Discovering the sustainable hotel brand personality on TripAdvisor

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Abstract

Purpose – This paper aims to explore a hotel brand personality performance through electronic word-of-mouth. A complementary attribute is designed and tested in addition to the already existing five dimensions from the brand personality scale, denominated sustainability.

Design/methodology/approach – A sample of 16,175 reviews from the rating session of three hotel properties behind a brand was retrieved from TripAdvisor for a data mining procedure. A complementary list of associated words was considered in addition to the 42 personality traits of Aaker’s model, and a brief inventory was developed based on the 17 sustainable development goals (SDGs) to compose the sustainability dimension.

Findings – This study registered sincerity as the most representative dimension in its results, and ruggedness as the lowest. This is evidence that the latter is not suitable for representing a brand personality scale for hotels and could be replaced by sustainability.

Research limitations/implications – Despite the relevant findings, new surveys and tests are recommended to provide better support to the new proposed dimension.

Practical implications – This investigation enables hotel managers to work more effectively on their brand strategies based on sustainability-oriented brand personality, which could deliver economic, social and environmental benefits to the world by influencing consumption behavior in association with the SDGs.

Originality/value – This study differs from existing literature by attempting to fill a gap on the limitations of studies focused on linking brand personality to sustainability, and using data mining to reach this goal.

Keywords Sustainability, eWOM, Data mining, Hotel brand personality

Paper type Research paper
1. Introduction
Sustainability is considered an essential theme for the digital world which requires not only economically viable business models but also socially sustainable business practices (WEF, 2018). Following this concept, the tourism and hospitality segments also show significant reasons which call for an urgent assessment on the sustainability theme as a fast-growing industry in the world (Asmelash and Kumar, 2019).

Moreover, another theme which has emerged is branding (Casidy et al., 2018), due to the fact that brands are one of the most valuable intangible assets that companies possess (Keller and Lehmann, 2006). A second reason is the growing market competitiveness and changes in consumer behavior who are better informed nowadays and use technology tools in their decision-making processes (Kotler et al., 2017). Sustainability and branding are two distinct themes with their own particularities, but could bring contributions to business development if they are integrated (Kumar and Christodouloupolou, 2014).

This is the digital age and consumers are seeking brands centered on humans which contain personalities like people (Kotler et al., 2017), denominated the brand personality (BP). Thus, this study is the first step to develop a BP model specifically geared for hotels enabling incorporation of sustainability as an extension to the brand personality scale (BPS) originally developed by Aaker (1997), and consequently help to achieve the sustainable development goals (SDGs) introduced by the United Nations.

Based on these premises and to address the recommendation by Kumar and Christodouloupolou (2014) to investigate whether sustainability could be incorporated as another dimension of the BPS, the objective of this study is to explore how sustainability performs as a hotel BP in a digital environment as identified through electronic word-of-mouth (eWOM).

2. Theoretical background
2.1 Brand personality for hotels
There are different perspectives to address branding and one of them is to explore the BP. As consumers perceive brands as having human personality traits (Azoulay and Kapferer,
BP has become a strategic and powerful way to gain competitive advantages for hotels (Lee and Back, 2010), and there are some reasons for this, as there is a statement by Aaker (2015) that many hotel brands suffer from lack of differentiation. First, a brand with a strong personality improves its brand equity (Aaker, 2015), and brand equity is a key to getting higher occupancy and rates for them (Dev, 2012). Second, the association of human attributes with brands is a strategic component to be distinguished among competitors (Kotler et al., 2017).

BP studies began to stand out in marketing and branding literature starting from 1997. The reason for this is that Aaker (1997) developed the BPS, which is capable of measuring the personalities which could be found in brands. Dimensions of BP is the title of the work that Aaker developed, which has already been cited by 2,518 new studies since that time (Scopus, 2019). This scale has been frequently applied by researchers to explore brands from various segments. However, only a few studies have applied it to hotel brands (Li et al., 2014). Some researchers such as Lee and Back (2010) have already applied the BPS to upper-upscale business hotels. Li et al. (2014) also applied it for economy hotels, Paiva Neto and Ferreira (2017) for coastal hotels (2017), and Su and Reynolds (2017) for a mix of segments. However, Su and Reynolds (2017) commented that the BPS is “not large enough to reflect a hotel brand’s particularity” (p. 11). This affirmation served as a motivation to rethink the BPS for the hospitality industry. One more relevant finding during the hotel BP state-of-the-art investigation revealed that some studies rejected the ruggedness dimension (Lee and Back, 2010).

