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### **The accountability of Search and Rescue NGOs**

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# The accountability of Search and Rescue NGOs

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## Abstract

Despite the lives saved in the Mediterranean Sea, NGOs engaged in Search and Rescue (SAR) activities are the object of delegitimization campaigns that hamper their operations. This exploratory study aims to understand a) the role of agenda-setting social media on NGOs' SAR activities and b) the effectiveness of social media in supporting dialogic accounting as a tool for reaffirming NGOs' legitimacy. Building on a conceptual framework based on agenda-setting and legitimacy theories, we devise a concurrent mixed-methods design based on a manual content analysis of NGOs' annual reports and an automated sentiment analysis around NGOs' Twitter accounts. Firstly, this investigation contributes to the literature on the role of socio-political debates and social media in shaping the legitimacy and accountability of NGOs engaged in SAR activities in the Mediterranean Sea. Secondly, our study advances the methodological literature on computer-assisted sentiment analyses with an empirically-grounded discussion of technical boundaries and future opportunities.

**Keywords:** Search and rescue, Migrants, Mediterranean Sea, NGOs, Media agenda-setting, Legitimacy

**JEL codes:** M41, L31

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## **1. Introduction**

Since 2012 the high quantity of migrants from North Africa who die at sea while trying to reach Italy has transformed the southern Mediterranean Sea into the deadliest border in the world (Cusumano, 2019a; International Organization for Migration, 2016, UNHCR, 2016). Consequently, in the past decade, the Mediterranean Sea and the Southern Mediterranean border have become one of the most deeply contested political spaces in Europe (Franko, 2021, p. 379).

In 2014 the EU and its member states have decided to slow down the rescues at sea of migrants from North Africa, with the aim of discouraging illegal immigration flows across the Mediterranean Sea (Cusumano and Pattison, 2018, pp. 53-54). Non-governmental organizations (NGOs) have intervened using their means in a desperate attempt to rescue migrants at sea reducing the loss of life (Cusumano and Pattison, 2018, pp. 54-55). At least since 2016 NGOs are under attack with allegations of collusion with smugglers, to be a factor of attraction, endangering migrants (Cusumano and Villa, 2021; Fekete, 2018, p. 65). However, when the NGOs had to interrupt their rescue work, the number of deaths at sea has increased according to the statistics produced by The Refugees Operational Portal (UNHCR).

The increase in sea deaths of migrants is certainly also related to the end of the Italian operation “Mare Nostrum”, which has been a vast sea rescue mission for migrants trying to cross the Strait of Sicily from the Libyan coast to the Italian and Maltese territory, implemented from October 2013 to October 2014 by the Italian Navy and Air forces. From November 2014, the “Mare Nostrum” was deemed too expensive for a single EU state (9 million euro a month for 12 months) and it has been replaced by “Triton”, the EU-led program conducted by Frontex (The European Agency for Coast and Border Guard) that aimed at keeping the borders in the Mediterranean controlled through less expensive operations (Cusumano, 2019b).

After “Triton”, other operations (“Themis”, “Sophia” and the current “Irinì”) have conducted a relatively limited number of search and rescue (SAR) operations, prioritizing border control and anti-smuggling tasks but without the real ability to slow down immigration from North Africa through the sea (Cusumano, 2019a, p. 4). The current “Irinì” operation (planned to end on March 2023), for instance, has a primary mission of ensuring the implementation of the UN arms embargo. Of course, “Irinì” presents secondary goals, such as the training of the Libyan Coast Guard and Navy, the disruption of human trafficking, and halt the illicit exports of Libyan oil, but with a very limited budget.

In other terms, with the end of the “Mare Nostrum” operation, the UE has left a void in SAR activities.

Moreover, in the two years 2018-19, the anti-immigration policies of the Italian and Maltese governments, which closed their ports to ships, led to a net decrease in rescue missions by NGOs. Asylum seekers are still attempting the risky crossing, but without rescue boats, shipwrecks are likely to increase dramatically. In 2019, over 9,000 people were intercepted at sea and returned to Libya and, with fewer SAR operations, at least 1,262 people died trying to make the crossing from North Africa to Italy or Malta (Amnesty International, 2020, p. 17). The Ukrainian war that started in February 2022, raises new questions about the future management of the hospitality sector for refugees. At the moment, it is still not possible to predict the evolution of this crisis nor to fully assess its consequences in the short and medium terms, but two different phenomena are likely to occur: on one side the increase in the prices for raw materials (and in particular of cereals) will probably create new famines and, consequently, increase migrations; on the other side, it is likely that in the European refugees' hospitality sector, priority will be given to welcome Ukrainian refugees rather than to migrants arriving from the Mediterranean Sea.

Despite their crucial life-saving role (see for instance the systematic literature review on the topic by Garkish et al., 2017), the NGOs in recent years have become the object of a campaign of delegitimization and criminalization that has not only involved Frontex executives, media, and high-level political representatives but also led to the opening of numerous exploratory investigations by prosecutors, especially in Italy and Malta.

From 2017, EU member states and agencies increasingly criminalized these organizations, accusing them of “colluding with smugglers”, being a pull factor for illegal immigration (Mainwaring and DeBono, 2021). The study by Cusumano and Villa (2019) found no evidence for this case, and instead identified weather conditions and Libya's political instability as the main drivers for the crossings.

However, the idea of NGOs as pull factor for illegal immigration in Europe is still rooted in public opinion. In the political and social debate on the role of NGOs in the Mediterranean Sea for SAR activities, there is a devious but serious accusation, partly endorsed by the European Council and Commission: a proactive SAR activity could stimulate migration dynamics from North Africa across the Mediterranean Sea. The reasoning, nowadays substantially abandoned by the European Union, but still widespread in European (and especially Italian) civil society is linked to the following assumptions:

- NGOs constitute an “attractive factor” for migrants who know they can count on someone that can rescue them;

- the SAR activities encourage criminal behavior on the part of smugglers who use lower quality boats and increasingly dangerous navigation tactics;
- the presence of NGOs in the Mediterranean makes the most dangerous crossing for migrants.

In many ways, this type of widespread thought recalls the increase of fake news (Corner, 2017, p. 1100) and populist political propositions that have been found on the Internet. For instance, in social media the phenomenon of the so called “echo chambers” is now well known and recognized, especially in countries where populism is a particularly established and consolidated political phenomenon (Kucharski, 2016; Williamson, 2016).

Despite this adverse context, NGOs have continued their rescue operations and developed new strategies in the face of continuing criminalization. It is now common practice for Italy and Malta to deny entry to NGOs, in many cases leaving crew and passengers stranded at sea for days or even weeks. Disembarkation is allowed only after lengthy negotiations between Member States for the distribution of migrants.

Faced with closed ports in Italy and Malta, relief NGOs have also joined forces with civil society and activists to demand safe havens and the right to mobility. Furthermore, despite the criminalization of NGOs at sea, migrants continue to travel across the Mediterranean, with thousands of people arriving "autonomously" without the need for help. The Ukrainian humanitarian crisis creates a new emergency in Europe and the same NGOs that were active in SAR activities, are now fundamental actors to rescue civilians escaping from the war.

In the light of these premises, our aim is to understand the role played by the agenda-setting social media on the SAR activities of NGOs in the Mediterranean Sea and the effectiveness of social media (in particular, Twitter) in supporting dialogic accounting (Manetti and Bellucci, 2016; Bellucci and Manetti, 2017; Manetti et al., 2021) as a tool for reaffirming of NGOs’ legitimacy. Thus, we formulate the following exploratory research question: *what is the role of socio-political debates and social media in shaping the legitimacy and accountability of NGOs engaged in SAR activities in the Mediterranean Sea?*

To answer this research question, we devised a concurrent mixed-methods design based on a manual content analysis of reports and a computer-assisted sentiment analysis on social media. In addition to a sentiment analysis of the Twitter accounts of the two main NGOs engaged in the most controversial years in SAR activities, the investigation was also conducted through the content analysis of the NGOs’ annual reports to verify the effects of the allegations of “collusion with smugglers” on NGO fundraising revenues.

