



Pictures of a crisis. Destination marketing organizations' Instagram communication before and during a global health crisis

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ARTICLE INFO

Keywords:

Crisis communication
 COVID-19 pandemic
 Destination marketing organization
 Social media
 Instagram
 Pro-social behavior

ABSTRACT

The COVID-19 pandemic enhanced social media communications at a time individuals were unable to leave their homes due to the lockdown measures. A lack of research has been identified on how destination marketing organizations use social media during global health crises. Addressing this gap, the present research uses a mixed-method approach to examine the use of Instagram by Milan and Paris' Destination Marketing Organizations before and during COVID-19 and user engagement with it. Via a quantitative content analysis, Study 1 reveals communication differences between destinations and a change in promotion focus during the pandemic. Both DMOs focus on posts portraying "Culture, History and Art", which signifies stability and eternity as opposed to uncertain times. Using a thematic analysis, Study 2 reveals that both organizations promoted pro-social behavior also by employing influencers. Overall, research results document tourism organizations' pro-social use of social media during a global health crisis.

1. Introduction

The crisis brought by the novel coronavirus in 2019 (COVID-19) has dramatically impacted the world's economies and societies. Among the industries that have been most affected by the virus, there is tourism and hospitality (Sigala, 2020). To reduce the spread of the virus, governments have been forced to close borders and drastically reduce the movement of people, putting on stand-by any tourism activity (Qiu, Park, Li, & Song, 2020; Sigala, 2020). A report by the United Nations World Tourism Organization (UNWTO, 2020a) states that the travel restrictions introduced in response to COVID-19 have led to a 70% fall in international tourist arrivals (compared to 2019) for the first eight months of 2020.

Unable to leave their homes during lockdown time, many people turned to digital and social media communications on their mobile phones, interacting with businesses and organizations with intensity and ways that had never been observed before (Moneta & Sinclair, 2020; Sigala, 2020), gratifying their entertainment, information, and education needs through various applications. Thus, the crisis has created a necessity for destination marketing organizations (DMOs) and other stakeholders to reach people in their homes, making their content accessible via mobile applications and varying their communication

strategies (Ketter & Avraham, 2021). Scholars have investigated how specific marketing and user-generated social media communication strategies can create an emotional connection between the destination and the audience (e.g., Ketter & Avraham, 2021; Filieri, Yen & Yu, 2021; Li et al., 2022). For example, Ketter and Avraham (2021) indicate how DMOs at the national level have published advertisements focused on feelings of brotherhood and hope to "fight" together against the pandemic while thinking of better days to come. This strategy has allowed destinations to connect emotionally with potential visitors while keeping them engaged during lockdowns.

Research shows that social media are essential for DMOs during and after a crisis (Veil, Buehner, & Palenchar, 2011; Möller, Jie, & Nguyen, 2018; Barbe & Pennington-Gray, 2020; Li et al., 2022). Although social media have not been developed for crisis management scopes, these platforms have been widely adopted to obtain information about disasters and help local populations cope with ongoing calamities (Lin, Spence, Sellnow, & Lachlan, 2016). Social media allow residents and public health organizations to create a direct and instant communication channel with the public, informing about the current state of a crisis, generating community crisis maps as well as empowering community resilience (Lin, Spence, Sellnow, & Lachlan, 2016; Goolsby, 2010).

Scholars have tried to understand the impact of the COVID-19

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pandemic on travel & tourism organizations (Sigala, 2020; Zenker and Kock, 2020; Wut, Xu, and Wong, 2021; Filieri et al., 2023). The reason for their interest in this health crisis resides in its unique characteristics, compared to previous ones, in terms of scale (global), effects on tourist behavior (e.g., movement limitation, social distancing), complexity (i.e., blending crisis typologies from natural to economic and tourism demand), and impacts on the tourism industry (e.g., lockdown closures) (Zenker & Kock, 2020). Existing studies have focused on traditional mass media discourse on the pandemic (Chen, Huang, & Li, 2022), digital marketing strategies (Ketter & Avraham, 2021), consumer perceptions and travel intentions (e.g., Chemli, Toanoglou, & Valeri, 2020; Polyzos, Samitas, & Spyridou, 2021; Yu, Li, Yu, He, & Zhou, 2020). In this regard, it is argued that understanding how DMOs communicate during a pandemic can be helpful in learning best practices in the management of future health crises (Ketter & Avraham, 2021; Sigala, 2020; Li et al., 2022), with the aim of reducing negative impacts on the tourism industry (Ritchie, Bentley, Koruth, & Wang, 2011). Furthermore, during a health crisis, marketing activities launched by DMOs are particularly important to build loyalty and engage with repeat visitors (Otoo & Kim, 2018). Given the importance of the topic, scholars advocate further research exploring how DMOs have used social media marketing and communication during the COVID-19 health crisis (Ketter & Avraham, 2021; Li et al., 2022).

Addressing this research gap, the present study attempts to overcome the limitations of single case studies in tourism health crisis research (Barbe & Pennington-Gray, 2020) by investigating how Milan and Paris DMOs, two of the most visited destinations worldwide (Mastercard, 2019), adapted their communication on Instagram in response to the COVID-19 pandemic. To answer this research question, we followed the mixed-method approach adopted by other studies on visual communications (e.g., Filieri et al., 2021), combining quantitative content analysis with a qualitative thematic analysis of Instagram content. More precisely, in Study 1, we perform a quantitative content analysis to identify, first, the visual categories of DMOs' posts that benefit from higher levels of behavioral engagement – that is, post-interaction in terms of the number of likes and comments (Tsai and Men, 2013; Pino et al., 2019). In this regard, social media engagement is an important success metric for a DMO, because it influences destination brand love (Filieri et al., 2021), destination brand attachment (Li, Teng, & Chen, 2020), customer trust, brand loyalty, co-creation (Rather et al., 2019), and corporate reputation (Dijkmans, Kerkhof, & Beukeboom, 2015). Second, we examine the DMOs' adaptation of marketing content to the COVID-19 crisis by comparing the occurrence of visual categories conveyed by Instagram pictures (before vs. during the crisis).

Building on the engaging visual categories identified in Study 1, qualitative thematic analysis is performed in Study 2, where we investigate the communication themes used by Milan and Paris DMOs, in combination with a semiotic analysis of the prototypical examples for each theme. The integration of Study 2 is justified by the importance of examining the role of engaging visual categories in the context of digital communication themes used to respond to the COVID-19 crisis. Employing a qualitative approach to analyze projected images of tourism destinations is also in accordance with past research on tourism crisis communication (Ketter & Avraham, 2021). Furthermore, within the present research context, we argue that the combination of quantitative and qualitative methods is suitable for a better understanding of complex communication phenomena (Filieri et al., 2021), like the adaptation of social media marketing to a crisis, allowing for the triangulation of data resulting from both methods and the literature (Molina-Azorin, 2011).

This study brings two main theoretical contributions to social media and crisis communication literature. First, it expands previous research on digital marketing in crisis times (Barbe & Pennington-Gray, 2020; Ketter & Avraham, 2021; Li et al., 2022) by examining how DMOs adapt their social media communication strategy to a health crisis event, both in terms of engaging visual content and overarching themes, also

contributing to the nascent consumer engagement theory (Van Doorn et al., 2010; Hollebeek, Glynn, & Brodie, 2014; Rather, Hollebeek, & Islam, 2019). Second, the study adopts a new methodological approach to the study of crisis communication by employing a visual analysis of Instagram content from both a quantitative (Study 1) and qualitative perspective (Study 2), answering the need for more rigorous research concerning social media use in crisis times (Barbe & Pennington-Gray, 2020). Third, it focuses on a global health crisis, the COVID-19 crisis (Barbe & Pennington-Gray, 2020).

2. Literature review

2.1. Destination marketing during a crisis

The word “crisis” comes originally from the Greek *krisis* (>*krisin*: to decide), meaning decision or discrimination. Within the present research scope, this word refers to an event that disrupts the complex equilibrium between supply and demand (Starn, 1971). Tourism is certainly not new to crises, which have been occurring for millennia. These are frequently reported in conjunction with disruptions in travel and hospitality; they can be limited to a sector, like aviation, affecting a single destination or even reaching a global scale (Hall, 2010). In addition, the effect of a crisis on society can last longer than the event itself; thus, the response to it by governments and other stakeholders is of paramount importance (Ren, 2000).

