

## Communicating the volcanic eruption in La Palma from Spanish public institutions: communication strategies on Twitter

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**Abstract.** This study examines and evaluates how the government communicated the volcanic eruption that occurred in La Palma (Spain) in 2021. For that purpose, SCCT and the SMCC models were used to perform a content analysis of the online communication approach followed on Twitter by Cabildo de La Palma (@CabLaPalma), 112 Canarias (@112canarias), and the Spanish Home Office (@interiorgob). Findings suggest that these three institutions aligned their communications by using complementary strategies, message framings and styles to successfully handle the crisis. However, this study also highlights areas of improvement in the approaches taken by these three public entities.

**Keywords:** Crisis communications; public relations; Twitter; natural disaster; SCCT, SMC

### [es] Comunicando la erupción volcánica de La Palma desde las instituciones públicas españolas: estrategias de comunicación en Twitter

**Resumen.** Esta investigación examina y evalúa la forma en la que las instituciones públicas españolas comunicaron la erupción volcánica ocurrida en La Palma (España) en 2021. Con este propósito, se utilizaron los modelos SCCT y SMCC para realizar un análisis de contenido de los tweets publicados durante el periodo por el Cabildo de La Palma (@CabLaPalma), 112 Canarias (@112canarias) y el Ministerio del Interior español (@interiorgob). Los resultados sugieren que estas tres instituciones alinearon sus comunicaciones utilizando estrategias, enfoques y estilos de mensaje complementarios para gestionar la crisis de manera exitosa. Sin embargo, esta investigación también detecta ciertas áreas de mejora en los enfoques adoptados por estas tres entidades públicas.

**Palabras clave:** Comunicación de crisis; relaciones públicas; Twitter; desastres naturales; SCCT; SMCC

**Summary:** 1.Introduction - Volcanic eruption in La Palma (Spain) 2.Prominent Crisis Communications Models 2. 1 Situational crisis communication theory (SCCT) 2.2 Social Mediated Crisis Communication Model (SMCC) 3. Public Agents Communicating Natural Disasters 4. Objectives 5. Methods and data analysis 6. Findings 6.1 Communication Strategies and Coordination Among Key Public Institutions 6.2 The Influence of Public Agents during the Crisis 6.3 Message Framing During the Crisis 6.4 Messaging Style During the Crisis 7. Discussion and conclusions 8. References

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### 1. Introduction - Volcanic eruption in La Palma (Spain)

La Palma is a volcanic island belonging to the archipelago of the Canary Islands in Spain. Due to its nature, several episodes of eruptions both submarine and terrestrial have happened over the years (Rodríguez-Ponga Salamanca & Espejo Gil, 2021). However, the longest and most disruptive eruption ever recorded on the island occurred very recently (Vega, 2021). On 19th September 2021, after eight

days of continuous seismic activity, a volcano in the area of Cabeza de Vaca erupted in La Palma at 14:10 UTC (Vega, 2021). That same day, the scientific committee for the Special Plan of Civil Protection and Emergency Attention due to Volcanic Risk (PE-VOLCA) activated the evacuation plan to get to safety the most vulnerable population (la Vanguardia, 2021). The eruption was active for the following 85 days and 8 hours producing more than 160 million cubic meters of lava (IGME, 2022). As a result, more than 12.000 square meters of the island were devas-

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tated, 1.646 buildings were destroyed and more than 7.000 people were evacuated (IGN, 2021; Rodríguez & Vega, 2021). The consequences of this unprecedented natural disaster also became one of the most expensive incidents that the government of Spain has ever faced (Rodríguez & Vega, 2021). The eruption officially stopped on 13th December 2021.

Different agents were involved in the management and communication of this crisis. In the first instance, it was the local government of La Palma (Cabildo de La Palma) and the Emergency and Security Coordination Center of Canary Island (112 Canarias) the ones who took the lead. Throughout the crisis, 112 Canarias played a crucial role in receiving and managing emergency calls related to the event. They served as the primary point of contact for individuals needing assistance or reporting incidents related to the volcanic activity. Whereas Cabildo de La Palma worked closely with various entities, such as emergency services, civil protection agencies, and scientific experts, to ensure the safety and well-being of the residents affected by the volcanic activity. They implemented evacuation plans, established shelters, and provided support to those displaced by the eruption. Both institutions were the first ones that communicated online the possibility of a volcanic eruption in La Palma. This communication continued through the crisis and, in the case of Cabildo de La Palma also during the post crisis.

However, as the incident escalated the regional and national governments also intervened. The Spanish Home Office played an important role in coordinating and providing support for the emergency response effort by deployed various resources and personnel to assist in emergency operations. They also provided logistical support, resources, and expertise to support the evacuation and relocation of residents, as well as to assist in search and rescue operations if necessary.