The rest of our study is structured as follows. In the second section we present our conceptual framework based on agenda-setting and legitimacy theories. In the third section we present the selection process that led us to the identification of NGOs in the period of our analysis and the methodology implemented in our study: on the one hand, the analysis of the contents of the annual reports published by NGOs, and on the other hand, the sentiment analysis conducted on the Twitter accounts of the NGOs during the summers of 2017 and 2018. In section 4, we present and discuss our results in the light of our conceptual framework in the attempt to answer our exploratory research question. Finally, the last section addresses our conclusions together with the main limitations of the study and some suggestions for further research.

## **2. Conceptual framework**

The 2017-2022 Edelman Trust Barometer reports (Eldeman, 2022; see also Gower, 2016) show that people, and especially citizens in developed countries, are losing faith not just in media, governments, and business, but also in NGOs, at a higher rate than ever before. Trust in NGOs is decreased in six markets (Russia, Japan, Germany, Italy, the U.K., and the U.S.A.). For NGOs, the most concerning element is how the public perceives their role in relation to the threat of jobs losses caused by globalization, immigration, lack of skills training, and automation. NGOs have a limited number of tools to reaffirm the truth about their humanitarian activities. Accounting is one of these tools and, if properly used, it has significant potential to contrast fake news, especially when based on widespread practices of stakeholder engagement and dialogue communication (Kucharski, 2016).

In this paper, we analyze the problem of the dispute on NGOs' SAR activities in the Mediterranean Sea using the lens of the agenda-setting theory (McCombs and Maxwell, 2004, 2005; McCombs et al., 1972, 2009) and legitimacy theory (Adams, 2002; Deegan, 2002; Dowling and Pfeffer, 1975; Guidry and Patten, 2010; Milne and Patten, 2002; Patten, 1992). Originally elaborated by McCombs, Maxwell and Shaw (1972), the agenda-setting theory describes the ability of the news on media to influence the importance placed on the topics of the public agenda. The theory describes the way media attempts to influence viewers and establish a hierarchy of news prevalence. The main postulate of the agenda-setting is the salience transfer, i.e. making the news salient with respect to the others, therefore underlining the ability of the mass media to transfer a topic from a private agenda to a public one of higher general interest.

As more people turn to social media and social networks as a primary source of news, transmission models combined with appropriate data could help in exploring the dynamics of

this new media landscape. The spread of the post-truth phenomenon has highlighted the importance of social media in defining what part of the society regards as factual reality and truth (Allcott and Gentzkow, 2017; Allcott et al., 2019). In the contemporary society, where people become less and less informed through reliable information sources (scientific literature or non-distorted forms of disclosure) and the truth and the factual reality become “malleable”, discussion and debate on social media are crucial to address public opinion (Mellon and Prosser, 2017).

With reference to the use of social media for spreading the idea of NGOs as a pull factor for illegal immigration, Feezel (2018, p. 491) observes that the effect of viral contents (included fake news) was clearly strongest among those with low political interest who were exposed to incidental political information in the treatment group. In fact, social media can subvert selective avoidance of Internet users and convey a modicum of political information to the uninterested. Messing and Westwood (2014) and Anspach (2017) show that social approval of news makes people more likely to read news that they might otherwise selectively avoid. This fuels the information gap between citizens, where the information rich get richer, and the information poor get poorer (Norris, 2001). Exposure to incidental political information transmitted through social media has an impact on the perceived relevance of the problem among social media users.

Traditional mass media seem to have less relevance in the post-broadcast environment and their ability to reach audiences using social media is heavily mediated by the composition of the network, consumption patterns and social media algorithms. Bennett and Manheim (2006) argued that message targeting and audience selectivity in the current media environment can eliminate the social filtering of political information classically described by Katz and Lazarsfeld (1955). Media targeting, audience selectivity and social isolation contribute, according to the authors, to generate a “one-step flow” directly between the recipient and the source. However, in the social media environment, political information is shared socially by members of a network that give these stories importance and relevance, like the role of opinion leaders in traditional broadcasting (Katz and Lazarsfeld, 1955). Turcotte et al. (2015) found that social sponsorships on Facebook have led users to trust more viral multimedia content on the social network, seeking further information and insights not on traditional media, but from the source of the content, even when this source is unreliable.

Since social media users can easily customize their content viewing preferences to suit their own wants and needs, the traditional agenda setting effects might be expected to disappear. Conversely, with the growing prevalence of social media as a news source, the mass media

agenda setting may persist to some extent through ancillary information shared from sources within social media, but without actual verification of the reliability of the contents (Feezel, 2018).

Consequently, organizations feel more under pressure and control due to the increasing use of social media for spreading and amplifying the news (Knight and Tsoukas, 2019; Taylor and Doerfel, 2011), often distorting the real extent, also thanks to mechanism of the echo chambers (Davis, 2017; Scurlock et al., 2020). Managing to handle events that may have a profound impact on entity legitimacy with correct information is now essential for the social legitimacy of any organization (Per-Ola Karlsson, 2017). Social media, in fact, can be used as a tool for supporting dialogic accounting (Bellucci and Manetti, 2017; see also Manetti et al., 2021); both social media and reporting practices can be implemented for counteracting fake news or distorted information.

As highlighted by Franko (2021), in the Mediterranean Sea one can assist to the two-sided nature of the border spectacle (Andersson, 2014).

Pallister-Wilkins (2015, p. 65) observes “*that humanitarianism and policing are not two separate or competing practices*” (Pallister-Wilkins, 2015, p. 65) and Franko (2021) outlines the split nature of communication which is, among others, visible in radically different understandings of reality, particularly of migrants’ journeys and living conditions.

In this complex context of relative or not absolute truth and external pressures by politics and public opinion, we believe that the legitimacy theory applied to NGOs is particularly fitting. The legitimacy perspective, in fact, considers how organizations strategically influence (or even manipulate) stakeholder perceptions of their image, performance, and impacts (Deegan, 2002; Guidry and Patten, 2010) to maintain their social license to operate. With this purpose, organizations issue various forms of communication and reporting among voluntary disclosure policies to reduce their external costs and/or diminish pressures that are being imposed by external stakeholders or regulators (Adams, 2002; Ballou et al., 2006; Bellucci et al., 2021; Caron & Turcotte, 2009; Tate et al., 2010). In this perspective, voluntary disclosure related to institutional missions and organizations’ sustainability is done for strategic reasons; it is not necessarily based on an assumption of responsibility toward the community. Scholars who support this theoretical perspective (Deegan, 2002; Patten, 1992) claim that legitimacy problems can emerge when there is a disparity between community values or perceptions and the organization’s values and impacts. Thus, the loss of consensus can be extremely dangerous for organizations (and especially for NGOs who survive thanks to fundraising). Organizations

can use social media and reporting as tools for strengthening their social legitimacy, thereby improving their image and perception among external stakeholders and the local community. In the light of our conceptual framework, in the next section, we provide a brief description of our two concurrent methods (the content analysis of NGOs' annual reports and the sentiment analysis of NGOs' Twitter accounts) to obtain robust and reliable findings for answering our exploratory research question.

### **3. Methodology**

To pursue our research aim we defined a concurrent mixed-methods design (Bryman et al, 2019; Castro et al., 2010; Khoo-Lattimore et al., 2019). We opted for a mixed-methods research design to offer a complete picture of the phenomenon under study and produce robust findings (Davis et al., 2011). Indeed, by collecting and combining the strengths of qualitative and quantitative data, we can better answer our research question. We opted for a parallel convergent design where both the qualitative and quantitative data have equal salience and are collected at the same time (Bryman et al, 2019). In the present study, we resorted to i) a qualitative-quantitative content analysis of annual reports published by NGOs engaged in SAR activities (Hsieh and Shannon, 2005; El-Haj et al., 2020; Gill et al., 2008) and ii) a quantitative sentiment analysis (Indurkha & Damerou, 2010; Prabowo & Thelwal 2009; Medhat et al. 2014) on Twitter to understand the sentiment of the general public towards the activities of the same NGOs. In concurrent mixed-methods design, studies are usually informed by a theoretical perspective and data are integrated during the interpretation phase (Bryman et al., 2019; Kroll and Neri, 2019): in this study we adopted a theoretical framework based on media-agenda setting and legitimacy theory to organically discuss results from both analyses in the discussion section.

