Abstract: Social media marketing is increasingly seen as one of the main ways of communicating with consumers, platforms where visual content is the main form of communication, such as Instagram. The human brain is programmed to not only pay attention to individual resources, but also to the stories that these resources tell. Stories allow humans to relate, inspire, motivate, and often be persuaded, because they mix information with emotion. In marketing, this concept of storytelling focuses mainly on details of a brand's branding. Therefore, although content shared on social networks can reach a large audience, that same content can be abandoned in the same instant, and so marketers must consciously create content that is relevant and interesting to their target audience, that tells the story of the brand and that engage the target audience with the brand. The presence of hotel units on social media, particularly Instagram, is increasingly seen as one of the main tools in the hotel industry's digital strategy.

This exploratory study evaluates the role of visual marketing by analyzing how it can impact the performance of Instagram posts from a five-star hotel group brand in the city of Porto, Portugal. 77 Instagram posts were analyzed according to the following categories: day of the week of publication, content creator, engagement dimensions (number of likes, number of comments and number of hashtags), presence of people, topic, visual content analysis method (objects identified and predominant tone), color (description of color and tone) and finally, storytelling (the presence of storytelling in the publication and the type of story). The Google Vision API platform was used to analyze the visual content and color of all the publications collected.

This study reveals that hotels should analyze the colors, type of stories, photographic content and topics that have the most positive effect on consumers - making the most of the interaction with consumers, leading them to make a reservation at the hotel. In this sense, the main aspects of visual marketing that are most effective are suggested, in terms of color, topic and storytelling, as well as identifying good visual marketing practices.

Keywords: Social Media, Digital Marketing, Hotel Brand, Instagram

1. Introduction

In the last decade, social networks have become fundamental in the communication between organizations and consumers, thus making the digital presence of hotels is essential. Therefore, it is important for all industry professionals to evaluate the role of social media in travel planning (Leung et al., 2013). Guests are increasingly turning to hotel social media in the booking process, so hotels should see social media as an opportunity to build relationships with their guests (Ristova & Dimitrov, 2019). Tatar and Eren-Erdogmuş (2016) concluded that easy and speed of booking, agility in communicating with consumers, sharing opinions and the possibility of including other hotel services as a link are some of the advantages of social media marketing. Kurniawan et al. (2021) also concluded that social networks are an effective tool for promoting products or services. In this sense, professionals must consider the content published on social networks; as well as the respective interactions, often referred to as engagement likes and comments that this content receives.

Social media marketing is increasingly seen as one of the main ways of communicating with consumers. Ways of communicating with consumers using platforms where visual content is the main form of communication, such as Instagram. Square photography in 1:1 and 4:5 aspect ratios and more recently the instastories and reels (Maehle et al., 2023).

However, although content shared on social media can reach a large audience, that same content can be abandoned in the same instant by the same audience, which is why marketers must consciously create content that is relevant and interesting to their target audience (Dwivedi et al., 2015).

It is therefore essential to evaluate the role of visual marketing by analyzing how it can impact the performance of posts on Instagram and to propose a manual of good visual practices in social media management, particularly Instagram, in the hotel industry.
This exploratory study evaluates the role of visual marketing by analyzing how it can impact the performance of Instagram posts from a five-star hotel group brand in the city of Porto, Portugal.

This paper is organized into four sessions, first it is presented the literature review, after the methodology applied in the study, then the results are presented and finally the conclusions, limitations of the study and future work.

2. Literature Review

2.1 Digital Marketing and Tools

Digital marketing is defined by Veleva & Tsvetanova (2020) as an essential tool in the digital transformation of businesses, using technology tools and communication tools in the digital environment. In particular, customer relationship management tools, which aim to increase revenue and consumer satisfaction through interactivity with them.

Veleva & Tsvetanova (2020) define digital marketing tools as:

- **Website**: the online platform of a business, i.e. the digital representation of a brand.
- **E-mail marketing**: based on sending promotional e-mails, where it is possible to segment the target audience with real consumers and potential followers.
- **Social networks**: social networks such as Facebook, Twitter and Instagram are used as a communication tool with a community, attracting potential consumers. Through this tool it is possible to advertise a particular product/service and offer assistance to the consumer.
- **Blogs**: similar to the website, it is a platform that allows the discussion of certain topics and the publication of relevant information.
- **SEO**: is based on optimizing the website so that it appears in first positions in search engine results.
- **Big Data Marketing**: this tool allows you to collect, process, analyze and interpret information to segment consumers.
- **Online advertising**: a paid tool that allows you to promote a product/service through specific formats such as banners, landing pages, intermediate pages and promoted articles.
- **Visual marketing**: a tool that promotes a product/service through visual communication means, for example youtube.