These three organizations played an important role in coordinating communication and information dissemination to the public. The three of them provided updates and instructions to the affected population throughout the duration of the crisis. The purpose of this paper is to examine these communications in order to evaluate them.

## 2. Prominent Crisis Communications Models

### 2.1. Situational crisis communication theory (SCCT)

The Situational crisis communication theory or SCCT (Coombs, 2004, 2007b, 2021; Coombs & Holladay, 2010) is one of the most relevant evidence-based theories in the field of crisis communications (Adegbola & Okunloye, 2022). The SCCT is drawn on the premises of Weiner's Attribution Theory (Weiner, 1985) which proves that in the case of a sudden negative event stakeholders tend to look for

an agent to blame. Coombs goes one step further and explains that attribution has a direct impact on stakeholders' general response to a crisis (Coombs, 2004, 2017; Coombs & Holladay, 2010).

Crisis responsibility is the main element of this theory which links crisis types to communicative responses considering certain situational factors (Coombs, 2007c, 2007b, 2015, 2020). In the original theory, Coombs identifies three crisis types: victim, accidental and preventable cluster (Coombs, 2004, 2007a). A natural disaster such as the volcanic eruption of La Palma would fall into the accidental cluster category, where stakeholders tend to hold the lowest level of guilt towards the organisation (Coombs, 2007c). However, this theory also identifies the organisation's crisis history and prior reputation as modifiers that could influence the attribution of responsibility. Taking these factors into consideration, SCCT argues that organisations should use different strategies while identifying four main types: deny, diminish, rebuild, and reinforce (Coombs, 2015, 2021). In addition, Coombs suggests that instructing information and adjusting information should always be part of a response to a crisis (Coombs & Holladay, 2010). Following the SCCT, the case of the volcanic eruption of La Palma would require a combination of instructing and adjusting information.

Coombs' model has been identified by several researchers as an effective tool for analysing case studies. For example, authors like Richards et al. (2017) have previously used the SCCT to study a corporate case whereas other researchers like Adegbola & Okunloye (2022) apply it to crises handled by public entities. The model has also been widely used to study natural disasters. In fact, in *The Handbook of Crisis Communication* (Coombs & Holladay, 2010), Gabriel L. Adkins uses it to analyse the handling of Katrina.

### 2.2. Social Mediated Crisis Communication Model (SMCC)

However, since the irruption of social media, some elements that the SCCT model oversees such as the form and strategy of the message have gained a bigger consideration. As social media became a powerful instrument to manage both the physical and emotional consequences of a crisis as well as a great tool to prevent reputation damage (Graham et al., 2015; B. F. Liu et al., 2011; W. Liu et al., 2018), there has been an increasing number of researchers interested in studying the role of social media in crisis communications (Coombs & Holladay, 2014; DiStaso et al., 2015; du Plessis, 2018; Liu & Kim, 2011; Zhao et al., 2019) In fact, in the specific case of the volcanic eruption of Las Palmas, social media was used by different agents such as the local government or the emergency service as the main channel to approach the population.

The Social Mediated Crisis Communication Model or SMCC is one of the most relevant evidence-based

theories in this field. The purpose of this model is to describe the interconnection between the organization, key stakeholders, traditional media, and online and off-line word of mouth in the different stages of a crisis (Austin & Jin, 2017; Xu, 2020). This model explains how publics seek and disseminate information during a crisis by identifying influential agents, followers and inactives (Xu, 2020; Zhao et al., 2019).

In addition, it explains how an organization can benefit from these insights and use them to communicate in an effective way. In addition, it presents five elements the organization should focus on when communicating a crisis: crisis origin, crisis type, organizational infrastructure, message strategy and message form (B. Liu et al., n.d.; Zhao et al., 2019). The Social Mediated Crisis Communication Model expands on the bases established by the SCCT Model by highlighting new elements (organizational infrastructure, message strategy and message form) which, according to different studies, influence the public's response during a crisis (Austin & Jin, 2017; Xu, 2020).

In the last five years, the number of articles using the SMCC model to analyse specific cases has significantly increased. Within them, most of the studies focus on natural disasters in America (Cheng et al., 2022).