From a tourism communication perspective, one of the most important theories related to crisis events is the one of image repair discourse (Benoit, 1997), which “focuses exclusively on messages designed to improve images tarnished by criticism and suspicion” (Benoit, 2015, p. 3). According to Benoit (2015), destination authorities can opt for several crisis management strategies that span from complete denial of the event to offering apologies and undertaking corrective actions. Yet, there are cases, like health crises (e.g., the COVID-19 pandemic), that go beyond the control of organizations and marketers and for which strategies based on taking responsibility and offering apologies are clearly not relevant (Avraham, 2016). Instead, the creation of an effective marketing strategy based on crisis and audience characteristics and location is arguably more appropriate (Avraham, 2015).

Communication is regarded as an essential component of a recovery strategy for any organization, including tourism destinations (Lehto, Douglas, & Park, 2008). From a demand perspective, experimental research indicates that media coverage of a health-related crisis has a direct effect on participants' perceived risk, which in turn influences the attitude toward a tourism experience (Liu, Pennington-Gray, & Krieger, 2016). In this regard, researchers recommend destination managers to communicate openly and promptly about any crisis to restore confidence in prospective travelers, especially using cost-effective channels like social media (Novelli, Burgess, Jones, & Ritchie, 2018). In the case of COVID-19, with countries around the world experiencing different forms of lockdown, scholars suggest destinations should find innovative ways of addressing people's desire to travel and their need for safety (Qiu, Park, Li, & Song, 2020) – something that can be offered, for instance, via digital channels (Li et al., 2022), which make a destination accessible from home (Molinillo, Liebana-Cabanillas, Anaya-Sanchez, & Buhalis, 2018).

Addressing the COVID-19 health crisis from a communication perspective, tourism scholars conducted interviews in Taiwan to analyze the tourism crisis and disaster management (Yeh, 2020). Using text mining techniques, researchers analyzed comments published on TripAdvisor forums from Asia, Europe, and the U.S., revealing discussions on travel insurance and refund (Uğur & Akbıyık, 2020). Yu et al. (2020) performed an automated content analysis of Chinese newspaper articles to identify key themes related to the COVID-19 crisis, including cancellation and flight refunds, attitude towards quarantine, perceived authenticity of media coverage, discrimination, control of tourism activities (for prevention), and corporate self-improvement strategies. On

the same line, research has considered news and media outlets either as a medium to know more about post-COVID-19 trends in terms of travel preferences (Wen, Kozak, Yang, & Liu, 2020) or as an agent affecting travelers' perceived risk (Chemli, Toanoglou, & Valeri, 2020) and mental health (Zheng, Goh, & Wen, 2020). A study by Ketter and Avraham (2021) analyzed tourism destinations' digital marketing strategies during the pandemic by analyzing digital ads and videos published on YouTube. Finally, Li et al., (2022), drawing upon signaling theory and integrating text analytics with fuzzy-set qualitative comparative analysis, have shown that adopting a specific response strategy and linguistic cues (i.e., assertiveness, concreteness, argument quality, pronouns) on social media (Twitter) elicits positive emotional reactions during the COVID-19 crisis.

Yet, a lack of research has been identified concerning communication themes on the social photography platform Instagram (Filieri et al., 2021), which scholars have indicated as part of the future of social media crisis communication in tourism (Barbe & Pennington-Gray, 2020).

2.2. Social media and crisis communication in tourism

The popularization of media-rich two-way communications has changed the landscape of crisis communication management, which was based on public authorities' top-down distribution of information through traditional mass media (e.g., radio and television). For instance, residents are no longer passive spectators of disasters and crises; instead, they can actively search and share crisis-related information and suggest response and recovery strategies (Palen & Liu, 2007).

Social media are used by DMOs to engage with their audience and enhance perceptions about the destination (Hays, Page, & Buhalis, 2013), promoting attractions and experiences with the use of highly visual content like images and videos (Uşaklı, Koç, & Sönmez, 2017). The use of social media in managing crisis events has acquired increasing importance among researchers, who often refer to the topic as crisis informatics (Reuter, Hughes, & Kaufhold, 2018), which investigates "the technical, social, and information aspects of disasters and crises" (Palen, 2008, p. 76). According to Palen et al. (2009), these web-based tools provide meaningful channels for authorities to disseminate and exchange information with public entities or other official bodies during disaster events beyond their special bounds.

Reuter et al. (2018) identify four types of crisis informatics research: (1) collection and processing of social media data, (2) design and evaluation of technical solutions for social media issues, (3) cumulative and longitudinal research, and (4) empirical investigation of social media use. Particularly relevant for the scope of this research, the latter comprises all the works that investigate, for instance, the effectiveness and use of different social networks in disseminating information about disaster events (e.g., Yates & Paquette, 2011; Sutton, 2010). Among them, Jin et al. (2014) suggest that when the origin of the crisis is external, organizations should proactively use social networks to inform their audience, trying to reduce their uncertainty and negative feelings toward the event. During a crisis, communication should focus on promoting correct behavior, reducing uncertainty, and reassuring the audience (Reynolds & Seeger, 2005). In a post-crisis situation, social media can be used to provide updates about the situation and promote a positive image of the destination (Barbe & Pennington-Gray, 2020).

The disposition and implementation of a strategic crisis communication plan have become fundamental in any tourism crisis. For their effectiveness and accessibility, social media have become necessary for tourism organizations engaging in crisis communication during and after the event (Barbe & Pennington-Gray, 2020). Social media have created the conditions for individuals to be active participants in the communication process, co-creating value with other users (Filieri et al., 2021) as well as with various organizations and brands (Prahald & Ramaswamy, 2004). In this regard, Sigala (2011) suggests that networking and collaboration opportunities offered by social media can

be used to involve different stakeholders in their crisis management strategies and activities.

Research on the use of social media for crisis management in tourism is represented by a growing and relevant corpus of scientific studies investigating the influence of these channels in disaster events, specifically their role in facilitating collaborations among stakeholders, enhancing destination reputation and brand management (Barbe & Pennington-Gray, 2020; Zeng & Gerritsen, 2014).

In this regard, empirical studies investigated international tourists' use of social media as an information source during a crisis while traveling (Schroeder, Pennington-Gray, Donohoe, & Kioussis, 2013); other scholars analyzed social media discourse about the New York bed bug crisis and how it impacted tourist perception of the city (Liu, Pennington-Gray, Donohoe, & Omodior, 2015). For instance, Möller et al. (2018) explored, through interviews and Facebook posts, the use of social networks to raise donations following the natural disaster caused by the Winston tropical cyclone in Fiji. Park et al. (2019) proposed to use web analytics to identify opinion leaders and influencers for crisis communication. Barbe and Pennington-Gray (2020) reviewed the literature on social media and crisis communication. Finally, a study by Filieri et al. (2021) shows that Instagram users who have an emotional connection with a destination show empathy in a time of crisis (i.e., terrorist attack) with messages expressing sadness, sympathy, and concern but also calling for social unity.

Apart from expressing emotions through words, another form of social media engagement consists of behavioral engagement, namely "the consumer's level of energy, effort, and time spent on a brand in a particular consumer/brand interaction, namely the liking, sharing, and commenting on posts" (Hollebeek et al., 2014, p. 154). Our research focuses specifically on the behavioral dimension of engagement, including consumers' actions of liking and commenting on DMO social media posts (Van Doorn et al., 2010; Tsai and Men, 2013). Some studies have investigated behavioral engagement drivers, such as content quality and type (e.g., Pino et al., 2019; Bazi, Filieri, & Gorton, 2020; Li & Xie, 2020). Among the popular and engaging social networks, Instagram has so far received little attention in tourism research, especially for what concerns its use in response to a crisis event (Barbe & Pennington-Gray, 2020; Sigala, 2020; Filieri et al., 2021). Furthermore, existing studies on social media communication have not yet investigated social media post engagement across crisis stages.

To summarize, as it is possible to observe from the present literature review, research has mainly used single case studies or single-method research approaches, addressing consumers' perceptions and intentions, using either qualitative or quantitative methods – without combining them (Barbe & Pennington-Gray, 2020). In addition, a lack of research has been observed concerning the identification of engaging visual categories published by DMOs across crisis periods, as well as their use for communication and marketing purposes before and during a health crisis.

