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**Centro de Investigação
e Estudos de Sociologia**

CIES e-Working Paper N.º 230/2020

Social Media disinformation in the pre-electoral period in Portugal

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CIES e-Working Papers (ISSN 1647-0893)

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Abstract:

Since the North American presidential election of 2016, the role of social media on the propagation of misleading news and its instrumentalization by partisan groups has raised concerns. In this article we analyse the contents of 47 Facebook pages and 39 Facebook groups prior to the Portuguese parliamentary election of 6th of October of 2019 to track disinformation. Groups and pages to monitor were selected through a process that combined the number of fans or members, the proportion of political content, and the number of posts per week. We concluded that disinformative content was prevalent in the pages and groups monitored, that several political actors had a relevant influence on the debate and that most disinformation stemmed from the spinning of both mainstream and non-mainstream news to serve a political purpose.

Keywords: disinformation; fake news; social media; elections.

Introduction

Since the North American presidential election of 2016, concerns have raised globally about the risk of instrumentalization of social media by political actors interested in interfering with the democratic process. Those concerns have mainly focused on electoral periods, because of the influence those periods may have on the general steering of a nation. Fears of unlawful influence may stem either from foreign actors, from internal political agents or from a collusion of both.

This issue became prominent after the 2016 North American presidential election (Faris et al., 2017), and has been recurrent in most elections and referendums since then (Del-Fresno-García et. al, 2018). From that date on, interference of “fake news” in the political discourse has been thoroughly analysed (Fletcher et al., 2018; Jack, 2017). However, in Portugal this problem has not been sufficiently studied (Cardoso and Lamy, 2011; Magalhães, 2008). The prevalence of social media as a source of news for a large percentage of the population is well established in Portugal (Newman et. al, 2018), but the instrumentalization of social media for political purposes has not been thoroughly studied, particularly during election periods.

The aim of this working paper is precisely to try to shed some light on that. We’re investigating both the general political discourse on a selected sample of Facebook pages and public groups and the specific discourse during the election period to track political disinformation. Instead of searching for disinformative content throughout the internet, our novel methodological approach focused the analysis on public Facebook pages and groups that have a considerable audience to which they convey a significant proportion of populist political content.

Naturally, the definition of what is “fake” and what is not may be in most cases very problematic. The definition of what falls within the spectrum of disinformation is in itself contested and different authors have diverse ranges of inclusion for the term (Tandoc et al., 2018; Quandt et al., 2019). Plus, the perception of fake itself is known to vary from individual to individual in respect to prior beliefs and affiliations (Ștefăniță, 2018).

This study follows a research strategy by MediaLab that focuses on digital methods and big data analysis to understand new information and communication technologies and its role in society. To do that, MediaLab, a research body within CIES (Centro de Investigação e Estudos de Sociologia), works with and incentivizes researchers to use digital big data tools to study digital communication and information processes.

For this particular study, we monitored a subset of **47 Facebook pages** and **39 Facebook public groups** during the **28 days prior to the election date** (Kim et al., 2018). Those 28 days comprise 14 days prior to the campaign dates - from September 6th to September 20th - and 14 days of official campaign period - from September 21th to October 5th. WhatsApp groups were also monitored during this period with no relevant results.¹

The Facebook pages and groups monitored for this research were selected through a process designed to identify those pages and groups that have the greatest reach and the most predominant political content.

¹ This work was conducted within the framework of a research project entitled “Monitoring Political Disinformation on Facebook and WhatsApp in Portugal during the October election”, developed at CIES-IUL, a research centre of ISCTE-IUL, with support from Democracy Reporting International and in collaboration with the newspaper Diário de Notícias.

Conclusions stemmed from three different stages of analysis. On the **first stage** we included **all the posts** published by both sets and analysed them for changes over time, content themes and original and linked producers. On the **second stage** the 80 most viral posts published on each set - **160 in total** - were individually dissected to establish if they were disinformative or not and, if so, pertaining to which type of disinformation. Two categorization schemes were used for this process. On the **third and final level** of analysis a deeper individual investigation was performed on the posts or narratives published or distributed during this period that may have had direct interference in the election cycle.

Methodology

The current project was subject to widespread methodological discussion, with the goal of balancing between validity and rigour of results and efficiency in the collection and analysis process while taking into account fundamental ethical boundaries and privacy rights. Prior experiences in the way of analysing data using automated systems (Zhang et al., 2019; Zhou and Zafarani, 2018; Pérez-Rosas et al., 2017) were taken into account in designing this investigation project.

The use of a selected sample

While structuring the design for the current project, one of the first challenges was posed by the vast amount of data available and the technical limitations to its extraction for research purposes. The choice of Facebook instead of other platforms was due to its weight in Portuguese society, having a far bigger presence than any other social media platform (*Marktest*, 2019; Paisana et al., 2019).

Despite its social relevance, Facebook has become an increasingly harder platform for researchers to work on due to privacy restrictions on its API and difficulty to extract public data (Bruns, 2019). This restriction has also become an opportunity for researchers to develop and find new ways to approach data on these platforms (Rogers and Venturini, 2019).

Aware of these limitations, but with access to Crowdtangle, a platform working on Facebook's API that allows monitoring lists of pages and groups, it was decided to work on a selected sample of groups and pages with a high reach and significant political content.

Identifying pages / groups to monitor

As a starting point and supported by previous research (ISCTE-IUL/ICS-UL, 2019; Rodrigues, 2019; Transparency, 2018; Eurobarometer, 2017, 2018; Maia, 2007; Sousa and Triães, 2007) we identified **corruption** as one of the main political concerns of citizens. This concern is furthermore reflected by a strong presence of the theme in social media.

Also, studies have demonstrated that internet users in Portugal, regardless of the online platforms they use, are concerned with the issue of the influence of “fake news” and are eager for ways to protect the public discourse from it (Quintanilha et al., 2019).

A *syllabus* was built around the theme “corruption” and a multivariate search was used in search engines and inside Facebook to identify Portuguese groups and pages where content on

corruption was being published². Search engines were included to minimize the effects of Facebook's suggestion algorithm and select a variety and politically heterogeneous set of pages and groups. This multivariate method had been identified in recent research (Squire, 2019) and is a good alternative after the removal of Facebook Graph searches, in June 2019³.

This first survey led to an extensive table of groups and pages, that were ordered according to three variables: 1) number of followers or members (as a proxy for reach)⁴; 2) number of political posts in the last 10⁵; 3) number of posts in the last week⁶. The triangulation of the three characteristics allowed us to filter the extensive list to the final set, excluding pages and groups with a low reach, limited political content and no recent activity. The result are the sets of 47 Facebook pages and 39 Facebook public groups that we have monitored for this analysis (see table 1).

	Page name		Group name
1	A culpa é do Passos	1	1 milhão na Avenida da Liberdade pela demissão de toda a classe política P
2	A Voz da Razão	2	A INDIGNAÇÃO E REVOLTA
3	Anonymous Legion Portugal	3	Açores Global
4	Anonymous PORTUGAL	4	Amigos da BT/GNR
5	Associação Portugueses Primeiro	5	Apoio a José Sócrates na sua Intervenção Cívica e Política
6	Burlados Do Continente	6	CIDADANIA
7	Carro de Patrulha	7	Contra a Esquerda!
8	Carro De Patrulha 2	8	CORRUPÇÃO NACIONAL
9	CharliePapa vídeos	9	CORRUPTOS E LADRÕES, CADEIA COM ELES JÁ!
10	CORRUPÇÃO À VISTA DE TODOS. ACORDEM	10	DESMASCARAR A CORRUPÇÃO NA JUSTIÇA
11	Democracia21	11	Frente Cívica Debate Público
12	Desobediência Civil Eleitoral Queselixe votar	12	Geração À Rasca
13	Direita Política	13	Grupo de Amigos de José Afonso
14	Escudo Identitário	14	Grupo de Apoio a André Ventura (OFICIAL)
15	Evento XXI	15	GRUPO DE APOIO AO JUIZ CARLOS ALEXANDRE
16	Fórum da Escolha	16	GRUPO DE APOIO AO JUIZ CARLOS ALEXANDRE.INDEPENDENTE
17	Frente Anti-comunista Portuguesa	17	LARAPPIUS
18	Indignados Lisboa	18	Mais Iniciativa
19	Jornalq	19	MDU
20	Lesados do Estado	20	Movimento Reformador

² Official pages of parties were not included in this research.

³ Facebook Graph was a line of commands introduced in Facebook's URL that gave unfiltered results, like, for example, all groups or pages with keyword X in the title.

⁴ Over 1000.

⁵ Three or more.

⁶ Activity in the last week (one or more posts).