The same authors also point out that the main advantages of digital marketing is the high interactivity with consumers, the disappearance of the geographical barrier in marketing activities, provides the opportunity for the brand to respond to the needs and desires of consumers, allows the results of marketing campaigns in a more detailed way, facilitates the segmentation of consumers, allows campaigns to be customized according to consumer characteristics, is more direct to consumers interests and needs, allows the brand to reach a larger audience, increases the number of a larger audience, increases the number of visits to the brand’s website and requires less investment compared to more physical or traditional marketing tools (Veleva & Tsvetanova, 2020).

2.2 Social Media in Hospitality

In the digital age, social networks have become a form of communication integrated into people’s daily lives (Aji et al., 2020). On the Web, information is usually shared via official brand websites, but on social media the system is different. Social media is about people sharing their opinions by sharing content such as photos, videos and text (Yardi & Aksoz, 2019), as well as their behavior as consumers, product/service preferences and experiences with other users (Aji et al., 2020). It is therefore important for the brand to include social media in its marketing strategy to create a community of followers and increase their interaction with the brand (Aji et al., 2020).

The main social networks used in the hotel industry are known as content communities, which allow the sharing of different types of multimedia, i.e., in text, photo and video such as Instagram, Facebook, Twitter, Youtube and Pinterest (Minazzi, 2015). Instagram has as its main goal the sharing of visual content, through various functionalities such as the feed, the main page; the reels short 30-second videos; stories, moments that are shared and available for 24 hours, and video. Instagram is one of the most widely used social networks and is one of the most interactive when it comes to sharing of visual content and opinions. Users can share with a large number of people and identify brands, people and organizations (Yardi & Aksoz, 2019).
Aji et al. (2020) concluded that promoting products and services through Instagram increases brand awareness and creates value for consumers, as well as increasing revenue. Another advantage of social media marketing is the positive effect it has on consumer trust in the brand, especially in hotel services (Tatar & Eren-Erdogmuş, 2016). Hotels should use this form of marketing to build consumer confidence and thus ensure long-term brand loyalty. Social media also allows consumers to communicate in real time, asking questions and expecting immediate answers (Tatar & Eren-Erdogmuş, 2016).

Consumers don’t expect static forms of social media communication from hotels, such as the hotels’ social media, as is the case with the hotel website, but rather interactivity, i.e., two-way communication (Tatar & Eren-Erdogmuş, 2016).

It should be noted that authenticity and being genuine are important characteristics in social media marketing. Organizations should not try to manipulate the truth and the image that consumers have of the brand but should interact with consumers and use social media tools to potentiate the interaction with them (Al-Zyoud, 2018).

2.3 Visual Marketing and Social Media

Visual marketing is much more than simply sharing photos or videos on social media. Social media, it is the development of a visual strategy that considers where and how the target audience will interact with the visual content (Gretzel, 2016).

According to Maehle et al. (2023), it is possible to categorize social networks according to their different modes of communication. Twitter and Facebook are social networks mostly textual with some visual aspects, such as photos and videos; Pinterest is mostly visual, with images and videos collected from various websites; TikTok and Youtube are mostly visual, differing in the length of the videos and finally, Instagram, the social network of focus in this study, is virtually text-free and mainly visual, with images and videos of short duration (Maehle et al., 2023).

In the case of photography, Negri & Vigolo (2015) found that hotels more often publish photographs of the hotel’s common areas, restaurant and food and attractions of the destination, rather than what tourists like to see most, such as photographs of the landscapes seen by the hotel. The same study demonstrates the importance of the hotel satisfying the interests of consumers, not only because of the impact it can have at the booking stage, but also post-booking (Negri & Vigolo, 2015). In the same Ren et al. (2021) confirmed that hotel interiors, the surrounding environment and leisure activities should be publicized due to their importance in the consumer experience, as well as details of decoration and architecture capture their attention.

