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Partilhando informações durante catástrofes: experiências internacionais e o caso português fogos.pt

Sharing information during catastrophes: international experiences and the Portuguese case of fogos.pt

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Resumo: *Durante situações de emergência (inundações, sismos, incêndios etc.), o acesso a informação rigorosa pode ser decisivo para a segurança das pessoas. Atualmente, existem recursos digitais (sites, redes sociais e aplicações móveis) orientados para este sentido. Este artigo procura avaliar experiências dessa natureza, em países como o Japão, México, Espanha etc., através de uma amostra não probabilística, de uma análise de conteúdo manifesta e latente, e de uma entrevista semiestruturada com o responsável pelo projeto Fogos.pt, em Portugal. Os resultados sugerem que a troca de informações durante estes períodos varia entre o voluntariado e a contratualização de um serviço. Os contributos positivos dos cidadãos convivem frequentemente com campanhas de desinformação, destinadas a ludibriar a opinião pública e criar falsas campanhas de solidariedade.*

Palavras-chave: *floresta; incêndios; média; cidadãos; participação.*

Abstract: *During emergencies (floods, earthquakes, fires, etc.), access to accurate information can be decisive to ensure people's safety. Some digital resources (websites, social networks and mobile applications) are currently geared towards this purpose. This article seeks to evaluate experiences of this nature, in countries such as Japan, Mexico, Spain, etc., through a non-probabilistic sample, a*

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manifest and latent content analysis, and a semi-structured interview with the head of the Fogos.pt project in Portugal. The results suggest that the exchange of information during these periods varies between volunteering and contracting a service. Positive contributions from citizens often go hand in hand with misinformation campaigns aimed at misleading public opinion and creating false solidarity campaigns.

Keywords: *forest; wildfire; media; citizens; participation.*

Introduction

The "Arab Spring", designation attributed to a group of protests initiated in December, 2010, which culminated in the destitution of various key-figures of authoritative regimes in Egypt, Libya or Lebanon, arrives frequently in the frontline of examples to show the impact that the digital ecosystem – from sms to social networks – can have in the public space. However, the *Wired*[2] magazine made the balance of what happened in these Middle Eastern countries and wrote that social media allowed these protests to blossom, but did not save the people from the atrocities of the political power, which, however, had risen to power. The *Economist*[3] made a completely different reading, sensibly at the same moment, in 2016, referring that digital technology continued to be the guarantee of survival of the spirit of the movements that were at the base of the Arab Spring. However, not always these interpretations about these phenomena had such optimistic readings. In a study from Ahindi, Talha and Sulong they consider that "the media undeniably became a valuable tool for protest organization. There were [the media] the discussion platforms par excellence and the information was quickly shared and the public awareness properly warned" (2012, p. 107).

As we can deduce through this example, interpretation not always become univocal when it is intented to analyse with rigor and exactitude the emancipatory power of technology in the day-to-day, applied to specific situations. In some areas, the role of communication has highlighted the dynamization of new social routines, or in the limit, of substantial changes in the life of certain groups or communities. This has been the case of Communication for the Development, a specific branch of Communication Sciences that has been adding, in a recent path, many contributions in a theoretical manner, but especially empirically and demonstratively, that same performance of communication as an alternative of the human action. As we can prove in different scientific

2 Retrieved from: https://www.wired.com/2016/01/social-media-made-the-arab-spring-but-couldnt-save-it/

3 Retrieved from: https://www.economist.com/erasmus/2016/05/25/digital-technology-is-keeping-the-spirit-of-the-arab-spring-alive

publications, many of these studies incide preferentially in rural areas and the scarce contribution on technology in this social framework. In the magazine *Community Development*, we can verify, in of the last issues (volume 49, nº 3 from 2018), the absence of reference to studies on technology. We observe studies on the connection between rural cities in the USA, processes of urbanization in Lagos (Nigeria) or even social entrepreneurship in Peru. In the Community Development Journal, from Oxford Academia, we can observe the same scarcity of integration of technology in this type of academic studies.

