

# NEW COMMUNICATION APPROACHES IN THERMAL SPA SOCIAL MEDIA: A SENTIMENT ANALYSIS OF COMMENTS

## NUEVOS ENFOQUES DE COMUNICACIÓN EN LAS REDES SOCIALES DE BALNEARIOS: UN ANÁLISIS DE SENTIMIENTO DE LOS COMENTARIOS

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### Abstract

This article reflects on the use of social media to communicate thermalism with a view to arouse curiosity about thermalism. Through strategic communication it emphasises both the medium (social media) and the objective (engagement with users). With the aim of researching and developing communication strategies in social media that can be used by thermal spas to increase the engagement of their followers, this study analyses the comments on social media and the opportunities that may arise when looking into the future of communication. The results come from the analysis of the social media of Termas de Chaves and Termas de São Pedro do Sul in Portugal, revealing that people are increasingly motivated to experience thermal services and products. Artificial intelligence was used to identify the sentiments in the comments, which provided relevant results to develop a model capable of maximising the benefits of thermalism and minimising communication problems with its audiences. This model supports a plurality of digital communication strategies, with different characteristics and objectives, but which fulfil a collective purpose: to disseminate information about thermalism in order to build a solid knowledge about it. This study highlights the need for further research on thermalism, with a special focus on communication.

**Keywords:** strategic communication, thermalism, sentiment analysis, social media.

**JEL Classification:** I00

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## Resumen

Este artículo reflexiona sobre el uso de las redes sociales para comunicar el termalismo con vistas a despertar la curiosidad por esta actividad. A través de la comunicación estratégica se enfatiza tanto en el medio (redes sociales) como en el objetivo (*engagement* con los usuarios). Con el objetivo de investigar y desarrollar estrategias de comunicación en redes sociales que puedan ser utilizadas por los balnearios para aumentar el *engagement* de sus seguidores, este estudio analiza los comentarios en redes sociales y las oportunidades que pueden surgir de cara al futuro de la comunicación. Los resultados provienen del análisis de las redes sociales de las Termas de Chaves y Termas de São Pedro do Sul en Portugal, revelando que las personas están cada vez más motivadas por experimentar servicios y productos termales. Se utilizó inteligencia artificial para identificar los sentimientos en los comentarios, lo que proporcionó resultados relevantes para desarrollar un modelo capaz de maximizar los beneficios del termalismo y minimizar los problemas de comunicación con sus públicos. Este modelo da soporte a una pluralidad de estrategias de comunicación digital, con características y objetivos diferentes, pero que cumplen un propósito colectivo: difundir información sobre el termalismo para construir un conocimiento sólido sobre el mismo. Este estudio pone de manifiesto la necesidad de seguir investigando sobre el termalismo, con especial atención a la comunicación.

**Palabras clave:** comunicación estratégica, termalismo, análisis de sentimiento, redes sociales.

**Clasificación JEL:** I00

## 1. INTRODUCTION

Contemporary society has an increasingly broad and holistic perspective on health and well-being (Ferreira *et al.*, 2022). One way to achieve life quality may be through experiences in health and wellness tourism, which is currently important to the tourism sector (Alén *et al.*, 2014). According to Tessaring and Strietska-Ilina (2005), wellness has become an expression that represents a new lifestyle. Many authors have noted that thermalism may become an effective antidote to current public health challenges (Kazakov and Oyner, 2020; Mendonça *et al.*, 2021; Navarrete and Shaw, 2020), but few have been concerned with how to communicate this fact.

Antunes *et al.* (2022) argue that although the relationship between communication and thermalism is still a very incipient area of scientific knowledge, some studies are emerging. Social media, namely Facebook and Instagram, have been revolutionizing the communication strategies used through different mechanisms and dynamics of digital information dissemination (Ladkin and Buhalis, 2016). The contribution of this study lies in understanding how thermal spas use social media to communicate and build relationships with their followers.

This research aims to investigate and develop social media communication strategies that can be adopted by thermal spas to increase the engagement of their followers, based on a detailed analysis of the comments and feelings expressed on social media. Based on the literature review, the following research question was raised:

*Q1- How can thermal spas optimise their social media communication strategy to improve interaction and engagement with their followers?*

The netnographic research method was used, since the content generated on social media proved to be an everyday activity for people to share feelings, ideas, beliefs and experiences (Kozinets, 2010; Kozinets *et al.*, 2018). To identify the main themes about thermalism, an

in-depth analysis of the comments was conducted, and through the artificial intelligence algorithm, the polarity of feelings in the comments to the respective publications was identified. This research highlights how digital strategic communication is a valuable tool to obtain comprehensive results about the interests, needs and habits of thermal guests, and subsequently, for targeted communication on social media.

This article begins with a brief introduction, followed by a theoretical approach to the main themes related to thermalism, experience marketing and social media; a description of the methodology applied, the main results, their discussion and conclusions and, finally, the implications and future lines of research.

## **2. LITERATURE REVIEW**

### **2.1. Health and wellness tourism and the authenticity of thermalism**

Health and wellness tourism has been a constant research topic over the last years, with the current increase in research expected to contribute to scientific knowledge of the sector (Kazakov and Oyner, 2020). Health and wellness tourism, as a broad multidimensional concept, is formed of ten different components: medical tourism, thermalism, spas, body and mind care, sports, culture, enogastronomy, nature and environment, spirituality and events (Dini and Pencarelli, 2021). For Jahić and Selimović (2015), thermalism is a narrower concept than health tourism and implies a type of tourism that is carried out in a thermal spa to treat certain diseases, improve psycho-physical health or just to relax. Thermal treatments have existed for centuries and numerous scientific studies prove their effectiveness effectiveness in different pathologies and health/well-being issues (Martins *et al.*, 2021; Silva *et al.*, 2020). Para Cacciapuoti *et al.* (2020), the therapeutic effects of thermal water are the result of a combination of chemical, physical, immunological and microbiological properties, the perfect combination to differentiate thermalism. Ferreira *et al.* (2022) confirmed that thermalism combines two aspects: it provides better quality of life and a state of physical and psychological well-being on its users. For Mendonça *et al.* (2021), as the world becomes increasingly connected and people seek a healthier lifestyle, the health and wellness tourism industry seems set to continue its rapid growth, so there is an urgent need to identify opportunities and the user profile to communicate and affirm thermalism (Navarrete and Shaw, 2020).