		Português
21	Lesados e enganados nos balcões BES/NB	21 Movimento para uma Nova Constituição para Portugal
22	Luso Jornal 2015	22 Movimento Português Anticorrupção
23	Mais Portugal	23 Movimento Vamos Mudar Portugal em Forma de Protesto
24	Mário Gonçalves	24 Não à corrupção!!! Queremos justiça em Portugal...
25	Motoristas de Portugal	25 Nós, os Portugueses
26	Motoristas Lusitanos	26 Nova Portugalidade
27	Movimento Dos Indignados De Portugal	27 Orgulho de ser bombeiro
28	Movimento Zero	28 OS REFORMADOS NO FACEBOOK
29	Notícias Viriato	29 Paulo Morais: contra o Medo e a Corrupção
30	O Bom Europeu	30 POLÍTICA PARA TODOS
31	O Gato Político	31 PORTUGAL A RIR
32	O País Do Mete NOJO	32 Portugueses fartos de políticos medíocres, desonestos e poluição ambiental
33	Pickpocket in Lisbon	33 PROFESSORES E EDUCADORES DE PORTUGAL
34	Portugal - Liberdade em Democracia	34 PURP - GERAL - Partido Unido dos Reformados e Pensionistas
35	Portugal Contra a Geringonça	35 Remexido
36	Portugal glorioso	36 Revolta Nacional
37	POVO	37 SECOS E MOLHADOS - POLÍCIA SEGURANÇA PÚBLICA- 1989
38	PS - Partido da Bancarrota	38 Um café...e dois dedos de conversa (Ou "Conversas de escárnio e...bem dizer"
39	RiseUP Portugal	39 UNIFICAÇÃO DO ORDENADO MÍNIMO DE CADA PAÍS NA UNIÃO EUROPEIA
40	Roubos Furtos & Desvios - Madeira	
41	Sentinela VI	
42	Submarino Amarelo	
43	Tuga.press	
44	Tugaleaks	
45	Tugalíticos	
46	União Nacional	
47	Viriato Lusitano	

Table 1 - Alphabetically ordered list of all pages and groups monitored. Source: Facebook. Data extracted through Crowdtangle API

Extraction and sorting of data

Both sets were included as analysis lists in Crowdtangle. Crowdtangle is a social media tracking platform owned by Facebook that has privileged access to the social network while anonymizing user data. It allowed for sorted extraction of all posts published in each set during

the 4 weeks of analysis (from the 6th of September to the 5th of October), ordering them by the number of total interactions (shares, comments, likes) associated with each post.

In the extraction table, metadata such as time of publishing, links to external content (a media article) and the post's and link's text is also included. This allows for a number of interesting lines of research, some of them translated into the first stage of analysis.

Fact checking, identification and categorization

Every week, from the list of publications sorted by number of interactions, the top 20 most viral political posts of each set were debunked, labelled and categorized, one by one, resulting in a final sample of 180 categorized posts. The political relevance was assessed by the post itself and by the comments made by the users in relation to the governance of the collective body. Reactions urging to action or criticizing inertia from governmental, institutional or any other civil structure were interpreted as a political interpretation of the post. Non-political posts were not included in the analysis.

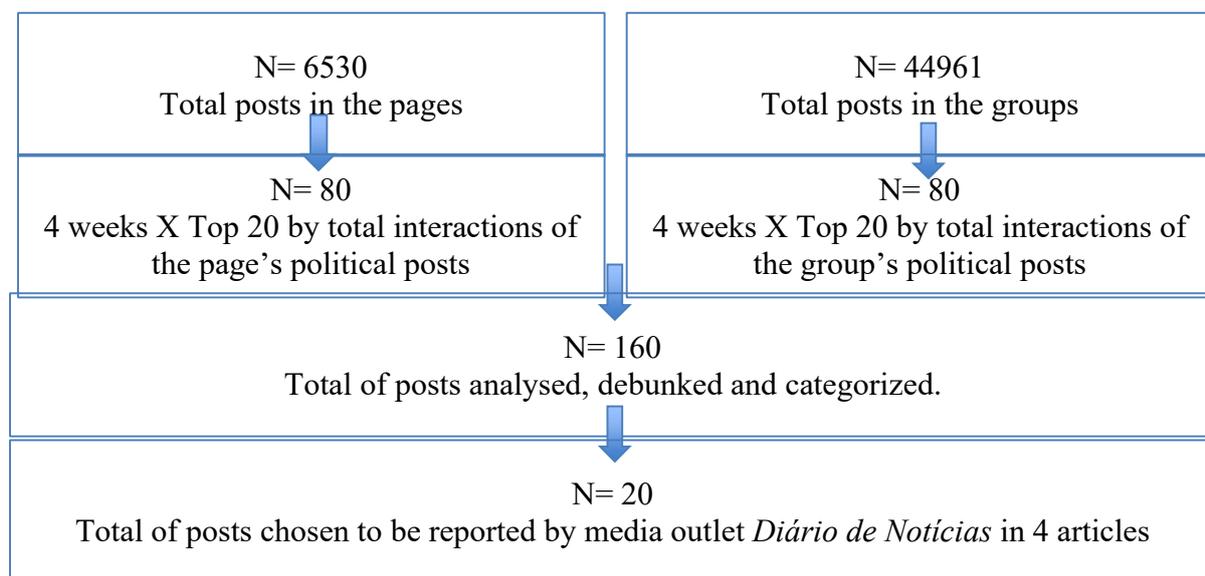


Figure 1 – Post selection process

The fact checking process was made complementing two renowned procedure manuals in the field, one by the Consortium of Investigative Journalism Network and the other one by Craig Silverman, for First Draft News (Silverman, 2013). Being aware that there are different positions pertaining the validity and consistency of fact checking method platforms (Amazeen, 2015, 2016; Morgan, Barker & Bowser, 2015), an effort was made to sustain results not only with these fact checking methodologies but also by introducing peer review and transparency by publishing the entire fact checking process for each red flagged post on our website for public consultation. (<http://bit.ly/MediaLabOutputs>).

Every post was analysed according to its content, context and visual clues and labelled either as disinformative content (incorrect facts), potentially disinformative content (inaccurate facts) or nothing to register. This labelling process was a result of the combination of two characterization processes.

The first, was the categorization of posts according to Claire Wardle’s First Draft News typology (Wardle & Derakhshan, 2017; Wardle, 2018), in a closed and mutually exclusive encoding process. The second, that stemmed from a need to complement the first system, was a tagging method developed by MediaLab at CIES-IUL during the debunking process. The tags were directly associated with different disinformative characteristics identified in the posts. These were non-conflicting and did not consider intent as a variable, unlike the First Draft News typology.

In a grounded approach (Charmaz, 2006), this coding process was developed as the complexity of the data made it very difficult to use a fixed coding system as different characteristics found on the First Draft News were found overlapping in one single case.

Another methodological challenge was the integration of intent as a variable in the First Draft News model, also included in the European Union’s (2018) definition of *disinformation* and widely used as a distinguishing factor between misinformation and disinformation (Freelon & Wells, 2020). Theoretically solid, while coding data directly it is very difficult to assess intent of those sharing disinformation. There are also ethical, forensic and methodological boundaries that prevent us from accurately finding who is responsible for the production and dissemination of this content and to interview or collect more data on their persona to be able to evaluate their possible malicious reasons to do so.

Type	Tag
Incorrect	Incorrect fact
	Incorrect title
	Incorrect facts to the current date
	Incorrect facts on publishing date
	Unfounded accusations
Inaccurate	Inaccurate facts
	Inaccurate title
	Inaccurate facts to the current date
	Inaccurate facts on publishing date
	Unsubstantiated accusations
Visually out of context	Manipulated image
	Image spin
	Image out of context
Content out of context	Selective copy
	Out of context use of trustworthy sources
	Out of context use of parody content
Timing out of context	Recycling
	Out of context timing
Geography out of context	Out of context geolocation

Table 2 - MediaLab’s tags for disinformation characteristics.

Type of post, discourse and main theme were also included in the categorization process, using Crowdtangle and MediaLab labels, and they also distinguish between intra and outside Facebook content.

Ethical issues

Some ethical issues were raised in the building of the current project, considering current research guidelines (Franzke et al., 2019). First, the boundaries between what is private and public, and to which extend informed consent should be applied. There continues to be a growing discussion on this issue, and whether privacy of data should be determined by a user-platform agreement or by user's perceptions, given that the latter is far more difficult to assess (Fiesler & Proferes, 2018). Without the existence of a general consensus among academia (Tufekci, 2014; Kosinsky et al., 2015; Zimmer, 2018), it was decided to focus only on public Facebook groups and open WhatsApp groups. To see the content of public Facebook groups it is not necessary to join and accounts without any personal data - despite the mandatory - were created to collect the data.

For WhatsApp, because there is a need to join these groups via the public invite link, a MediaLab WhatsApp profile was created with a link to the project's page, so that anyone in these groups could easily understand that profile's intent while joining.

No identifiable information (connecting data and personal identifiers) was released regarding final conclusions to this research and both the WhatsApp Monitor and Crowdtangle strip off personal selectors before collecting the data. Authors of red flagged posts whose debunking process was shared in MediaLab's website were anonymized. The link to the original public post, that could lead to identifiable information, was included. A decision was made that the transparency and verifiability of the process surpassed the need to exclude posts that were public and easy to access by any Internet, WhatsApp or Facebook users.

Level 1 analysis: Disinformation trends

WhatsApp groups activity

The decision to analyse WhatsApp originated from similarities between Portuguese and Brazilian reality as network societies in transition (Cardoso, 2006), translated into similar popular discourse towards politicians and a general concern about corruption (Melgar, *et al.*, 2010). In Portugal, as in Brazil, WhatsApp has wide coverage among smartphone users (Marktest, 2019; Reuters, 2019). In 2018, a group of researchers from Universidade Federal de Minas Gerais, Brasil (Resende *et al.*, 2019), collected data on disinformation circulating in WhatsApp during the Brazilian presidential elections, having identified a significant volume of disinformative viral images circulating through the messaging app

MediaLab at CIES-IUL searched within search engines, open forums and public content of social networks for open WhatsApp groups accessible via a public link that will always start with: "<https://chat.whatsapp.com>".

From this search, MediaLab at CIES-IUL identified around 1000 public WhatsApp links, of which only 121 were selected for further analysis, since the remaining were either of Brazilian

origin or clearly apolitical. Data extraction tool *Backup WhatsApp Chats* was tested, and anonymization of data guaranteed with a test group, created for this purpose.

Of the 121 remaining, 31 were joined on the 31st of August 2019 by an identified MediaLab CIES-IUL profile, with a status linking to the project’s goals and data protection policy (www.bit.ly/proj_desinformacao). The rest of the sample was not included due to inactivity or lack of political content.

It was given a period of one week for group members to demonstrate possible disagreement with the presence of the MediaLab CIES-IUL profile. On the 8th of September content analysis began on a daily basis, with an average of 1000 messages a day spread among the 31 groups. This analysis lasted until the 5th of October.