Communication in catastrophe situations: conceptual lines

The public discourse, rooted in the daily social relations and linked to social media, frequently uses different expressions that seek to define an abnormal, unexpected or exasperating situation. Terms like catastrophe, crisis or emergency, among so many others, arise as an attempt of summarizing events that involve some level of gravity or emotion. However, from the academic standpoint and for official institutions, the distinction does not seem as simplistic. For example, the Law on Civil Protection, in Portugal, defines a catastrophe in the following terms: "It is a major accident or a series of major accidents succeptible of provoking elevated material damage, and, eventually, victims, intensively affecting the life conditions and the socioeconomic fabric in areas or in the entirety of the national territory (TAPA, 2019, p. 25). This proposition, as reminded by the author, is in line with the definition of the own regulating Entity for the Social Communication (ERC).

However, for several academics, catastrophe is not a synonymous of crisis (COOMBS, 2010, SEEGER, 2006, REYNOLDS, 2004) once they are presented in different levels and circumstances. To Shaluf Ahmadum and Said (2003, p. 1) "a disaster of human origin that happens in an industrial organization can evolve to an industrial crisis". Bittar (2012) deffends that it is the magnitude that the events take on that make them crises, namely if these events gather the generalized and persistent

attention of the media. One crisis affects the institutional reputation of an organization, with inevitable consequences along the public opinion (AN & GOWER, 2009), an authentic institution open 24 hours a day, in permanent effervescence and agitation (LIPPMANN, 1922). In this diffuse lexical landscape, appears the idea of "risk", wide and diversified, although apparently less problematic in a spiral of events, but involving emotions, persceptions and even social movements (ULMER, SELLNOW, and SEEGER, 2011, PETRIDOU, et. al., 2019).

In corporative terms, the concern for the thematic of the crisis management also appear with some frequency. Deloitte, in partnership with the Brazilian Institute of Relationship with Investors, had released the Crisis Management Manual for Relationships with Investors: Communication and Stategy for the Preservation of Value, in which they present three evolutional concepts of negative events that can affect corporate organizations. In this sense, they present the idea of "problem", associated to small situations of the everyday life, easily surpassable and without public repercussions. Later, they release the concept of "incident/ emergency" which Deloitte defines as "facts or events that do not belong to the standard operation of a service that can cause an interruption or reduction in the quality of service (...) for a certain period of time" (2015, p. 5). In this gradual concept scheme, appears, finally, the concept of "crisis" thought as "any negative event or perception that may bring damage to the image of the corporation or harm their relationship with society, clients, shareholders, investors, partners, regulating organs, public power and other interested parts" (2015, p. 5). Although it was not as exemplified, this proposition is different because of the attribution of complexity to an unexpected event in a spiral of events. In this study, we will only use the concept of "crisis", as a logic that result from an initial catastrophe.

As already mentioned the triumphant entrance of technology in the daily life (MARTINS, 2011) has challenged the conditions through which society has understood as guaranteed the habitual forms of relationship, access and sharing of information (DETONI, 2015).

Consequently, they promoted a more systematized discussion about the integration of the citizen in different social areas. However, it is not liquid to consider that the promotion of public participation was only motivated by the emergency and definitive consolitation of the technique in the public space. As reminded by Valente (2013), it is possible to identify a few examples of intervention specific from the audience in the urban planning (FORESTER, 1987) in the rural development (WARBURTON, 1997), and even in the environment risk management (GAMPER and TURCANU, 2009), one of the areas this study seeks to complement. Weick (1995), in a provocative phase, question even if common sense begins in chaos.

Circumscribing the scope of this reflection in the case of forest fires, we consider fire, from the historic point of view, as a war weapon, destinated to destroy enemies through the propagation of terror (BESENYÕ, 2017). In the Mediterranean countries, fire is, with large distance the main factor of forest destruction (KARANIKOLA, TAMPAKIS and PAPALINARDOS, 2011). The rapid devastation caused by forest fires raise questions about the informations that are exchanged, by public and private organizations responsible for the management of the forest environment, to better generate the flow of information shared about the evolution of a certain damaged area. In urban areas, of big populational concentration and with political, symbolical and media power, there are, in theory, better conditions for a more highlighted media coverage, contrary to what happens in rural zones, and areas more distanced from the big centers. It is probably, in this contexts, that in these contexts that the information about fires – from a preventive point until the unfolding of events in real times – takes on a specially sensitive importance. However, throughout the development of the fire, the media promote along with the audience, even though indirectly, a feeling of direct concern of events, with direct information, which could induce, wrongly, the feeling that, apparently, everything is known about a certain fire (KARANIKOLA, TAMPAKIS, ARABATZIS E MAHERIDIS, 2013). As many studies show, the media practically neglect the publication of content