2.2 Sustainability as a brand personality attribute

According to Moscardo (2015), there is a complex relationship between tourism and sustainability, and the key to improve this relationship is in developing a greater sense of responsibility towards and within the various stakeholders in the tourism system.

In fact, this sector still has difficulty in finding the formula to achieve the three issues that involves the triple bottom line: economic, social and environmental (Navio-Marco et al., 2018). According to Gimenez et al. (2012, p. 150), “the triple-bottom-line concept suggests that firms not only need to engage in socially and environmentally responsible behavior, but also that positive financial gains can be made in the process”, and their three dimensions (when integrated) represent the Sustainability term.

Once sustainability is considered essential for operational business management (Gimenez et al., 2012), it might be considered for brand management as well. This is because the combination of sustainability into branding as part of the core mission of a company could lead to a competitive advantage and express a company’s concern about sustainability to clients (Kumar and Christodouloupolou, 2014).

Previous studies which examined the extension of BP to the environment, or social and economic integrated pillars of sustainability have not been found. Acharya and Gupta (2016) only investigated the environment pillar and developed the Green BP scale with adaptations from the Aaker model. Such extension with some sustainability attributes could be a demonstration that the sustainability-oriented BP is conceptually viable to be formed (Figure 2).

Based on this and considering that lodging is one of the main industries which enables mass tourism to occur by hosting them and consequently provoking environmental problems (Kristanti and Jokom, 2017), or by affecting the quality of the residents’ lives (Kim et al., 2013), there is a necessity to continue improving incorporation of sustainability aspects into hotel strategic brand management. This is even more so imperative because a hotel is a person’s temporary home, and it could influence the guest by demonstrating sustainable practices (Amatulli et al., 2017).
Society is changing, just as tourism consumption and consumers are becoming more empowered with an active voice on the internet (Kotler and Kotler, 2013). Amatulli et al. (2017) argue that the new generation of consumers is also increasingly aware of environmental and social problems and are reprimanding brands which do not conform to these issues, and it is no longer enough for brands to not do wrong, but rather to implement proactive participation in the causes in favor of sustainability issues. For example, Stengel (2013) found out that brands with ideals centered on improving societal life outweigh the market by a huge margin. As a consequence of this change, many entities nowadays are focusing not only on financial results but also on ecological and social impacts (Ruzzier et al., 2015).

2.3 Electronic word-of-mouth as a source for tourism brand research

This is the digital age and its technological advances have forced the tourism industry to transform their organizations and brands (Law et al., 2014; Navío-Marco et al., 2018). The web 2.0, covered by the popularity of interactive platforms, is one of the most influential factors in tourism (Sahin et al., 2017).

The Virtual Travel Community (VTC) emerged on the web 2.0 and has been making it easier for travelers to obtain information about tourism suppliers and become less dependent on intermediaries (Buhalis and Law, 2008). This is part of the information and communication technology (ICT) evolution which has caused an increase in this independent traveler, being described as a person who “spurns the services of their local agent in favor of a do-it-yourself approach to holiday arrangements” (Jeacle and Carter, 2011, p. 294).

There are many platforms with 24/7 open access to the entire world which contribute to this purpose where tourists can share audiovisual content and positive, neutral or negative comments about tourism products which have been experienced (Sahin et al., 2017). Websites like TripAdvisor are part of the VTC and an important source for eWOM information (Jeacle and Carter, 2011).