### 3. Public Agents Communicating Natural Disasters

When a sudden negative event occurs, the publics tend to look for shelter and answers from public administrations and leaders (B. F. Liu et al., 2020; Martínez Solana et al., 2017). Opposite to what happens in the corporate world, independently of the crisis responsibility, public agents have the duty of always protecting and informing citizens at risk (Ibáñez Peiró, 2016; Lee, 2009; Olsson, 2014). Moreover, in the event of a natural disaster, the blame takes a second place at the beginning. However, if there are concerns about the management of the crisis, public agents would be to blame (Vera-Burgos & Griffin Padgett, 2020a). For that reason, as suggested by the SCCT theory, it will be key for them to put in place the right communication strategy at the right time. Some scholars argue that the unintentional nature of natural disasters make the reputational based strategies not necessary in this kind of situations (Vera-Burgos & Griffin Padgett, 2020a; Williams et al., 2017). According to them, communicating a natural disaster should be based on a strategic response, to avoid physical risks of the publics, and a humanistic response, to help publics make sense of the crisis (Griffin-Padgett & Allison, 2010; Vera-Burgos & Griffin Padgett, 2020a; Williams et al., 2017). These two responses align with what Coombs defines as "ethical strategies" (Coombs, 2021). The current study sought to examine key public agents' communications (Cabildo de La Palma, 112 Canarias and Spanish Home Office) during the volcano outbreak in La Palma.

**RQ1.** What communication strategies were used by key public agents during the crisis?

As Coombs (2015) states, communicating during a crisis does not always translate into making the situation better. As the SCCT and the SMCC models suggest, communications should be tactic and tailored design to several variables to be effective (Coombs, 2015; Coombs & Holladay, 2010; B. Liu et al., 2012). One of the factors to consider is the organizational infrastructure (Austin et al., 2012; B. Liu et al., 2012). In Spain, the decentralization of the State means that different levels of the government must coordinate strategies to avoid confusion and misinformation among stakeholders (Ibáñez Peiró, 2016). On the same note, it would be important for key public agents to become one of the main sources of information and support in order to control the crisis. For that reason, they should become what the SMCC model defines as "influentials" in social media during the crisis. This paper aims to study the performance of key public agents in during the volcano outbreak in La Palma by formulating the following research questions:

**RQ2.** To what extent, if any, did key public agents align their communication strategies?

**RQ3.** Did any of the key public agents become influential on Twitter during the crisis?

During the event of a natural disaster, government's communications will determine how publics perceive the crisis and how prepare they are to deal with it (W. Liu et al., 2018). On this line, the work done by the public authorities during the pre-crisis stage becomes key (Fearnley et al., 2018; Spero et al., 2022). For example, if a local authority is present and active on Twitter prior to the crisis it will help publics to become more familiar with that tool and, therefore, it will be easier for the institution to communicate through it during a crisis (Eriksson, 2018; Spence et al., 2017). It will also help conveying the sentiment of community amount publics, making them more resilient to deal with a crisis (Vera-Burgos & Griffin Padgett, 2020b). The SMCC model suggests that message strategy and message form play an important role when communicating a crisis through social media. Different researchers have proven that, within the message strategy, the framing of the message has a direct effect on the understanding of the event and, therefore, on the effectiveness of crisis communications (Zhao et al., 2019). In fact, different papers have already identified several frames such as conflict responsibility or human-interest frames (e.g. An & Gower, 2009; Valenzuela et al., 2017). The form of the message is also a commonly discussed topic among researchers. For example, some papers prove that by employing images that contextualise the incident, the message is more likely to get more attention (Zhao et al., 2019). This study sought to examine the message frames and styles that key public agent's communications used during the volcano outbreak in La Palma.

**RQ4.** What types of frames did key public agents use on social media during this crisis?

**RQ5.** What communication styles did key public agents employ on social media during this crisis?

#### 4. Objectives

Following the research questions outlined previously, the main objective of the present work is to examine how the public agents involved in the volcano eruption of 2021 in Spain communicated the outbreak to its publics. The main objective gives rise to four sub-objectives:

- Identify the communication strategies applied by the key public agents' communications (Cabildo de La Palma, 112 Canarias and Spanish Home Office) during the volcano outbreak in La Palma in their online communications on Twitter
- Examine the coordination of Cabildo de La Palma, 112 Canarias and the Spanish Home Office on their communications related to the volcano outbreak in La Palma on Twitter
- Evaluate if key public agents become influential on Twitter during the crisis
- Identify types of frames and communication styles used by key public agents on social Twitter during this crisis

#### 5. Methods and data analysis

To answer the proposed researched questions, a content analysis of all the tweets posted by the official accounts of Cabildo de La Palma (@CabLaPalma), 112 Canarias (@112canarias), and Spanish Home Office (@interiorgob) from 19th September 2021 to 15 December 2021 was performed. Data was collected by authors using the Twitter advanced search function as well as the tool Fanpagekarma. A total of 3356 tweets were collected as the dataset. However, after manually excluding all the tweets non-related to the eruption, N= 1288 in @CabLaPalma, N=1342 in @112Canaria and N=132 in @interiorgob.