that reflect the need of a preventive attitude regarding the fire or specific actions of counseling along with this report. According to a study developed by Jacobson, Monroe and Marynowski (2001), out of the entirety of articles published by the big American newspapers, only 19% introduce some issue related to fire prevention. In a similar study, Paveglio et al. (2011) had concluded that nor in local terms, with the social media of proximity, the landscape changes. These facts are not as concerning for the citizens, in fact. According to Karanikola et al. (2011), people tend to respond more consistently to emergency warnings if they truly trust the source of information, more than information found in flyers or newspaper articles.

Well, from a conceptual point of view, the response the citizens can give to a traumatic event such as fires, differ in the reading that some academics make of the same phenomenon (RIBEIRO, 2017). Generally, we consider this response in terms that, facing a fire, can eventually affect directly or indirectly one or more citizens, related to the share of information, in a media environment. Chatfield, Scholl & Brajawidagda (2014) use the expression*Exchange during extreme events*, Sandra Valente (2013) prefers the term *stakeholder participation* to define the same reality. Whittaker, McLennan and Handmer (2015) refer to "citizen action during emergencies and disasters", Taylor et al. (2007) call it "information of access to evacuate". However, the implication of the media does not properly show up in the definitions we listed. Running the risk of, eventually, this analysis does not include other concepts that integrate the media sphere in this context, the participation of citizens, during catastrophes, and in the perspective of the media integrates, in our perspective, many actions:

Table 1 – Types of participation during natural emergency situations

	Type of participation	
	Active	**Passive**
Behaviors/actions	Production and publication Of their own content	Following the informational flow
	Social media interaction And websites	Sharing with family members (without any associated media)
	Sharing with family members (without any associated media)	

In general traits, the promotion of active participation during situation of natural catastrophes, like the fires, intend to develop a responsible strategy of citizens facing natural resources, in a logic of defense of forest from the constant threats of disappearing. The strong stance of a clear position, in this sense, could also bring the sensation of transparency, efficiency and responsibility along with the entities determining the course of public policies for the forest. The prevention and response to the risks would equally mean an increase in quality of life, in an awareness of sharing a common public space.

Technology as response to limit situations

This works discusses how technology of social, interactive nature, would eventually know how to respond to specific situations in which citizens face natural disasters. Taking as pretext the case of fires, we discuss the revulsive potential of technology, the citizen's predisposition, the knowledge or absence of the same possibilities, and even the degree of efficacy in situations and in considerations.

Seeger (apud TAPA, 2019) defends the need of a credible and operationalized contact network before a possible crisis. "In order to maintain effective networks, the responsible must continue to validate sources, choose specialists in specific areas and develop relations with

stakeholders of all levels", warns Tapa (2009, p. 30). The coordination of responses to a problem should envolve many actors (HADDOW & HADDOW, 2014; PALTTALA et al., 2012), which supposes an anticipated knowledge of the roles and functions that each element plays in this operational process of response to problematic situations. However, the problem persists if this process does not get to citizens.

Technologies and social networks substantially modified the response that entities and citizens offer, in actuality, to impending or emerging catastrophe situations. According to Poblet, García-Cuesta & Casanovas (2014), the Hurricane Sandy, which in 2012 destroyed many cities in North America, has motivated an authentic unprecedented flow of content about the storm with over half a million pictures on Instagram and 20 million tweets, from public and governmental entities, non-profitable organizations, volunteer associations and citizens in general.

In October 2018, in Portugal, the tropical storm "Leslie" has provoked a series of damage in different places of the central zone of the country. During the event, six citizens decided to create the website VOST (Virtual Operations Support Team) Portugal, to inform the population in real time, about the incidents that derive from emergency situations in the country[4]: tweets about the wind speed, the most vulnerable places, roads blocked, suppressed public transportation, help to those who need information about family members. "In 12 hours, it reached more followers than the Twitter for Civil Protection. Information became a source to television and volunteers could locate people without contact. They are six people that do not know each other, but communicate with one another through a server used in online games", the news reported. The responsible for the VOST Portugal would zeal for the veracity of the information received. The goal would consist in making "Civil Protection gather a team that would do what we were doing", admits Jorge Gomes, one of the promoters.