The evolution of thermalism and the consequent diversification of its offer have had an impact on the profile of thermal users and increased demand for this type of experience (Brandão *et al.*, 2021). Considering the ageing population, for Strack and Raffay-Danyi (2020) families and the elderly are the main public for thermal spas. In turn, Thorne (2021) points out that there is a diverse public and that this is because consumers are becoming more aware of their health and well-being, encouraging them to travel to satisfy their personal well-being needs. Brandão *et al.* (2021) concluded that the sociodemographic profile of the person looking for this type of activity influences not only the motivations of the thermal guests, but also the choice of services offered, the determination of operations, the creation of new thermal services, marketing and the strategy to be followed.

### **2.2. The Theory of Experience Marketing in Thermalism**

The concept of experiential marketing, developed by Schmitt (1999) is not just a theory, it is a whole set of concepts that seek to emphasise the creation of memorable and emotionally engaging experiences for consumers. For this author, experiential marketing differs from traditional marketing through four key points: the focus on the consumer experience, the

perspective of consumers as rational and emotional animals, the focus on consumption as a holistic experience and the fact that the tools and methods are eclectic.

Firstly, it is important to clarify what experiences are, which according to Schmitt (1999) are events that occur in response to a stimulus. They are usually the result of direct observation and/or participation in events. Secondly, it should be emphasised that emotions play a fundamental role in the choice of products and services, not because of their table of attributes and tangible benefits, but because of their intangible benefits (Schmitt, 1999).

Considering that thermal establishments in Portugal are going through a new phase of evolution, they are beginning to resurface with new offers that complement classic thermalism. As the consideration of well-being has evolved through the adoption of practices linked to self-care, nutrition, meditation and other related aspects, well-being can now be seen as a necessity for a state of complete health and a better quality of life, and not as a luxury (Thorne, 2021). According to Ferreira *et al.* (2022), spa tourism has been reinventing itself and winning over more users, attracting new market segments with a major impact on contemporary society in various aspects.

In the context of thermal spas, applying this theory can transform the way institutions interact with visitors and potential visitors. The use of social media according to Hamouda (2018) can encourage visitors to share their experiences, promoting a collective narrative that enriches the perceived value of their offerings. The flexibility and adaptability of communication strategies make it possible to continually adjust offers and messages based on feedback received in real time, increasing user satisfaction and commitment.

### 2.3. The role of social media in digital communication

Digital destination communication and online sales have brought tourists closer together and allowed access to sharing the best experiences coupled with the best offers available (Leite *et al.*, 2021). However, for González *et al.* (2019) it is social media that have revolutionised the way people communicate and share information in the tourism sector. Online social media, such as Twitter, Facebook, Tumblr and Youtube, have become a usual platform for hundreds of millions of Internet users to facilitate the creation and maintenance of interpersonal relationships (Tanoli and Pais, 2020). In recent years, social networks have become a crucial component of this approach, offering dynamic and interactive platforms for building and disseminating these experiences. Social media allows for a level of direct and interactive engagement with consumers that was not previously possible. Platforms such as Facebook, Instagram, Twitter and TikTok provide tools for brands to create visually appealing and interactive content, thereby increasing consumer engagement. As Kaplan and Haenlein (2010), point out, social networks facilitate the creation of virtual communities, where consumers can interact not only with the brand, but also with each other, sharing experiences and creating a sense of community and belonging. Furthermore, by focussing on building an online community where visitors can interact and share tips, thermal spas can strengthen customers sense of belonging and loyalty.

Gaffar *et al.* (2022) found that social media marketing can effectively build tourism destination image through various measures, represented in five dimensions, namely online communities, content sharing, interaction, accessibility and credibility.

**Online communities** are a collective group of entities, individuals or organisations that meet temporarily or permanently through an electronic medium to interact over common interests. Content strategies that touch users emotionally encourage sharing and promote the formation of bonds in online communities.

**Content sharing** becomes richer and more diverse when it uses creativity, sensory appeal and local stories. For these authors, shared content can have a greater impact on the image of the destination than on tourists' intention to visit a destination. As well as inciting curiosity about the destination, it also creates a more authentic and memorable experience, encouraging users to get to know and share their own experiences on social media.

In the **interaction** dimension, the authors point out that two-way interaction is almost non-existent, saying that instead of sharing news that is largely informative with little or no comment, the social media manager needs to take a more active and creative role. Transforming passive users into active participants through meaningful interactions strengthens image and promotes a more cohesive community.

**Accessibility**, both in terms of information and experience, is crucial. The adoption of new technologies facilitates access to information and experience. For these authors the adoption of new technologies facilitates access to information.

Finally, **credibility** is reinforced by the authenticity of the content and genuine emotional responses from users. Strategies that integrate positive feedback and promote transparency in interactions build trust and reinforce a positive image.

Digital interaction with other people, including colleagues, family, friends, service providers and even strangers through social media presupposes sharing opinions, suggestions, doubts and memories related to your trip. The results of Choonhawong and Phumsathan (2022) confirmed that social media have a strong influence on people's subjectivity and behavioural intentions. Therefore, it is crucial to explore online social contact behaviours and analyse experiences from a communicative perspective (Fan *et al.*, 2019).

### ***2.3.1. The Influence of Strategic Communication on the Construction of Online Content***

For Botan (2021), strategic communication is a fundamental practice that involves the management and execution of communication processes in order to achieve specific organisational objectives and create value through interaction with different audiences. According to this author, strategic communication goes beyond the simple transmission of messages, focusing on the co-creation of meaning and value through a participatory and collaborative approach.