Social media data was analyzed under a mixed perspective (quantitative and qualitative) by individually labeling each tweet into different categories by the authors of this paper. The communications strategies and sub strategies used were identified using the SCCT model (Coombs, 2021). The messaging style and message framing categories were inspired by the labels proposed by Zhao et al., (2019). To identify the specific labels, a pretest was performed. To do so, 5% of the data (65 tweet) were randomly sampled and coded independently by two authors using the labels proposed by Zhao et al., (2019) as a starting point. After discussing the results and reaching an agreement on which labels should be kept and which ones should be modified to fit this case, the final labels

were defined. Both the sample data and the remaining tweets were encoded into the following message frames and communication styles.

#### Message frames

- Practical Information: Provides useful information and advices on how to behave and what to do in certain situations related to the volcano eruption and its consequences.
- Institutional Action: Messages aimed at promoting and praising the work of public institutions in their management of the crisis.
- Contextual Information: Focused on providing essential but non practical information related to the volcano eruption and its consequences.
- Tourism and Consumption Promotion: Messages focused on promoting tourism on the island.
- Call to Follow Rules: Messages focused on warning the population of the need to follow the instructions of the authorities.
- Call for Calm: Messages that call for calm and tranquility.
- Donations: Information related to donations for La Palma.
- Hope: Messages that convey hope, either by expressing that the situation is now better or for their positive and hopeful tone.
- Unity: Messages that call for the unity of the population or express unity among different institutions involved in the event.
- Support: Messages aimed to backup specific target audiences to comfort them from the consequences of the crisis.
- Debunking Fake News
- Gratitude: Messages of appreciation.
- Others.

#### Communication styles

- Text: For tweets where only text was displayed.
- Photo.
- Retweet.
- Link.
- Infographic.
- Video.

In addition, tweets were categorized by language and target audience. Four different target audiences were identified: population in general, population in La Palma, tourists, and merchants.

### 6. Results

#### 6.1. Communication Strategies and Coordination Among Key Public Institutions

All the analyzed tweets fall into the “ethical” category defined in the SCCT model. According to Coombs

(2021), this should be the initial response in any type of crisis. However, as public institutions hold very low responsibility in a natural disaster, this strategy also becomes optimal for the whole duration of this specific crisis to protect key stakeholders (Coombs, 2021; Coombs & Holladay, 2010). A turning point for the success of such a simple strategy could be found in the fact that the local authorities warned from very early on of the possibility of suffering a volcano eruption. This be considered a form of “stealing the thunder” in a natural disaster (Coombs, 2021; DiStaso et al., 2015).

Within the ethical responses there are two types of strategies. Instructing, to physically protect stakeholders, and adjusting to help them cope with the crisis psychologically

(Coombs, 2017, 2020, 2021). Cabildo de La Palma uses a combination of this sub strategies to face the crisis: 56,2% of messages were instructing and 43,48% were adjusting. 112 Canarias used a similar mix with a slightly higher emphasis on adjusting messages (60,18%). The Spanish Home Office mainly used adjusting messages (75,76%). The distribution of the sub strategies could be explained by two factors. The majority of the tweets posted by Cabildo de Canarias (61,41%) and 112 Canarias (47,24%) were directed to the population in the island. For that reason, the number of tweets that offer practical advice on how to protect the population was higher for these two accounts. However, the unusual duration and nature of this crisis, can explain why adjusting messages prevailed in the three accounts.

### 6.2. The Influence of Public Agents during the Crisis

According to the data collected, the two top hashtags related to this event and time frame were #MasFuertesQueElVolcan and #ErupcionLaPalma. Even though these were also the hashtags most frequently

used by the account studied, their usage was low: #ErupcionLaPalma was only used in 13,28% of the tweets and #MasFuertesQueElVolcan in 12,49%. Furthermore, none of their tweets posted under these hashtags manage to make it to the top 50 of most engaging tweets.