4 Available in: https://www.dn.pt/pais/interior/vost-portugal-nasceu-no-twitter-e-faz-aquilo-que-a-protecao-civil-devia-fazer-10003250.html?fbclid=IwAR2xG8jbLkhbfPptgfEgHJbPIY8DSS-cOTPFZmGBlrw9XBMB9cUD-S1oNlKI.

Maybe because they identified a few problems in the information shared during these situations, the Regulation Entity for Social Communication (ERC), in Portugal, had recently released a guide of good practice for covering fires. As reported by the *Público*[5] newspaper, the organizations of social communication should avoid sensationalism, privilege the contact with official sources, avoiding the exposure of images of victims.

Methodology

As a way to contribute to a reflection that puts citizens and technologies in the core of the central problem of this article, the study used two research techniques: 1) Through a non-probabilistic sample per convenience, we intend to sign a set of initiatives dynamized by citizens facing situations of iminent danger, with the support of digital communicative tools and strategies. It is proceeded equally in conformity with the understanding of Bengtsson (2016), who proposes models of analysis of social and media facts based on two techniques of analysis: manifested (the researchers draw conclusions from the presented discourse, in an analysis as close to the text as possible) and latent (the researcher advances to a subjective interpretation of the text). This article uses both formulations. We had privileged a diverse geographic criterion, contemplating initiatives from Oceania, Asia, America and Europe; 2) Through a case study, in the fogos.pt platform, in Portugal, we have presented the results of a non-participant observation of the dynamics associated to this initiative and a semi-structured interview to the dynamizer of this initiative that represents, in the Portuguese landscape, an example of an initiative generated by citizens to share information during situations of emergency associated to natural phenomena.

5 Available in: https://www.publico.pt/2018/07/19/politica/noticia/erc-faz-guia-de-boas-praticas-para-cobertura-de-incendios-e-pede-menos-directos-1838511.

Platforms to Share Information

In fact, in Table 2 we observe some experiences that serve as a base to this study:

Table 2 – Sample of international experiences

Country	Initiative
Canada	*Fire Smart Canada*
Spain	*Ciclo Green*
USA	*NFPA – Firewise USA*
Japan	*Nippon Volunteer Network Active in Disaster*
Mexico	Topos Tlatelolco
New Zealand	*Student Volunteer Army*

The same initiatives show different interesting approaches to the same phenomenon of prevention and management of information during natural catastrophes, understood here in a expanded perspective.

First, the initiative Student Volunteer Army (SVA)[6], from New Zealand. It is a community of young people developing efforts to support the local community in the prevention and response to natural disasters. Created by Sam Johnson, a student from the University of Canterbury, after the earthquake in Christchurch, in September, 2010, the idea came from the Facebook Page "Student Base for Earthquake Clean Up". From then until now, the movement supported essentially by students became more organized. Through a website, we can see the campaigns for prevention they had developed, especially in schools, for the younger audience. SVA centralizes pertinent information in response to natural catastrophes.

In Japan, Nippon Volunteer Network Active in Disaster7 (NVAD) presents very similar traits to the previously presented initiative. It is organized around different volunteers that seek to give a response to catastrophic events that take place in Japanese grounds. In the disaster

6 Available athttp://sva.org.nz.
7 Available in: http://www.nvnad.or.jp.

that took place in Japan in July, 2018, namely the floods in that territory, this association had published different information about the activities that happened with the support of collaborators.

In Spain, the project Ciclo Green[8], linked to a few autonomous communities with the support of the Spanish Government, offer options of mobility to citizens, through bike rentals that add points to discounts in the purchase of certain sports and wellness goods, access to visitation of public spaces, among others. However, the app, available in Android and iOS, is completely free and allows the submission of geolocalized information for fires, for instance. As referred by the El País[9] newspaper, the use of the app is extended to 17 Spanish cities, in a total of 15 thousand users, according to data from March, 2018.