3. Methodology

To investigate how DMOs used marketing communications on Instagram before and during a major health crisis event, the present research focused on two popular European destinations hardly hit by the pandemic and whose DMOs were particularly active during the lockdown period. Furthermore, we focused on destinations that offered visitors similar relevant culture, artistic, and gastronomic attractions, and amenities. Both the city of Milan and Paris satisfied these criteria. According to a report published by Mastercard (2019), these two destinations recorded respectively 9.10 and 19.10 million international arrivals in 2019, positioning them among the world's top 20 most visited destinations. Furthermore, both destinations are considered Fashion Capitals for their influence on fashion culture and innovation (Adegeest, 2020). This research focused on Instagram as it is one of the most popular and engaging visual-based platforms (Filieri et al., 2021;

Molinillo, Liebana-Cabanillas, Anaya-Sanchez, & Buhalis, 2018; Uşaklı, Koç, & Sönmez, 2017), which has received little attention from tourism scholars (Yu & Sun, 2019), especially for what concerns crisis communication (Barbe & Pennington-Gray, 2020).

To break down the crisis event in the “before” and “during” period, it was decided to select the date when the World Health Organization (WHO) declared COVID-19 a pandemic, namely on March 11, 2020 (Ducharme, 2020). This official date was also considered in other tourism studies (e.g., Schwaiger, Zehrer, & Braun, 2022), and it allowed us to set a threshold for Study 1 and 2 that could be applied to both destinations, thus overcoming possible governmental differences concerning crisis management. Since the announcement by the WHO, both Milan and Paris experienced a series of travel and movement restrictions, including lockdowns, that deeply affected the tourism industry (Spurrell, 2020) – in a way that had never been observed in previous crises (UNWTO, 2020a).

The present research adopted a mixed-method approach to investigate how Milan and Paris’ DMOs communicated via their Instagram account before and during the health crisis. More precisely, in Study 1, we employed a quantitative method based on content analysis to identify the most engaging visual categories (by destination) in terms of the number of likes and comments (Tsai and Men, 2013). Second, we compared the visual categories in Instagram posts published by the DMOs before and during the crisis event. Afterward, using the identified visual categories as a reference, in Study 2, we performed a qualitative thematic analysis to identify communication themes used by both DMOs to address the COVID-19 crisis. Finally, as part of Study 2, we performed a semiotic analysis of the most representative posts in the sample to reveal how these overarching themes were conveyed through visual and textual cues. The methods employed in the respective studies are detailed below.

3.1. Study 1

In Study 1, we conducted a quantitative content analysis to identify the most engaging visual categories published by the two DMOs on Instagram and investigate whether any change in visual communication occurred during (vs. before) the pandemic. The sample of Instagram posts was retrieved from the official Instagram accounts of the DMOs of Milan (@visit_milano) and Paris (@parisjetaime), which were very active on this channel. At the time of data collection (November 2020), both destinations had published more than 2000 posts and had a follower base ranging from 80 thousand for Milan to 630 thousand for Paris.

The sample of Instagram (post) images was selected in chronological order starting from October 2020 backward and covered a time range of two years (2019–2020) for both destinations. Posts that did not have actual photographs were excluded ($N = 35$), as their analysis went beyond the research scope. Thus, the final sample included 1327 Instagram images (Milan = 846, Paris = 481). The two sub-samples differed mainly because the Milan DMO had a higher posting frequency than the Paris DMO. The day of the official announcement by WHO (Ducharme, 2020) declaring COVID-19 a pandemic – namely, March 11, 2020 – was used to split the sample into the pre-crisis and during-crisis groups (March 11 included).

The codebook was composed of nine pre-determined visual categories (Table 1), which were elaborated from previous research on the analysis of destination image (Stepchenkova, Kim, & Kirilenko, 2014; Stepchenkova & Zhan, 2013), and then refined through a preliminary analysis of the Instagram posts published by Milan and Paris DMO. These pre-determined visual categories were associated with their operationalization, consisting in the guidelines to be used by the coder to recognize their presence (=1) or absence (=0) in the sampled pictures. An example of each visual category is provided in Appendix 1. Finally, all categories were inclusive – that is, for example, a picture could highlight both the category “People” (=1) and “Culture, History,

Table 1
Pre-determined visual categories for content analysis.

Category	Description	Coding value ¹
Natural Resources	Pictures that emphasize flora, fauna, and water bodies (including artificial rivers). City plants, parks, flowers, and domestic animals are included in this category.	Present = 1, Absent = 0
People	Pictures that emphasize people. This includes single individuals, couples, families, groups, and crowds. People should be well visible, reasonably in the center of the picture or in one of the picture foci. Pictures taken from the perspective of the subject where a body part is clearly visible are included in this category.	
Culture, History and Art	Pictures that emphasize monuments, statues, castles, historical, religious buildings, and architecture with historical and/or cultural value (e.g., Galleria Vittorio Emanuele II in Milan, the Eiffel Tower in Paris). It includes movable heritage (e.g., the Last Supper painting in Milan), contemporary art and people experiencing culture at museums and theatres (also open-air). Expositions, museums, and theatres are included in this category.	
Fashion and Clothing	Pictures that emphasize clothing items, brand names, and images related to contemporary clothing and fashion. This includes models, branded items, and shop windows with mannequins.	
Leisure and Sport	Pictures that emphasize leisure and recreational activities, such as exercising, biking, dining, sitting in a café / bar / restaurant, shopping, relaxing in a park and strolling. Activities for children are included in this category.	
Food and Beverage	Pictures that emphasize food and drinks. This includes gastronomy and typical products from the region; pictures emphasizing restaurants / cafés where food / beverage is visible.	
Infrastructure and Transportation	Pictures that emphasize transportation means (e.g., trams or buses) and infrastructure with no particular historical or cultural value, such as residential buildings or offices (e.g., UniCredit Tower or “Vertical Forest” residential towers in Milan), apartments, shops, and restaurants that are in focus or one of the picture foci. Swimming pools and urban water fountains are included in this category.	
Street Art	Pictures that emphasize graffiti and other forms of urban art.	
Other	Pictures that emphasize an object that is not among the predefined categories.	

¹ The coding value applies to each pre-determined visual category.

and Art” (=1), by showing a person standing in front of a monument. Yet, the two levels within each visual category – namely, present (=1) vs. absent (=0) – were exclusive. This meant, for example, that the category “People” could *either* be present *or* absent in a sampled picture.

Cohen kappa was used as a conservative reliability coefficient, as it yields agreement beyond chance only, and it is appropriate for studies with two coders analyzing categorical data (Neuendorf, 2017). One of the co-authors of the research coded the entire sample, while the second coder analyzed approximately 15% of the posts ($N = 215$). The inter-coder reliability analysis yielded the following values: “Natural Resources” (0.72), “People” (0.78), “Culture, History and Art” (0.64), “Fashion and Clothing” (0.79), “Leisure and Sport” (0.64), “Food and Beverage” (0.77), “Infrastructure and Transportation” (0.63), and

“Street Art” (0.95). Therefore, the strength of the agreement ranged from substantial (0.61–0.80) to almost perfect (0.81–1.00) (Landis & Koch, 1977).

4. Findings

In this section, we present our findings from Study 1 and Study 2 concerning the Instagram posts and communication themes used by Milan and Paris DMOs to cope with the COVID-19 crisis.

4.1. Results from Study 1

In Study 1, first, we explored the relationship between visual category type and posts’ behavioral engagement. Instagram images categorized as “Other” (N = 3) were excluded from the analysis. Second, we investigated whether COVID-19 affected the occurrence of image categories for the promotion of Milan and Paris on Instagram. In other words, the aim was to analyze whether the respective DMOs changed their visual communication in response to the pandemic.