As people seek information on social media and see the feedback from the local community about the place they intend to visit, it is essential to integrate the local community in the communication strategy and work on the potential tourist's image of the thermal spa (Ghaffar *et al.*, 2021). It is necessary to understand the reasons why people write positive reviews online. Assiouras *et al.* (2019) identified intrinsic motives, i.e. they may share their experiences on social media or face-to-face with friends and relatives because they feel good about the experience, or simply help someone who needs help (emotional reward). Helping others during a visit or for a future stay by reporting their experience can be another act of reciprocity, but one that may have extrinsic motives (expecting a reward, as the offering of a stay, for example). Regardless of the motives, the digital evolution leads Buhalis *et al.* (2020) to refer to a new form of digital communication known as *Electronic Word-of-mouth Communication* (eWOM). The eWOM has gained a new dimension through the exploitation of modern technology, especially with the increased use of the internet. Therefore, it is important to evaluate the possibility of carrying out segmented e-commerce actions, differentiated for men and women; improving offline and online management, design quality and eWOM to promote trust and satisfaction (Buhalis *et al.*, 2020).

Humans are innate storytellers and are also prepared to be influenced by stories (Casillo *et al.*, 2021). Storytelling is a preferred strategy for generating content on social media. The technique of telling a story or experience across multiple platforms and formats using current

digital technologies is beginning to emerge in social media (Su *et al.*, 2022). For Dionisio and Nisi (2021), these successful tools are able to engage, inspire and bring together online and offline audiences as an increasingly important strategy for the tourism industry. Su *et al.* (2022) demonstrated how the tourism experience affects tourists' subjective well-being through memories and narratives, confirming the importance of storytelling.

If on the one hand, storytelling helps tourists to reflect on unforgettable tourist experiences, on the other hand, Riza and Wijayanti (2018) say that sensory marketing when used to communicate with customers through sensory stimuli has the ability to reduce the overload of functional information about the product or service, while creating a positive and memorable experience. Lashkova *et al.* (2020) highlight the dual effect of sensory experience, pointing to a clear relationship between sensory experience and brand connection and loyalty. According to the same authors, by being sensorially stimulated, consumers learn to value aspects that previously went unnoticed.

### **2.3.2. The Role of Artificial Intelligence and Data Mining in Social Media**

For Thomaz *et al.* (2017), monitoring what is said online about the destination, product, service or tourism organisation to consumers and tourists on social media offers enormous opportunities and benefits. The same authors refer to Social Media Mining (SMM), which is derived from Web Content Mining to extract knowledge from multimedia data on the Web, such as images, videos and audio, using associated textual data. Nilashi *et al.* (2019) built a model that, based on online comments, can define clusters, segments of tourists with very similar characteristics and tastes. An uncommon way of analysing comments is through the classification of extreme sentiments that represent the most negative and positive feelings about a certain topic, object or individual (Tanoli and Pais, 2020). The tourist has to feel that the comment they are reading is authentic (Kim and Kim, 2020), and when content is truly authentic it can self-distribute virally through sharing on social media (Mendon *et al.*, 2021).

The world is increasingly connected and artificial intelligence and machine learning will play a key role in future scientific research in seamless interoperability (Chen *et al.*, 2021). At the intersection of computer science and social sciences, artificial intelligence emerges as an essential tool for communication management, transforming unstructured information into interpretable patterns (Bharadwaj *et al.*, 2020; Egger and Yu, 2021; Mariani *et al.*, 2018). We are entering a new communication universe in which companies, social media and people are aligned through virtual reality and the creation of the metaverse. This is a concept that unites augmented reality and virtual reality, with a future tendency to live experiences only with real influences in this ecosystem (Dwivedi *et al.*, 2022). For Buhalis and Karatay (2022), tourism destinations require considerable modernisation if innovative and transformative experiences are to be realised. The same authors note that the metaverse in tourism and cultural heritage sites will undoubtedly co-create transformative experiences.

Although the future is unknown, organisations must create digital spaces where people can share stories and also establish message boards through artificial intelligence that allow tourists to record the feelings of a trip and describe experiences (Dionísio and Nisi, 2021). Thermalism enables immersive and multisensory experiences, capable of generating unique emotions, and the future of communication is an interoperable challenge.

## **3. METHODOLOGY**

In this research, we considered the case study methodology because this approach facilitates the exploration of a phenomenon within its context, using a variety of data sources

(Baxter and Jack, 2010). From this perspective, Termas de Chaves and Termas de São Pedro do Sul in Portugal were considered for the empirical study. We recognise the impact of different social media platforms, such as YouTube, LinkedIn, Twitter, among others. However, given the predominant scenario of thermal spas in the choice of Facebook and Instagram was based on the predominance of these platforms, where interaction with users is more significant. The selection criteria were as follows:

- Having a Facebook and Instagram account;
- Having the highest number of followers on both platforms;
- Having similar therapeutic indications;
- Having the largest number of thermal-users in Portugal.

Data collection took place from June to September 2021 due to this being a period of greater demand for the thermal spa. The netnographic analysis method was used as this method is based on online observation, allowing analysis of comments and attitudes on social media (Kozinets, 2010). In netnographic research, different strategies for data collection should be considered. In this case, we analysed different levels of comments: the first level (company publication), the second level (user content) and the third level (company response). This approach allowed for a more comprehensive understanding of user interactions and perceptions. To extract the information, through the accounts of the thermal spas administrators and using the *Sudota* comment tool, the comments on the Facebook page and Instagram profile were downloaded.

Comments were analysed using ExtremeSentiLexLive, a tool that uses the *Natural Language Processing* (NLP) methodology, which classifies comments based on a sentiment lexicon. In this research, we consider the extreme sentiment algorithm as an extremely positive or negative personal sentiment, the neutral for unbiased comments and for identifying people in comments, and the positive or negative for “like” and “dislike”. This follows Tanoli and Pais (2020), who propose in their study an unsupervised and language independent approach to detect people’s extreme feelings on social media. This analysis was chosen because it is an industry where emotions and sensations are a reflection of the thermal experience (Campon-Cerro *et al.*, 2020) and are feelings easily observed in the comments. Nvivo software was used to analyse the most quoted words in the comments, a strategy used as a support to identify the themes presented in the results.