#### **3.1 Selection of NGOs**

The first step of our analysis was the identification of the organizations to be included in our sample. For doing this, we considered the list of NGOs engaged in SAR activities provided by Cusumano (2019) and we integrated it with information collected on Frontex (the European Border and Coast Guard Agency) and UNHCR (United Nations High Commissioner for Refugees) websites. We included in our sample the organizations that fulfilled two criteria at the same time: i) being actively engaged in SAR activities in the Mediterranean Sea for two subsequent years during the period 2016-2019; ii) for the same period, having published annual

reports (or similar documents, such as financial and mission/social reports) with detailed information about the donations collected. We excluded from our sample the organizations that did not meet both these criteria at the same time. Table 1 presents the results of this first step.

**Table 1 - Comparison between SAR activities over the period 2016 – 2019**

ONG	Vessels	2016	2017	2018	2019
Jugend Rettet	Excluded because it did not publish any annual report in the considered period				
Life Boat Project	Excluded because it did not publish any annual report in the considered period				
Mare Liberum	Excluded because its operations focused only in the Aegean Sea				
Médecins Sans Frontières International	Aquarius Dignitus (Formerly Aquarius 2)	Yes	Yes	Yes	No
	Sea Watch 3 – Dignity 1	Yes	No	No	No
Médecins Sans Frontières International and SOS Méditerranée	Ocean Viking	No	No	Yes	Starting in August
	Prudence	No	Yes	No	No
Mediterranea Saving Humans	Excluded because it was founded in October 2018				
Migrant Offshore Aid Station	Phoenix	Only in the Aegean Sea	Yes	No	No
Mission Lifeline	Excluded because it did not publish any annual report in the considered period				
Open Arms	Pro Activa	Only on Lesbos Island	Yes	Yes	Yes
	Golfo Azzurro	No	Yes	No	No
Save the Children	Vos Hestia	Yes	Yes	No	No
Sea eye	Excluded because it did not publish any annual report in the considered period				
Sea watch	Sea Watch 3	No	Yes	Seizes in Malta	Yes

*Source: Authors' Elaboration on information available from NGOs official websites and Frontex website*

Considering the results presented in Table 1, we acknowledged that the best option for our analysis was to focus on Médecins Sans Frontières International (MSF) and Proactiva Open Arms (OA) for the years 2017 and 2018. The comparison MSF – OA allowed an analysis on more recent years by involving two organizations with very different characteristics. As we will see in what follows, MSF is an international organization with a considerable capacity to attract donations from privates (1,848,083,000 € of private donations in 2020) and several areas of intervention (similarly to Save the Children), while OA is an organization focused only on SAR activities and with more modest dimensions (3,753,265 € of donations in 2020) compared to MSF. We believe that having two organizations with such different profiles could lead us to more interesting remarks and observations. Moreover, as argued by Cusumano (2019a and b) these two NGOs apply different approaches to SAR activities. Namely, MSF follows the “rescue and disembarkation” model which means that the migrants receive first medical care on board the NGO’s boat. Subsequently, the migrants are disembarked in the Mediterranean

port identified by the authorities. The crew on the ships of the NGOs that adopt this operational scheme is mostly made of qualified personnel, although the number of volunteers may be relevant (Ishkanian and Shutes, 2021). OA, on the other side, follows the “patrolling and rescuing” model that consists in monitoring international waters to identify boats in distress and provide migrants with the necessary assistance, providing life jackets, drinking water, and medical care, while waiting for a larger ship to transfer them to the mainland. The NGOs that choose to adopt this operational scheme mainly employ volunteers in SAR, moreover, the ships used are mostly old fishing boats, purchased and converted to rescue migrants thanks to resources from crowd-funding. The “patrolling and rescuing” model has more limited costs than the rescue and disembarkation scheme.

### **3.2 Content analysis of annual reports**

Once we identified the two organizations for our study, we started the content analysis of their annual reports. Content analysis is a research technique that objectively and systematically identifies specific characteristics of certain types of information (Holsti, 1969). It offers a flexible approach to the examination of various media, documents, and texts while also quantifying content according to predetermined categories in a systematic and replicable manner (Bryman et al., 2019). It has long been used in corporate disclosure studies (Guthrie et al., 2004; Bellucci et al., 2021), because it encourages repeatability and valid inferences from data (Krippendorff, 2004). Content analysis can be used to better understand the meanings, intentions, consequences, and context of communication and identify critical processes (Cavanagh, 1997).

Namely, for each organization, we collected both qualitative information (i.e. history, mission, values, engagement in SAR activities) and quantitative data about donations collected for SAR activities each year. To quantify the donations raised by MSF, we extracted data from the financial statements published in its annual reports. Since the objective of our research was to monitor the trend of donations for SAR activities, for MSF we considered the category “private income” that includes donations, legacies and bequests, membership fees, and other income received by private institutions (such as lottery or donations from private companies). We did not consider the public institutional income (such as grants from public institutions or governments) nor other income such as those derived from services sold to other organizations. To consider only the donations used for SAR activities, we referred to the data accounted to the project “Mediterranean Sea operations”.

OA as well includes its financial statements in the annual reports. Therefore, we apply the same procedure applied for MSF: we used the descriptive sections of the annual reports to acquire qualitative information about the organization, while we used the financial statements to collect data about donations. To have comparability between the two organizations, for OA we did not include the public subventions received, nor the sales and services, but only the category “donations and other income for the activities”. The results of this analysis are presented in section 4.1.

### **3.3 Sentiment analysis**

In addition to the content analysis presented above, we wanted to understand the sentiment of the general public towards the engagement of NGOs in SAR activities, that is why we included in our study a sentiment analysis (Indurkha & Damerau, 2010; Prabowo & Thelwal 2009; Medhat et al. 2014). Sentiment analysis is defined as the study of opinions, emotions, and moods expressed by people through a piece of writing using Natural Language Processing (NLP) strategies (Liu, 2012; Saini et al. 2019; Cambria et al. 2017). In recent years, with the proliferation of social media, sentiment analysis became a crucial strategy implemented by politicians, organizations, and private companies to understand the preferences of their public (Liu, 2012).

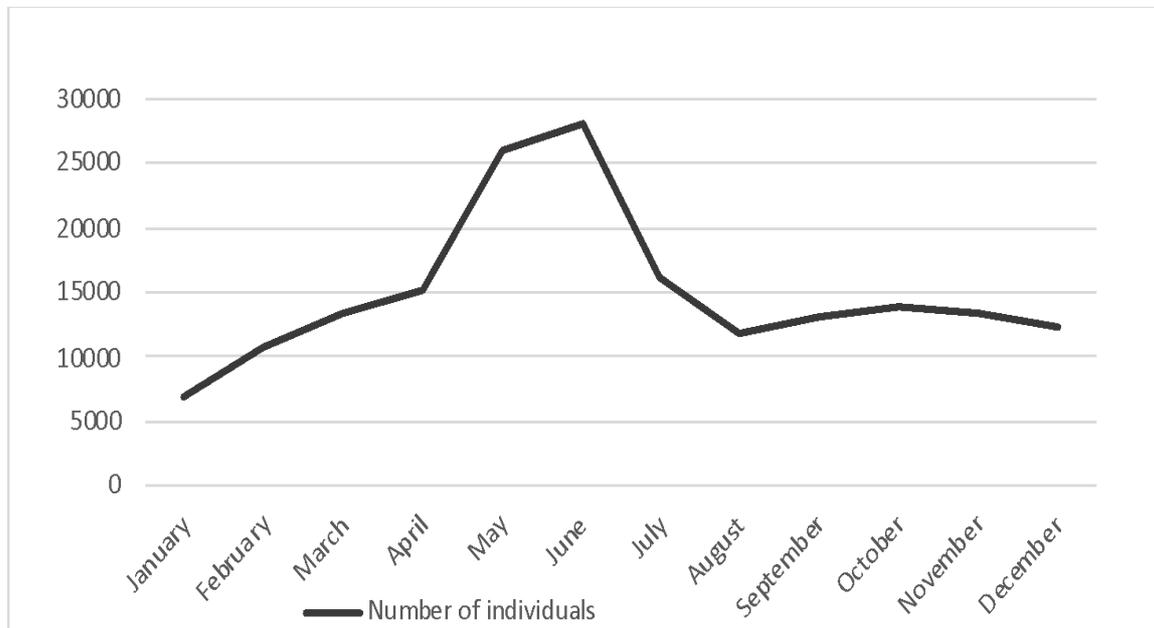
In our application of sentiment analysis, we focused on the contents published on Twitter since this is one of the most popular social media internationally used (Perdana & Pinandito, 2018), it is often used to publicly convey political opinions and to analyze their polarization (Stieglitz & Dang-Xuan, 2014; Conover et al., 2011).