4.1.1. Relationship between visual category type and behavioral engagement

Given the characteristics of the variables, we conducted independent-samples Mann-Whitney U tests – one of the most known non-parametric analyses – to explore the relationship between visual category type (present vs. absent) and Instagram post engagement (likes and comments) by destination. This known non-parametric test has already been used in previous research investigating the relationship between social media content and engagement (Parganas, Anagnostopoulos, & Chadwick, 2015). The Mann-Whitney U test procedure uses the rank of each observation to test group differences. Thus, the mean rank is the average of ranks from all observations within each group. Given the presence of inclusive visual categories, to mitigate a possible violation of the assumption of independence of observations, all inclusive categories were operationalized in a way that the presence of one category (e.g., “Food and Beverage”) would not directly influence the presence or absence of another (e.g., “Street Art”), or viceversa. Nonetheless, it was observed that the category “Leisure and Sport” was,

in most cases (418 posts out of 421), linked to the presence of the category “People” in the same post pictures. Yet, within the scope of the present exploratory research, this co-occurrence was considered acceptable to better capture the richness of sampled visual content, which could highlight multiple subjects in distinct foci.

Table 2 shows the key statistics from multiple Mann-Whitney U tests: the mean rank for likes and comments corresponding to the presence (vs. absence) of each visual category for the respective destinations, their corresponding Mann-Whitney U value and significance level. A significant p-value ($p < .05$) indicates a significant difference between the presence (vs. absence) of a specific visual category with respect to the dependent variable.

Test findings (Table 2) showed that when the visual category “Culture, History and Art” was present (vs. absent) in Instagram pictures, both destinations had a higher number of likes and comments. Indeed, likes and comments mean ranks for the city of Milan were higher when this category was present (likes mean rank = 451.67, comments mean rank = 443.21) than when it was absent (likes mean rank = 397.50, comments mean rank = 405.31); the same applied to the city of Paris, concerning likes (present: likes mean rank = 260.98, comments mean rank = 260.62) and comments (absent: likes mean rank = 209.58, comments mean rank = 210.16). Instagram pictures emphasizing “People”, “Leisure and Sport” and “Fashion and Clothing” were in most cases associated with a lower engagement or showed no significant difference from those posts that did not emphasize these categories.

Contrasting results were obtained for the other categories. For what concerns the city of Milan, post images emphasizing “Natural Resources” and “Infrastructure and Transportation” led to a higher engagement – as shown by the higher mean rank (Table 2) – for both likes and comments. Yet, such a relationship was not found for the city of Paris, for which the p-value was non-significant ($p > .05$). In addition, we found that Instagram posts with “Food and Beverage” published by Milan DMO had a lower number of likes (likes mean rank = 300.32) than when this category was absent (likes mean rank = 429.13); whereas the presence of the same category type for the city of Paris led to a higher number of comments (present: comments mean rank = 320.41; absent: comments mean rank = 234.41). A reversed situation was observed for pictures coded as “Street Art”, for which Milan had a higher engagement

Table 2
Relationship between visual category type and post engagement by destination.

Category and engagement	Milan post images (n = 846)			Paris post images (n = 481)		
	Mean Rank (0) ^a	Mean Rank (1)	U value ^b	Mean Rank (0)	Mean Rank (1)	U value ^b
<i>Natural Resources</i>						
Likes	402.58	480.89	83030.00	239.74	243.76	25331.50
Comments	404.06	476.84	82114.00	244.25	233.89	23842.00
<i>People</i>						
Likes	467.92	355.06	62624.50	267.40	221.39	22879.00
Comments	460.22	366.94	66579.50	262.10	225.32	23963.50
<i>Culture, History and Art</i>						
Likes	397.50	451.67	100758.50	209.58	260.98	33364.00
Comments	405.31	443.21	97323.00	210.16	260.62	33256.50
<i>Fashion and Clothing</i>						
Likes	428.44	341.38	15210.00	243.72	193.46	4679.00
Comments	427.27	360.84	16144.50	243.28	201.17	4879.50
<i>Leisure and Sport</i>						
Likes	435.48	381.87	54218.50	258.40	222.32	24550.50
Comments	434.93	383.76	54576.50	257.66	223.11	24734.50
<i>Food and Beverage</i>						
Likes	429.13	300.32	10409.00	240.01	249.96	10822.00
Comments	424.84	394.19	13882.00	234.19	320.41	13339.50
<i>Infrastructure and Transportation</i>						
Likes	388.74	474.48	103750.50	241.73	240.05	28256.50
Comments	399.39	458.86	98392.00	245.99	234.55	27101.50
<i>Street Art</i>						
Likes	421.48	495.96	11131.00	246.16	163.42	4437.50
Comments	420.48	531.50	11948.50	245.55	172.55	4711.50

^a The number in parenthesis indicates whether the visual category was absent / not emphasized (0) vs present / emphasized (1).

^b Mann-Whitney U values in bold are associated with a p-value < 0.05.

(i.e., comments) – as opposed to posts published by the Parisian DMO, which had a lower engagement for the same visual category.

4.1.2. COVID-19 effect on visual category occurrence

Multiple Chi-Square tests were conducted to explore the effect of the COVID-19 crisis (before vs. during) on visual category occurrence by city destination. Table 3 illustrates the findings showing whether the presence (vs. absence) of visual categories by DMO changed according to the crisis period. The adjusted standardized residuals provide information on the significance and direction of the relationship between the actual and expected count of visual categories. An adjusted residual value larger than 1.96 corresponds to a positive relationship between two (categorical) variables, whereas a value smaller than -1.96 denotes a negative association (Stepchenkova & Zhan, 2013).

Results from multiple Chi-Square tests (Table 3) showed that both Milan and Paris DMOs published fewer Instagram posts with pictures highlighting the category “People” during the COVID-19 crisis (33.8% for Milan and 43.9% for Paris) than before it (42.9% for Milan and 66.1% for Paris). The same was found for what concerns the category “Leisure and Sport,” which had a lower number of posts during the crisis for either destination (12.4% for Milan and 40.7% for Paris) than before it (28.7% for Milan and 53.1% for Paris). For what concerns the other visual categories, during the COVID-19 crisis, Milan DMO published fewer posts highlighting “Food and Beverage” (1.8%) and “Infrastructure and Transportation” (35.6%) than before the event (Food and Beverage = 6.0%, Infrastructure and Transportation = 43.7%). Conversely, during the same period, the destination (Milan) published more posts with images portraying “Culture, History and Art” (54.1%) than before it (44.1%). Yet, these differences were not observed (p > .05) concerning the posts published by Paris DMO. Finally, the frequency of Instagram posts highlighting nature and street art remained unvaried (p > .05) across both periods for either destination.

4.2. Study 2

In Study 2, following the methodology used by Martin and Ren

(2020), we first conducted a qualitative thematic content analysis of Instagram posts addressing the COVID-19 crisis to reveal the communication themes used by Milan and Paris DMOs during the pandemic. Second, we identified one prototypical post per theme – that is, describing typical characteristics – and we analyzed it following the Peircean theory of sign (or semiotics) (Peirce, 1974), which is suitable to explore the meanings conveyed by (engaging) visual representations of tourism destinations (Pennington & Thomsen, 2010). Thus, the engaging visual categories identified in Study 1 were further explored in the qualitative analysis performed in Study 2, where the denotative visual categories were placed in the context of digital communication themes used by the two DMOs to respond to the crisis.

Following Peirce’s analytical framework, the semiotic process consists of the triadic combination of an *object* (e.g., a destination), *sign* (i.e., a representation that stands for its object, like a photograph of a destination), and *interpretant* (i.e., the meaning of the sign) (Zhang & Sheng, 2017). For what concerns the relationship between the sign and its object, this can be iconic, indexical, or symbolic. In the first case, the sign is an *icon*, generally a copy that resembles the attributes of its object (e.g., a picture). In the second case, the sign is an *index* because it shows a physical connection with its object (e.g., dining tables indicate a restaurant). Finally, the sign acts as a *symbol* when it is bound arbitrarily to its object (e.g., smiles associated with happiness), following specific socio-cultural norms and customs. All these relationships can coexist in a sign, which can express varying degrees of iconicity, indexicality or symbolism depending on the experience of the viewer or interpreter (Pennington & Thomsen, 2010).

