)	No	Yes
<b>Very Positive</b>	41.03	58.97
<b>Positive</b>	29.71	70.29
<b>Neutral</b>	52.67	47.33
<b>Negative</b>	52.61	47.39
<b>Very Negative</b>	62.07	37.93
<b>N/A</b>	97.90	2.10

**Attitude and Fact:** Regarding the correlation of these parameters, Figure 3 shows that 90.3% of the segments that express affect are not facts whereas in segments expressing appreciation and judgement the amount is quite similar – 64.9% and 61.2% in that order.

**Figure 3 - Attitude vs. Fact**



An example of an appreciation and a segment without fact is “Probably the only negative is find the guesthouse.”, while an appreciation with fact mentioned in a segment is “Our room was spacious with a charismatic décor.”

### 4.3 Degree of Agreement

In order to certify an accurate study, we randomly selected 20% of the sample - 923 segments - and asked to external evaluators to classify each segment regarding the type of attitude. The fraction of the sample was given in a random way – selecting comments as a whole from each B&B and Inn. The evaluators were given a definition of every attitude as well as some examples for each one. Both external evaluators were female, one of them with a bachelor degree (29 years old) and the other with a master’s degree (24 years old). The evaluator of this study is also female, 24 years of age and with a bachelor degree.

Table 8 sets out the results from the three different evaluators. All three evaluations were very similar, with small variations in each attitude. This further strengthens the confidence in the accuracy of the findings herein.

**Table 8** - Classification of each evaluator

	<b>Evaluator A</b>	<b>Evaluator B</b>	<b>Evaluator C</b>
<b>Affect (%)</b>	7.58	6.72	4.55
<b>Appreciation (%)</b>	81.37	80.72	84.29
<b>Judgement (%)</b>	11.05	12.57	11.16

The minor variations from each evaluator are probably due to a different interpretation of the segments evaluated, since the Appraisal Theory is a somewhat subjective theory that can lead to different interpretations. The attitude that varies the most is affect, followed by appreciation. On the other hand, the variation for judgement is minor.

Regards to the inter-rater agreement, Table 9 shows that all evaluators have a high degree of agreement. Despite of the subjectivity of the task, even considering the agreement between three evaluators (first column of the table), it was reached a almost perfect degree of agreement.

**Table 9** - Inter-rater agreement (Number of Segments)

	<b>A B C</b>	<b>A B</b>	<b>A C</b>	<b>B C</b>
<b>Total Agreement</b>	855	897	897	856
<b>Partial Agreement</b>	67	-	-	-
<b>No Agreement</b>	1	26	44	67
<b>Average of Agreement</b>	97%	97%	95%	93%

## 5 DISCUSSION AND FINDINGS

This section presents a discussion of the main findings in this paper and make some recommendations to B&B and Inn managers.

One of the objectives of this paper was to evaluate the types of attitude in online reviews. We found that **attitudes are often expressed in B&Bs and Inns online reviews**. Undoubtedly, appreciation was the type of attitude that customers most express in our sample with 68% of segments, followed by judgement with 13% and affect with 5%, while 14% of segments did not express any attitude and therefore were classified as N/A. Appreciation is the type of attitude customers express the most in all Concepts of the Ontology, except in the Staff concept, where judgement takes its place as the most popular attitude. This is due to the judgements that are made about the staff members of B&Bs and Inns. Affect is often found in reviews about the Hotel concept when compared with others – customers speak about how lovely their experience was at the B&B or Inn, for example. It is also important for managers to take into account where affect is more expressed and in which terms it is expressed, to be aware of the feeling and emotions that customers have for their B&B or Inn. Taking these into consideration will help managers to improve specific aspects of the accommodations.

**The majority of facts are expressed in the attitudes of appreciation and judgement** - where we can agree that customers are certain about their affirmations. However, 90% of segments in which affect is the attitude expressed do not state known facts. This might be due to the fact that most segments that express affect have a construction of this kind: “We loved our room at this Guesthouse.”

When correlating the attitude expressed and the SP, the statistics do not alter much. Appreciation is the most used attitude in all five SP, but judgement has its biggest expression in ‘very positive’ segments, which leads to the deduction that judgements made regarding the staff are very positive, since the majority of judgements were related to this concept. This gives managers the hint that the staff members are competent and have a good sense of hospitality.

**Neighborhood is one of the main problems to solve.** Although there is a general approval, analyzing the CO we can recognize the most appreciated features of B&Bs and Inns. Hotel and Staff are the concepts that present a largest percentage of segments with ‘very positive’ SP. These are extremely important concepts, since they stand for the general appreciation of B&Bs and Inns and the entire Human Recourses component. The concept with most segments with a ‘negative’ SP is Neighborhood, where ‘negative’ and ‘very negative’ SP represent 37%. This concept is not the direct responsibility of B&B and Inn managers once the place already exists, since they are not capable of changing the surroundings of their B&B or Inn. It is important though, that managers continue to direct their strengths to other concepts in order for the neighborhood concept to affect the rating given by guests as little as possible and always paying attention to negative and also positive reviews.