Incoherence with the sample selection process, our sentiment analysis was conducted around the two NGOs mentioned before: MSF and OA. Therefore, to start our data collection we identified the Twitter accounts that we had to consider. For MSF we found several accounts that reflect the multitude of countries and activities implemented by this organization. However, for our analysis, we focus on the account that is specific for SAR activities, that is @MSF\_Sea, while, for OA, we referred to the account @OA\_found since this is the international official account of the organization.

To maximize the efficiency of our data collection, we focused only on the months that were mainly concerned with sea arrivals. This was done also because users post real-time reactions to events on Twitter (Agarwal et al., 2011), hence we wanted to be sure to collect tweets in the period more relevant for our research. To do so, we rely on the data published by UNHCR

about sea arrivals in the Mediterranean, and, as shown in Figure 1, we acknowledged that, in 2017, the most relevant moths were from April to August, that is the period we considered for both years.

Figure 1: Monthly sea arrivals in 2017



Source: Authors' elaborations on UNHCR data

Once we had both the accounts of the NGOs and the period of analysis, we started the data collection. To download tweets, we used R, a software with several packages already developed for sentiment analysis (Younis, 2015; Saini et al, 2019). To download the tweets for our sample, we used an API (Application Programming Interface) to access Twitter via R, namely using the package *rtweet*. Therefore, we downloaded all the tweets that mentioned the Twitter accounts of the two organizations. As we will see in detail in what follows, we decided to focus only on English tweets since tools for sentiment analysis are nowadays still very underdeveloped for languages other than English (Bianchi et al., 2021; Akhtar et al. 2019; Bosco et al., 2014). Table 2 shows the sample of tweets that were collected, and the remaining tweets after we dropped the ones in other languages.

Table 2: Sample of tweets analyzed in the sentiment analysis

	2017		2018	
	All languages	Eng	All languages	Eng
@MSF_Sea	81,942	78,273	45,248	34,279
@OpenArms	460	155	6,726	942

Using the *rio* package, we drop all the information that was automatically downloaded but that was not considered useful for our analysis. Table 3 shows the information we kept for each Tweet.

Table 3: List of variables considered for each tweet

Name of the variable	Explanation
created_at	Date and time of the original tweet
text	Text of the tweet
hashtags	Hashtags used
Lang	Language

The data cleaning then was done using the packages *tidyverse* and *tm* that allowed us to obtain a clean version of our tweets, namely, without emoticons, punctuation, numbers, stop words, links, URL, and mentions to accounts (Wickham, 2017). Moreover, we used the *tm* package, and more specifically the function *removeSparseTerms*, to isolate the most frequent words. This step was necessary for the creation of word clouds, which are an important statistical outline to identify relevant topics and most frequent words (Saini et al., 2019; Kabir et al., 2018). Using the package *wordcloud* in R, a word cloud was realized for each dataset (i.e. for each year and for each organization). In the word clouds, the size of the font is automatically defined by R and it depends on the frequency of a certain term. Moreover, to improve the legibility of the graph, all the words with the same frequency are associated with the same color. A different analysis of frequency was conducted merging all datasets with the specific objective to identify the 10 most popular hashtags.

After these preliminary analyses, we started our sentiment analysis. As Pope and Griffith (2016) summarize, it is possible to categorize sentiment analysis approaches adopting the distinction between machine learning approach and lexicon-based approach. For what concerns the machine learning approach, usually this is conducted through a supervised machine learning process, where the research team develops manually a labeled version of an initial sample that is subsequently automatically applied to the whole corpus (Chen et al., 2020). The need for a manually labeled dataset is considered one of the main drawbacks of this approach (Backfried & Shalunts, 2016) since it requires an important initial investment. Since statistical models based on lexical analysis have a little predictive value on small numbers, their application through machine-learning process is recommended only when scholars can rely on a large training corpus of annotated texts or for the analysis of a large number of documents (Cambria et al. 2017). In the lexicon-based approach, the sentiment analysis relies on the use

of a dictionary (i.e. the *lexicon*) that labels the most relevant words related to a certain topic using a set of categories (Chen et al., 2020; Anjaria & Guddeti, 2014). In the case of the lexicon-based approach, it is possible to apply one of the several lexicons already developed and published by other scholars (Jurek et al. 2015; Khoo & Johnkhan, 2017; Taboada et al., 2011). Considering the size of our sample, and the fact that we had a specific topic of interest, we decided to apply a lexicon-based approach. As we will explain in detail in what follows and in the Appendix, our analysis is based on a customized version of the lexicon Harvard-IV developed by Harvard University, available in the R package *sentimentAnalysis*. The Harvard-IV is a general-purpose lexicon that contains 1316 positive and 1746 negative words classified according to the psychological Harvard-IV dictionary. Some scholars argue that topic-specific lexicons perform better than general ones (Young & Soroka, 2012); for this reason, we integrated the Harvard-IV lexicon with a list of words (see the Appendix) validated by the experts of the research team. Moreover, to improve even more our algorithm, we proceed with the stemming phase, which is the extraction of roots from each word in our lexicon (Younis, 2015). This step was important since it allowed the algorithm to recognize words with different desinences. Our score, which was based on the bag-of-words approach (Young & Soroka, 2012) assign value +1 for each positive word and -1 for each negative one. Moreover, to standardize our results, we weighted the score obtained over the total number of words recognized by the lexicon in each tweet. Hence, for each tweet, we obtained a score from -1 to +1, where -1 meant extremely negative tweet, 0 meant neutral tweet, and +1 extremely positive tweet. Once we obtained the sentiment score for each tweet, we divided the sample into subsamples of two weeks to improve the legibility of our results, and we computed the mean for these intervals. In addition to the analysis presented in the paper, we conducted some additional controls presented in the Appendix.