Peircean semiotics is concerned with studying signs and their production of meaning through interpretation (Zhang & Sheng, 2017). Prior to this research, semiotic analysis had already been used to analyze tourism photographs and themes (e.g., Mele & Lobinger, 2018; Smith, 2018; Zhang, Decosta, & McKercher, 2015). Given our focus on marketing communications on Instagram, the method used in Study 2 can be described as applied semiotics, a sub-category used for the analysis of marketing signs, which has already been used in tourism research (e.g., Gretzel & Collier de Mendonça, 2019).

Table 3
Cross-tabulation of visual categories in Instagram posts before and during COVID-19.

	Milan post images (n = 846)				χ^2 Test χ^2 (df)	Paris post images (n = 481)				χ^2 Test χ^2 (df)
	Before ^a		During			Before		During		
	N (%)	A.R.	N (%)	A.R.		N (%)	A.R.	N (%)	A.R.	
<i>Natural Resources</i>					1.865 (1)					3.040 (1)
Absent	75.0	1.4	70.7	-1.4		71.6	1.7	64.0	-1.7	
Present	25.0	-1.4	29.3	1.4		28.4	-1.7	36.0	1.7	
<i>People</i>					6.954 (1) *					23.082 (1) *
Absent	57.1	-2.6	66.2	2.6		33.9	-4.8	56.1	4.8	
Present	42.9	2.6	33.8	-2.6		66.1	4.8	43.9	-4.8	
<i>Culture, History and Art</i>					8.074 (1) *					0.233 (1)
Absent	55.9	2.8	45.9	-2.8		38.0	-0.5	40.2	0.5	
Present	44.1	-2.8	54.1	2.8		62.0	0.5	59.8	-0.5	
<i>Fashion and Clothing</i>					0.294 (1)					1.763 (1)
Absent	94.0	-0.5	94.9	0.5		93.5	-1.3	96.3	1.3	
Present	6.0	0.5	5.1	-0.5		6.5	1.3	3.7	-1.3	
<i>Leisure and Sport</i>					31.051 (1) *					6.999 (1) *
Absent	71.3	-5.6	87.6	5.6		46.9	-2.6	59.3	2.6	
Present	28.7	5.6	12.4	-5.6		53.1	2.6	40.7	-2.6	
<i>Food and Beverage</i>					8.526 (1) *					0.002 (1)
Absent	94.0	-2.9	98.2	2.9		90.1	0.0	89.9	0.0	
Present	6.0	2.9	1.8	-2.9		9.9	0.0	10.1	0.0	
<i>Infrastructure and Transportation</i>					5.403 (1) *					0.224 (1)
Absent	56.3	-2.3	64.4	2.3		55.5	-0.5	57.7	0.5	
Present	43.7	2.3	35.6	-2.3		44.5	0.5	42.3	-0.5	
<i>Street Art</i>					0.000 (1)					0.007 (1)
Absent	97.3	0.0	97.3	0.0		93.8	0.1	93.7	-0.1	
Present	2.7	0.0	2.7	0.0		6.2	-0.1	6.3	0.1	

Note: the asterisk (*) indicates p < 0.05.

^a It refers to “before” vs. “during” the COVID-19 crisis.

As the goal of Study 2 was to reveal and describe communication themes used by the destinations to address the crisis, we focused on Instagram posts published from March 11, 2020, to October 8, 2020 (Milan, N = 331, Paris, N. = 199) – which represented a rich data source for our qualitative analysis. Following Peirce’s analytical framework (Zhang & Sheng, 2017) and its adaptation to tourism representations (Pennington & Thomsen, 2010), we combined denotative visual categories – from Study 1 – with the connotative level of signs (Zhang, Decosta, & McKercher, 2015), focusing on (1) the different sign-object relationships (iconic, indexical, and symbolic) expressed by the selected Instagram posts, and (2) how these contributed to the creation of meaning behind each theme.

4.3. Results of Study 2

In Study 2, we explored the communication themes used by Milan and Paris DMOs to address the COVID-19 crisis, using the most engaging visual categories identified in Study 1. Through a qualitative thematic analysis, we identified three main themes used by the DMOs during the COVID-19 crisis: Promoting Safety, Pro-social behavior through influencers, and Re-Opening Information. Given the relevance of visuals on Instagram, a semiotic analysis was conducted to reveal how the identified themes were communicated through (post) pictures.

4.3.1. Promoting safety

The theme “Promoting Safety” describes a pro-social behavior message posted on Instagram by Milan and Paris DMOs to remind people to stay at home to protect themselves and others from the COVID-19 pandemic. Pro-social behavior is defined as any action that is performed by a group of people or a part of society that benefits other people (Penner et al., 2005). The goals of the DMOs’ message were to persuade people to defer any tourism activity and to show closeness to the local population. Accordingly, tourist mobility could have exacerbated the health crisis – which justified travel restrictions and border

shutdowns (Qiu, Park, Li, & Song, 2020). In this regard, being open and transparent about a crisis and its consequences is described in the literature as an appropriate approach for companies and organizations, enhancing their reputation and leading to a speedy recovery (Barbe & Pennington-Gray, 2020).

To remind followers to respect restrictions, the two DMOs published posts using hashtags that have become popular during the pandemic, like #frommywindow, where users were sharing how they ‘see the world’ from their window. The purpose of these posts was to promote destination attractions (through images and videos) and other amenities by inviting the audience to publish content – to be then reposted by the DMO – about the experiences they would like to live in a post-pandemic world as well as the experiences they were *already* living while being confined at home (i.e., looking at the cityscape from their window). This approach goes arguably in accordance with the idea that “travelling starts from home” (Bagnoli, 2009, p. 333) when people form an image of the destination and search for information on social networks and other channels (Molinillo, Liebana-Cabanillas, Anaya-Sanchez, & Buhalis, 2018).

Fig. 1 provides a prototypical, visual example of the communication theme “Promoting Safety”. The post photograph, shared by a person living in Paris and reposted by the Parisian DMO, shows a woman looking outside a window. In the background’s bottom half are residential buildings, while in the upper half is the Eiffel Tower. The latter is an internationally renowned and well-recognized icon (Gravari-Barbas, 2019) that also performs as an index, informing the viewer that the picture was taken in Paris. Similarly, the background of the photograph, as an index, stands for the Parisian cityscape, while the window signifies the inside of an apartment. Consequently, the picture must have been taken while being home.

From a symbolic viewpoint, starting from the foreground, the photograph shows a smiling subject – visible from the reflection on the window glass – who is arguably happy to look at the Parisian cityscape. The Eiffel Tower in the background symbolizes, on the one side, Paris



Fig. 1. Paris Tourist Office. (2020). Paris from my Window. Retrieved from <https://www.instagram.com/p/CAF6OkmK-f7/>.

and its romanticism (Gravari-Barbas, 2019); on the other side, its monumentality and connection with the idea of eternity and stability (Ben-Amos, 1993), which is arguably in opposition to the changeful and uncertain times related to the COVID-19 crisis. Finally, “the person at the window” symbolizes a well-known romantic motif – especially popular in European paintings during the XIX century – where the window becomes the focus of the scene, representing the impossibility of visiting the outside world as well as conveying a feeling of longing (Eitner, 1955).

In line with the content of the photograph and with the importance of fostering responsible behavior during a crisis (Barbe & Pennington-Gray, 2020), the post caption invites prospect travelers to remain at home in two ways. First, it uses an ad hoc hashtag (#Paris-FromMyWindow), suggesting people take pictures of Paris from home and share them on Instagram. From the user’s perspective, this invitation allows social media followers to show their effort and be rewarded for it (with a repost from a popular account). From the DMO perspective, this communication strategy is in line with the importance, for tourism destinations, of maintaining a relationship with their audience on social media (Zeng & Gerritsen, 2014). Finally, the DMO thanks potential visitors for staying home and, by doing so, assumes their responsible decision to protect themselves and others.

4.3.2. Promoting pro-social behavior through influencers and celebrities

DMOs used influencers to reach a specific audience (youngsters) but also to reduce followers’ uncertainty through entertainment (Gretzel, 2018). Accordingly, the city of Milan engaged a famous artist like the opera tenor Andrea Bocelli to perform in front of the *Duomo di Milano* in April 2020 to carry a message of hope for a new start for the city and the whole of Italy (YesMilano, 2020a). The concert was streamed live on YouTube, and some of its moments were captured and shared on Instagram by the DMO (YesMilano, 2020b), together with the hashtag #MusicForHope.