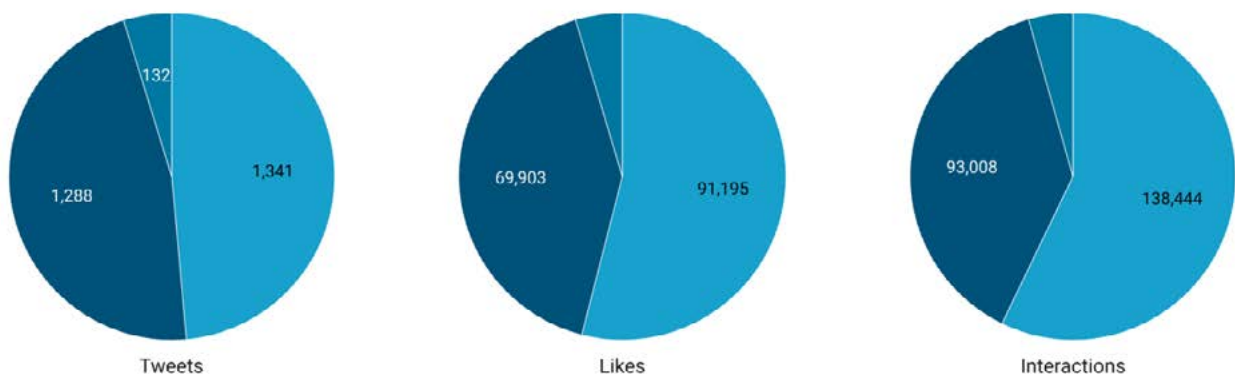
However, on the other side, the organizations studied grew their followers base and were significantly more active during the duration of this crisis. 1-1-2 Canarias witnessed an increase of 128% in their followers in 2021, whereas Cabildo de la Palma almost doubled its fan base on the platform during 2021. The other institutional account analyzed, the Spanish Home Office, had already been experiencing growth for several months, partly due to the impact of COVID-19.

It can be assumed that this growth is somehow linked to the posts made because of the volcano eruption, as well as their formats, topics, and approaches. During 2021, the three analyzed accounts shared an average of 2.6 posts per day. In 2022, the numbers increased to an average of 16 tweets per day. During the selected time frame, the 1-1-2 Canarias account was the most active, posting an average of 27.2 messages daily on Twitter, followed by Cabildo de Palma with 17 posts per day, and the Spanish Home Office with only 5.

Therefore, although with nuances, it can be stated that both 1-1-2 Canarias and Cabildo de Palma actively increased their influence through their posts and approaches during this crisis. Furthermore, when considering the engagement of the 2672 posts, it can be observed that, in total, the 1341 posts made by 1-1-2 Canarias received almost 140,000 reactions including likes (91,195), comments, and retweets. Cabildo de Palma posted 1,288 tweets that garnered over 93,000 interactions, of which 69,903 were likes. Spanish Home Office, for its part, shared 132 messages during the analyzed period that reached 10,655 likes.

### Influence of the analysed accounts

■ 1-1-2 Canarias ■ Cabildo de La Palma ■ Ministerio de Interior



Created with Datawrapper

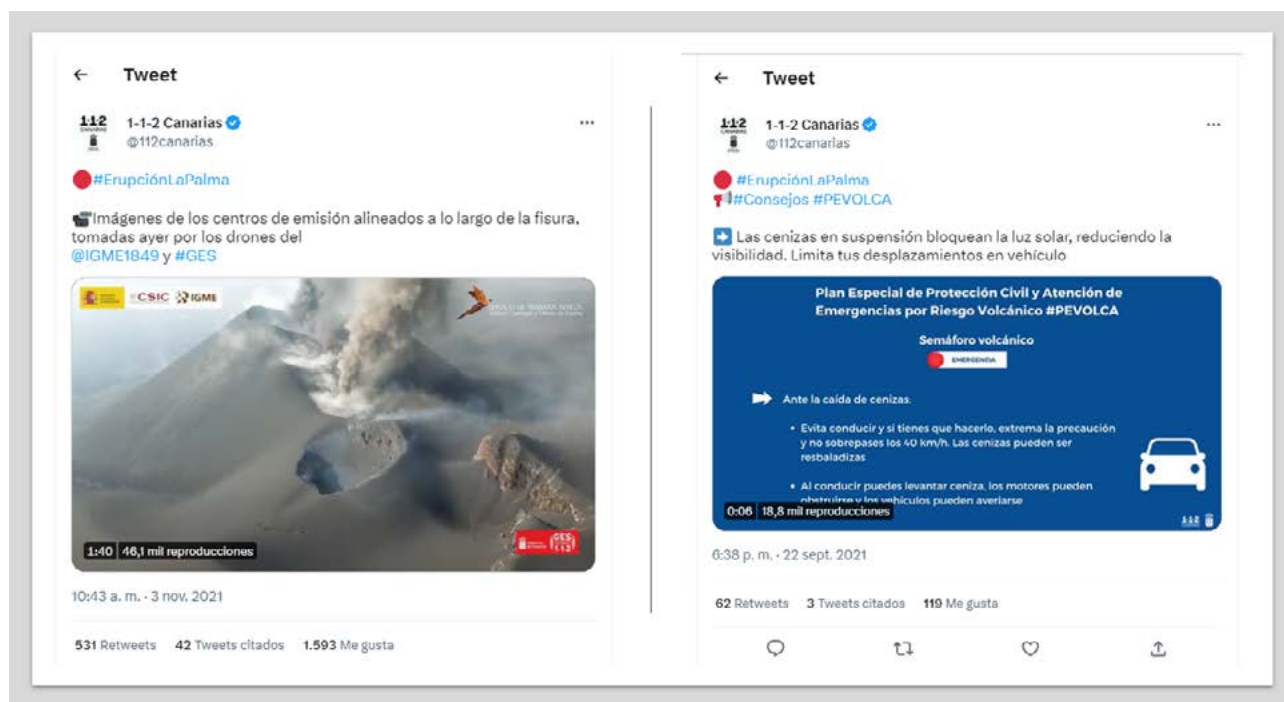
Table showing the engagement achieved by the analysed accounts.