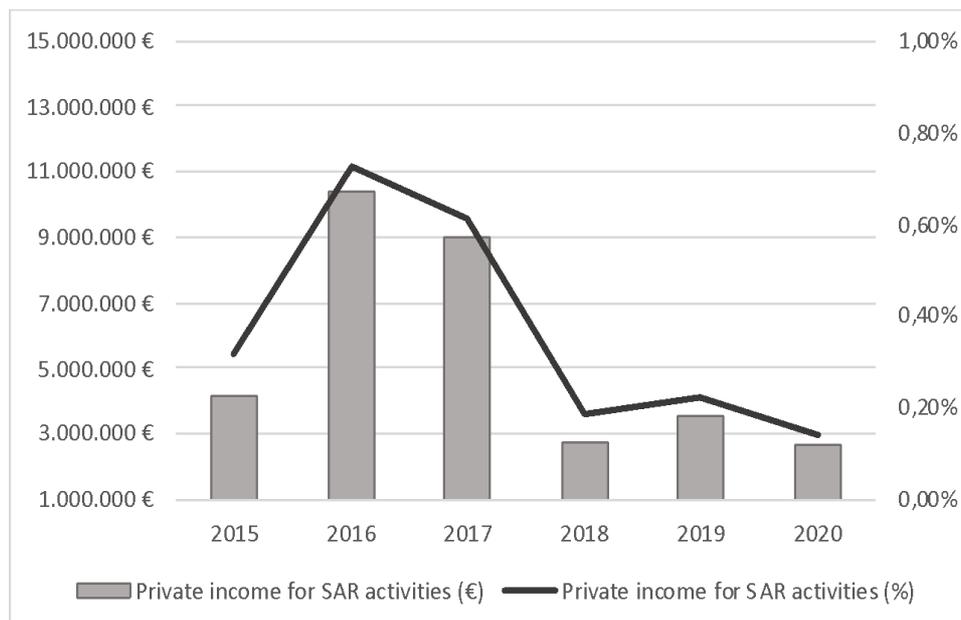
#### **4.1 Results from the content analysis**

As mentioned in paragraph 3.1, the content analysis was conducted both on qualitative and quantitative information. On the qualitative side, we can argue that MSF is an organization with a long history and a wide range of activities. MSF was founded in 1971 in Paris by a group of doctors and journalists with a twofold objective: providing medical assistance in emergencies while directly collecting materials to inform public opinion. MSF started its engagement in SAR activities in 2015 and financed the activities of several vessels, some of them managed in collaboration with the NGO SOS Méditerranée. Since 2014, MSF publishes an annual report presenting the activities implemented, the results achieved, and the revenues,

with detailed information about donations. We did not consider the first annual report in our analysis, since MSF started its SAR activities only in 2015. Concerning the overall private income, computed as described in paragraph 3.1, the analysis shows a positive trend, except in 2018, where there was a 2% decrease compared with the previous year. MSF in its 2018 yearly report argues that: “2018 saw a 2 percent decrease in operating income compared with 2017, due to an unfavorable political context for humanitarian activities in many western countries and lower levels of donations compared with 2017” (MSF, 2018). However, this trend was inverted in the two following years (2019 and 2020) when MSF’s total private income reaches the peak of 1.848.083.000 €.

Focusing on its SAR activities, the content analysis reveals that for all the years considered, the “Mediterranean Sea Operations” are funded by “private and other income”. Figure 2 shows the private income for SAR activities in euros and as a share of the total amount of private income collected by MSF in the same years.

Figure 2: MSF private income for SAR activities in € and as a share of the total amount of private income collected by MSF



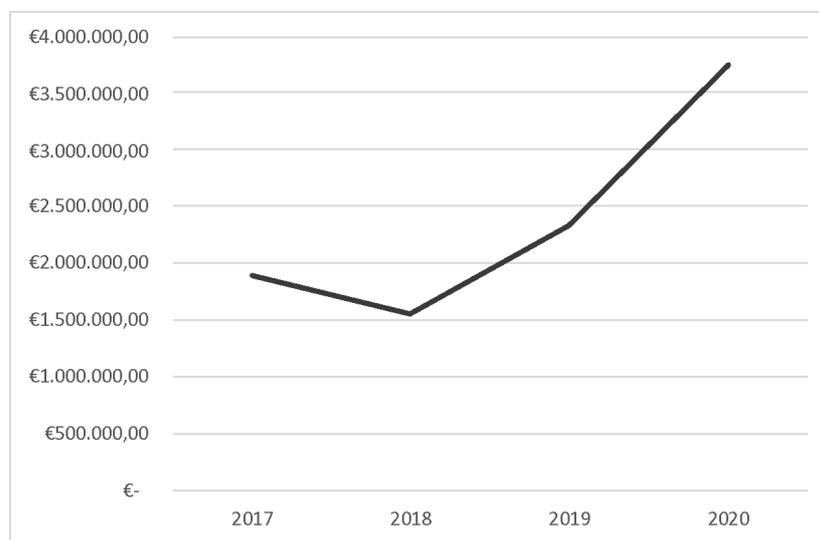
Source: Authors’ elaboration

Figure 2 shows clearly that SAR activities represent a very small percentage of the total private income attracted by MSF considering that, even at its peak (in 2016), its amount does not go beyond 0,8% of the total amount of donations raised by the organization. Moreover, in Figure 2, we can see the significant reduction in the private income that occurred between 2017 and 2018. This result confirms that what happened during these two years around the theme of migration and SAR was relevant. Coherently with the salience transfer typical of the agenda-

setting theory (McCombs and Maxwell, 2004, 2005; McCombs et al., 1972, 2009), during these years, migration became central in public debate, also engaging people with low political interests also through the diffusion of fake news about the role of NGOs, and the management of migrants).

For what concerns OA, the content analysis showed that this organization differs from MSF for several features. First of all, OA was founded more recently, in 2015 as a non-profit branch of Proactiva, a Spanish company engaged in maritime rescue along the coasts of the Iberian Peninsula. In June 2016, OA began its SAR activity on the island of Lesbos, in the Aegean Sea. In 2017, OA began its activities in the Mediterranean Sea and, in the same year, its first annual report is published. Figure 3 shows the donations collected by OA starting from 2017.

*Figure 3: Donations collected by OA (in €)*

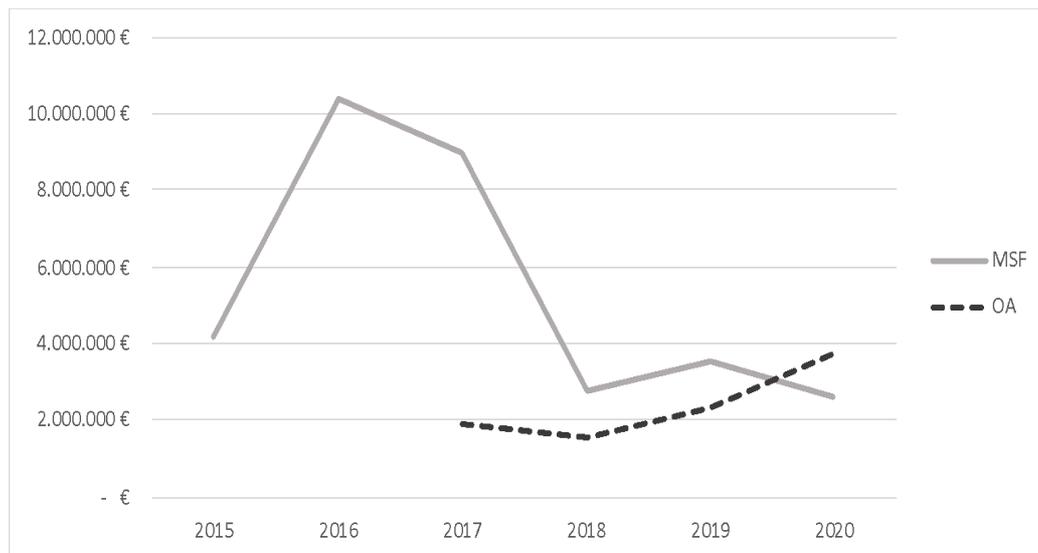


*Source: Authors' elaboration*

In Figure 3, we can observe that OA as well, experienced a decrease in donations in the years 2017 and 2018, while in the last two years a considerable increase in donations received is recorded.

As we mentioned before, while MSF is an organization with a considerable variety of activities, OA is an organization that was born specifically to conduct SAR activities and all its activities are oriented towards this objective. Therefore, while for MSF we considered only the portion of donations reported under the 'Mediterranean Sea Operations' project, in the case of OA, we considered the entire amount of donations raised. It seems interesting to compare the trend of donations registered by these two organizations as shown in Figure 4.

Figure 4: Comparison between the donations for SAR activities collected by the two organizations (in €)



Source: Authors' elaboration

We want to underline that while in 2018 MSF experienced a significant reduction of donations in all its sectors, in the following years the trend of donations was globally positive, reaching 1.848.083.000 € of private income in 2020, while the donations for SAR activities decreased. On the other hand, OA donations are growing since 2018 and in 2020 they overcame the MSF private income for SAR (Figure 4).