On the same line, to promote responsible behavior (pro-social behavior) in preparation for the end of the strictest lockdown measures, the Milan DMO (YesMilano, 2020c) launched a campaign called “A new beginning. One step at a time”, in May 2020. This was done in collaboration with a popular local singer, Ghali Amdouni (known as Ghali), to spread information on social media and other channels about the new

rules and safety measures for a gradual re-opening of the city of Milan. Fig. 2 provides a prototypical example of the numerous posts published on Instagram by Milan DMO as part of this campaign.

The post photograph shows five people in the foreground (the subjects) wearing a mask and distant from each other. The first person from the left is holding a bicycle. In the background, a small part of the iconic façade of the *Duomo di Milano* is shown. In this regard, while the statue holding a cross can indicate (as an index) that the monument is a church, we argue that given the level of detail, only a person with enough knowledge of the destination, like a local, could recognize the *Duomo di Milano*. Similarly, knowledge about the Italian music environment is required to recognize that the person wearing a red coat (second from the right) is the singer Ghali. Indeed, for iconicity to occur, the viewer must be familiar with the represented object/subject (Pennington & Thomsen, 2010). This representational choice was arguably in accordance with the (primarily) domestic scope of the social media campaign undertaken by the destination. The primary communication goal was to promote domestic tourism in the post-COVID-19 scenario (UNWTO, 2020c).

From a symbolic viewpoint, the presence of few people in a public square marks the beginning of a new phase of regulations regarding the movement of people after the COVID-19 lockdown (March-May 2020), where citizens were allowed to go out of their homes while respecting social distancing and wearing the required masks. In addition, the presence of the bicycle in the foreground symbolizes the possibility of biking through Milan, an eco-friendly transportation mode that the city has been promoting as a way of curbing the spread of the virus as well as reducing pollution (Misculin, 2020). Finally, the post caption reinforces the message of the picture by reporting a part of the song (in Italian and English) written by the local singer Ghali, who reminds people about behaving responsibly without being afraid.

4.3.3. Re-opening information

In July and August 2020, several destinations in Northern Europe gradually lifted their travel bans – even though this was short-lived, as travel restrictions were reintroduced shortly after because of a surge of COVID-19 cases (UNWTO, 2020b). During this period, destinations started investing in promoting domestic tourism, a popular form of travel that could contribute to local economic recovery (UNWTO,

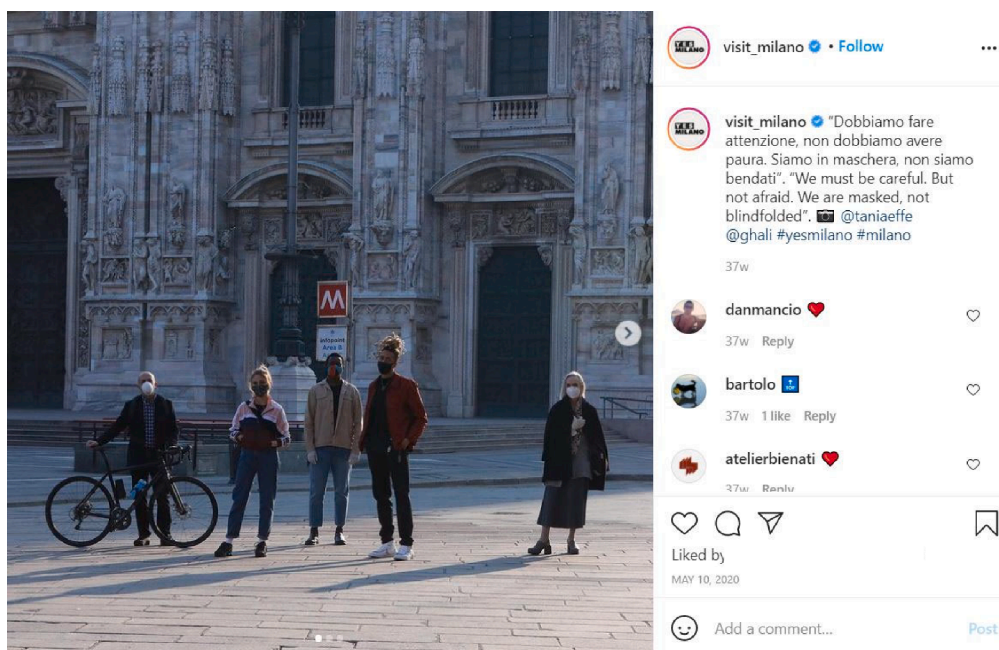


Fig. 2. YesMilano. (2020). A New Beginning. One Step at a Time. Retrieved from https://www.instagram.com/p/B_06FuCbDn/.

2020c). During the same period, we observed that Milan and Paris' DMOs were publishing posts under the recurring communication theme of "Opening Information", informing potential visitors about the re-openings of museums and other tourist attractions in July and August 2020, like this caption posted by Paris DMO (Paris Tourist Office, 2020b):

"[...] Can you spot the @le_grand_palais in the background? Good news it's open to visitors again! 🦋"

Use #MyParisWishlist to let us know what your favorite things to do in Paris are and what you're missing the most."

In this case, not only is the DMO informing potential visitors about the re-opening of a monument in Paris, but they are also inviting readers to publish pictures of the activities that they are missing the most, using the hashtag #MyParisWishlist – which represents a clear attempt to monitor the conversation around the destination, while keeping the Instagram audience engaged.

A prototypical example of the communication theme "informing about re-openings" is illustrated in Fig. 3, a post published by Milan DMO in July 2020. The photograph shows crystalline water under a blue, sunny sky in the foreground and a part of a bay with trees and bushes in the background. As in the previous post (Fig. 2), the recognition of the subject, Lake Garda, may require a deep knowledge about the tourism destination (i.e., Lombardy region) – something that is testified by an Italian-speaking user in the comments, who asks information about the location of the photoshoot. Indeed, the picture alone does not show anything that is arguably iconic for the viewer to clearly recognize the represented subject. Similarly, from an indexical viewpoint, the viewer must have enough knowledge of the destination to understand that the water signifies the presence of a lake rather than the sea.

From a symbolic standpoint, the *absence* of people, the turquoise water under the sunny sky, and the white sand are a representation of the tourism motif of "heaven on earth" (Smith S. P., 2018, p. 177), which is usually associated with unspoiled tropical seaside destinations. In addition, for people living in the Western world, the color blue symbolizes the summer imaginary of the "Blue South" of the Mediterranean Sea, containing feelings of excitement and escape from the dull and grey everyday routine (Cordeiro, 2015, p. 212). The symbolic power of this message is arguably made even stronger by the fact that it was published

by Milan DMO after a period of lockdown when an increasing number of people were looking for seaside destinations and outdoor tourism activities, where distancing could be more easily implemented.

In accordance with the importance of promoting proximity travels, the caption of the post, written in Italian, is inviting (potential) local travelers to visit nearby destinations, like Brescia – a city in the same region of Milan (Lombardy), located approximately 40 km from Lake Garda (the subject of the picture). This message is part of the campaign in collaboration with multiple destinations in the Italian region of Lombardy to promote domestic tourism (Visit Bergamo, 2020). Indeed, the caption not only reports the account of the person who took the photo but also tags the destination (Brescia) and includes hashtags that refer to Milan and its region. This post can arguably represent an attempt of the region of Lombardy to show locals that they do not need to travel far to the South, like Sardinia (one of the most popular destinations for people from Lombardy) (SSEO, 2020), to experience sunny and "tropical-like" beaches.

Considering both the picture and caption together, we argue that the representation of a tropical motif is meant to surprise the viewer, who may not expect a Caribbean-looking beach promoted by the city of Milan. Nevertheless, while the caption may contribute to improving the indexical property of the picture – giving a hint that the subject must represent a lake (as there is no sea in the Lombardy region) – it does not provide exact information on the actual place being represented; even though a local viewer may have enough collateral experience to guess the name of the lake by its geographical proximity to the city of Brescia (VisitGarda, 2015).