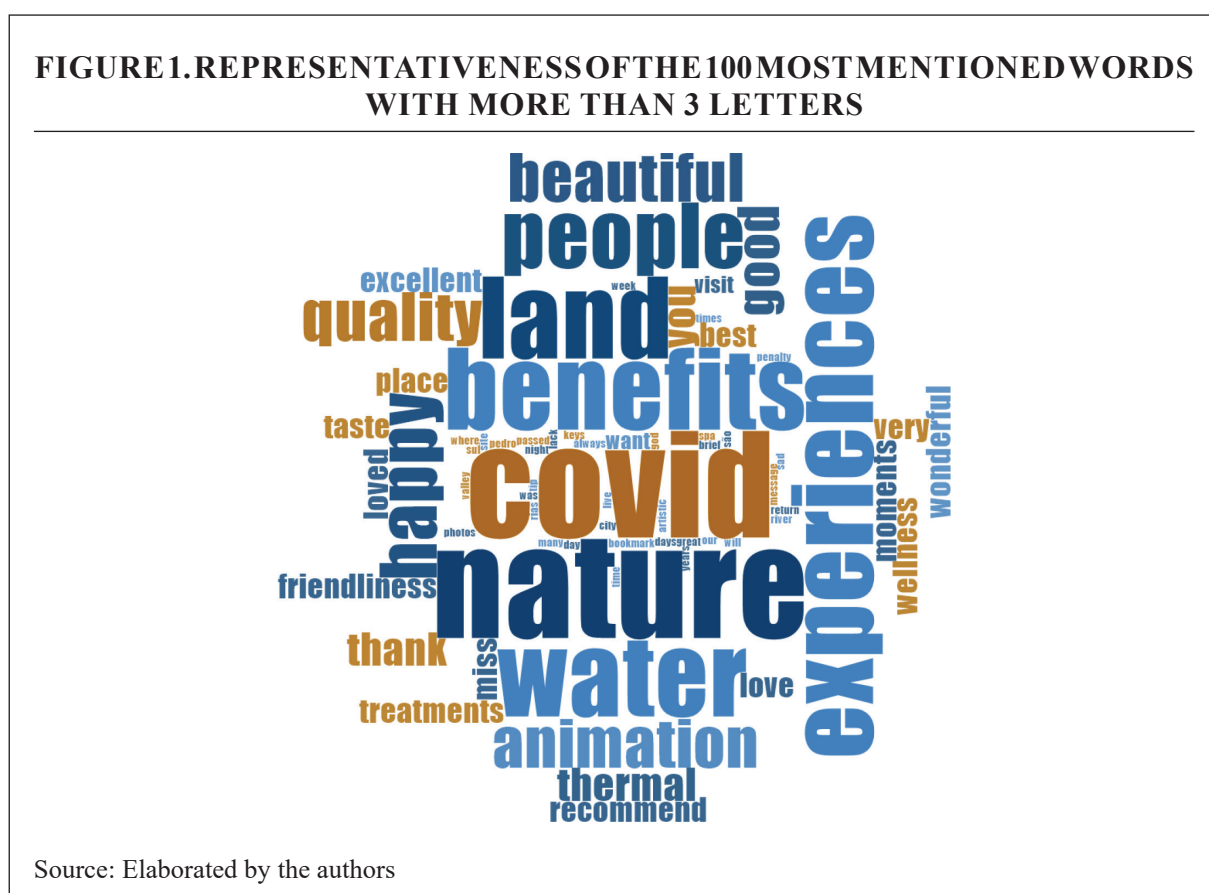
The success factor of the research lies in identifying the most frequently occurring and relevant opinions among users/followers related to the specific topic, as in Mendon *et al.* (2021), in this case about thermalism. Hu *et al.* (2019) and Li *et al.* (2020) advise the analysis of comments as a way to identify competitive advantages and align marketing and promotion strategies. According to Chen *et al.* (2021), selecting the most appropriate information is key to generate valid results, considering that the text of posts and comments on social media can also provide relevant information for further research and guidelines. Similarly to Egger and Yu (2021) and considering the complexity of short text data analysis in social media, this study extends the scope of state-of-the-art data science methods for knowledge regarding thermalism.

This combined methodology of case study, netnographic research and NLP allows us to obtain an in-depth and contextualised understanding of the comments and interactions on the social networks of thermal spas, contributing to the advancement of knowledge about digital communication and user intent in the thermalism sector.

#### 4. RESULTS

Currently, the thermal spas analysed use the social media of Facebook and Instagram as a working tool in which they share events, products and services, in order to promote relationships and social interactions. An exploratory analysis of the comments on the social media of the thermal spas studied was carried out, identifying sentiments, themes and users.

Figure 1 shows the representativeness of the 100 most mentioned words with more than 3 letters in comments on the social media studied:



The most commonly mentioned words were “Land”; “COVID”; “Nature”; “Benefits”; “Water”, “Experiences”, followed by “Animation”; “Quality”; “People”; “Happy” and among others with similar meanings. From this perspective, these words reinforce the idea that experiences with thermal water cause an increase in positive emotions and consequently wellbeing in tourists.

Identifying the representativeness and similarity of the words, supported by an exploratory analysis of the comments, it was possible to group the comments by themes: **Animation** is seen as an important factor to boost the thermal activity. **Nature** stands out because the thermal spas studied are surrounded by natural beauty, a common characteristic of this type of resort. Experiences with the thermal water stimulate an increase in **Emotions** easily identified in the comments. These products and services have a great potential to satisfy inner needs, and “feeling good” about oneself, and thermalism plays a vital role in people’s life experience and satisfaction. The **Quality** of the products and services are mentioned several times, highlighting the private label products with face-to-face and online sales. That, together with the **Benefits** of the treatments and therapeutic indications, as well as the **Competence** of the staff demonstrates the quality of thermalism today. The thermal **Experience** acts, in this research, as a mediator



linking the sharing of the sensation to positive emotion, and consequently, to loyalty, since we found in the comments that people question, recommend, return and identify friends. Finally, COVID appears in the comments because similarly to other sectors, due to the unexpected outbreak of the Covid19 pandemic, thermal spas were forced to close their doors, coinciding with the period of analysis of this study.