Source: prepared by the authors based on data.

### 6.3. Message Framing During the Crisis

As previously mentioned, the audience's engagement with the tweets posted by Cabildo de La Palma, 1-1-2 Canarias and the Spanish Home Office as well as growth of these accounts can be related to their activity, and above all, the approach and strategy used during this crisis. When sorted by message frames, in general, most tweets were classified into three categories: "practical information" (1089 times), "contextual information" (648), and "institutional actions" (490).

Cabildo de La Palma's account was the one that shared the most tweets with practical information (639), followed by 1-1-2 Canarias (442). In terms of contextual information, 1-1-2 Canarias leads with 445 messages followed from afar for the Cabildo's account with 203. In the case of messages focused on "institutional actions", results are more balanced, with 238 and 207 messages posted respectively. On the other hand, most of the tweets posted by Spanish Home Office used were frame to promote "institutional actions" (45).



Example of 1-1-2 Canarias messages with contextual and practical information.

Source: prepared by the authors on the basis of data.

In addition, there were other message frames identified. Some tweets aimed to be "calls to follow the rules". The Cabildo is the organization that posted the most within this category (59), double than 1-1-2 Canarias (28), which, however, did opt for more messages related to "support" (60) than the Cabildo (25).

Regarding the audience's interaction, practical information (107,560 reactions), institutional events (58,894), and contextual information (43,558) were the approaches that proved to create more engagement.

### 6.4. Messaging Style During the Crisis

When sorted by message styles, it can be observed that, in general, text-based posts (1,507), photos (442), and infographics (167) were the most prevalent formats, followed by links (148), animated videos (90), volcano videos (86), PEVOLCA videos (77), and live streams (75).

As in the previous case, Cabildo de Palma with 800 posts and 1-1-2 Canarias (704) were the entities

that shared the most text-based tweets. This format was chosen by both accounts to give daily updates with practical information and contextual information. A similar situation occurred with photographs, although the order was reversed, with 1-1-2 Canarias sharing more photos (245) than Cabildo de Palma (128). Cabildo de Palma shared more infographics (115), and 1-1-2 Canarias shared more links (100).

In the majority of cases, photos were used to give contextual information. Whereas infographics were the chosen format by Cabildo to give practical information with advice on how to physically cope with some of the consequences of the crisis.

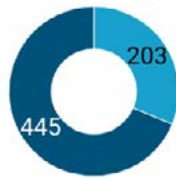
Regarding the engagement of the most used styles, the 1,513 text-containing posts achieved 66,533 reactions among users, which is an average of 44 interactions per post. Photos garnered up to 49,898 with 451 posts, meaning an average of 10 reactions per shared message. Videos about the volcano with 55,118 interactions also became interesting content for the audience, far exceeding the animated video that obtained 13,953 reactions and other styles of video. By far, the formats that achieved the least interaction were the

# Frames

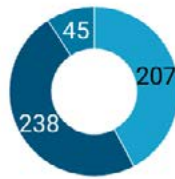
■ Cabildo de La Palma 
 ■ 1-1-2 Canarias 
 ■ Ministerio de Interior