5. Discussion and conclusion

The present research investigated how the Milan and Paris DMOs responded to the COVID-19 crisis by analyzing their use and engagement metrics of visual categories on Instagram during (vs. before) the COVID-19 lockdown (Study 1) and their choice of communication themes during the crisis (Study 2). Overall, findings show an adaptation of the DMOs to the crisis event consisting of different usage of Instagram visual categories during (vs. before) the pandemic as well as communication themes that address their audience concerns by relying on the power of visual communication combined with post captions.

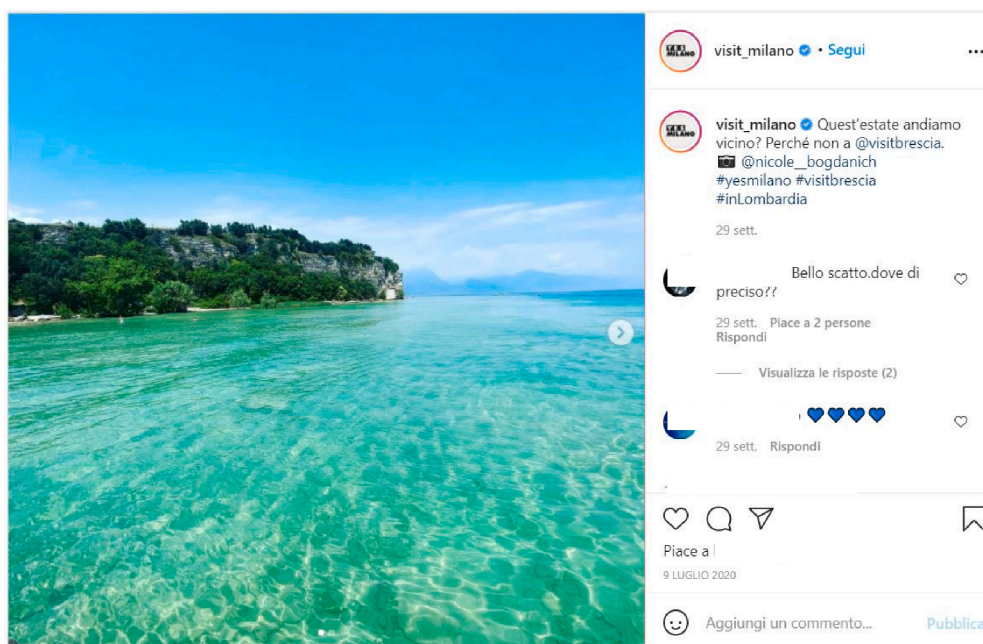


Fig. 3. YesMilano. (2020). Shall We Go Nearby this Summer? Retrieved from <https://www.instagram.com/p/CCaxTlibEU/>.

Overall, the results of Study 1 show, first, that consumers engage the most with attributes that best fit the image of a tourism destination, such as romance for Paris and history & art for Milan. This is in line with dual coding theory assumptions, where individuals find it easier to learn and remember foreign languages with images congruent with the local culture than images that are incongruent with the local culture (Jared, Poh, & Paivio, 2013). This implies that DMOs' Instagram communication strategy should focus on visual content that is congruent with destination image and identity to foster behavioral engagement. In this regard, research reveals that destination authenticity affects engagement (Kim & Kim, 2019). It transpires that during a major crisis, social media users are more likely to engage with content that depicts the iconic attributes or landmarks of a tourism destination. In this specific crisis, travellers were prohibited from visiting the most iconic attractions. However, many cultural tourism attractions (i.e., museums) were available to visit for free through virtual tours during the pandemic. Thus, the pandemic created an opportunity for entertainment from home through posts and videos of cultural heritage. Pictures of iconic attractions sent messages of security, stability, and resilience, which possibly culminated in a higher engagement rate.

Second, we show how the DMOs' Instagram posts have a pro-social purpose rather than purely a promotional one – the “stay at home” messages, for example. Indeed, the present research provides a solid example of DMOs supporting health and public organizations to inform travelers and residents about health threats, provide guidance for protective action, and motivate compliance with health guidelines. Paris and Milan DMOs adapted their social media promotion to the crisis by significantly lowering the number of Instagram posts showing “People”, and “Leisure and Sport” during the pandemic (Table 3), which aligned with the extraordinary measures and restrictions taken by governments to curb the spread of the virus; asking people to avoid social gathering and leisure activities (including tourism) and, for a certain period, remain confined at home in lockdown. Accordingly, the quantitative content analysis also revealed that both visual categories “People” and “Leisure and Sport” had a negative relationship with the number of likes and comments (i.e., post engagement) for both destinations (Table 2) across the observed time periods (before vs. during the crisis). The unusual absence of visitors arguably propelled an already-existing romantic gaze on tourist attractions. Indeed, Western tourists are in search of “privacy, and a personal, semi-spiritual relationship with the object of the gaze”, without the presence of other visitors, which is believed to spoil the personal experience of the place (Urry & Larsen, 2011, p. 19).

Third, the quantitative content analysis also identified differences between Milan and Paris DMOs concerning their Instagram communication before and during the crisis. Indeed, while Paris DMO kept a constant use of the same visual categories across the two time periods – except for “People” and “Leisure and Sport” – the Milan DMO reduced, on the one side, posts promoting “Food and Beverage” and “Infrastructure and Transportation” during (vs. before) the pandemic. On the other side, it significantly increased the number of posts promoting “Culture, History and Art” during the same period. Indeed, apart from being a highly engaging visual category (Table 2), cultural attractions represent a unique asset for tourism destinations as well as important pull factors for tourists (du Cros & McKercher, 2015). In addition, from a symbolic standpoint, the simpler and more reassuring past represented by cultural heritage (Timothy, 2011) can counter the feeling of uncertainty that permeates a crisis (Barbe & Pennington-Gray, 2020). Furthermore, arts and culture suffered the most during the lockdown. According to a report by UNESCO (2020), museums were hardly hit by the pandemic, 90% of which (over 85,000) were forced to close their doors. Hence, the activity of the DMO was arguably aimed at creating interest and desire to visit these attractions once the destination would reopen to tourists.

Furthermore, posts published by Milan DMO depicting “Infrastructure and Transportation” and “Natural Resources” (Table 2) had a positive relationship with behavioral engagement. These findings are

arguably in accordance with the creative, pioneering, business-like imaginary connected with the city of Milan (Armondi & Bruzese, 2017; Ferrari & Guala, 2017) and its urban green areas, including forests and parks (Sanesi, Colangelo, Laforteza, Calvo, & Davies, 2017). Furthermore, in Milan, the old tram is one of the city's most photographed icons – hence its attractive power goes beyond its transportation purpose. On the contrary, Paris does not offer iconic or historical means of transportation. This finding aligns with other studies that have demonstrated how iconic means of transportation can motivate tourists and residents to express their love toward a destination on social media (Filiari et al., 2021). For what concerns the Parisian DMO, Instagram posts depicting “Infrastructure & Transportation” had no significant relationship with engagement, while “Street Art” received a lower number of likes and comments. In this case, we can speculate that the historic, romantic, cultural imaginary connected with the city of Paris (Gravari-Barbas, 2019) – including the imaginary involving gastronomy – may have led people to be less engaged with the posts portraying the contemporary artistic side of the destination.

In Study 2, we used a qualitative approach to provide more depth to the analysis of DMO communications during a crisis. First, the identified themes – Promoting Safety, Influencers, and Re-Opening Information – were in line with the tourism literature on social media and crisis communication (Ketter & Avraham, 2021; Barbe & Pennington-Gray, 2020), which highlighted the importance of (1) being transparent about a crisis and safety concerns, (2) using influencers to engage with the audience, and (3) providing regular updates on re-openings. Second, the qualitative thematic analysis showed how engaging visual categories identified in Study 1, like “Culture, History and Art”, were used by Milan and Paris DMOs to convey their messages on safety leveraging the iconic, indexical, and symbolic elements of Instagram pictures. Another example includes the post published by Milan DMO promoting nearby destinations (Fig. 3), like Lake Garda – which falls into the “Natural Resources” category – while using a picture characterized by the *absence* of “People”. The latter is particularly important as it arguably resonates with the growing preference for tourists to seek places far from crowds, in the open nature – especially since the COVID-19 outbreak (e.g., Sánchez-Sánchez & Sánchez-Sánchez, 2022). Finally, Study 2 showed how the crisis led to a collaboration among competing destinations within the same region, a phenomenon that is described by the strategic management literature as “coopetition”. Nalebuff et al. (1996) coined the term “coopetition” to describe the simultaneous use of cooperative and competitive strategies. Companies or organizations that implement coopetition view some apparent competitors as complementors, namely actors who can add value to the firm's own products and services. In this regard, within the communication theme “Opening Information”, Fig. 3 showed an example of a joint marketing campaign among the neighboring cities of Bergamo, Brescia, Cremona, Mantova, and Milano to encourage proximity travel in the post-COVID-19 phase (Visit Bergamo, 2020).