In the analysis, different types of user/follower profiles were also identified: residents, emigrants, employees, thermal-users and potential users. We mention some comments where it was possible to identify this codification ‘Go on Dr. Fátima show what the Flavienses are made of, we need the hot springs working for the good of all’, ‘Flavienses’ are the natives or inhabitants of Chaves.’ ‘I am very saddened by this news as I know how much it will cost the company to close its doors to the public. We hope that it will only be for a short time and that everyone makes sure to protect themselves so that things are sorted out again. To my dear colleagues I hope you are all in good health. This year unfortunately I couldn’t go to work because of this bad virus that affected me, I hope that soon everything will be back to normal.’; ‘Patrícia Sofia Ana Teresa Gonçalves if we are not going far away we can opt for something like this... 🥺🥰🥰’; ‘You are very good at welcoming people and it felt so good to have these holidays. Until next year, God willing, and long live my summer town’; ‘I feel like visiting. Congratulations!’; ‘I spent a weekend, I loved it!!!! Very calm without stress 😊 We did a thermal circuit, it was fantastic.... On Monday when I returned to work, I had the feeling I was coming from a week’s holiday 🥰’; ‘Missing the thermal springs, the beautiful landscape, the gastronomy and... the people of S. Pedro do Sul’.

Table 1 presents a summary of the relationship between the themes and the different types of users/followers:

As illustrated in Figure 2 and regarding the polarity of feelings, a total of 679 comments were found. Despite the high number of neutral comments (47%), a consequence of users’ interaction through short conversations, identifying friends and other comments, it was not

**TABLE 1. ANALYSIS OF COMMENTS - THEMES AND USER/FOLLOWER PROFILE**

Themes	Comments	User Profile / Follower
<b>Animation</b>	“A good night, always good entertainment 🥰🌹”; “It was a good show, very cheerful”; “Beautiful! Keep on with these entertainments, which make the thermal spa even more attractive, besides beautiful”; “So many nights I spent watching these entertainments”; “Nice nights I spent there, dancing and singing with the river at our feet”.	Emigrants
<b>Nature</b>	“wonderful! beautiful town 🥰”; “wonderful 😊❤️ pure nature”; “Beautiful landscape, 🌸❤️👓🌸, only those who know it, know 🌸, so many happy moments, so much beauty to explore, a big thank you ; 🌸;”; “I really like the hot springs, a very beautiful landscape all around”.	
<b>Emotions</b>	“My little corner, my haven...I love this blessed place”; “Oh how I miss ❤️ everything, the thermal spa, treatments, employees, food, environment and nature in 15 years I made friends for life. A wonder, enjoying it helps us to get over things (one of these days I will return)”; “My homeland! I miss it so much 🌸🥰”; “My homeland is beautiful...”; “I already miss it, even drinking the water. 🙌🥰, my mother’s town enchants me and I say it’s my holidays in the town 🥰😂🥰”.	

(continued)

**TABLE 1. ANALYSIS OF COMMENTS - THEMES AND USER/FOLLOWER PROFILE (*Continued*)**

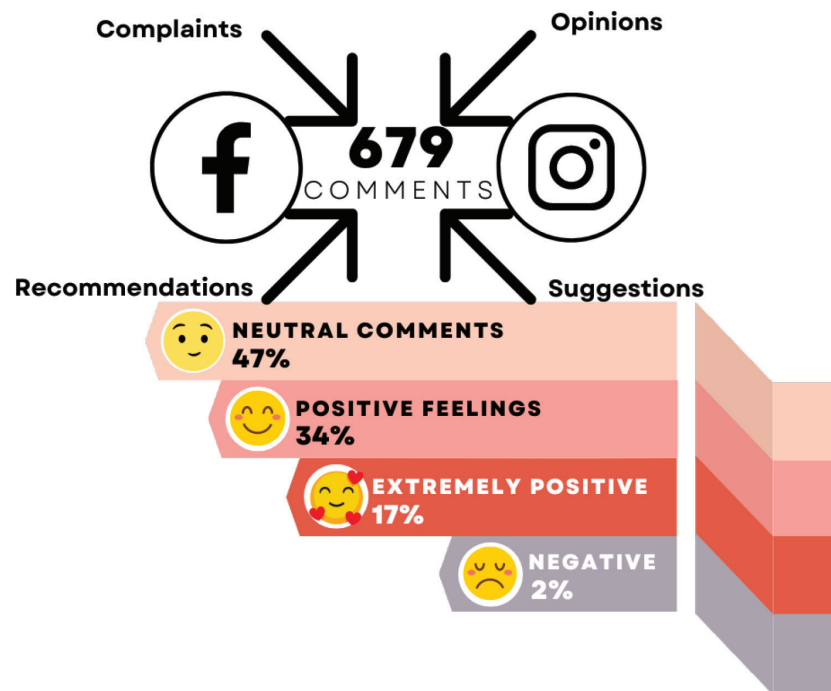
<b>Quality</b> (Products and Services)	<i>“I really like this cream, it’s very good”; “The moisturiser is very good, and well-priced, I advise you to try it”; “There is no doubt that they are great, as I have been there for several years and I feel much better with my rheumatoid arthritis”; “Excellent products! Love them!!! ☺☀”; “I really like going there, the massage and the pools with good therapists!”; “Immersion in the thermal water pool, lasting 30 minutes, costs 10 euros”.</i>	Residents
<b>Staff Competences</b>	<i>“It’s spectacular! And the staff are excellent, I recommend it”; “These professionals are very important! I like it very much. I will be back soon. Exceptional service 👍”; “I really like it, they are all very nice, the therapists, not forgetting doctor Francisco and the nurse Maria”; “We were won over by the power of your waters but, more than anything, your hospitality and friendliness! Thank you very much for this relaxing and invigorating morning! A big hug”; “Dr Fatima show what the Flavians can do!”</i>	
<b>Benefits, Treatments and Therapeutic Indications</b>	<i>“They are recommended for rhinitis and sinus problems?”; “They are the best in Europe”; “These thermal spas are the best for the spine, excellent massages”; “I enjoyed being in the bath, then I went, as usual, for physiotherapy in the pool. And see you next year”.</i>	Users
<b>Experience</b>	<i>“It’s worth a try, very good treatments, friendliness and professionalism, excellent water, whenever I go to Chaves I go there 😊”; “What wonderful hot water, I recommend it”; “I’m going back to the thermal spa later this year. If you don’t know it, you don’t know what you’re missing in physical and mental well-being”; “I’ve been there many times in Chaves and never went to do any treatment but next time I will”; “Beta André Cris Palma we have to go there to wet our hands”.</i>	Potential Users
<b>Covid</b>	<i>“What a disappointment, I happened to be there a fortnight ago, I was close, let’s have faith and hope everything will be fine, ❤️😞. “I really missed the thermal spa. How I miss my thermal spa, I’m counting the days I have left, there’s not much time left;” “Access to treatments requires the presentation of only one of the following: Digital COVID Certificate of the European Union...”; “Everything will be fine, I have been there taking the waters, I have not seen any risky situation, on the contrary, great care, and a lot of hygiene, let’s hope for good news, courage and strength”; “To my dear colleagues, I hope you are all in good health. This year, unfortunately, I could not go to work due to this malignant virus that affected me, I hope that soon everything will be back to normal”.</i>	Staff