The results shown suggest that to understand the complex phenomenon of the role of NGOs in SAR, it seems crucial to analyze what happened in the two years period 2017-2018. During these years, both organizations experienced important decreases in donations as a consequence of the unfavorable political context and a public debate contaminated by fake news. This scenario increased the need for NGOs to reaffirm their legitimacy to operate (Per-Ola Karlsson, 2017; Deegan, 2002; Patten, 1992) also increasing the use of tools for dialogic accounting (Bellucci and Manetti, 2017; see also Manetti et al., 2021) to improve their transparency towards stakeholders.

## 4.2 Results from the sentiment analysis

### *Preliminary descriptive data*

As we mentioned in paragraph 3.2, when we completed the data collection and the data cleaning, we elaborated a word cloud per each dataset to have a visualization of our data. The word clouds presented in Figure 5 were elaborated in R using the package *wordcloud* on the



Table 4: 10 Most frequent hashtags in the sample

Ranking	Most frequent hashtags	Frequency
1	#aquarius	19'671
2	#people	10'088
3	#prudence	9'050
4	#mediterranean	9'045
5	#libya	8'716
6	#msf	5'896
7	#refugees	3'593
8	#migrant	3'346
9	#europe	2'173
10	#italy	1'977

Source: Authors' elaboration

As we can see, the most frequent hashtag is #aquarius, underlining the relevancy that this episode had on the public debate during the period considered. Aquarius is a vessel managed in partnership between MSF and SOS Méditerranée that, on the 9<sup>th</sup> June 2018 rescued 629 people in the Mediterranean Sea. This vessel approached the Italian coasts, but the Italian Interior Minister refused the authorization to disembark the migrants in Italy. After 8 days, the vessel docked in Valencia. These facts provoked an intense debate in public opinion around this topic. We have evidence of this impact also considering Figure 6.B, which shows a significant concentration of tweets posted in the period 10<sup>th</sup> – 16<sup>th</sup> June 2018.

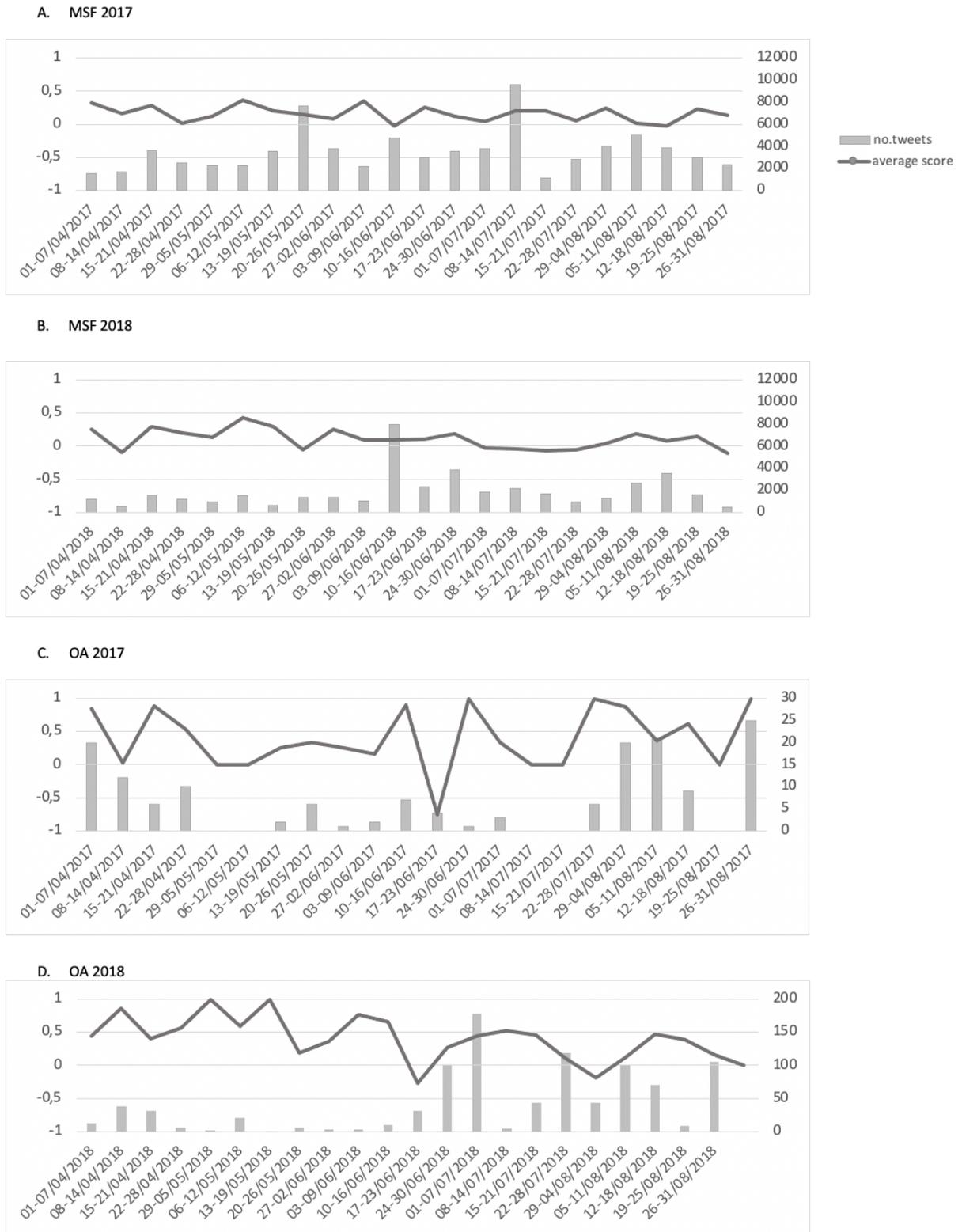
### *Sentiment analysis*

After the frequency analysis on terms and hashtags, we focused our research on the sentiment analysis by using a customized version of the lexicon contained in the R package *sentimentAnalysis* as explained in paragraph 3.2 and in the Appendix. Figure 6 shows the results of the sentiment analysis reporting for each dataset (i.e. for each year and for each organization) the number of tweets and the average sentiment score computed for intervals of two weeks. We choose this length for the intervals to improve the legibility of the graphs. Since the sentiment score is reported as an average of the scores recorded for each interval, the higher is the column representing the number of tweets, the more robust is the corresponding sentiment score reported. Observing the graphs reported in Figure 6, we can conclude that the sentiment that emerged around MSF is generally stable and oscillates between 0 and 0,5, meaning that the overall sentiment expressed by Twitter users in the debate that involves MSF,

was moderately positive during those years. Looking at Figures 6.A and 6.B we can also observe three interesting peaks that reflect some crucial events: the shooting of Libyan coastguards during a rescue of MSF on the 23<sup>rd</sup> May 2017, the adoption of the Code of Conduct for NGOs in July 2017, and the abovementioned affair Aquarius.

On the other hand, Figures 6.C and 6.D show that the sentiment expressed in the debate that involved OA is more volatile. This is due because the number of tweets that mention directly the official international account of OA is modest. However, although we cannot derive relevant results about the trend of the sentiment because of the scarcity of the debate, we note again a strong connection between the number of tweets and the events that involved OA during those years, namely the proceedings that involved OA, or the several rejections of the Italian and Maltese authorities to welcome migrants rescued by OA.