The following initiatives introduce, in this context, the commercial dimension. Fire Smart Canada is organized around a service given to communities with a specific focus on environmental issues, related with fire prevention and management. Citizens who join, through a certain payment, will receive a group of information and services that range from actions of environmental formation, management of their own vegetations, legal counseling and exchange of information on emergencies that could put in danger the safety of houses and citizens.

In the USA, Fire Wise follows a practically identical commercial model to the previous example. In coordination with the Forest Department of the american government, it is offered a group of fire protection services in housing and updated information about them. In this initiative, apparently, citizen contribution does not seem to be of primary importance.

Lastly, the initiative that is essentially developed in a collaborative spirit with the citizens. An 8.1 earthquake on the Richter scale in September 1985 in Mexico City, would determine the creation, months later, of the movement Topos Tlatelolco, a brigade for quick action of retrieving people in critical situations. Over 30 years later of that event,

8 Available in: https://www.ciclogreen.com/.
9 Available in: https://elpais.com/tecnologia/2018/03/13/actualidad/1520930098_046718.html.

the organization has over 200 volunteers, which, through the website and social media, seek to act with the population in moments of natural disasters.

Regarding the digital interaction of the aforementioned initiatives, Table 3 identifies different levels of action, among websites, social media and mobile apps.

Even though the defining purpose of this study does not include a content analysis about the interaction between websites, social media and mobile apps, it is possible to identify the digital dynamics of these initiatives. In generic trates, websites and social apps work towards the simple purpose of presenting a catalog of dynamic activities through different platforms. There isn't properly spaces of integration among users, although the NFPA – Firewise (USA) opens a specific separation on the website to internet users, without any register of activity.

All initiatives considered in this analysis are found active on Facebook. However, the use of this tool is diverse. The student platform Student Volunteer Army (New Zealand) is not very active in this network, with an average of one post per month, having 2019 as reference, and there wasn't any register of problematic aspect. The reactions or comments on posts are sparse. The Japanese initiative Nippon Volunteer Network Active in Disaster shows an intense Facebook activity, especially with the storms that took place in late October, 2019, in Nagano, many clarifying images of the storm, with very few comments or reactions. One of the post shows cars tipped over, a trail of disaster, with only two comments thanking for the images.

Table 3 – Digital presence of the initiatives studied. Data related to January 2nd, 2020.

Initiative		Student Volunteer Army	Nippon Volunteer Network Active in Disaster	Ciclo Green	Fire Smart Canada	NFPA – Firewise	Topos Tlatelolco
Country		New Zealand	Japan	Spain	Canada	USA	Mexico
Website		Yes	Yes	Yes	Yes	Yes	Yes
Social media	Facebook	29796	452	9168	1263	6634	27325
	Twitter	1404	-	4299	595	3081	129326
	Youtube	53	-	-	-	21983	367
	Instagram	-	-	-	151	9779	44
Mobile Apps	Android	Yes	-	Yes	-	-	-
	iOS	Yes	-	Yes	-	-	-

NFPA – Firewise (USA) and FireSmart Canada (Canada) show a high level of activity but given the commercial mission of these initiatives, they seek only to appeal to the attention of the internet users towards practical sessions of formation about fire. The interaction is almost none.

In Mexico, Topos Tlatelolco follows the same promotional phylosphy, with regular publications, few comments, constant donation appeals, the participation of partners in the meeting of that initiative. In 2019, there is no register, in this network of any incident they may have participated.

The second most popular social network in this sample is Twitter. The activity of Student Volunteer Army, from New Zealand, is inconstant in this network, with few publications in 2019. The NFPA – FireWise and FireSmart Canada repeat their posture of constant activity with commercial effect, but with little interaction.

These initiatives practically neglect the role of videos, the main identity characteristic of YouTube. Only three (Student Volunteer Army, NFPA – FireWise and Topos Tlatelolco) of the six platforms analysed operate in this network, but all of them follow an identical approach: few available videos, small interaction, in a type of audiovisual exhibit of coexistence among members, requests for donation or commercial sale of services.

In the other networks, the landscape is not properly dynamic. NFPA – FireWise and ToposTlatelolco have active accounts on Instagram, although the first develops the same commercial activity with less interaction verified in other networks and the second would only have entered this platform on December 4th, 2019.