Source: Adapted by Antunes *et al.* (2023)

possible to identify any sentiment. However, they were very useful content to understand the flow of information. Only 2% of the comments were classified as negative, some criticising the lack of adequate facilities for people with reduced mobility, considered as aspects to be improved in the future. The greatest evidence is of positive (34%) and extremely positive (17%) feelings, the result of the thermal experience causing well-being in people.

In the analysis it was found that comments could be classified as opinions, complaints or suggestions, a digital strategy for the traditional physical object known as suggestion box.

FIGURE 2. ANALYSIS OF THE POLARITY OF FEELINGS



Source: Elaborated by the authors

This research also shows that, besides affective messages, greater priority was given to the types of users/followers, with messages directed, for example, to returning emigrants, to those who visit friends and family sporadically because they more emphasis needs to be placed on delivering emotional (affective) messages.

## 5. DISCUSSION AND CONCLUSION

The results of this study show that thermal spas actively use social media, particularly Facebook and Instagram, to promote events, products and services, fostering social interactions. Analysing the comments on social media revealed sentiments, themes and user profiles, highlighting the importance of thermal experiences for customers' well-being. Para Hudson *et al.* (2015) social media does indeed have a significant influence on emotions and connections to brands. Relationships based on social media lead to desired results, such as positive word-of-mouth.

Based on the analysis of the results, it was also found that the most mentioned words, such as "Nature", "COVID", "Benefits", "Water", "Experiences", "Animation", "Quality", "People" and "Happiness", indicate a strong association between thermal experiences and positive emotions, corroborating previous studies (Campon-Cerro *et al.*, 2020; Huang *et al.*, 2019; Rodrigues *et al.*, 2020). These words suggest that users value the quality of the services, the therapeutic benefits and the natural beauty surrounding the thermal baths (Lopes *et al.*, 2023).

The presence of emigrant communities in São Pedro do Sul and Chaves is clearly visible in the comments, a key factor in revitalising the local thermal spas, promoting enriching cultural interaction and boosting both the local economy and the preservation of thermal

traditions. The solution to the problem of absence and the manifest homesickness of the emigrant population is to make them feel present and this is possible through producing attractive, creative and sensorial content, using a content strategy based on storytelling using local people and “localism”. Bleier *et al.* (2018) describe the online consumer experience as a psychological response arising from online presentation of the product or service, which must contain cognitive dimensions through information, sensory dimensions through appeal to the senses, dimensions associated with social presence applied mostly to social media, and affective dimensions through entertainment. Communication must therefore be aligned, affective and direct in order to remain in a predictable future.

The comments were grouped by theme, with the frequently mentioned Quality of products and services reflecting customer confidence in the treatments and the competence of the professionals, as mentioned by (Brandão *et al.*, 2021). The thermal experience acts as a mediator, linking positive sensations to customer loyalty, as evidenced by the recommendations and feedback mentioned in the comments. The COVID-19 pandemic was a recurring theme, reflecting the impact of the temporary closure of thermal spas on the health and wellbeing of users. Mainly due to the need for treatments for their health and well-being. This situation was commented on by Pinos and Shaw (2021) who analysed the role and potential of thermal spas as health agents. In the case of Spain, these authors reflected on the opportunities for repositioning this activity in the tourism dynamic that arises during and after a period of crisis. In addition, comments from different profiles, such as residents, emigrants, employees, users and potential users, illustrate the diversity of interactions and the depth of feelings expressed. Analysing the comments revealed a predominance of neutral feelings (47%), which highlights the two-way interaction between users, unlike the study by Gaffar *et al.* (2022).