Although political discussions were registered, there was no identification of disinformative content. Due to the sensitive nature of possible privacy perceptions among WhatsApp group members, MediaLab at CIES-IUL decided not to store or further analyse the data from these group discussions, by considering that the main goal of the project identifying if there was disinformative content being shared in Portugal via WhatsApp - had been accomplished.

Facebook pages activity

The 47 Facebook pages monitored for this report represent an overall fan base of 1,486 million users (not mutually exclusive), some of whom may follow two or more pages on this sample and may be located outside Portugal. During the 30-day period between September 6th and October 5th, these 47 pages published a total of 6,530 posts (an average of 139 posts per page) that resulted in a total of 1,107,204 interactions (comprising likes, comments and shares). That corresponds to an average of 23,588 interactions per page on this 30-day period.

There was no significant increase in posts between the pre-campaign period (from the 6th to the 20th September) and the official campaign period 15 days before election day. However, a significant increase in the interactions generated by those posts was identified closer to the election. This should be expected due to the greater exposure political issues had in the media during the campaign period.

		From 06/09 to 05/10				
		Total interactions	Likes	Comments	Shares	Total posts
Average per page		23,568	6,494	1,663	10,702	139
TOTAL		1,107,704	526,538	78,163	503,003	6,530
		From 06/09 to 20/09 - pre-electoral period				
		Total interactions	Likes	Comments	Shares	Total posts
Average per page		11,228	2,951	765	5,442	72
TOTAL		527,701	235,931	35,973	255,797	3,362
		From 21/09 to 05/10 - electoral campaign				
		Total interactions	Likes	Comments	Shares	Total posts
Average per page		12,340	3,543	898	5,260	67
TOTAL		580,003	290,607	42,190	247,206	3,168

Below average
Above average

Figure 2 - Statistics of the page set. Source: Facebook. Data extracted through Crowdtangle API.

When we look at the daily evolution of interactions during the 30-day period we’re monitoring, we can see not only a significant increase in the second half of that period (marked in shades of red) - corresponding to the official electoral campaign - but also a prominent spike on

October 4th, corresponding to the episode in which a citizen confronted the Portuguese prime minister (and electoral candidate), on the last day of the campaign, with accusations that were influenced by disinformation narratives, as we will see further on this report. This spike, along with the increase of activity in the second half of the monitored period signals the effort placed by these pages on the exploit of this electoral episode and the high number of interactions it got from users. As we will confirm further, Facebook pages display a significant level of political agency and that reflects on a closer connection with the daily news of political activity.

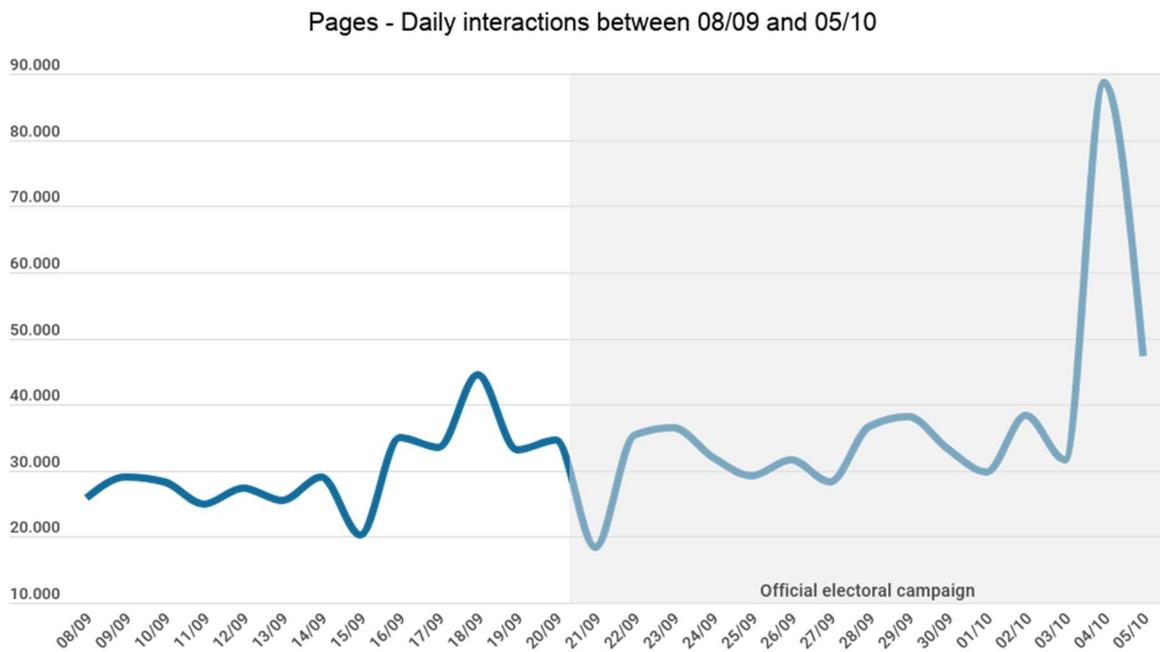


Figure 3 - Timeline of pages daily interactions. Source: Facebook. Data extracted through Crowdtangle API.

In the Facebook pages set of our analysis, *O País Do Mete NOJO* registered the most interactions during this one-month period - just above 146 thousand - also with the most posts published: 667. *Mário Gonçalves*, *Direita Política* and *A culpa é do Passos* were the following pages regarding total interactions.

	Account	Posts	Interactions	Interactions per post
1	<i>O País Do Mete NOJO</i>	667	146,176	219
2	<i>Mário Gonçalves</i>	54	98,596	1,826
3	<i>Direita Política</i>	222	72,220	325
4	<i>A culpa é do Passos</i>	272	70,663	260
5	<i>Lesados do Estado</i>	156	67,039	430
6	<i>Tugaleaks</i>	549	63,148	115
7	<i>Anonymous PORTUGAL</i>	329	58,877	179
8	<i>Movimento Zero</i>	59	42,133	714
9	<i>Viriato Lusitano</i>	340	30,850	91
10	<i>Burlados Do Continente</i>	265	30,233	114

Table 3 - Most active Facebook pages. Source: Facebook. Data extracted through Crowdtangle API.

However, we should notice that the page *Mário Gonçalves* achieves this high position in the ranking with only 54 posts published during this period, which means that the author or authors of this Facebook page exhibit expertise in producing posts with a high degree of engagement. The same could be said about the page *Movimento Zero* (see image 3). *Direita Política* and *Lesados do Estado* also registered a high proportion of interactions for each post and are frequent presence on the ranking of most interactive posts. All these four represent the prototype of the politically engaged Facebook page that acts with expertise in creating and spreading posts that are aligned with its political stance and formulated in an interaction maximising fashion.

Overall, this ranking of the 10 pages that had the most interactions during the election cycle represent 61,3% of all the interactions registered during this period by the 47 pages monitored.

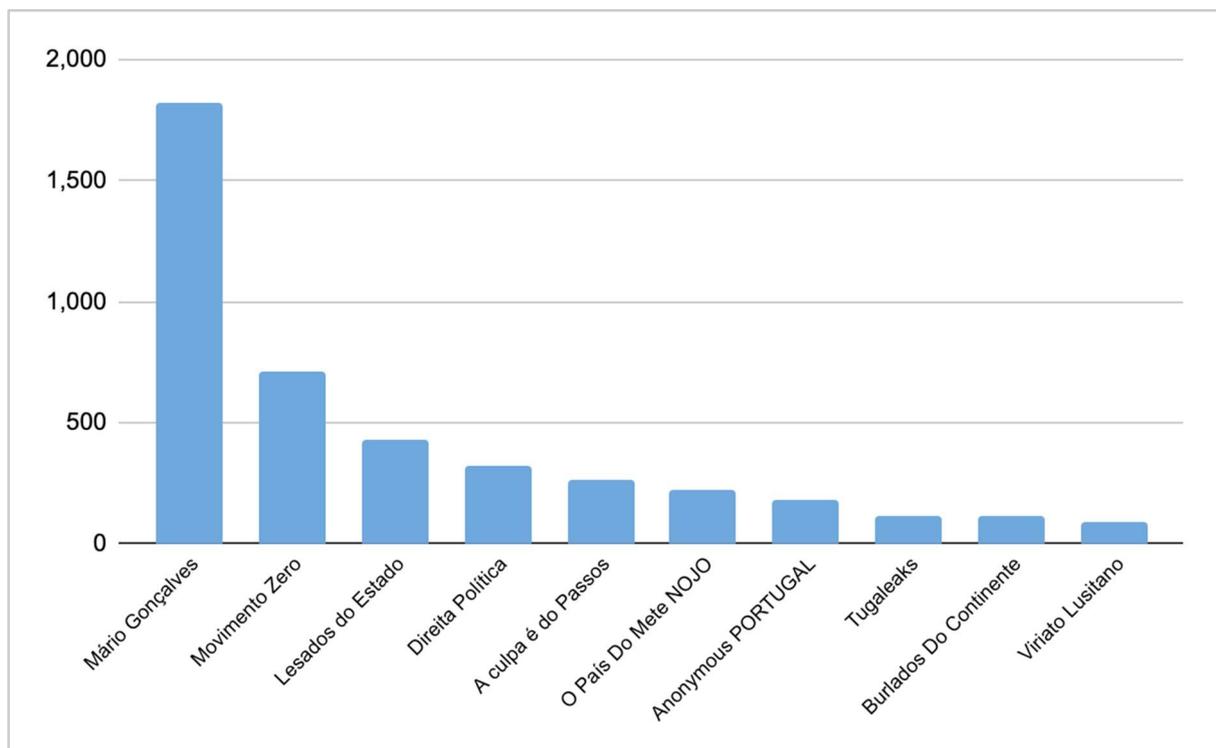


Figure 4 - Interaction per post. Source: Facebook. Data extracted through Crowdtangle API.