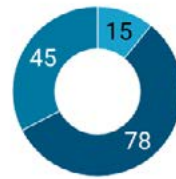
Practical information



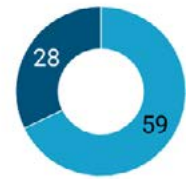
Background information



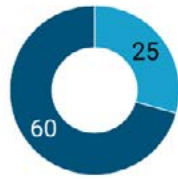
Institutional event



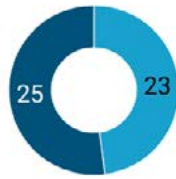
Other



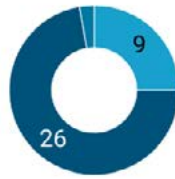
Call to follow rules



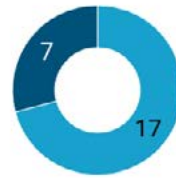
Support



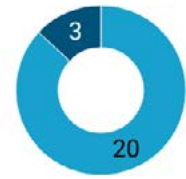
Solidarity



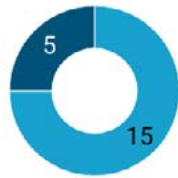
Unit



Useful information



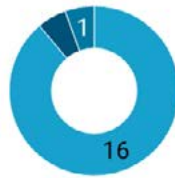
Hope



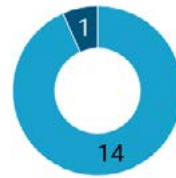
Cal for calm



Donations



Promotion of tourism and consumption



Acknowledgement



Debunking fake news

Created with Datawrapper

Table showing the different messaging frames used by the analysed accounts.

Source: prepared by the authors based on data.

**Tweet**

**1-1-2 Canarias** @112canarias

Die kanarische Regierung bestätigt, dass keine Gefahr mehr vor Regenfällen auf den Kanaren besteht #CANARIAS

10:53 p. m. · 26 nov. 2021

1 Retweet 17 Me gusta

---

**Cabildo de La Palma** @CabLaPalma

Con el objetivo de garantizar la seguridad de los peatones, se ruega a la población que circule por las carreteras de noche que lleve siempre chalecos reflectantes.

#MásFuertesQueElVolcán

1:00 a. m. · 29 oct. 2021

4 Retweets 18 Me gusta

**Hilo**

**Cabildo de La Palma** @CabLaPalma · 14 dic. 2021

Actualización del #Pevolca a martes, 14 de diciembre, a las 14:15 horas:

1 9 13

**Cabildo de La Palma** @CabLaPalma · 14 dic. 2021

La disminución de los signos observables, tanto directos en superficie como los procedentes de las redes de vigilancia, parecen indicar signos de agotamiento del proceso eruptivo aunque no se descarta un nuevo repunte de actividad.

1 6 11

**Cabildo de La Palma** @CabLaPalma · 14 dic. 2021

La lava continúa discurriendo por tubos volcánicos, aunque con un caudal menor respecto a ayer.

La dispersión prevista para hoy y mañana del penacho volcánico será hacia el este - sureste, lo que no será favorable para la operatividad del aeropuerto de La Palma.

1 7 15

**Cabildo de La Palma** @CabLaPalma

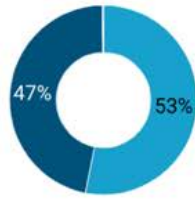
Actualmente la calidad del aire es regular en Los Llanos de Aridane. En el resto de la Isla los niveles se mantienen entre razonablemente buenos y buenos.

Example of text-based tweets with practical information.

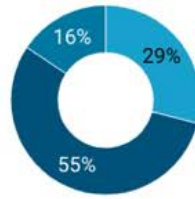
Source: prepared by the authors on the basis of data.

## Styles

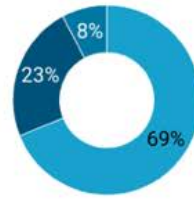
■ Cabildo de la Palma  
■ 1-1-2 Canarias  
■ Ministerio de Interior



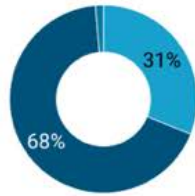
Text



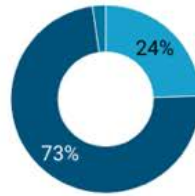
Photo



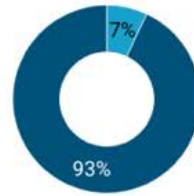
Infographics



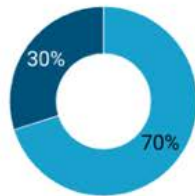
Link



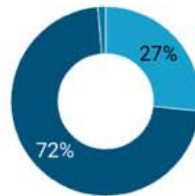
Animated video



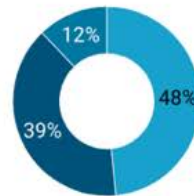
Video Volcano



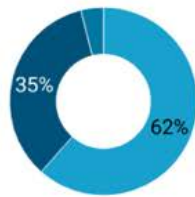
Video (PEVOLCA)