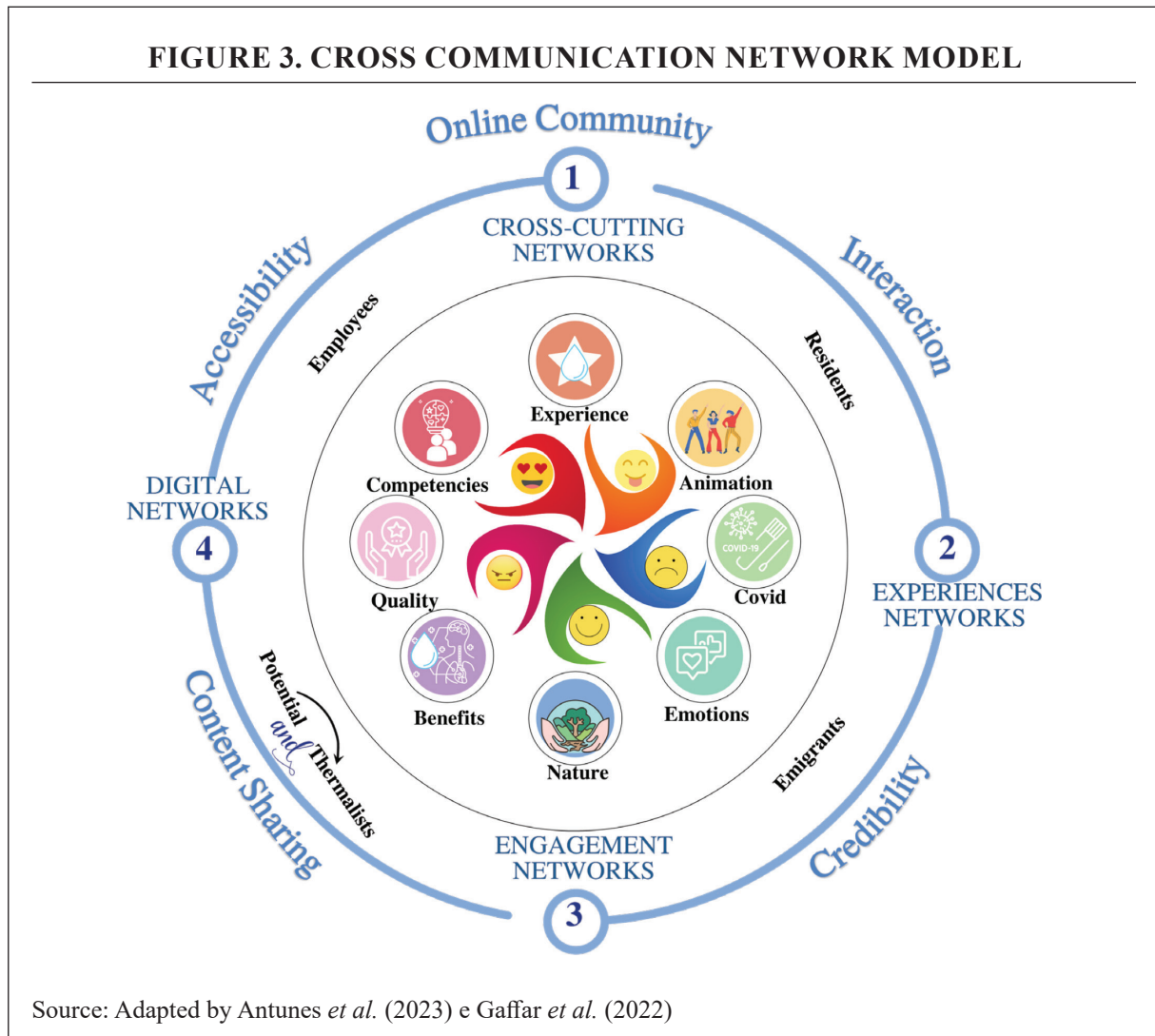
When analysing the comments it was also possible to identify that most of the content was written ignoring the rules of spelling and grammar, presenting lexical and syntactical problems such as slang, abbreviations, word configurations, use of *emoticons*, among others, a situation that was also mentioned by Paine (2011). This limitation may confuse the artificial intelligence algorithm, which requires a thorough analysis by researchers.

Like Antunes *et al.* (2023), it was found that comments can be classified as opinions, complaints or suggestions, serving as a digital strategy comparable to the traditional physical suggestion box. Molinillo *et al.* (2020) emphasise the importance of emotional messages on social networks to create bonds with users. Sentiment analysis makes it possible to understand users' feelings in real time, providing direct and affective responses that can stimulate new users and strengthen the loyalty of existing ones. From this perspective, the active use of social media by thermal spas to promote events, products and services, and the resulting social and emotional interaction, is in line with the theory of experiential marketing, which emphasises the importance of emotions and sensations in creating meaningful and positive bonds with the brand, as proposed by Hudson *et al.* (2015).

Considering that in the era of “Big Data” analysis, new predictive models of structural integrity and prescriptive models can be built (Yadav *et al.*, 2021), it is time to co-create and act according to the analysed information. In this perspective, we propose the communication model presented in Figure 3:

The internet is evolving at a great speed and communication needs to keep up with it. The five dimensions identified by Gaffar *et al.* (2022) have been integrated into this study to better understand the emotional impact and also to leverage more effective digital communication strategies. This approach reinforces the thermal spas image and also enriches the experience, creating a deeper and more memorable engagement for current and potential visitors. The strategy proposed in this study emphasises digital communication to transform the perception and experience of thermalism today based on the five dimensions from Gaffar *et al.* (2022).

FIGURE 3. CROSS COMMUNICATION NETWORK MODEL



The five dimensions were interconnected with the results, giving rise to a new communication model and practical implications. This model is a reflection of people's comments with 4 future directions from the perspective of digital communication:

1. **Cross-cutting Networks** - Definition of a strategy of cross-cutting cooperation networks with the ability to build connections, involvement and interaction, through a common denominator, in this particular case, through identifying health and well-being production networks which can involve both public and private entities. Interactivity needs to be improved by publishing impactful posts that encourage commenting and sharing, not just informative text (Gaffar *et al.*, 2022). This strategy enables sharing and greater visibility.  
Practical Implications: Sharing experiences at online communities through influencers, creating impactful posts that highlight the therapeutic benefits, in order to encourage followers to interact by asking questions, sharing their own experiences or identifying friends who might be interested. This approach leverages the reach and credibility of influencers to increase visibility and interest in thermalism.
2. **Experience Networks** - Develop a plan and create personalised communication strategies that appeal to feelings, capable of involving people in thermal tourism and motivating new people to experience it. A suggestion here is to stimulate the five

senses for a memorable and differentiating experience which, in turn, will impact the user/follower's emotional bond and stimulate their attitudes and behaviours. Positive thoughts and feelings create positive habits and generate interaction. In this phase, types of users/followers and comments should be analysed to consolidate emotions and through sensory content, provoke thoughts that become patterns of stimulus, reasoning and behaviour in the future.

Practical Implications: a virtual reality (VR) experience that simulates a visit to the facilities, including someone entering the pool with the thermal circuit and having a Vichy massage. This VR experience can be visualised via websites or social media platforms, youtube for example, offering a taste of the thermal spas environment and services. The content can stimulate the senses with visualisations of serene water scenes, sounds of nature and narrations describing the health benefits, creating a memorable pre-visit experience that motivates bookings.

3. **Engagement Networks** - The communication strategy also involves creating narratives capable of "touching" people. It is necessary to implement the narrative and design stories that touch the audience emotionally, drawing on the local inhabitants. Creating positive social change, educating and connecting the public on a wide range of issues, persuading people to act (Dionisio and Nisi, 2021). This strategy should be a more engaging portal between the online community of local people, potential thermal-goers, managers and anonymous. The emigrant community has a huge potential to interact with other people, sharing thermal experiences and habits, evoking homesickness and "localism".