2.4 Instagram in Hospitality

Hotels can interact with consumers through daily updates on upcoming activities and events, campaigns, questions, competitions and receiving suggestions. Sharing photos is also one of the most attractive ways, especially photos of celebrity or influencer stays (Yoong & Lian, 2019).

The content shared on Instagram can be presented in a combination of various formats, such as images, videos and text (Aydin, 2020).

In terms of vividness, text is considered to be content with low richness and visual content, such as images and videos, is considered high gaudiness content (Aydin, 2020).

Interactivity in Instagram posts can be manifested in the form of contests, questions and answers and external links through comments (Aydin, 2020). According to Aydin (2020), these forms of interaction increase engagement with publications.

Engagement can also be measured by the hotel through five dimensions, knowledge, expression of attitude, expression of opinion, advocacy, and loyalty. These five dimensions were proposed by Hashim & Fadhil (2017), to analyze the level of engagement by hotel operators. Although Hashim & Fadhil (2017) applied this study to the social network Facebook, the same dimensions and can be applied to Instagram:

- **Knowledge:** consumer realization of the page;
- **Expression of attitude:** consumer acceptance of the content published on the page;
- **Expression of opinion:** consumers’ opinion of the content published on the page;
- **Advocacy:** word-of-mouth of consumers or the sharing of content shared on the page;
- **Loyalty:** the number of consumers offline who interact with the hotel.
3. Methodology

For this research, the following general objective was defined: "To understand how the visual content of a photograph influences the consumers of a hotel unit", clarified by the following questions: "How does the visual content of a photograph attract the attention of a hotel's consumers?"; and "What are the main visual marketing visual marketing practices adopted by the hotel that influence the performance of Instagram posts?"

Bearing in mind the questions described, we intend to verify and analyze the following general and specific goals:

General goal: Analyze the role of visual marketing in social media management, in particular Instagram.

Specific goals:
   a. To understand which strategy for publishing photographic content on social networks is the most effective for hotels.
   b. Identify the colors used in photo editing that most attract consumers, according to the different categories of hotel service.
   c. Understand how photography contributes to storytelling of hotels.

The hotel under study is group with three five-star luxury boutique hotels, 2 located in Porto and 1 located in Lisbon. The hotels are all thematic representing the art and design of Portuguese artists. The hotels located in Porto totalize 84 rooms and suites, and the hotel located in Lisbon have 26 rooms and 6 apartments. In terms of services, all the hotels have a restaurant, which offers breakfast, brunch, lunch and dinner, and a spa. The hotels also have bar, gym, and swimming pool.

The study strategy was to analyze the content published by the hotel on its Instagram social network over a 4-month period, between November 1, 2022, and February 28, 2023, where 77 posts were collected.

These publications were collected and analyzed according to the following categories: day of the week of publication, content creator, engagement dimensions (number of likes, number of comments and number of hashtags) presence of people, topic, visual content analysis method (objects identified and predominant tone), color (description of color and tone) and finally, storytelling (the presence of storytelling in the publication and the type of story). In the case of the method of analyzing visual content and color, all the publications were entered into the Google Vision API platform (Ren et al., 2021).

The Google Vision API platform makes it possible to detect objects and analyze photo metadata. Using the demo version of this platform, which is available on Google’s website, we inserted all the images from the publications to extract the main objects identified and the main color of the images. An Excel table was created to relate the performance of a publication with the different categories of digital and visual marketing, checking which ones have the greatest influence.

About color, after extracting the main color code of each photograph, this was inserted into the Color Hexa platform, to obtain the textual description of the color and thus arrive at the main shade of each photograph.

The following steps were taken to analyze the publication strategy of each hotel:

1. Collection of the day of the week of publication.
2. Collecting the dimensions of engagement dimensions: number of likes, number of comments and number of hashtags used.
3. Identifying the presence of people in the photos.
4. Identification of the topic of the publication, in this case the categories used were room, restaurant, food, hotel, spa, gym, staff, pool and bar.
5. Visual content analysis method - carried out using the Google Vision API platform - collection of the main objects identified and the predominant color code.
6. Description of the color and identification of the shade - using the color Hexa platform, the color code was entered, and the description was transcribed. description was transcribed and the main shade concluded.
7. Storytelling: the presence of a story in the description of each publication was identified and the type of story was analyzed, according to identified in the scientific review.
4. Results

The results will be discussed with the analysis of the posts collected in the following topics:

1. Creator of the content
2. Topic and people
3. Visual content
4. Color
5. Storytelling
6. Engagement dimensions (number of likes and number of comments)

4.1 Creator of the Content

The first factor to analyze in each publication in the period under review was the creator of the content. In the case of Hotel 1, it was found that photographs created by the hotel photographer are the most published, with only two photographs created by digital influencers. In the case of Hotel 2, only three photographs were created by the rest were created by the hotel photographer. As for Hotel 3, all the photos were created by the hotel photographer.