Marketing studies point to the strength of World-of-Mouth (WOM) as possessing greater effectiveness than traditional advertising (Kotler and Kotler, 2013) due to behaving as a risk reducer, but its level may vary across service categories (Sweeney et al., 2014). For Duffy (2015), the credibility of WOM is based on homophily and eWOM is a combination of homophily and technology. According to Hennig-Thurau et al. (2004, p. 39), there is already a recognized definition for the term eWOM, meaning:

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\text{eWOM} = \text{any positive or negative statement made by potential, actual or former customers about a product or company, which is made available to a multitude of people or institutions via the Internet.}
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Some researchers show that eWOM spreads faster and reaches more people when compared to WOM (Buhalis and Law, 2008). However, Law et al. (2014) argue that managing eWOM is not that simple due to the proliferation of social media platforms and the democratization of opinions.

It is known that the need for information about tourism products is higher due to its intangible nature (O’Connor, 2008), and nowadays the decision-making process for choosing a hotel is mostly based on these statements published by previous guests on such platforms (Ekiz et al., 2012). For this reason, hospitality businesses need to create their virtual brand identity and keep in touch with their consumers in online environments (Barreda and Bilgihan, 2013). And yet, attaching personality to brands can make consumers recommend the brand, spread positive WOM and encourage other consumers to buy it (Ismail and Spinelli, 2012).
3. Methodology
It has been more than 20 years since Aaker (1997) developed the BPS. At that time the internet was still poorly accessible and social networks did not exist yet, so she needed to send questionnaires by mail to respondents for data collection. Inspired by her initiative, but supported by modern technology features, an advanced way of investigating BP has been applied by the authors. This study follows the recommendation of Barreda and Bilgihan (2013), who indicate that hoteliers should use online consumer feedback as a source to help create a strong online brand. Buhalis and Law (2008) also state that VTC could be an assistant to strengthen brand association.

According to Paschen et al. (2017), BP studies have been adapted through the use of new research techniques other than questionnaires. Previous studies have already started to apply content analysis in searching for BP traits on the web (Opoku et al., 2006; Pitt et al., 2007), and later using computerized tools such as data mining techniques to do so (Dickinger and Lalicic, 2016; Opoku et al., 2006; Paschen et al., 2017; Chiang and Yang, 2018). They served as inspiration for the methodological planning adopted for the current study which now includes sustainability as a new dimension and performs an analysis in the digital environment. This is an exploratory study implementing a predominantly qualitative approach and uses digital content analysis to achieve its purpose.

Regarding discovering the existing BP traits (including Sustainability) on social network reviews, a digital map of hotel brand personality (HBP) has been developed through measuring the presence of related personality traits for hotel brands through eWOM collected on the TripAdvisor website. The reason for choosing these reviews is because it is a channel for expressing the brand experience that consumers have had with the hotels and the BP is capable of being formed via consumer brand experience (Chiang and Yang, 2018).

One hotel brand was selected as a source to verify the personalities perceived in it. The criterion used was the choice of the world’s most valuable hotel brand according to Brand Finance (2018), and its officially declared commitment to the United Nation’s 2030 sustainable development agenda. There are three hotel properties behind this brand, but distinguished locations were selected. They are from feature tourism destinations (London, New York and Sydney), and the reason is an extra investigation into if regional differences interfere in guest reviews and consequently on the BP trait scopes. The choice of these units was also due to the relatively close number of reviews.

3.1 Dimensionality formation
The amount of personality traits was established and distributed across six categories (sincerity, excitement, competence, sophistication, ruggedness and sustainability) before starting the mining process. Five of the traits are from Aaker’s scale and a new dimension entitled Sustainability was integrated. The criteria adopted for selecting and distributing these traits by dimensions occurred as follows:

Sincerity, excitement, competence, sophistication and ruggedness: Aaker’s (1997) BPS served as the main instrument to support this research; however, some adaptations were made. By not being limited to the 42 traits developed by her and presented in Table 1, an extension of synonyms or associated words proposed by Opoku et al. (2006) and available on the internet (Provalis Research, 2019) was also considered as a complementary source to enrich the data collection instrument with a total of 833 variants which were evenly distributed across these five dimensions.