Practical Implications: sharing stories of visitors who, after spending the day at the thermal spas, enjoy a tasting of local wines, taking advantage of the local culture and landscape to enrich the narrative. This not only promotes the thermal spas, but also the region, engaging local communities and potential visitors with stories that resonate on a personal level, highlighting the emotional and cultural richness of the experience.

4. **Digital Networks** - This digital communication strategy involves different forms of interwoven communication capable of influencing people's activities and experiences. Therefore, understanding the role that social contact plays in shaping the thermal experience is essential to explore the future impact on the sector. Digital communication tools will be used most, with an emphasis on virtual reality, eWOM, storytelling, creation of segmented content and an active digital presence capable of attracting people to dialogue with users/followers about thermalism. Digital communication makes information and experience accessible to everyone. in the future can convey thermal experiences, evoking emotions through sensory stimuli and can even provide people with well-being in distance.

Practical Implications: create a series of short, engaging videos demonstrating stress-reduction treatments in a tranquil environment. Through virtual reality, virtual tours, multisensory experiences made available on different online platforms. Integrate testimonials from people who have experienced significant stress relief to authenticate the message. This strategy uses targeted content to directly address and engage the needs and emotions of the public.

This model of people's online engagement, where participation and sharing are fundamental for most industries and sectors, can be replicated and adapted to different themes. To do this, they must identify cross-cutting networks to share knowledge; develop a plan with communication strategies that encourage experience; create compelling content using the five senses, storytelling, through advanced digital networks to provide experiences to people anywhere in the world.

Answering the research question Q1 - *How can thermal spas optimise their social media communication strategy to improve interaction and engagement with their followers?* Social media are fundamental in making thermal spas and their products known, to share experiences and identify people, motivating them to go and experience. In fact, several questions were also identified with a direct response from the social media manager, which can be a strategy to follow because it is possible to accompany the person immediately, by sharing information and clarifications on thermalism. Regarding online comments, Zhang *et al.* (2019) argue that an answer should be given. However, they found that tourists who receive a response have high expectations regarding its content. Thus, managers should be aware of the importance of improving the quality of responses, and should be informative and personalized, rather than using standard responses that are usually the same for all customers.

Priority should be given to the specific wellness needs expressed in comments (through sentiment analysis), creating compelling narratives (through storytelling) for social media. Cutting-edge technologies can be used to arouse curiosity and stimulate demand for thermal tourism, causing well-being in users/followers and influencing people's lifestyles positively. Similar to Dwivedi *et al.* (2022) we propose through Virtual Reality (VR) and Augmented Reality (AR): Developing immersive thermal experiences, allowing people to "visit" thermal spas without leaving home. This can include virtual tours of the facilities, interaction with the different services and treatments offered, and even simulating immersion baths in tubs, in pools with natural mineral water, etc. Resorting to stimulation of the five senses is also a strategy to be followed since the sensorial experience makes a great contribution in promoting thermalism. For example, through the right combination of visual, auditory, descriptive language and other emerging technologies, it is possible to create richer and more immersive experiences that arouse emotions and interest in users. This can be achieved through personalised images, descriptions and videos based on the user's description.

This study allowed us to reflect on the impact of digital communication strategies in thermalism. It opens a new frontier by using emotions as a portal to discover unconscious emotional patterns and instantly match them with the behaviour of different users/followers on social media. The main findings of the study are the identification of the reason for the comment, the emotion and the unlimited potential that all people have to unconsciously generate new thermal experience habits with friends, family and strangers, because the information is seen by all users. The key results indicate that social media comments not only reflect the emotions and reasons behind these feelings, but also demonstrate the potential of users to unconsciously generate new thermal experience habits. We conclude that social media have transformed users from passive receivers to active actors, highlighting the importance of digital communication in generating new stimuli to experience thermalism.

The success factor of sentiment analysis lies in identifying the most occurring and relevant opinions among users/followers, related to thermalism. Depending on the strategy to be applied to each social media, the development of content with strong, creative and impactful ideas should be stressed to create a strategic vision with authenticity of what thermalism is. The uniqueness is that this analysis makes it possible to understand users/followers' feelings in real time and with direct and affective answers by the social media manager that can stimulate new users.

We also observed that most of the information posted is harmless and that social media facilitate communication between people, visible in the feedback of comments, through the emergence of short conversations triggered by the publication, and in the identification of people in the comments. Aiming to find out notoriety indexes, use, opinion, and habits regarding social media, it was concluded that artificial intelligence can be a valuable tool to obtain

comprehensive results about users/followers' interests, needs and habits, and subsequently, for targeted communication on social media. No less important is the communication professional acting permanently for real-time results.

Like other research and surveys, this study presents limitations that can be reduced or overcome in future projects. One limitation was the fact that only two case studies were considered, and so a suggestion is to extend the study to all the country for further consolidation of the results. Lexical and syntactic problems were another limitation, which confused the artificial intelligence algorithm, requiring a more thorough analysis by the researchers.

The preponderance of quantifying the impact of social media on people through metrics will tend to increase, and as automation and artificial intelligence evolve and are implemented in data analysis programs, we can expect more complex and customized metrics, but also more representative of reality.

As future lines of research, this study suggests exploring the impact of emerging technologies, such as Augmented Reality (AR) and Virtual Reality (VR), in creating immersive and personalised experiences for visitors. In addition, empirical studies could analyse the effectiveness of storytelling strategies on digital platforms to increase user engagement. Another promising field is analysing the role of emigrant communities in promoting thermal spas through social media, with evidence of how cultural and emotional connections can be better harnessed for an effective communication strategy at local level. Finally, the development of predictive consumer behaviour models using Big Data and artificial intelligence can be considered to further personalise thermal spa communication and offers, thus maximising visitor attraction and retention. These contributions can be extrapolated and applied to other thermal destinations with similar characteristics, offering a new perspective on how to create relationships and attract people to thermal spas through authentic experiences.

## **DECLARATION OF INTERESTS STATEMENT**

We have no known conflict of interest to disclose.

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## **AUTHORS' CONTRIBUTION**

The work was carried out jointly by all the authors.

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