In view of this data, the Hotel Group prefers to publish content produced by the hotel photographer and that it does not republish the photographs of digital influencers, i.e., it does not monetize these partnerships.

4.2 Topic and People

The second factor to analyze in each publication is the topics and people. At Hotel 1, the most common topic was Room (10 posts), followed by Food and Staff (3 posts), City, Gym and Restaurant (2 posts) and Pool, Spa and Christmas (1 post). At Hotel 2, the most common topics were Room (10 posts); Hotel (9 posts); City, Restaurant (3 posts) and Spa (2 posts). With regard to Hotel 3, the most common topics are Room (8 posts); Restaurant, City and Hotel (4 posts); Staff (3 posts) and, Bar and Pool (1 post).

Looking at the topics of the hotels under analysis, it can be seen that 36% of the publications have the room as their main topic; 17% the hotel; 12% the city and the restaurant, respectively; 8% the staff; 4% the food and spa, respectively; 3% the pool; 2% the gym and, lastly, 1% the bar and Christmas, respectively, resulting in the following graph shown in Figure 1.

![Figure 1: Topics in hotel publications](image)

Regarding the presence of people, we found that in Hotel 1 and Hotel 3, 16 publications did not include people and 9 publications included people, and in Hotel 2, 16 publications did not include people and 11 publications did.

4.3 Visual Content

According to the visual content analysis method proposed by Maehle et al. (2023), the objects identified in the publications and the predominant tone were analyzed for the purposes of this study.
In Hotel 1, a greater number of posts were identified with People (9 posts); furniture (8 posts); lamp (7 posts); bed (6 posts); chair and food (3 posts); sofa, tableware, dumbbell, boat and cushion (2 posts) and lastly, mirror, pool, table, shoe, water, lake, jacuzzi, massage table, cutting board, dispenser, bathtub and plate (1 post).

In Hotel 2, a greater number of publications were identified with People (11 publications); Lamp (8 publications); Chair (6 publications); Furniture and Table (3 publications); Bed, Books, Bridge, Flowers and Building (2 publications); and Brush, Bicycle, Tableware, Sofa, Window, Drink, Glass of Wine and Stairs (1 publication). In the case of Hotel 3, a greater number of publications were identified with Table and Chair (8 publications); Person (6 publications); Plant, Sofa, Bed, Lamp (4 publications); Tableware, Food (3 publications); Bathtub (2 publications); Bicycle, Bridge, Picture, Furniture, Window, Television, Cushion and Bench (1 publication).

It is possible to group these different objects identified in the various hotel units into the most prevalent in these hotels. We can group these different objects as shown in Table 1.

Table 1: Objects identified in publications according to category.

<table>
<thead>
<tr>
<th>Category</th>
<th>Objects identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>Guest</td>
</tr>
<tr>
<td>Décor</td>
<td>Furniture, Lamp, Bed, Chair, Sofa, Cushion, Mirror, Table, Dispenser, Bathtub, Books, Flowers, Bicycle, Window, Stairs, Picture, TV, Bench</td>
</tr>
<tr>
<td>Restaurant</td>
<td>Food, Dish, Tableware, Cutting board, Drink, Wine glass</td>
</tr>
<tr>
<td>Gym</td>
<td>Halter</td>
</tr>
<tr>
<td>Spa</td>
<td>Jacuzzi, Massage table, Brush</td>
</tr>
<tr>
<td>Outside</td>
<td>Boat, Pool, Water, Lake, Bridge, Building</td>
</tr>
</tbody>
</table>

Regarding the predominant tone in hotel publications, the Figure 2 shows the different variations that will be analyzed according to their tone.

Figure 2: Predominant tone present in the publications of the hotels
Another important factor in analysing the visual content of a photograph is colour. Using the Colour Hexa Platform (2023), it was possible to extract the colour description and, in turn, conclude the tonality of the image.