When we look at the individual posts that had the most interactions during that same period, we notice how the two most viral are referring to the episode mentioned above during the last day of electoral campaign and involving the prime-minister. On the other hand, we should also notice how, among the 10 most “viral” posts during this time period, five of them are produced by the aforementioned page *Mário Gonçalves*, confirming this as the most influential agent among the pool of 47 pages monitored. This page is not affiliated with current institutional political parties and is, as far as it can be perceived, the work of a single individual.

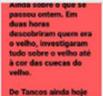
Post	Account	Interactions
 <p>04 Oct 16:01    O Primeiro-Ministro António Costa tenta agredir eleitor que discorda dele</p>	 Lesados do Estado	9,780
 <p>05 Oct 21:30</p>	 O País Do Mete NOJO	7,269
 <p>18 Sep 19:15 Portugal vence europeu de andebol em cadeira de rodas</p>	 Anonymous PORTUGAL	6,100
 <p>17 Sep 17:35 "O aborto é pior do que padres abusarem de crianças" Cardeal George Pell</p>	 Mário Gonçalves	6,027
 <p>09 Sep 19:16 Sócrates vai ser interrogado pelo AMIGO Ivo Rosa no final de Outubro!</p>	 Mário Gonçalves	5,917

Table 4 - Most viral posts in the pages set Source: Facebook. Data extracted through Crowdtangle API.

Investigating the origin of the links that were most shared within this subset of 47 pages, we see that *Tuga.press* was the most linked-to website during this period, followed by the *Mário Gonçalves* and *Direita Política* websites, again confirming these two as the most influential agents in the overall content circulating in the pages set groups. As for *Tuga.press*, it should be mentioned that this website is the most used source of links in this subset of pages because three pages link to it systematically and in an automated fashion: *Tuga.press*, *Tugaleaks* and *Anonymous Portugal*.

Also of notice is the way the monitored Facebook pages mention and link to other pages in this monitor: from position 4 on, the most used sources of information for these pages are other pages in our “pool”, which means that pages propagate and disseminate content created or previously shared by other pages within the same platform. This introduces a kind of self-referencing within what seems to be an information bubble. In particular, the fact that those links are internal to the platform means that Facebook has the access necessary to control the manner in which disinformation propagates between those pages.

	Origin	Interactions
1	<i>tuga.press</i>	83 172
2	<i>mariogoncalvesoficial.pt</i>	79 989
3	<i>direitapolitica.com</i>	77 758
4	Facebook - <i>O País Do Mete NOJO</i>	70 199
5	Facebook - <i>A culpa é do Passos</i>	62 569
6	Facebook - <i>Lesados do Estado</i>	56 941
7	Facebook - <i>Movimento Zero</i>	38 707
8	Facebook - <i>Burlados Do Continente</i>	27 907
9	Facebook - <i>O Gato Político</i>	23 790
10	Facebook - <i>Mário Gonçalves</i>	21 538

Table 5 - Sources most linked by pages. Source: Facebook. Data extracted through Crowdtangle API.

We also used Watson⁷ to identify the predominant themes on all the content that was published in these 47 pages during the 30-day period prior to the election. Of course, judicial issues are at the top, but 2 electoral figures - the PAN party and António Costa, current prime-minister - also arise at the top, both of them getting strong disinformation coverage in these pages. José Sócrates, the Portuguese socialist ex-prime-minister dealing with corruption accusations is a frequent target of these pages' publications, most of the time reflecting on the public image of its successor, António Costa.

In sum, we've identified two pages with relevant influence in this sample, none of them affiliated with current political parties: Direita Política and Mário Gonçalves. Both are managed by individuals or groups of individuals not clearly affiliated with political parties but both pursuing a political agenda. That political agenda is visible in the almost professional expertise with which posts are made and the interactions they generate. Tuga.press also displays some degree of expertise, in the fact that uses three different Facebook pages to channel traffic to its website.

⁷ IBM Watson is an open tool that uses machine learning to understand natural language: <https://www.ibm.com/watson/services/natural-language-understanding/>

Facebook groups activity

The total activity of a sample of 39 public Facebook groups was also monitored - comprising a total of 707 thousand members. In the 30-day period, a total of almost 45 thousand posts were published in these 39 groups, which means an average of 1153 posts per group (38 posts per day on each group, on average). During that period, those 45.000 posts generated more than 2 million interactions.

Comparatively to the 47 pages monitored, users in these groups published much more posts (45 thousand against 6,5 thousand) and generated almost double the interactions. Which could mean that, although they generate significantly less interactions per post, these 39 public groups may have had a larger influence on this 30-day election period than the 47 pages monitored.

When we look separately at the two 15-day periods we used before, we conclude that - similarly to what happened in the pages - activity in the groups was more intense in the days closer to the election, both on the quantity of posts published and on the interactions generated by those posts.

From 06/09 to 05/10					
	Total interactions	Likes	Comments	Shares	Total posts
Average per group	52,352	16,530	7,135	14,326	1,153
TOTAL	2,041,739	1,204,785	278,257	558,697	44,961
From 06/09 to 20/09 - pre-electoral period					
	Total interactions	Likes	Comments	Shares	Total posts
Average per group	25,680	8,047	3,313	7,020	532
TOTAL	1,001,504	598,489	129,218	273,787	20,761
From 21/09 to 05/10 - electoral campaign					
	Total interactions	Likes	Comments	Shares	Total posts
Average per group	26,673	8,484	3,822	7,305	621
TOTAL	1,040,235	606,286	149,039	284,910	24,200

	Below average
	Above average

Figure 5 - Statistics of the group set. Source: Facebook. Data extracted through Crowdtangle API.

The daily posting in the groups displays greater variations and no significant trend, other than a slight reduction of the interaction numbers towards the final of the analysed period.

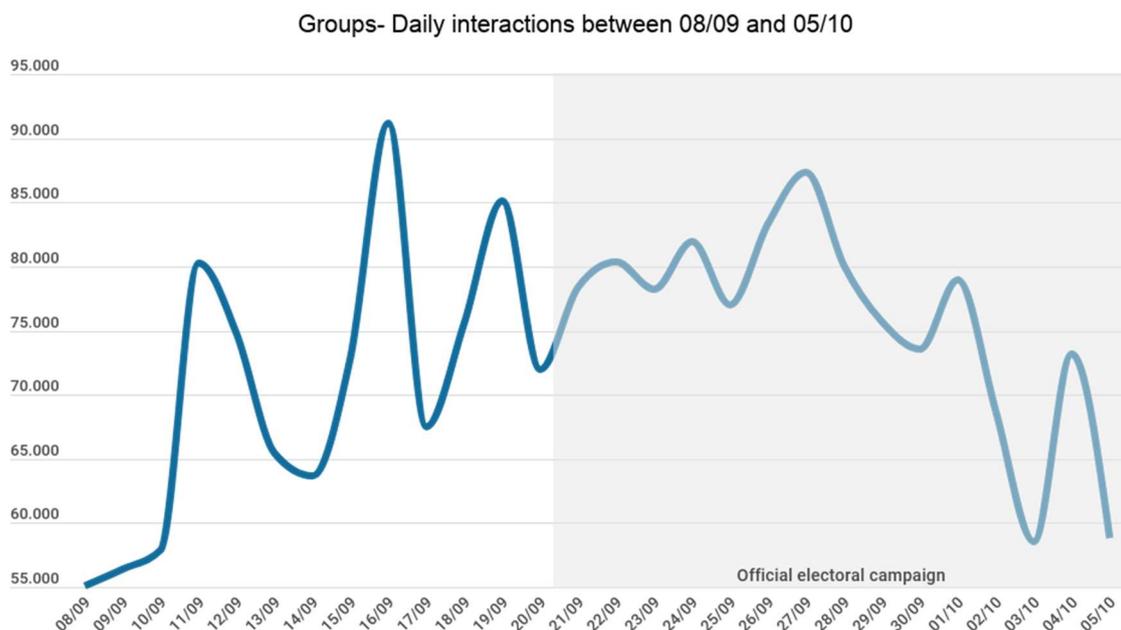


Figure 6 - Daily interactions. Source: Facebook. Data extracted through Crowdtangle API.

Of the 39 public groups we are monitoring, *Portugal a Rir* and *Grupo de Apoio ao Juiz Carlos Alexandre* stand out, with over 7 thousand posts published and 874 and 716 thousand interactions, respectively. The first is more miscellaneous, dedicated to comic and daily life content, but with a relevant percentage of political content. The second is a group “in support” of judge Carlos Alexandre who investigated and put on trial the former prime-minister José Sócrates on accounts of corruption and abuse of power. In this group political and economic corruption is the central theme.

These two groups - the first for its reach and the second for its dominant political content - were the ones that exerted most influence during the October election cycle, followed by *A Indignação e Revolta* and *Os Reformados do Facebook*. Also noticeable is the group in support of André Ventura - *Grupo de Apoio a André Ventura* - precisely one of the far-right politicians that were elected for the first time in this election.

	Account	Posts	Interactions	Interactions per post
1	<i>PORTUGAL A RIR</i>	7,873	873,841	111
2	<i>GRUPO DE APOIO AO JUIZ CARLOS ALEXANDRE</i>	7,306	716,285	98
3	<i>A INDIGNAÇÃO E REVOLTA</i>	5,902	77,714	13
4	<i>OS REFORMADOS NO FACEBOOK</i>	1,052	61,926	59
5	<i>Açores Global</i>	2,333	55,835	24
6	<i>Grupo de Amigos de José Afonso</i>	506	30,800	61
7	<i>Grupo de Apoio a André Ventura</i>	1,960	27,548	14
8	<i>LARAPPIUS</i>	1,301	21,949	17
9	<i>Orgulho de ser bombeiro</i>	1,006	18,082	18
10	<i>Remexido</i>	1,060	16,176	15

Table 6 - Groups with more posts and interactions. Source: Facebook. Data extracted through Crowdtangle API.