Figure 6: Average score and number of tweets per dataset

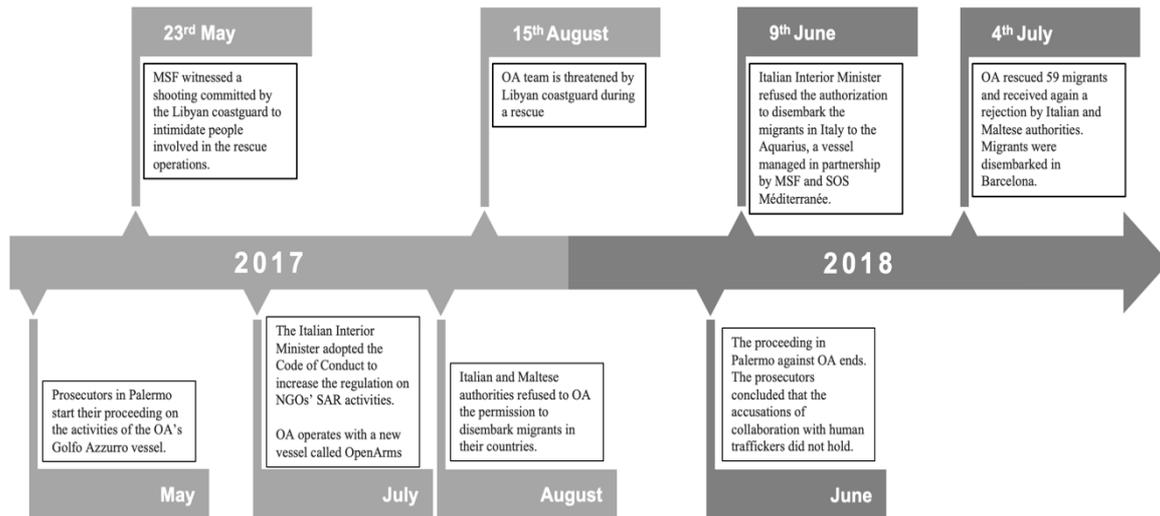


Source: Authors' elaboration

## 5. General discussion

The analysis presented in paragraph 4 must be interpreted considering our conceptual framework and the wider socio-political context that characterized the years we focus on. Figure 7 presents some of the most relevant events that occurred in the period considered and that directly involved the organizations we analyzed.

Figure 7: Timeline of relevant events occurred in 2017 – 2018 involving MSF and/or OA



Source: Authors' elaboration

As we can see comparing the events in Figure 7 with the results reported in Figure 6, the main events are reflected in our dataset, precisely in the number of tweets that is higher in certain periods, meaning that the debate around the two organizations was more intense.

For sure, coherently with the concept of salience transfer of the agenda-setting theory, SAR activities had an overexposure in media compared to other relevant topics during our years of interest.

Figure 7 demonstrates that these years were dense of episodes involving SAR NGOs that stimulated an intense debate. A significant example is what happened with the vessel Aquarius on the 9<sup>th</sup> of June 2018 that had an important impact on the MSF2018 sample of tweets. The operational difficulties and the reputational damage faced by these organizations during the years considered are also evident seeing the results reported in paragraph 4.1. MSF mentioned directly in its yearly report, that the political context unfavorable towards SAR activities of NGOs had an important role in the reduction of donations received (MSF, 2018).

In addition to this, also the role of fake news that become viral in social media had an important impact threatening the legitimacy of NGOs. For example, is particularly significant the case

occurred in July 2018 about the nail polish of Josefa, a Cameroonian migrant that remained floating alone 48 hours in the Mediterranean Sea grabbed to a piece of wood. Her shock was so intense, that she did not speak at all after the rescue. Some OA's volunteers thought that she needed a distraction and they applied nail polish to her hands, as a simple gesture of humanity to take care of her in a dramatic situation. Unfortunately, the picture of this woman with nail polish became viral with the fake news that she was an actress since it was not possible that a woman after 48 hours in the sea had nail polish on her hands. This is just one example of the attitude of public opinion that during those years thought that was possible that NGOs were plotting scams to defraud governments and private and institutional donors.

This situation was faced by NGOs applying two different strategies: on one side they produced detailed, transparent, and credible yearly reports with all the information about the donations collected and the activities financed in order to improve their accountability and the dialogue with their stakeholders (Bellucci and Manetti, 2017; see also Manetti et al., 2021). On the other side, NGOs needed to reply to the spread of fake news stimulating the diffusion of contents on social media that defended the legitimacy of their activities (Per-Ola Karlsson, 2017).

During 2017 and 2018 SAR activities of NGOs acquired strong salience and visibility in a polarized public debate: on one side we had fake news conveying often anti-migrant positions, while on the other side we had NGOs and their supporter that tried to dismantle this propaganda defending their activities using social media and accountability tools (i.e. publishing yearly reports with financial statements and detailed information about donations). Our results show that the sentiment expressed via Twitter about the two NGOs analyzed is moderately positive. This can be explained considering two main aspects. First, it can be explained considering some technical limitations and characteristics of sentiment analysis algorithms that perform better in identifying positive and neutral tweets rather than negative ones as found out also by other scholars (Basile and Nissim, 2013; Medhat et al. 2014; Rowe et al. 2021). Second, it shows the effectiveness of the defense strategy implemented by NGOs on social media to legitimate their activities.

## **5. Conclusions**

Despite the many lives saved at sea, NGOs engaged in SAR activities in the Mediterranean Sea are often the object of criminalization campaigns that hamper their accountability, affect their streams of income, and compromise their license to operate. Building on these premises and a conceptual framework based on agenda-setting and legitimacy theories, the present study

contributes to the understanding of the role of socio-political debates and social media in shaping the legitimacy and accountability of NGOs engaged in SAR activities in the Mediterranean Sea. To pursue this research aim, we devised a concurrent mixed-methods design based on a manual content analysis of NGOs' financial and non-financial disclosures and a lexicon-based sentiment analysis of the interactions produced by Twitter accounts of SAR NGOs.

The contribution of this study is twofold. Firstly, this investigation contributes with original empirical findings to the literature on the role of socio-political debates and social media in shaping the legitimacy and accountability of NGOs engaged in SAR activities in the Mediterranean Sea (Cusumano & Pattison, 2018) and, by extension, other activities concerned with the assistance of migrants and refugees (Bagavos and Kourachanis, 2021; Garkisch et al., 2017). The results from the sentiment analysis informed how we read the financial statements of the SAR NGOs in the context of a broader political, social and historical context, enabling us to reach a conclusion on the effect of greater visibility and resonance in the online social, political and public opinion debate on their source of financing trend, and ultimately, on their legitimacy. The triangulation of a) the timeline of relevant socio-political events in 2017-2018, b) the quantitative trends and sentiment of the interactions produced on Twitter, and c) the financial data of two of the main SAR NGOs enables us to confirm how the accountability of SAR NGOs is strictly linked with legitimacy and the role of media. This is especially true in the post-truth era (Davis, 2017), where social media become agenda-setting media despite them featuring echo-chambers and fake news (Ishkanian and Shutes, 2021). The slightly positive results generated by our sentiment analysis frequently arise from a polarization of opposing views. This is not surprising given how much the activity of NGOs in the Mediterranean has been divisive for public opinion. Restrictive policies and the dissemination of fake news did not contribute to creating a facilitating ecosystem for SAR NGOs, and also lead, as in the cases of OA and MSF examined in this study, to adverse financial repercussions. However, while in 2018 MSF experienced a significant reduction of donations, in the following years the trend of the total amount of donations was positive. On the other hand, OA donations are growing since 2018 and in 2020 they overcame the MSF private income for SAR. Therefore, it is possible to conclude that social media, the agenda of policymakers on humanitarian efforts (Taylor and Doerfel, 2011), and the compromised accountability of NGOs (Scurlock et al., 2020) are deeply interconnected elements in a circle that, in the period examined in our study (2017-2018), was more vicious than virtuous.