Sustainability: Another procedure was required to design a brief inventory of personality traits for the new proposed Sustainability dimension, and therefore an online free-
A digital mapping of hotel brand personality traits identified on TripAdvisor reviews

| Dimension      | Total number of traits | HOTEL A (London) | HOTEL B (NYC) | HOTEL C (Sydney) | Total | % captured/useful traits |
|----------------|------------------------|------------------|---------------|------------------|-------|--------------------------|
| Sincerity      | 174                    | 4.613            | 6.708         | 4.319            | 15.640| 60.92                    |
| Excitement     | 142                    | 1.483            | 2.336         | 2.084            | 5.903 | 64.08                    |
| Sophistication | 173                    | 1.096            | 1.868         | 1.791            | 4.755 | 49.71                    |
| Competence     | 168                    | 1.024            | 1.72          | 1.106            | 3.850 | 51.19                    |
| Sustainability | 213                    | 1.187            | 1.433         | 1.132            | 3.752 | 50.23                    |
| Ruggedness     | 174                    | 839              | 818           | 683              | 2.340 | 41.95                    |
| Total number of reviews (TripAdvisor) | | 4.814 | 6.627 | 4.734 | 16.175 ||
| First review   | 10/3/2013              | 7/23/2002        | 7/22/2015     | –                | –     | –                       |
| Latest review  | 1/10/2019              | 1/9/2019         | 1/10/2019     | –                | –     | –                       |

3.2 Data mining procedure

It was necessary to gather the personality traits selected in the previous stage and to perform digital tracking for the frequency of these traits in the eWOM contained on TripAdvisor. A Web scraping procedure was conducted using the Selenium software package. The relevant content was the amount of BP traits selected in item 3.1, which were captured by using a Python 2.7 script built around the “Beautifulsoup” library. This research tool has already been used in studies by Akhtar et al. (2017), and a sample of 16,175 consumer reviews from the years 2002 to 2019 were used for this current investigation.
This mining process counts on the support of the TripAdvisor website, which is one of the largest online review sites (Lee et al., 2016) and the most well-known user-generated content for the travel sector (Barreda and Bilgihan, 2013; Duffy, 2015). This social network contains reviews and comments about destinations, attractions, and tourist services used by travelers. It is an important source of eWOM in the tourism segment (Jeacle and Carter, 2011). The software was adopted thereafter to count the frequency of these 1,046 personality traits in each consumer review. Based on this inventory of personality traits, the software ran through each specific review and counted the frequency of these representative key words.

4. Results

In the first mining performance, it was carefully observed by the authors that some features would not be compatible for the investigation. The reason is that they had the function of adverbs in many instances, which would not be suitable to describe a personality trait. In addition, it was noticed that the same words became outliers. Cases like “good” and “excellent” boosted the results, and they were disregarded after the first tests.

Another necessary adaptation was on the evaluation of the word “new”. It was noted that this word became an outlier in evaluating the reviews in New York City. For that reason, the word “New York” contained in the comments was replaced by “NYC”, so as to not affect the frequency analysis of this term. As shown in Table 1, the performance of the selected traits was presented according to the total of occurrences representing each dimension obtained through the data mining.

The analysis by data mining observed representativity between the dimensions and also between the sample hotels. The sincerity and excitement dimensions obtained the best results, occupying the first and second position for all three evaluated hotels. These results are also in conformity with the study of Su and Reynolds (2017, p. 10), who stated “customers primarily try to express themselves in their hotel brand choice through the Excitement and Sincerity dimensions”. Therefore, the most representative features are presented in each of the six dimensions proposed in this study (Table 2). Traits such as “Friendly” and “Helpful” were prominent and boosted the performance of the sincerity dimension.

The achievement of each dimension presented in the reviews proposed by eWOM generated the understanding demonstrated on Table 3.