In what concerns the posts that generated more interactions during this period, we see that the first was a post published in the group *A Indignação e Revolta*, but all the others were published either in *Grupo de Apoio ao Juiz Carlos Alexandre* or in *Portugal a Rir*, which confirms the importance of these two groups in the set.

Post	Account	Interactions
 <p>16 Sep 16:31 Ex-chefe da ONU é condenado a 9 anos por pedofilia</p>	 <p>A INDIGNAÇÃO E REVOLTA</p>	13,294
 <p>27 Sep 16:05 Refugiado "de passagem" recebe 875 euros mensais enquanto reformado "com 40 anos de descontos" só tem direito a 389 euros? - Polígrafo</p>	 <p>GRUPO DE APOIO AO JUIZ CARLOS ALEXANDRE</p>	4,199
 <p>11 Sep 18:48 ?????????</p>	 <p>PORTUGAL A RIR</p>	3,843
 <p>12 Sep 17:47 Marcelo sugere dar o nome de Mário Soares ao aeroporto do Montijo</p>	 <p>GRUPO DE APOIO AO JUIZ CARLOS ALEXANDRE</p>	3,742
 <p>05 Oct 00:36 Ninguém sabe o que é viver a dor de uma doença até passar por ela. Oremos pelos doentes como se fossem por nós ????</p>	 <p>PORTUGAL A RIR</p>	3,534

Table 7 - Most viral posts in the groups set. Source: Facebook. Data extracted through Crowdtangle API.

As for most used sources within these 39 groups, we find several established media outlets - like *SIC Notícias*, *Público*, *Expresso* or *Observador* - but also relevant “alternative” news outlets, like *Direita Política*, *Portugal Glorioso* or *Mário Gonçalves Oficial*. *Direita Política*, in particular, seems to have a significant presence in these 39 public groups, with over 65 thousand interactions generated by content pieces coming from its website.

Plus, as we shall see in the next chapter of this article, established media content is often spun in these groups to assume a disinformative nature that is not contained in those sources. The complexity of disinformative content often comes from this use of information that is validated by traditional media but then spun by pages and/or members of this groups to meet their specific political agenda.

Plus, we should also note how the sources of information in these groups are often some of the pages we mentioned earlier as influential in the debate. This means their influence does not restrict to its own page audience but spreads – in a complex web of influence – into other Facebook pages and groups. Again, nor these pages nor the groups administrators are clearly affiliated with an official political party, however pursuing a political agenda.

	Origin	Interactions
1	direitapolitica.com	65,501
2	sicnoticias.pt	52,664
3	publico.pt	46,103
4	expresso.pt	38,337
5	youtube.com	34,729
6	observador.pt	29,852
7	portugalglorioso.blogspot.com	29,675
8	tvi24.iol.pt	21,551
9	eco.sapo.pt	17,070
10	mariogoncalvesoficial.pt	16,316

Table 8 - Sources most linked in group posts. Source: Facebook. Data extracted through Crowdtangle API.

Likewise, we did with pages, we also ran the content of all the posts published in these 39 groups through an automatic textual analysis performed by Watson. From that analysis, the themes that stand out are not very different from the ones identified for the pages. Issues relating to the judicial processes - referring to *Ministério Público* - are dominant, but the party PAN and the incumbent prime-minister *António Costa*, both entering the election, are also present. This two seem to have been, during this period priority targets for the content published in this pages and groups and, therefore, also frequent victims of disinformative narratives.

Level 2 analysis: Disinformation categories

Every week MediaLab at CIES-IUL extracted the sorted list for each set, with posts being ordered by number of total interactions. In total 160 posts were analysed (4 weeks X top 20 for each set) responsible for 11% of all interactions registered in both sets during this period.

Because we only wanted to debunk political posts, a larger number had to be seen in order to achieve that value. In the pages, 96% of content was political, so only a total of 83 posts were analysed. In the groups, more non-political content was shared, mostly parody, totalizing a number of 175 posts seen to achieve the 80 political ones.

Posts were analysed and fact checked based on content, context and visual and linguistic cues. From the pages set, **66,25%** of content was labelled as potentially disinformative, of which 27,5% was clearly disinformative - incorrect - and 38,75% could misinform - inaccurate. In the groups set the results were very similar, with 63,75% of content labelled as potentially disinformative, 33,75% incorrect and 30% inaccurate. **From the 180 posts analysed, 104 were red flagged, representing more than two thirds of content in both sets.**

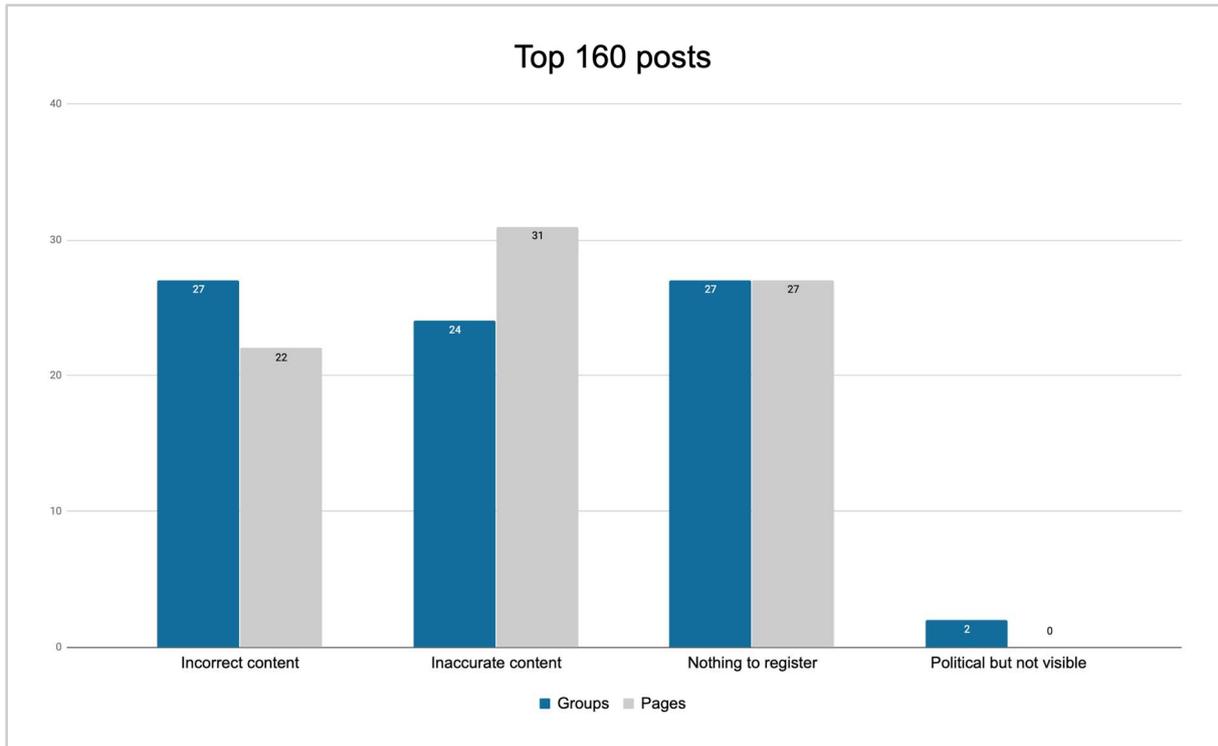


Figure 7 - 160 analysed posts by type of content. Source: Facebook. Data extracted through Crowdtangle API.

The main difference between these would be that page's administrators are more contained, organized and self-producing, and groups users were more extreme, in a more disorganized pattern and sharing mostly third-party content. In fact, apart from distinctions related to those specific issues both sets showed significant similarities.

Every week the main narratives would duplicate from one set to the other. If we look at prevailing themes in the 104 posts⁸ labelled as potential disinformation, corruption and politicians are the main theme with 48% of posts with a relatively larger expression in the pages set⁹. Media and censorship with 12,5% of posts and the banking industry with 7,7% have similar presence in both. The main difference being refugees and immigration and big corporate interests, with a larger expression in the groups set¹⁰, representing 6,7 and 7,7%. Relevant to point out that these disinformative posts associated with immigration and refugees all contained xenophobic discourse.

Themes	Groups	Pages
Political corruption	21	29
Established media and internet censorship	7	6
Big companies	5	3
Banking	4	4
Refugees / Immigration	6	1

⁸ 53 in the pages set and 51 in the groups set.

⁹ 54,7% in the pages set and 41,2% in the groups set.

¹⁰ Big corporations 5,7% in the pages set and 9,8% in the groups set. refugees and emigration 1,9% in the pages set compared to 11,8% in the groups set.

Social inequality	2	4
Environment	2	2
Criminality and deviant behaviour	2	2
Sports	0	2
LGBT+	1	0
Historical homage	1	0
TOTAL	51	53

Table 9 - Themes present in red flagged posts. Source: Facebook. Data extracted through Crowdtangle API.

Regarding type of discourse and type of red flagged posts, pages tend to promote their own content, very often recurring to what we labelled as “suggestion of interpretation”. It differs from opinion in the sense that it is not clear to the user that it is a personal judgement and not a grounded statement. This type of discourse was the most common in both the pages and groups set. Pages had more prevalence of opinion statements or articles, and far less sheer factual narratives, resulting from the fact they almost did not share established media content.