Secondly, our study advances the methodological literature on computer-assisted sentiment analyses with an empirically-grounded discussion of technical boundaries and future opportunities. New technologies are gradually reshaping the set of methods available to researcher. On the one hand, content and sentiment analyses based on machine learning or evolved lexicons have great potentialities, i.e. the possibility to deal with a greater amount of data in respect to manual analyses or the capacity to easily provide effective quantitative elaborations or visual mapping. However, on the other hand, it is necessary to be aware that delegating critical analyses to artificial intelligence entails human responsibilities over acknowledging shortcomings, which must be mitigated and managed in order to be able to correctly interpret the results. As many scholars argue, automated sentiment analysis is a methodology that presents several limitations (Mohammad S.M., 2017; Bholane Savita Dattu et al., 2015; Stieglitz & Dang-Xuan, 2014; Cambria et al., 2017). First of all, writing is a field where everybody expresses her/his/their subjectivity and this freedom has several implications in sentiment analysis, for example in attributing the correct score to tweets characterized by sarcasm and slang (Golia and Zola, 2019; Rocca et al. 2020; Rowe et al., 2021). Moreover, as shown in Stranisci et al. (2016), sarcasm and irony are not only difficult to be correctly interpreted automatically with algorithms but they can also be differently interpreted when score attribution is done manually by human annotators. Another aspect that makes sentiment analysis challenging, is the difference between the sentiment expressed by the Twitter user and the positivity/negativity/neutrality of certain words. This challenge is well known in literature (Mohammad, 2017; Rowe et al., 2021), and is very difficult to be correctly detected by computers, especially in a polarized classification of Tweets around positive or negative terms. For example, the following is a tweet extracted from our sample: “*Migrants from North Africa face rapes, persecution, and violence in #Libya*”. In this example, the lexicon recognizes the words ‘rape’, ‘persecution’, and ‘violence’ which are labeled as negative terms. However, the author of this tweet is not expressing a negative sentiment towards NGOs, but she/he/they is/are reporting the critical situation faced by migrants, hence this tweet should be considered neutral (since it does not contain an explicit opinion on the role of the NGOs), or positive (considering that these arguments are often expressed by supporters of NGOs rescue activities). To reduce the impact of this problem in our analysis, we customized the Harvard-IV lexicon, changing the classification of some specific terms with the support of our team of experts (see Annex). Moreover, as reported in the Appendix, we conducted additional controls to test the robustness of our analysis.

However, our study is not without limitations. One issue that is often encountered when conducting a lexicon-based sentiment analysis, is that official and widespread used lexicons in other languages than English are still underdeveloped (Bianchi et al., 2021; Akhtar et al. 2019). This issue is strictly connected to a relevant limit of our research which is the significant difference that characterized the numerosity of the samples of the two organizations. As we can see from Table 2, for the years considered, the debate that mentioned directly the official international account of OA, counts a small number of tweets, especially when compared to the tweets collected for MSF. This is probably caused by several factors, but the fact that our analysis was conducted only on English tweets limited our sample even more.

Future studies may continue exploring the effect of media on the legitimacy of governmental and non-governmental organizations engaged in migrant assistance and protection (e.g., assistance to refugees fleeing war zones, such as those escaping the recent conflict in Ukraine) through content and sentiment analyses of large amount of data and the help of machine learning or innovative lexicons. This possible contribution would also have important implications in terms of analyzing and contrasting phenomena such as fake news, echo chambers and populism. Particularly in the case of content analyses built on innovative lexicons, further research could focus on how to improve the ability of different dictionaries to capture the positive or negative (or neutral) meaning of words by contextualizing them according to the context and taking into account the various nuances that human writing can have when interfacing with complex topics such as those that connote the life of migrants, asylum seekers, and refugees.

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## Appendix: Additional details and tests on the sentiment analysis

In this appendix, we want to provide additional details concerning the sentiment analysis that was conducted for this study.

First of all, as mentioned in the paper, the lexicon that we used for our sentiment analysis, was a modified version of the Harvard-IV dictionary where we forced the algorithm to consider as positive, some words that are usually considered as negative (or neutral) and vice versa. Table 5 contains the list of the modifications we have made to the dictionary with the support of experts.

Table 5: List of interventions made on the Harvard-IV dictionary

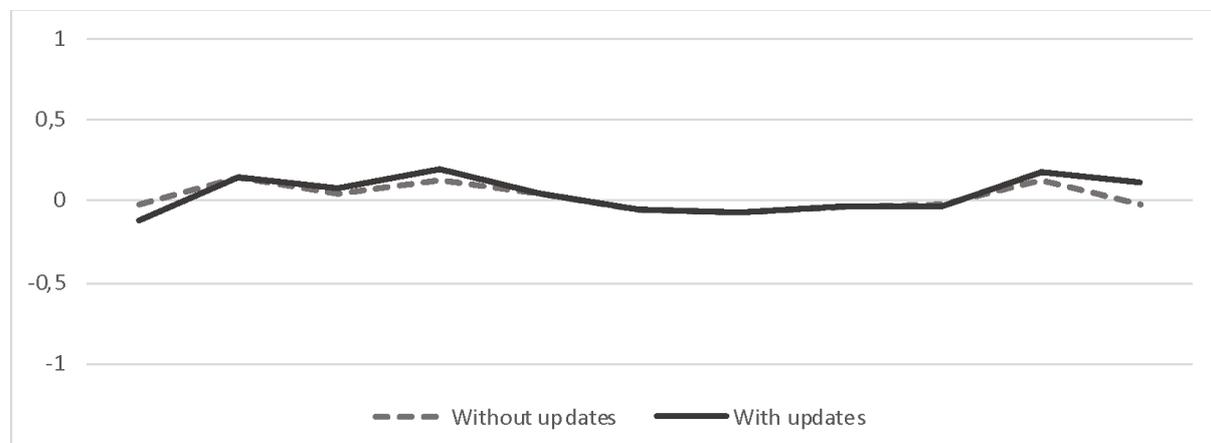
POSITIVE	NEGATIVE
criminalization, death, heartbreak, hunger, injured, mistreatment, need, pregnant, selfless, shipwrecked, sink, solid, suffer, struggle tragedy, war.	Bastard, bullshit, choosy, damn, encourage, fuck, leech, lucrative, mafia, pirate, suck, traffic, taxi, whining.

Although it might be unusual to see certain words considered as positive, we have to remind that the purpose of our analysis is to understand the sentiment towards a specific phenomenon, and not all the tweets containing negative/positive words are expressing that sentiment towards immigration. As Rowe et al. (2021) point out, anti-migrant users may use positive words to celebrate a shipwreck, that is why we decided to intervene in the lexicon used.

Moreover, to improve even more our analysis, we considered the possibility to drop from our sample the tweets starting with the words: ‘update’ and ‘breaking news’. We assumed that tweets containing news should be classified as neutral. However, if they contain words that are recognized by our lexicon as positive or negative, it is possible that they result as connotated.

For this reason, we dropped these tweets by the MSF2018 dataset to observe the impact of this operation on the overall sentiment score. As Figure 8 shows, the overall sentiment recorded for MSF 2018 was only slightly impacted by this operation, hence, we decided to also keep these tweets in our sample.

Figure 8: Comparison between the average score with and without updates tweets on a subsample of tweets extracted by MSF 2018



Source: Authors' elaboration

Finally, since we considered the average score for each interval, we wanted to check whether this average reflected the overall sentiment that was moderately positive or if it was the result of extreme opinions. For this reason, we computed the number of extreme tweets, considering tweets with a score higher than 0,5 as extremely positive, and lower than -0,5 as extremely negative. The results of this control are presented in Table 6 for each year and for each organization, both as absolute numbers (that is the frequency of tweets) and as a percentage over the total number of tweets in the dataset.

*Table 6: Distribution of extremely positive and extremely negative tweets in the four datasets*

	MSF17		MSF18		OA17		OA18	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Extr. Neg. ( $<-0,5$ )	11'096	14%	3'492	10%	6	4%	77	8%
Extr. Pos. ( $>0,5$ )	23'259	30%	8'655	25%	109	70%	369	39%

*Source: Authors' elaboration*

Concerning MSF, we can argue that the frequency of extremely negative tweets is relatively low (14% and 10%), and the average scores seem to be more influenced by the presence of extremely positive tweets that represents respectively the 25% and 30%. On the other side, data concerning OA suffer from the scarcity of tweets that directly mention this organization. However, for both years we can observe that the average scores are hugely influenced by the presence of extremely positive tweets that represent, respectively 70% and 39%, while extremely negative tweets are very few.