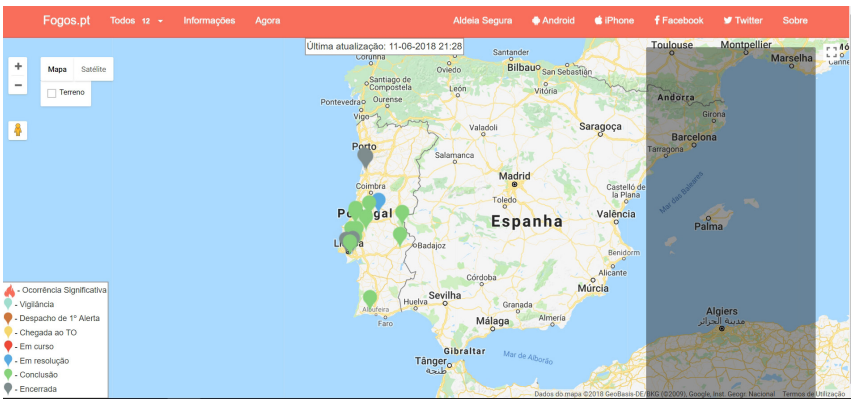
Case study: Fogos.pt

The platform Fogos.pt[10] stands out for being one of the pioneer platforms in the publication of informations on catastrophe situations in

10 Available in: http://fogos.pt.

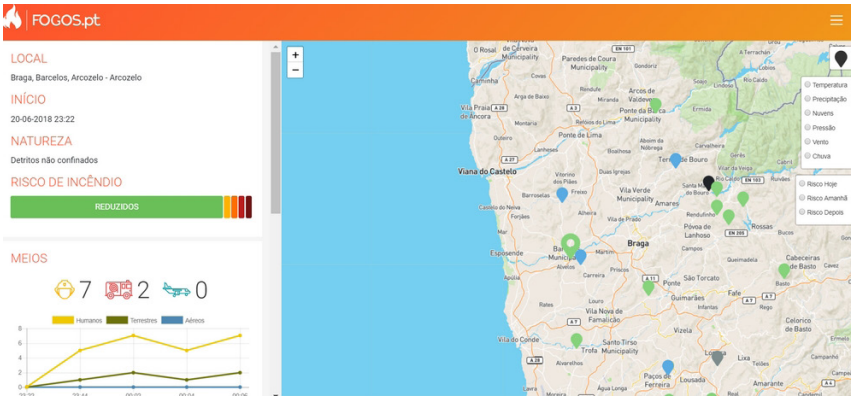
Portugal. Created in August, 2015, by João Pina, computer engineer, it is a web page constantly updated with all the information about forest fire. According to the responsible, Fogos.pt organizes an information that is "scattered", among different public entities, such as Civil Protection or the Portuguese Institute of Sea and Atmosphere, offering an information on temperature, atmospheric pressure, wind, precipitation, clouds, electric discharge, which later can materialize into forest fire. The information put on this page are updated every 2 minutes, showing an approximated location of the events, allowing desktop notification about the ongoing fires and the already extinct ones. The information graphically presented is only unidirectional, the users can only exchange information among themselves in the social media where the initiative is active, on Facebook[11] and Twitter[12]. There are also mobile apps to access Fogos.pt, both for Iphone (iOS) and for smartphones (Android). The following images show part of the activity of Fogos.pt.

Image 1 – Screenshot of the platform Fogos.pt Data from June 11th, 2018. However, since then, the platform was updated.



11 Available in: http://www.facebook.com/fogospt.
12 Available in: http://twitter.com/fogospt.

Image 2 – Updated version of the platform Fogos.pt Data from June 20th, 2018.



The media interest that Fogos.pt had created[13] seems compatible with the number of access of the website that the responsible presents (Table 4).

Table 4 – Evolution in the number of access to the website fogos.pt

		Type of access	
Chronology	**Online access**	**Computer**	**Mobile**
August 2015	101	59%	37%
August 2016	701	58%	41%
October 2017	8,277	65%	35%

Source: Fogos.pt

The numbers show an expressive increase in access to the website in a two-year period, a little over 100 to over 8,000. Regarding the origin of the interaction, the numbers show few significant evolutions, even though we deduce that the access via computer (65%) is still superior to the mobile (35%).