Type of post		Groups		Pages	
		w/comment	no comment	w/ comment	no comment
Established Media ¹¹	News article	12	2	1	0
	Article of opinion / cartoon / parody	0	0	1	0
Others	"News" article	17	10	19	1
	Article of opinion / cartoon / parody	0	2	11	0
Intra-Facebook	Photo	4	0	1	0
	Video	1	0	9	0
	Meme	1	0	3	0
	Commentary	2	0	4	3
	GIF	0	0	0	0

Table 10 - Types of posts. Source: Facebook. Data extracted through Crowdtangle API.

¹¹ Registered at the Portuguese Media Regulatory Entity

Type of discourse ¹²	Groups		Pages	
	Post	Link	Post	Link
Suggestion of interpretation	35	9	41	22
Opinion	1	1	8	3
Factual narrative without adjectives	0	18	2	4
Factual narrative with adjectives	0	20	3	13
Interview by official Media	0	1	0	0

Table 11 - Types of discourse. Source: Facebook. Data extracted through Crowdtangle API.

Consistency between conclusions of the 1st level of analysis is found, both regarding main themes / subjects and in main differences between the groups and pages set. For example, a much higher presence of established media links in the groups than in the pages.

Regarding disinformation categorization, the First Draft News typology (Wardle, 2017 and 2018) was far less heterogeneous in the pages, where only 3 of the 6 categories¹³ were registered, with false context and manipulated content representing, in equal amounts, about 42%, and misleading content the remaining 58%. In the groups we found more audacity and variety, with 4% fabricated content, 20% manipulated content, 2% imposter content, 35% false context, 35% misleading content and 2% false connection.

FDN system	Groups	Pages
Fabricated content - new content is 100% false, designed to deceive and do harm.	2	0
Manipulated content - genuine information or imagery is manipulated to deceive.	10	11
Imposter content - genuine sources are impersonated.	1	0
False Context - genuine content is shared with false contextual information.	18	11
Misleading content - misleading use of information to frame an issue or individual.	19	31
False connection - headlines, visuals or captions don't support the content.	1	0

Table 12 - Types of disinformation in the red flagged posts using the First Draft News system. Source: Facebook. Data extracted through Crowdtangle API.

The tagging system was not mutually exclusive, but it was interesting to see both sets had a similar number of tags, with an average of 3,5 tags per post in the pages set, and 4,1 in the groups set. Here pages and group sets had similar results regarding the weight of most tags. The two main differences were **inaccuracy related** tags, which were far more common among page posts. **Out of context timing** and **text of post leading to wrong interpretation of linked content**, were considerably more present in groups.

¹² Both comments and link discourse were analysed, sometimes with two occurrences by post, totals do not match *n*.

¹³ Parody / satire was not included.

Tags		Groups		Pages	
		Intra-Facebook	External link	Intra-Facebook	External link
Incorrect	Incorrect fact	8	8	7	9
	Incorrect title	0	6	0	3
	Incorrect facts to the current date	5	1	6	0
	Incorrect facts on publishing date	3	1	2	0
	Unfounded accusations	9	8	9	8
Inaccurate	Inaccurate facts	9	9	13	21
	Inaccurate title	0	13	0	6
	Inaccurate facts to the current date	2	3	3	0
	Inaccurate facts on publishing date	0	0	0	0
	Unsubstantiated accusations	15	12	28	11
Visually out of context	Manipulated image	0	4	1	3
	Image spin ¹⁴	3	4	6	9
	Image out of context	1	3	0	0
Out of context content	Selective copy	5	4	2	5
	Out of context use of trustworthy sources	2	2	2	3
	Text of post leads to incorrect interpretation of linked content	11	0	3	0
	Out of context use of parody content	0	0	1	0
Out of context timing	Recycling	28	2	14	0
	Out of context timing	28	1	11	0

Table 13 - Disinformation characteristics of red flagged posts using MediaLab's tagging system. Source: Facebook. Data extracted through Crowdtangle API.

Tags were separated in order to distinguish tags from external links from intra-Facebook posts¹⁵. One of the major conclusions of this preliminary report is that of the 104 red flagged posts, only **8,65%** had exclusive external link tags. The remaining **91,35%** had intra-Facebook labels, resulting from actions inside the platform.

Level 3 analysis: Disinformation debunking

The third and final stage of the project consisted of a partnership with reference newspaper Diário de Notícias and investigative journalist Paulo Pena. Every week, the analysis of the top 20 of each set was shared with Diário de Notícias, that signalled two or three posts that were

¹⁴ When images match context and have not been changed, but are presented in a way that transmits a subliminal out of context message.

¹⁵ Characteristics of disinformative posts were separated between those relating to the post itself (intra-Facebook) like, for example, out of context timing, and those of the responsibility of agents outside Facebook, like incorrect facts in the website page linked in the post (external to Facebook).

considered especially relevant, either due to the threat of disinformation presented or due to their direct connection to the elections campaign.

These posts were further investigated on a journalistic standpoint lead by Paulo Pena, especially considering actors and agents responsible for their production and diffusion, an analysis outside MediaLab's scope, that did not include data from user profiles.

During the 4 weeks of analysis several posts were taken by MediaLab's partner in this project, Diário de Notícias for journalistic investigation. Four articles (Pena, 2019a, 2019b, 2019c and 2019d) stemmed from this research, that went further than the regular academic research, identifying content producers, linking them to political organizations and pointing the finger to some key figures that were sharing red flagged posts.

On the last campaign day, the 4th of October, Portuguese Prime Minister António Costa was approached by a senior citizen that accused him of being on vacation during and in the immediate aftermath of Pedrogão Grande fire disaster, that led to the death of over 60 people, in June 2017.

The false narrative claiming the prime minister was on vacation during the disaster had been recurrently identified by MediaLab at CIES-IUL in both sets, during and before the analysis period, and had already been debunked by official fact checking organism Polígrafo (2019).

MediaLab at CIES-IUL extracted around 2000 posts from the group set with the keyword "férias (vacations)" going back up to the date of the fires in June 2017. Of these, hundreds of posts were identified on the subject, with **125** falsely claiming the Prime Minister was on vacation by the time of fires¹⁶ and only **2** exposing the narrative as disinformative. These 125 posts resulted in 8957 interactions, among them 2462 shares.

If we look at the groups from our set with more posts pushing this narrative, we have *Grupo de Apoio Juiz Carlos Alexandre* with 57, *A Indignação e Revolta* with 32, *Contra a Esquerda* with 14 and *Política para todos* with 6¹⁷. If we look at some of the original links that promote this story, *Direita Política* is the author of 17, *PSD Europa* of 11, *PS - Partido da Bancarrota* 7, *A culpa é do Passos* 5 and *Ética e Moral* also 5. **All of these, except for *Direita Política*, which is also a site, are Facebook pages.**

If we insert the 125 posts in a timeline it becomes even more interesting, with a clear upspring of the false narrative in the summer of 2019 and the first consistent share of the narrative in November 2018, greatly promoted by a *PSD Europa* page post.

¹⁶ Only posts where this narrative was contained in the post's text or visible link title were considered. Comments or link text was not included, which would have made this value even higher.

¹⁷ *Política para Todos* was also the group where the 2 posts exposing the false narrative showed up.

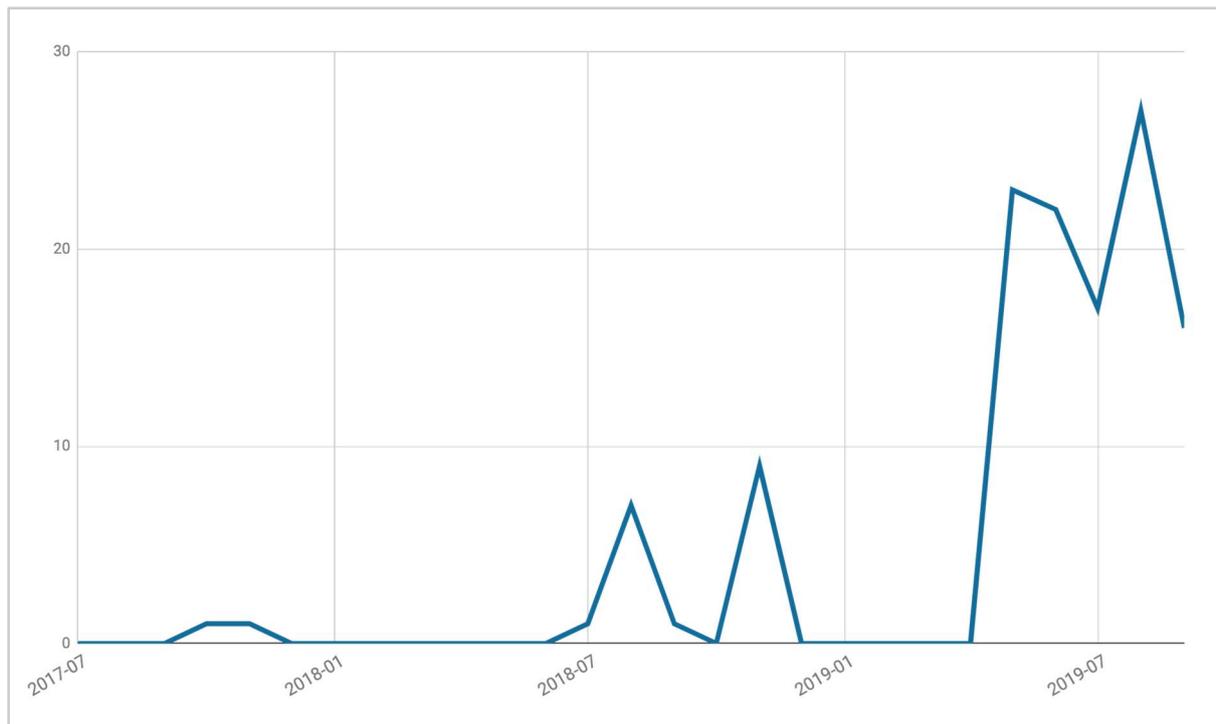


Figure 8 - Timeline development of the narrative. Source: Facebook. Data extracted through Crowdtangle API.