Despite the difference in the volume of traits presented in each hotel, there is a certain similarity in the format of the element distribution between the dimensions shown though a radar chart in Figure 1. This is a positive sign of correlative brand image between hotel unities spread around distinctive continents and complies with the statement of Dev (2012), which states “even a powerful brand will have trouble sustaining growth with a different image in every country” (p. 14) (Figure 3).

Based on this distribution, it was realized that all three hotels behind the brand performed relatively similar and that the sustainability dimension was only below its fourth position in the NYC hotel rating. One possible reason why this one might perform slightly lower in this location is that this is a hotel where TripAdvisor reviews cover a longer period and involve older content. This is more evidence that the sustainability issue is something which has become more valued by consumers more recently and will probably continue to keep growing.

5. Conclusions and implications

This study expects to help hotel managers to become more aware about sustainable changes and incorporate this issue into their brand personalities inspired by the 17 SDGs. It is not just about investing in corporate social responsibility and the certifications, but going
| Dimension | Trait  | Freq. | (%)   |
|-----------|--------|-------|-------|
| Sincerity | Friendly | 3352  | 21.43 |
|           | Helpful | 3025  | 19.34 |
|           | Standard| 1023  | 6.54  |
|           | Pleasant| 767   | 4.90  |
|           | Open    | 572   | 3.66  |
|           | Decent  | 476   | 3.04  |
|           | Kind    | 438   | 2.80  |
|           | Polite  | 417   | 2.67  |
|           | Warm    | 414   | 2.65  |
|           | Welcoming| 413  | 2.64  |
| Excitement| Modern  | 1165  | 19.74 |
|           | Early   | 1039  | 17.60 |
|           | New     | 955   | 16.18 |
|           | Fresh   | 449   | 7.61  |
|           | Awesome | 417   | 7.06  |
|           | Recent  | 196   | 3.32  |
|           | Young   | 196   | 3.32  |
|           | Cool    | 195   | 3.30  |
|           | Crazy   | 112   | 1.90  |
|           | Moving  | 102   | 1.73  |
| Sophistication | Expensive | 941  | 19.79 |
|           | Pretty  | 707   | 14.87 |
|           | Beautiful| 680  | 14.30 |
|           | Fabulous| 350   | 7.36  |
|           | Lady    | 294   | 6.18  |
|           | Spectacular| 245 | 5.15  |
|           | Luxurious| 142  | 2.99  |
|           | Top notch| 138  | 2.90  |
|           | Stunning| 131   | 2.75  |
|           | First class| 101  | 2.12  |
| Competence | Able   | 819   | 21.27 |
|           | Safe    | 420   | 10.91 |
|           | Outstanding| 346 | 8.99  |
|           | Experienced| 253 | 6.57  |
|           | In front| 170   | 4.42  |
|           | Superior | 164   | 4.26  |
|           | Complete | 153   | 3.97  |
|           | Secure  | 105   | 2.73  |
|           | Trade   | 100   | 2.60  |
|           | Knowledgeable| 94  | 2.44  |
| Sustainability | Lovely  | 1060  | 28.25 |
|           | Care    | 487   | 12.98 |
|           | Fairly  | 236   | 6.29  |
|           | Giving  | 177   | 4.72  |
|           | Fair    | 146   | 3.89  |
|           | Hospitality| 145 | 3.86  |
|           | Aware   | 127   | 3.38  |
|           | Share   | 106   | 2.83  |
|           | Woke    | 82    | 2.19  |
|           | Peaceful| 80    | 2.13  |

Table 2. Most representative traits by dimension

(continued)
beyond and having sustainability as a brand purpose, deeply inserted in its personality to generate a positive impact on society and the planet.

Linking sustainability to BP is a promising route for branding strategies in hotel management and goes further than profit, growth and employment agendas. This investigation comes just at a time when the overtourism phenomenon faces resistance from many communities and environmentalists (Tang and Lam, 2017), and this is an invitation to reconstruct the predatory image linked to hotel brands and help them to be peacemaking and transformational agents for common welfare among tourists and residents.