The orange hue was present in the most posts (9 posts) in Hotel 1, followed by the red and blue hues (4 posts), the yellow hue (3 posts), the green hue (2 posts) and finally the violet, brown and pink hues (1 post). In the case of Hotel 2, the orange hue was seen in more publications (15 posts); followed by blue and red tones (4 posts); green tones (3 posts) and violet tones (1 post). In Hotel 3, it was possible to see that the orange hue was the most present (10 posts), followed by blue (7 posts) and green and red (4 posts).

If we add up the shades present in all the hotels in the group, we see that 44% of the publications had orange as their main shade; 19% had blue as their main shade; 16% had red as their main shade; 10% had green as their main shade; 4% had yellow as their main shade; 3% had pink and violet as their main shades; and lastly, 1% had brown as main shade, as shown in the Figure 3.

Figure 3: The tones of hotel publications

Related with the topics, it can be seen that orange was the most present in the topics room (39.3%), hotel (61.5%), spa (66.7%), food (66.7%), restaurant (44.4%), staff (50%) and bar (100%); blue in the topic city; yellow (50%) and pink (50%) in the topic gym and red (50%) and blue (50%) in the topic swimming pool, as shown in the Figure 4.

Figure 4: Topic vs Tone
4.4 Storytelling

Regarding storytelling, the publications under analysis showed the presence of storytelling in 22 posts at Hotel 1. As for the type of story, in the case of Hotel 1 the stories most present in the descriptions of the publications are Stories about the Company (10 posts), six of which are related to promotional campaigns; stories about figures who inspired the hotel (6 posts); stories about the sector and the people in it (4 posts) and finally, stories about the city (3 posts).

On the other hand, stories about the company (14 posts), four of which were related to promotional campaigns, were the stories most present in Hotel 2’s posts; followed by stories about figures who inspired the hotel (8 posts) and stories about the city (3 posts).

It was also noted that, at Hotel 3, the most frequent stories were stories about the company and stories about figures who inspired the hotel (6 posts), respectively; and, stories about the city and stories about the sector and people in it (3 posts), respectively.

As with the other factors, 45% of these hotels’ publications are about stories about the company, 30% are stories about figures who inspired the hotel, 14% are stories about the city and 11% are stories about the sector and the people in it, as can be seen in the Figure 5.

![Figure 5: Storytelling in hotel units](image)

4.5 Engagement Dimensions

This factor analysed the number of likes and the number of comments used in these posts were analysed.

4.5.1 Number of Likes

According to the number of likes, the main characteristics of the three publications with the most likes from the hotels under analysis were compiled, as shown in the Table 2.

<table>
<thead>
<tr>
<th>Week day</th>
<th>Hotel 1</th>
<th>Hotel 2</th>
<th>Hotel 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content creator</td>
<td>Influencer; Influencer; Hotel Photographer</td>
<td>Hotel Photographer; Hotel Photographer; Photographer</td>
<td>Hotel Photographer</td>
</tr>
<tr>
<td>Hashtags number</td>
<td>16; 11; 11</td>
<td>15; 13; 10</td>
<td>13; 14; 14</td>
</tr>
<tr>
<td>People</td>
<td>Yes; Yes, No</td>
<td>Yes; No; No</td>
<td>No</td>
</tr>
<tr>
<td>Topic</td>
<td>Room; Room; Restaurant</td>
<td>Room; Hotel; City</td>
<td>Hotel; Pool; Hotel</td>
</tr>
<tr>
<td>Objects identified</td>
<td>People; Jacuzzi; Décor</td>
<td>People; Décor; Hotel exterior</td>
<td>Décor</td>
</tr>
</tbody>
</table>

Table 2: The posts with the highest number of likes from the hotels
4.5.2 Number of Comments

According to the number of comments, the main characteristics of the three publications with the most comments from the hotels under analysis were compiled, as shown in the Table 3.