The official links of some of these content producers and active sharers to political parties, namely the main opposition party, were investigated, although not yet published, by *Diário de Notícias* journalist Paulo Pena.

In this case, as in others, MediaLab at CIES-IUL and *Diário de Notícias* identified profiles that systematically and repeatedly share content from one specific page in several groups. The genuine reasons behind this unusual behaviour could not be confirmed.

The chosen example, due to its direct influence in the electoral campaign is demonstrative of how these false narratives on political candidates are more actively pushed in the period coming up to an election.

Conclusions and developments

In the campaign to the 6 October 2019 Parliamentary elections in Portugal, a number of Facebook pages and public groups with significant reach spread political disinformation, mostly aimed at the incumbent government party *Partido Socialista* and a small party with an ecological platform (PAN). Monitoring 47 Facebook pages and 39 Facebook public groups in from 6 September to 5 October we found:

Main conclusions

Two thirds of the content we fact checked in the monitored pages and groups during the electoral period was of a disinformative nature. We cannot judge if this red flagged content had an impact on voters' decisions.

Facebook **pages** were more active in spreading false news and narratives while public **groups** were more prolific in publishing and spreading that kind of content. Pages' disinformation

content is more subtle and engaging, while in the groups we see more amateur and explicit disinformation.

During this period, two Facebook pages – *Direita Política* and *Mário Gonçalves* – stood out as the most influential in spreading disinformative content. Among the public Facebook groups monitored, the group *Grupo de Apoio ao Juiz Carlos Alexandre* was by far the most influential. In the monitored pages, alternative media were the most common source of information, contrary to the groups, where established media were dominant. Even then, their news content was often subject to some form of interpretative manipulation converting its initial neutral formulation into a more partisan one.

The most often used technique was the recycling of old news as actual news. The second most used technique were unfounded or unsubstantiated accusations, mostly directed to politicians or major corporate leaders.

More than 90% of the posts flagged as disinformative had disinformation characteristics that resulted from actions taken by users inside the Facebook platform¹⁸.

We also monitored 31 public WhatsApp groups that carried political content. No disinformation was detected in the approximately 30,000 monitored posts.

Identified trends and characteristics

In total, during the 30-day period that we monitored it, our sample of 47 pages published 6.500 posts, generating just over one million interactions, whereas our sample of 39 public groups published almost 45 thousand posts, with just above two million interactions in 30 days. That establishes the first significant difference between our two samples: posts published by pages generate a greater number of interactions per post than those published in groups (170 interactions per post in pages and 45 in groups).

However, there is a much larger quantity of posts published in groups than there is in pages, which means groups end up having a greater reach during the same time period. This has to do with the different nature of groups and pages. Pages are directed by individual or collective agents interested in pursuing a given political agenda and tend to do it with and almost or even effective professional expertise, creating social media content that is highly conducive to the page fans and tend to generate higher rates of engagement. Groups, on the other hand, are populated by common citizens that publish their random political stances or comment and share on the political opinions of others.

The political agenda is less directed, but the reach is greater because much more posts are published in the groups. In a way, we could say that Facebook groups are the arena where disinformation narratives are formed, and pages are agents trying to influence that process of forming disinformative narratives. In many cases - as we saw with some examples - pages are successful in creating a given narrative and propagate it through available channels, including groups.

Due to characteristics within Facebook, pages cannot publish and share their posts in groups. One of the main trends identified was the existence of profiles associated with each page, with a systematic behaviour of publishing posts of “their” page in several groups, in an unnatural behaviour for a regular user.

¹⁸ Characteristics of disinformative posts were separated between those relating to the post itself (intra-Facebook) like, for example, out of context timing, and those of the responsibility of agents outside Facebook, like incorrect facts in the website page linked in the post (external to Facebook).

In what concerns the sample of 47 Facebook pages we monitored, two agents stood out as particularly relevant: *Direita Política* and *Mário Gonçalves*. Both have a clear political agenda; both are very successful spreading that political agenda (in pages and in groups); and both frequently resort to disinformation tactics to do so. In the 104 disinformation posts identified, they correspond to 15,7% (*DP*) and 18,3% (*MG*) of linked content.

But we should also notice the emergence of some smaller but growing pages that could have a similar effect in the future, like *Notícias Viriato*, for instance. Mostly, these pages spread their own content, only occasionally resorting to established media outlets as sources for their stories.

In our groups set, it was the *Grupo de Apoio ao Juíz Carlos Alexandre* that stood out from the rest as the most important for spreading political information during the election cycle. Inside this group, in particular, we noticed a significant influence of *Direita Política*, the most relevant source of content for the posts published or shared by group members.

Also, inside this 39 Facebook public groups we also encountered a relevant number of pieces of content originated from some recognisable political agents. Besides the group *Grupo de Apoio a André Ventura* - one of the newly elected far right parliament members - the official pages of *PSD Europa*, *Chega* and *PNR - Partido Nacional Renovador* also raised to prominence in feeding these groups.

In the rest of the analysed sample, mostly established media outlets were used as sources for the content published and shared in the 39 groups we monitored. But the key aspect is the way those sources were used. In most of the pieces we labelled as disinformative the credible news outlets used as sources were somehow *spun* to serve the prior political convictions and stances of the individual publishing it. This kind of spinning of media content to serve political ends is what we predominantly detected in the groups, in opposition to the more self-produced and professionally produced content spread by pages. In this sense page agents may prove easier to control or track. Facebook groups follow a quite different *modus operandi* and may prove more difficult to assess.

As for the themes covered, they were not very different on pages or groups. The judicial issues relating to past or present corruption cases stand out in both samples, because corruption is known to be the most pressing theme associated with Portuguese disinformation spreading. Also common in pages and groups is the presence of José Sócrates - former prime-minister accused of corruption - and António Costa, current prime minister at the time of the election and candidate at the October 6th election (which he won). That made António Costa and his party a primary target for disinformation in these groups and pages. Also PAN - Pessoas, Animais, Natureza, a left-wing small party known by its pro-animal agenda, was a prominent target during the election period.

The way the alleged vacation of the prime-minister during the great forest fires of 2017 interfered with this election on the last day of campaign is emblematic of how pages and groups function in tandem to promote a certain narrative. The information that the prime-minister was on vacation during or immediately after the fire is false and had been reported as false more than once. Yet, that narrative loomed in these groups and pages and re-emerged strongly in 2018 and 2019, reinforcing a narrative that had visible consequences in the last days of official electoral campaign, when a senior citizen confronted the prime-minister with the issue.

In short, we cannot assess that some external or political identifiable agent had direct influence on the election result due to disinformation campaigns. But our investigation so far makes it possible to conclude that disinformation production and distribution had an effect in spreading certain narratives that may have affected the result of the election. In two ways. First by dramatizing the final stage of the campaign, which may have taken more people to the polls. And, second, by opening space for anti-establishment parties, mostly on the far-right, that indeed ended up gaining a seat in the new parliament.

Developments

During the current project, MediaLab at CIES-IUL witnessed first-hand the importance of the cooperation with established media and the existence of regular outputs with major findings. Every week, MediaLab published in its website and in *Diário de Notícias* which resulted in real time improvements, taken during the campaign period.

In the first week of campaign, the most viral post in the groups set was a xenophobic post claiming refugees earned far more social security support than senior citizens. The post's text was supported by a link to fact checking platform Polígrafo. In the linked article Polígrafo debunks this narrative as false. However, when sharing the content on Facebook, only part of the title appears, together with a photo of a group of established Syrian refugees, making it possible for the user sharing the content to use it for its opposite purpose. Because most people don't click on the link, this makes it possible for disinformation producers to spin these trustworthy sources into their own narrative.



Figures 9 and 10 - Change in Polígrafo's editorial presentation: before (left) and after (right). Source: Facebook.

Following reporting on this issue, Polígrafo decided to include the icon labelling the narrative as true or false in the photo itself, therefore preventing the misuse of their content. An editorial decision that promotes public interests over corporate profit, since the introduction of the icon in the image reduces the clickbait interest of the article.

On the first week of the project, the second most viral post in the pages and the eighth in the groups was on the supposed friendship between the former prime minister José Sócrates, currently facing a criminal indictment and the judge handling the case, including a poorly

manipulated picture where they are hugging each other. The case was reported in our weekly outputs, including *Diário de Notícias*. Three weeks later, as the same post resurfaced in the top 20 of the pages, Facebook added under the post the link on this narrative to one of their fact-checking platforms, *Observador*. So, users that were seeing the post, would also see the link to the debunking of this false narrative. Nonetheless, MediaLab at CIES-IUL could not confirm if this change was an outcome of our reporting.



Figure 11 - Facebook's suggestion of fact checking article. Source: Facebook.

Future recommendations

Regarding challenges for the future, two intertwined issues arise. First, in the preparation for this project it strokes us how much theoretical vs empirical work is done on disinformation. A lot is written, but not a lot of *hands on* approaches are being experimented, which makes it difficult to find practical solutions to curb the ascending role of disinformation in these platforms.

The second is the current direction towards AI to identify disinformation. Even though it may play a role in a first stage, the current project made it even more clear how messages are altered in the small details and idiosyncrasies that would not be identified by a person that was not very familiar with the Portuguese political reality, let alone a machine.

Disinformation producers are beginning to be aware of this since many of the narratives are built into these interpretation suggestions, with a careful choice of words or images, to pass the message without flagging any of Facebook's community guidelines. **Money has to be spent**

by platforms to review the most viral posts manually by someone with deep knowledge of the context they are coming from.