The positive aspects of tourism as a facilitator of education, cross-cultural engagement, ecological appreciation and spiritual development (Higgins-Desbiolles, 2018) must be used for boosting sustainability practices through hospitality services. In other words, forming

| Dimension | Trait   | Freq. | (%)  |
|-----------|---------|-------|------|
| Ruggedness| Outside | 766   | 32.74|
|           | Hard    | 561   | 23.97|
|           | Difficult| 224   | 9.57 |
|           | Uncomfortable | 202 | 8.63 |
|           | Unpleasant| 59   | 2.52 |
|           | Tough    | 39    | 1.67 |
|           | Rough    | 31    | 1.32 |
|           | Extreme  | 30    | 1.28 |
|           | Struggle | 28    | 1.20 |
|           | Challenge| 27    | 1.15 |

Table 3. Performance through eWOM

Sincerity Most representative dimension. This dimension still counted on elements which boosted its results. “Friendly” was the most representative trait overall and a genuine feature of Aaker’s (1997) scale

Excitement The second most expressive dimension. Although this dimension contained the smallest number of traits available for evaluation, it is proportionally the dimension with the best performance in the variation of personality traits identified in the reviews

Sophistication Third overall position. It was a dimension which stood out along with competence in the study by Lee and Back (2010) in investigating upper-upscale business hotels. However, in the study by Li et al. (2014) which focused on economy hotels, this no longer presented the same performance

Competence Ranked fourth overall. Perhaps it was the most unexpected position as the competence dimension was positioned as the most representative in studies by Lee and Back (2010) and Li et al. (2014). However, its position does not mean poor performance, as the numbers are relatively close to the sustainability and sophistication dimensions

Sustainability Fifth position. It was only in fifth position below the Competence dimension in the NYC hotel. The performance is considered satisfactory, and even more so when the sustainability theme is still in the adaptation process from the perspective of brand personality literature, but it is already well represented together with Aaker’s (1997) five well-known dimensions

Ruggedness The lowest performance. This dimension was considered inadequate by some academics when applied to hotel brands. This reinforces the claim that the attributes belonging to ruggedness are not indicated to represent the personality of a hotel brand
Figure 1. Brand personality scale – the 5 dimensions and their 42 traits

Source: Aaker (1997)

Figure 2. BPS adaptation for green brand personality

Source: Acharya and Gupta (2016)

Figure 3. Dimension representativeness in a radar chart by hotel

Source: Research data
hotel brands with a personality oriented towards sustainability is performed not only to better connect with conscious tourists who are looking for guilt-free consumption opportunities but also to become a leader in proactively and encouraging tourists, staff and a whole surrounding society to be aware of sustainability issues.

The authors recommend reverting the BP attributes into managerial and practical implications for promoting a more intense recognition of these personalities. For example, it could be a requirement for staff recruitment based on personality similarity, for developing the mission statement, property design, guest experience, or in creating a narrative discourse for communication or relational content with consumers (chatbots, Web pages, storytelling videos, voice assistants, consumer experience, fidelity programs), and many other ways.

As an academic contribution, this study is expected to help fill this lack of studies on BP in hospitality. In addition, proposing the inclusion of sustainability as a new dimension when investigating hotel BP, as the current study has identified that it is an element with significant representativeness for the sector.

6. Limitations and future research
This study was considered a first step in linking the sustainability theme to the BPS for hotels. Although it has explored broad content in a virtual scenario, the authors affirm that there is still a need for further research which strengthens and sustains this assertion that sustainability is a necessary attribute to be inserted in scales to measure the personality of hotel brands.

Thus, complementary studies are suggested for future research. Although sustainability is indicated to be somehow embedded in the personality scale of hotel brands, new online or offline surveys supported by a factorial analysis are recommended to check the consistency and to gain better support for this new proposed scale. As already commented by Duffy (2015), eWOM is accessible and analyzable, but it may not fully represent guest opinions.

The authors also recommend excluding the Ruggedness dimension of the BPS when applying it to hotel brands, as some of the most relevant traits could be considered and inserted into other dimensions when compatible. And finally, more hotel brands, new destinations or different accommodation market segments could be considered for future studies.

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