In order to better understand some of the dynamics of this initiatives and the problems that are published daily, we had conducted a

13 Some examples: 1) https://shifter.sapo.pt/2017/10/app-incendios-em-portugal/; 2) https://www.dn.pt/dinheiro/ha-fogo-no-seu-concelho-esta-aplicacao-vai-avisa-lo-10959482.html.

semi-structured interview with the responsible for the website fogos.pt, through direct administration, via phone. This technique, according to Quivy & Campenhoudt, contributes "to discover the aspects to have into account that expand or rectify the field of investigation of readings" (1992: 67).

João Pina began identifying that in the creation of the website fogos.pt there is the "unorganized" and "problematic" level of the online page of the National Authority of Emergency and Civil Protection (ANEPC). To João Pina, the information that is present in ANEPC's website often does not correspond with what is happening in the ground, in terms of number of firemen, aircrafts, vehicles, etc.". It was this delay between the reality of fire combat and the information available for citizens that motivated João Pina to create this online platform. According to what he previously referred, this website gathers information of different entities, from ANEPC to the Meteorology Institute, screen that retrieves the habitual logic of the Google Maps research. The information that appears in this page is, as he referred, unidirectional. Only on social media the fogos.pt page is more dynamic, where citizens can effectively exchange information among themselves, and it is up to João Pina to move them to the website, after proving its accuracy. According to him, there are differences of user behavior in different networks: "Facebook is still the most popular social network in Portugal, contrary to Twitter. On Twitter, the users share more concrete and direct information, which later translate into more accurate and reliable content". The Facebook case raises more issues:

> In this network we have a specific situation that repeats itself numberless times. Many people send me messages about different campaigns of collecting food, blankets, water bottles, etc. for firefighters. Before putting any information, I need to know if this information is true, and what I easily find out is that 90% of these campaigns are fake, they do not exist. Many of these firefighter corporations did not ask for help.

Admitting that different problems are related to the authenticity of the content sent by citizens, João Pina considers that "good participation

happens most of the time". The interviewee says that sharing contents in these situations can be decisive, because "at times, an information published 4 hours ago is not properly current, and people need to know the information in that moment".

In the Portuguese case, the forest management has been in the political and media agenda since the 2017 fires which, from June to October, had killed over 100 people in the central area of the country. At this point, the website fogos.pt had already existed. "I received thousands of messages at that time, because people wanted to know what was happening and there was a sever lack of information that was pertinent, accurate and true. People needed to know where the fire was headed".

Conclusions

This study comes from the understanding that safety takes on a vital importance in terms of society, and not always deserve the reflection it should. In this complex web of actors, from public to private, of reliable information and other frankly problematic, there are experiences in the international level that maximize the exchange of information among citizens during large periods of forest fires, floods, and other circumstances. As we previously had verified, these possibilities arise, in the international context, through the organization of efforts of volunteer citizens or even through companies that make this commercial service available. As we have explored in this article, the digital activity – websites, social networks and mobile apps – out of the six platforms studied are below what is the emancipating promises of technology. The digital presence arrives as a manifest of presence, absent of any politic proper of the interaction with citizens, of a permanent dialog or appeal to public conscience. It is one of the conclusions that inevitably appear related to the absence of commentary, reaction or sharing.

In the Portuguese case, the initiative Fogos.pt works towards a purpose of reorganization of a dispersed information in the digital space, through the voluntary work of a citizen worried about those issues. This experience takes back, through the words of the creator himself, some of

the main deficits that happen in digital interaction in this environment: the lack of reliability of content and the attempts of manipulation of the public opinion.

The main limitations of this study point towards a selected sample, which, naturally, could have included other experiences in the international level. In fact, we still don't know much about the revulsive potential of technologies in periods of natural catastrophe, especially those referring to the dynamics proper of the citizens in sharing information about these periods. Future projects and works in this area could try to compatibilize these two agendas, through the inclusion of more experiences where technology works as interaction during moments of crisis and the communicational practices of citizens during fires, floods, etc. It still seems vital the renewed bet in the study, on the behalf of academics, of the frontiers where there is a true sociology of communication.

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