Managers must protect themselves from the consequences that the surroundings of the

B&B and Inn can bring, by investing in good infrastructures that make guests feel safe and in peace when inside the B&B and Inn. Also as it is a factor that does not directly depend on the managers, it makes it particularly important to improve all the other factors that are in their hands as much as possible.

**American tourists in Portugal tend to opt for B&Bs and Inns:** The most common countries of origin were the United Kingdom, France and the United States of America. When compared with the overall results of Portuguese tourism in 2012, published by the Tourism of Portugal in March 2013, we find the United Kingdom and France in the top 5 nationalities that most visited Portugal in 2012 but not the United States of America. This fact indicates that American tourists in Portugal tend to opt for these typologies of accommodation as opposed to Spanish guests that represented the second nationality most visiting Portugal in 2012 (15.8%) (Turismo de Portugal, 2013), which in our sample only appears with 6.4%.

**Guests are satisfied with B&Bs and Inns in Lisbon.** Another finding from this paper is that 97% of our sample gave a positive ranking in their online review (76% very positive and 21% positive), which shows that guests are satisfied with B&Bs and Inns in Lisbon. This finding may be influenced by the fact that the analyzed B&Bs and Inns were selected in order of their ranking, meaning that these are the top ranked B&Bs and Inns in Lisbon that follow the parameters defined for this study.

**Managers should consider facts and opinions equally.** When analyzing if sentences are expressed in the form of facts or mere opinions, we deduce that the division is almost identical – 47% express facts against 53% do not. The number of customers who are absolutely convinced about their stay and the B&B and Inn which accommodated them and the number of customers that only state an opinion without giving an expression of certainty and veracity is therefore almost exactly the same. As a result managers should take into account both types of expression; although the sentences in the form of facts can give better directions on how to operate and the changes that may require action due to their certainty, opinions may also contain important advice for the managers.

**Pay attention to the couples:** Almost 50% of the guests in the studied sample that visited B&Bs and Inns in Lisbon from June 1<sup>st</sup> 2012 until March 25<sup>th</sup> 2013, were traveling as a couple.

The analysis of the attitudes expressed in the online reviews allowed us to understand what type of attitude customers were expressing about B&Bs and Inns in the gathered sample; if this attitude was expressed in a positive or negative way crossing this parameter with SP; and also in which CO each attitude was most expressed.

With online reviews managers should therefore understand their positive and negative strengths and work together with their staff to improve the negatives and maintain the positives. It is important that managers do not neglect the positive reviews as these also carry useful information for the well being of the B&B or Inn.

Given the above conclusions, some major contributions can be drawn from this paper for B&B and Inn managers:

**Profile of reviewer:** Traveling in couples and the most frequent countries of origin are United Kingdom, United States and France. It makes it important for managers to focus on packages and facilities attractive to couples and also to invest in training in English and French for current staff and making these languages a requirement when recruiting new staff.

Although the ratings of the reviews reveal the great satisfaction of the customers, it is essential to analyze positive reviews as carefully as negative reviews.

Considering that nearly half of the segments express facts, managers can have a clear idea of what customers honestly assume from the B&B or Inn and use this information to take necessary action.

Finally, the attitudes expressed in online reviews can elucidate managers on how their guests are expressing themselves. It is important for managers to take into consideration the type of attitude expressed and better understand their customers. The fact that most segments express appreciation and that this is a large majority in all SP shows that customers are reviewing based on their evaluation of the B&B and Inn and express very few feelings about this.

## 6 FINAL REMARKS

This paper presents an interdisciplinary contribution to the fields of Tourism and hospitality highlighting the relevance of the content of online reviews to support the decision making. It also contributes with a general characterization of Lisbon's B&B and Inns guests and their consequent overall appreciation. It is known to be the first study about alternative accommodation in Portugal.

Despite the growing tendency to study UGC, this work is a pioneer in applying the Appraisal Theory in the analysis of hospitality services. The attitudes analyzed can help managers better understand the needs of their guests. Customers are expressing themselves mostly through appreciations, while judgement is associated to the concept Staff. Affect expressions rarely appeared in the sample analyzed, which is an indicator that customers do not used to these kind of expressions to evaluate B&B and Inns in online reviews.

Another contribution of this work is to provide a freely available resource composed of 923 segments of sentences for further researches such as to evaluate systems dealing with sentiment analysis. The list of sentences and the evaluation of the three raters is available at (self reference).

The limitations of this study started with the impossibility of obtaining an official list with all alternative accommodation from Lisbon, making us resort to the listing of Tripadvisor of B&B and Inns, which included the most popular alternative accommodation of Lisbon. Also, there was an initial objective of studying not only Lisbon, but also the second most important Portuguese city for tourism – Oporto. This was not possible to pursue due to the limited presence and importance of alternative accommodation in Oporto found in Tripadvisor. It was impossible to follow the same parameters that we had defined for the sample in Lisbon in this second city.

For further studies, it would certainly be relevant to expand the sample of this study and

also to apply it in different locations. Alternative accommodation is becoming more popular and, as mentioned during this dissertation, online reviews have more impact in these small and independent places than in big chain hotels. Finally, it would also be of interest to study the managers' perspective and reaction to online reviews; whether or not these are taken into consideration.

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