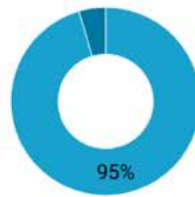
Streaming



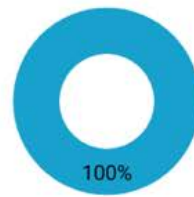
Video



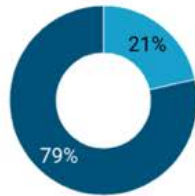
Retweet



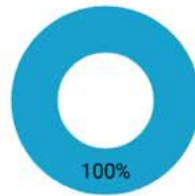
Government video



Video president of the Cabildo



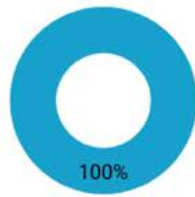
Descriptive video



Institucional video



Institucional video



Vídeo president of Government

Created with Datawrapper

Table showing the different message styles used by the analysed accounts.

Source: prepared by the authors based on data.



more institutional ones, such as the visit of the King video (42), the two videos of the councilor (98), and the two of the President of the Government (105).

## 7. Discussion and conclusions

This study sought to examine how the public agents communicated to the volcano eruption occurred in La Palma in 2021. More specifically, this paper looks into the different online Twitter strategies, message frames and styles used by the three major public institutions involved: Cabildo de La Palma, 1-1-2 Canarias and the Spanish Home Office. As well as assessing the impacts of this communications and the alignment among the three institutions.

Overall, the local and regional institutions stole the thunder and communicated the possibility of a volcano eruption from very early on. This anticipation very likely helped to prepare the population and diminish the possibility of reputational damage of the institutions (DiStaso et al., 2015; Sanjeev et al., 2021). Nevertheless, to further the success, more could have been done by public entities during the pre-crisis stage. In a volcanic island with seismic activity like La Palma, locals should be continuously prepared by public agents through their communications. By establishing that behavioral responses on crisis are influenced by the preparedness of the publics, Spero et al., (2022) propose virtual reality to educate the general public on the scale of risks provoked by natural disasters. On the same line, Lim et al., (2022) suggest that governments need to embody social norm messaging to enhance disaster risk preparedness and mitigation behaviors in the pre-crisis stage.

In terms of results on strategy and sub strategy usage, data suggests that Cabildo de La Palma, 1-1-2 Canarias and the Spanish Home Office were aligned in terms of communications. Throughout the whole crisis, all of them exclusively used what Coombs (2021) defines as an “ethical” strategy.

Furthermore, their sub strategies were somehow complementary. In general, Cabildo de La Palma used a mixed of adjusting (43,48%) and instructing (56,2%) messages, mainly framing their messages to convey practical information, 1-1-2 Canarias also used a mixed of instructing (39,82%) and adjusting messages (60,18%) but focusing more in giving contextual information. Whereas the Spanish Home Office bet for adjusting messages (75,76%). focused on

praising the institutional actions. Nevertheless, this alignment did not explicitly materialize in their online communications on Twitter as not of the accounts interact with each, neither by tagging or retweeting, during the duration of this crisis. According to Coombs, the three entities selected the right strategy as an ethical response combining instructing and adjusting messages should be enough to deal with the consequences of a crisis caused by a natural disaster (Coombs, 2021). Also, according to other authors (Griffin-Padgett & Allison, 2010; Vera-Burgos & Griffin Padgett, 2020a; Williams et al., 2017) who state that communications on this type of events should be based on a strategic and humanistic response.

In terms of styles, Cabildo used text-based threads to give practical updates, for example, about the state of the roads. Another common style for Cabildo were infographics where practical information was displayed for the population of La Palma. On the other hand, 1-1-2 Canarias served as speaker of all the PEVOLCA meetings by posting text and photos announcing their outcomes. The Spanish Home Office tweeted significantly less about this crisis than the other two studied agents (N= 1288 in @CabLaPalma, N=1342 in @112Canaria and N=132 in @interior-gob) and, on most occasion, photos were used to show an institutional member working towards the recovery of the island. On crisis communications, publics tend to find visuals more salient and are more likely to interact with them (Zhao et al., 2019). However, on the other hand, this type of situations also requires of frequent and constant updates, making the text-based threads somewhat of a requirement for institutions (Coombs & Holladay, 2010). Therefore, it could be suggested that a combination of styles where the prevalent messages that need to stick with the publics use visuals whereas text based are used for quick updates is a good option.

The approached taken by these three accounts to tackle the communications of this crisis proved to have a positive impact in the audience. Specially, when talking about Cabildo and 1-1-2 Canarias as the engagement of their content increased and their fan base grew exponentially during the time this crisis was communicated. However, in a wider context, none of the tweets posted by the three studied accounts made it to the list of most trendy content. This suggests that the audience was getting informed through other sources.

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