Table 3: The publications with the most comments from the hotels

<table>
<thead>
<tr>
<th>Hotel 1</th>
<th>Hotel 2</th>
<th>Hotel 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week day</td>
<td>Sunday</td>
<td>Sunday; Tuesday</td>
</tr>
<tr>
<td>Content creator</td>
<td>Influencer; Photographer; Hotel Photographer</td>
<td>Hotel Photographer; Hotel Photographer</td>
</tr>
<tr>
<td>Hashtags number</td>
<td>11; 16; 16</td>
<td>13; 14; 0</td>
</tr>
<tr>
<td>People</td>
<td>Yes</td>
<td>No; No; Yes</td>
</tr>
<tr>
<td>Topic</td>
<td>Room; Staff; Staff</td>
<td>Hotel</td>
</tr>
<tr>
<td>Objects identified</td>
<td>People; Jacuzzi; Décor</td>
<td>Décor; Hotel exterior; People</td>
</tr>
<tr>
<td>Tons</td>
<td>Blue; Brown; Orange</td>
<td>Orange; Orange; Red</td>
</tr>
<tr>
<td>Storytelling</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Type of story</td>
<td>Stories about the company; Stories about the company; Stories about the sector and the people in it</td>
<td>Stories about figures who inspired the hotel; Stories about the city</td>
</tr>
</tbody>
</table>

The posts with the highest number of likes are not necessarily the same posts with the highest number of comments. The main differences are regarding the topic of the post. Room and staff posts provoke more comments, while room and restaurant posts provoke more likes, in the case of Hotel 1. At Hotel 2, posts about the hotel are the three with the most comments, and in the case of those with the most likes, the room and city topics are also added. At Hotel 3, posts about the hotel and the room get the most comments and the hotel and the pool get the most likes. Analysing the main tones, we see that warm tones cause more likes and more comments in all the hotels, except for Hotel 3, where there are more posts with more comments with cooler tones. In the other categories of analysis, there is agreement on the characteristics of the publications with the most likes and comments.

Although we do not inquiry the customers about the posts, there are few comments of them in Instagram that it is worth to state as “Love this view and room” and “I miss this place everyday”, associated with photos of the room and garden of the hotel.

Finally, it worth to notice that in the moment of the study, the followers and reach of the hotel group under analysis are presented in Table 4.

Table 4: The followers and reach of the hotel group under analysis

<table>
<thead>
<tr>
<th>Hotel 1</th>
<th>Number of followers in the beginning of November</th>
<th>Number of followers in the end of February</th>
<th>Number of reach in the beginning of November</th>
<th>Number of reach in the end of February</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,569</td>
<td>22,991</td>
<td>10,848</td>
<td>23,380</td>
<td></td>
</tr>
</tbody>
</table>
### Conclusions

This research has provided insight into some aspects of the digital and visual marketing strategy of a boutique hotel group, in relation to photographic content, tones and storytelling.

The literature review points out that there are several steps when it comes to analysing the content of a photo, which can be used to increase the performance of Instagram posts, increasing likes, comments, and the consumer’s intention to buy. Thus, the use of visual marketing practices in the hotel industry becomes essential.

Regarding the objectives set, by analysing the posts of these three hotels, it was possible to identify the main aspects of visual marketing that are most effective, namely in terms of colours, topic and storytelling.

The conclusion is that, as well as it being essential for hotels to maintain a presence on social media, it is important to use the various tools available to increase engagement. Hotels should analyse which colours, type of stories, photo content and topic that have the most positive effect on consumers. In this way, they will be able to capitalize on consumer interaction by building a relationship with them, leading them to make a reservation at the hotel.

Some limitations emerged during this research. The main limitation was the number of publications analysed for each hotel unit, which in a period of four months was based on 77 publications in three hotel units.

In addition, this study represents a single case study and is therefore considered an exploratory study on the subject. Although the notoriety of each publication was analysed by the interactions received from users. It is also a limitation that customers were not asked about the impact of the publications and images, namely the emotions and reactions they provoke.

About future lines of research, it would be interesting to analyse which emotions that the shades represent for consumers and to understand which shades they prefer for each hotel service topic, in order to understand which shades cause a greater intention of attitude and expression of opinion.

It would also be relevant to extend the study to all five-star hotels in Portugal, by region, and analyse how the main tones of each region influence the publications made by the hotels.

Analyse which publications were promoted by paid advertisements and how these impact on engagement and how they influence the hotel's notoriety would also be relevant to analyse.

### Acknowledgements

This work is funded by national funds through FCT - Fundação para a Ciência e e Tecnologia, I.P., under project reference no. UID/BP/04470/2020.

### References