5.1. Theoretical and managerial contribution

Overall, this research brings three main theoretical contributions to the tourism literature. First, research on social media for crisis communication is still in its infancy (Spence, Lachlan, & Rainear, 2016; Filiari et al., 2021), particularly the study of social media use by tourism destinations during a health crisis (Reuter et al., 2018; Ketter & Avraham, 2021; Barbe & Pennington-Gray, 2020). This is one of the first studies focusing on images conveyed through visual-based social networking platforms by DMOs during a health crisis. Hence, it contributes to the literature on social media use and tourism crisis management (Sigala, 2011; Reuter et al., 2018; Park, Kim, & Choi, 2019; Barbe & Pennington-Gray, 2020; Filiari et al., 2021) by revealing how two popular European destinations adapted their marketing communications on Instagram as a response to the COVID-19 pandemic.

The dual coding theory states that images are powerful means to

stimulate emotions (Paivio, 2013), memories, and shared experiences with others. The COVID-19 crisis forced many people to stay at home; hence the DMOs' Instagram profile was used to narrate this story, keep residents and tourists updated about travel restrictions and safety measures, elicit positive emotions and virtual memories, and promote safer proximity tourism. These results reinforce the importance of the narrative and pro-social use of visual social media during a major tourism crisis (Möller, Jie, & Nguyen, 2018; Schroeder, Pennington-Gray, Donohoe, & Kioussis, 2013).

Second, by providing insights into the posts that receive the highest engagement across crisis periods, the present research contributes to the literature on customer engagement (Hollebeek et al., 2014; Rather et al., 2019). Existing research on social media users' behavioral engagement during a crisis is lacking in tourism research, whereas existing studies have stressed the importance of more research on the topic (e.g., Filieri et al., 2021; Gruss, Kim, & Abrahams, 2020; Li, Teng, & Chen, 2020; Hao, 2020; Harrigan, Evers, Miles, & Daly, 2018).

Finally, our research findings contribute to the literature on cultural tourism and social media (Filieri et al., 2021; Mele, Kerkhof, & Cantoni, 2021; Peco-Torres, Polo-Peña, & Frías-Jamilena, 2021; du Cros & McKercher, 2015) by showing the relevance of cultural attractions during a crisis, from a marketing communication standpoint. Indeed, our analysis not only indicates that posts depicting cultural attractions are generally engaging, but it also reveals how some of these amenities, like the Eiffel Tower and Milan Cathedral, can act as symbols in tourism photographs, conveying an image of stability during changeable, uncertain times. In this regard, it is argued that heritage and its preservation can give a sense of comfort, pride, and contentment to people who find in their heritage not only a pleasurable experience but also a sense of (national) identity and belonging (Smith, 2006).

The present research also has multiple managerial implications. First, DMOs' managers can draw useful lessons for effective communication in the event of a major health crisis and in the potential surge of new COVID-19 variants. In this regard, our findings show the role of DMOs as responsible actors capable of conveying credible information during a time when people are disorientated by fake or inaccurate news. DMOs arguably represent an authoritative source of communication that people rely on during a crisis; hence, their social media communication effort is instrumental in improving the effectiveness of general health crisis communication. Our findings suggest DMOs of in-land European destinations prioritize the promotion of cultural attractions on social media, given their appeal for online audiences (i.e., post engagement) and strong symbolic value – also in a “normal”, post-crisis scenario. As suggested by the literature, during times of crisis, it is important for tourism suppliers to keep a conversation with the public as well as maintain a positive perceived image (Barbe & Pennington-Gray, 2020), promoting safety and engaging the audience with posts showing well-recognizable heritage attractions is arguably a way of achieving this (Fig. 1). In addition, during a health crisis and in the recovery stage, we suggest tourism practitioners reduce the number of (social media) pictures highlighting the presence of people (and social gatherings) at the destination and focus instead on open-air locations and social distancing (Fig. 3). Second, as revealed by our qualitative analysis, social media campaigns can be created to engage with the audience by asking them, for example, to publish pictures of the cityscape from their window or create a wish list (along with ad hoc hashtags). We argue that these activities, which fall within the concept of positive storytelling and co-creation, should be integrated by DMOs into their marketing strategy primarily because of their engaging power and relatively low cost (Lund, Scarles, & Cohen, 2019). Finally, based on our findings and in accordance with the literature on crisis communication (Barbe & Pennington-Gray, 2020), we recommend DMOs to connect and collaborate with social media influencers (Fig. 2) to increase engagement and gain the attention of their target audience to inform them about the new steps undertaken by the destination in a post-crisis scenario (e.g., social distancing, face masks, sustainable mobility).

5.2. Limitations and future research

The present exploratory research is not exempt from limitations. First, the focus on two top-tier, popular European destinations – while providing clear advantages in identifying best practices in crisis communication – presents limitations concerning the generalization of results. Second, the content analysis only captured a part of the COVID-19 crisis (March-October 2020), and only two periods were considered (before vs. during) without differentiating the times of strict lockdown from those with milder restrictions concerning leisure activities. Third, the coding process for the quantitative content analysis was performed by two authors of the article – an element that might have introduced a bias in the analysis, even though the codebook provided extensive indications on how to code the pre-defined visual categories. Finally, despite the measures taken to mitigate possible assumption violations concerning Mann-Whitney *U* tests, descriptive statistics indicate a possible violation of the assumption of independent observations for one of the visual categories analyzed – namely, Leisure and Sport – which appeared to be linked to the presence of the category “People” in the same sampled posts.

Future research conducted in a post-COVID-19 scenario should address these limitations, including the collection of a larger dataset also from extra-European destinations. In addition, it would be relevant to conduct interviews with marketing managers to investigate the decisions and processes behind the marketing strategies adopted to tackle this pandemic. Furthermore, the COVID-19 crisis has shown how influencers are among the most effective communication channels to reach specific demographic audiences. Hence, it would be useful to analyze their communication strategy before, during, and after the COVID-19 pandemic. Moreover, it would also be interesting to investigate, drawing upon value co-creation theory (Vargo, Maglio, Akaka, 2008), how residents and tourists co-create value for the destination during their lockdown experience. For instance, this study has focused on brand-generated social media posts; however, it would be interesting to analyse consumer-generated travel posts during the lockdown in order to understand consumer feelings and emotions without traveling. Moreover, scholars could also focus on the customer engagement framework (Hollebeek et al., 2014) to investigate how DMO social media communications influenced other dimensions of engagement, such as cognitive and affective. Researchers could investigate the possible change in the perception of the destinations following the crisis.

Furthermore, future research could use a different methodology to investigate the influence of visual categories identified in this study on consumer engagement in the post-Covid-19 period. Finally, scholars could use experiments to develop a framework and test hypotheses based on the results emerging from this exploratory study.

CRedit authorship contribution statement

Emanuele Mele: Conceptualization, Data curation, Writing - original draft, Writing - review & editing, Investigation, Formal Analysis, Methodology, Supervision, Project Administration and Software. **Raffaele Filieri:** Writing – original draft, Supervision, Methodology, Investigation, Conceptualization, Project administration, Validation, Writing – review & editing. **Manuela De Carlo:** Supervision, Resources.




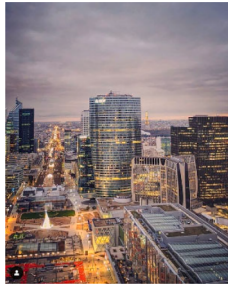




Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A

See Table A1.

Table A1
Examples of visual categories from sampled posts.

Natural resources	People	Leisure and sport	Infrastructure and transportation
			
Culture, History and Art	Fashion and Clothing	Food and Beverage	Street Art
			

Appendix B. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jbusres.2023.113931>.

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