It became clear while working on the posts on an individual basis, that a lot can be done by the platforms, in this case Facebook, before we even start considering content removal that may raise more complex ethical issues. The fact that, besides the unsubstantiated accusations, the second most common disinformation characteristic was out of context timing seems to have an easy solution: to include the original date of content in the sharing information and the algorithmic detection of out of date content.

The second level and third level of analysis, with the predominance of intra-Facebook tags and the identification of the Prime Minister vacations false narrative as a Facebook pages product, empirically demonstrates the weight of the platform, and the central role it plays on the creation of these types of disinformation.

Plus, this tandem between Facebook pages that actively produce disinformation to foster certain political narratives and huge Facebook groups that spread and share those narratives may be prone to capture by those external forces that we did not encounter in this election. The process by which Facebook pages and groups organically combine to produce and sustain certain (sometimes false) narratives in this study must raise concerns that that process may be used in future by political forces (external or internal) eager to have that influence over the political debate in Portugal.

However, we should not focus entirely on the responsibility of platforms. Another quite common characteristic is the decontextualization of trustworthy sources, due to their clickbait title or poor image/title choice. **Established media is accountable in upholding the values they state to defend and have more responsible editorial decisions** when writing an article, especially considering the final look it will have when shared in the different platforms, namely if the character reduction will not change the meaning of the title.

And, finally, citizens have the ultimate responsibility. If there are one thing the current project shows is that as much as pages, as semi-organized structures, can produce disinformation, quite a lot of it comes from common citizens, that will produce, share and interact with these false narratives as much, or more, than more structured entities.

Bearing in mind this reality, digital literacy becomes a must. One of the top viral posts was from a parody satire newspaper, claiming that a judge currently facing charges for corruption was going to trial his own case. Remarkably, the post was taken seriously by the majority of users that commented on the post, despite the fact that the original sharer (that had induced them in error with the comment he made to this link) stated the humorous origin of the content and the fact that this satire newspaper is well known.



Figure 12 - Parody article taken seriously by many users. Source: Facebook.

Then again, and as an end point to this working paper, we come back to the need to develop more research on who are these people and why they produce, share and interact with this disinformative content. The main question being what drives them. Which leads to ask if digital literacy is the only area where some work needs to be done, or if there are more deep sociological issues that need to be addressed.

This research was conducted by MediaLab CIES-IUL, a research group of ISCTE-IUL, with support from Democracy Reporting International and in collaboration with Diário de Notícias.

Bibliography

- Amazeen, Michelle A. (2016), "Checking the fact-checkers in 2008: Predicting political ad scrutiny and assessing consistency", *Journal of Political Marketing*, 15(4), pp. 433-464.
- Amazeen, Michelle A. (2015), "Revisiting the epistemology of fact-checking" *Critical Review*, 27(1), pp. 1-22.
- Bruns, Axel (2019), "After the 'APIcalypse': social media platforms and their fight against critical scholarly research", *Information, Communication & Society*, 22(11), pp. 1544-1566.
- Cardoso, Gustavo, et al (2011), "Redes sociais: comunicação e mudança", *JANUS.NET*, (1), pp. 73-96.
- Charmaz, Cathy (2006), *Constructing Ground Theory*, London, Sage Publications.
- De Sousa, Luis, et al. (2008), *A Corrupção e os Portugueses - Atitudes, Práticas e Valores*, Lisboa, Edições Rui Costa Pinto, Available at: <http://cadmus.eui.eu/handle/1814/11921>
- Del-Fresno-García, Miguel et al. (2018), "Politics, hackers and partisan networking. Misinformation, national utility and free election in the catalan independence movement", *El profesional de la información*, 27(6), pp. 1225-1238.
- European Commission (2017), *Special Eurobarometer 470: corruption*, Brussels, European Commission.
- European Commission (2018), *A multi-dimensional approach to disinformation: Report of the independent high-level group on fake news and online disinformation* Brussels, European Commission. Available at: <https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-fake-news-and-online-disinformation>
- Faris, Robert, et al. (2017), *Partisanship, propaganda, and disinformation: Online media and the 2016 US presidential election*, Harvard, Berkman Klein Center Research Publication & Society Research Paper.
- Fiesler, Casey, et al (2018), "Participant" Perceptions of Twitter Research Ethics", *Social Media + Society*, 4(1), pp. 1-14.
- Fletcher, Richard, et al (2018), "Measuring the reach of "fake news" and online disinformation in Europe", *Reuters Institute Factsheet*, Available at: <https://reutersinstitute.politics.ox.ac.uk/our-research/measuring-reach-fake-news-and-online-disinformation-europe>
- Franzke, Aline Shatke, et al (2019), *Internet Research: Ethical Guidelines 3.0.*, Available at: <https://aoir.org/reports/ethics3.pdf>
- Freelow, Dean et al (2020). Disinformation as Political Communication, *Political Communication*, 37(2), pp. 145-156.

ICS-UL/ISCTE-IUL (2019), *Sondagem ICS/ISCTE*, Setembro 2019 1ª parte, Available at: https://sondagens-ics-ul.iscte-iul.pt/wp-content/uploads/2019/09/Sondagem-ICS-ISCTE-Setembro2019_parte1.pdf

Jack, Caroline (2017), “Lexicon of lies: Terms for problematic information”, *Data & Society*, 3, Available at: <https://datasociety.net/library/lexicon-of-lies/>

Kim, Young Mie, et al (2018), “The stealth media? Groups and targets behind divisive issue campaigns on Facebook”, *Political Communication*, 35(4), pp. 515-541.

Magalhães, Pedro (2008), “Redes sociais e participação eleitoral em Portugal”, *Análise Social*, 188, pp. 473-504.

Maia, António João (2003), *A Percepção Social sobre a Corrupção em Portugal: o Papel da Imprensa*, Biblioteca On-line de Ciências da Comunicação, LabCom. Available at: <http://www.bocc.ubi.pt/pag/maia-antonio-a-percepcao-social-sobre-a-corrupcao-em-portugal.pdf>

Markttest (2019), *Os Portugueses e as Redes Sociais*, Markttest Consulting, Available at: [https://www.markttest.com/wap/private/images/Logos/Folheto Portugueses Redes Sociais 2019.pdf](https://www.markttest.com/wap/private/images/Logos/Folheto_Portugueses_Red_Sociais_2019.pdf)

Newman, Nic, et al (2018), *Reuters Institute Digital News Report 2018*, Reuters Institute for the Study of Journalism, Available at: <http://www.digitalnewsreport.org/survey/2018/>

Paisana, Miguel, et al (2019) *Reuters Digital News Report 2019 – Portugal*, Lisboa: OberCom – Observatório da Comunicação. Available at: <https://obercom.pt/reuters-institute-digital-news-report-2019-portugal/>

Pérez-Rosas, Verónica, et al (2017), “Automatic detection of fake news”, *Proceedings of the 27th International Conference on Computational Linguistics*, pp. 3391–3401, Available at: <https://www.aclweb.org/anthology/C18-1287>

Quandt, Thorsten, et al (2019), “Fake news” in *The international Encyclopedia of Journalism Studies*, 1-6, John Wiley & Sons, Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118841570.iejs0128>

Quintanilha, Tiago Lima, et al (2019), “Fake news and its impact on trust in the news. Using the Portuguese case to establish lines of differentiation”, *Communication & Society*, 32(3), pp. 17-33.

Pena, Paulo (2019a, September 21), “Corrupção e racismo são os temas dominantes da desinformação antes das eleições”, *Diário de Notícias*, Retrieved 11 December 2019 from <https://www.dn.pt/edicao-do-dia/21-set-2019/corrupcao-e-racismo-sao-os-temas-dominantes-da-desinformacao-antes-das-eleicoes-11320811.html>

Pena, Paulo (2019b, October 2), “A campanha falsa é contra os "corruptos", *Diário de Notícias*, Retrieved 11 December 2019 from <https://www.dn.pt/poder/a-campanha-falsa-e-contra-os-corruptos-11346560.html>

Pena, Paulo (2019c, October 4), “Refugiados e fake news ressuscitadas em véspera de eleições”, *Diário de Notícias*, Retrieved 11 December 2019 from <https://www.dn.pt/edicao-do-dia/04-out-2019/refugiados-e-fake-news-ressuscitadas-em-vespera-de-eleicoes-11366199.html>

Pena, Paulo (2019d, October 4), “A mentira sobre as férias de Costa durante os fogos é organizada”, *Diário de Notícias*, Retrieved 11 December 2019 from <https://www.dn.pt/poder/ha-uma-mentira-a-circular-sobre-os-incendios-de-2017-numa-pagina-de-um-militante-do-psd-11372097.html>

Resende, Gustavo, et al (2019), “(Mis) Information Dissemination in WhatsApp: Gathering, Analyzing and Countermeasures”, in *The World Wide Web Conference*, ACM, pp. 818-828. ACM.

Rodrigues, José Varela (2019), “Incêndios e seca não estão entre as principais preocupações dos portugueses, revela estudo”, Retrieved 4 December 2019, from <https://jornaleconomico.sapo.pt/noticias/incendios-e-seca-nao-estao-entre-as-principais-preocupacoes-dos-portugueses-revela-estudo-485855>

Sampaio, Gustavo (2019), “António Costa estava de férias quando ocorreu o incêndio de Pedrógão Grande em 2017?”, *Polígrafo*, Data de edição: 13/08/2019, Consultado em 11/12/2019, Available at: <https://poligrafo.sapo.pt/fact-check/antonio-costa-estava-de-ferias-quando-ocorreu-o-incendio-de-pedrogao-grande-em-2017>

Silverman, Craig (2013), *Verification Handbook: A Definitive Guide to Verifying Digital Content for Emergency Coverage*, Amsterdam, European Journalism Centre; Retrieved from <http://verificationhandbook.com/book/>

Squire, Megan (2019), “Network, Text, and Image Analysis of Anti-Muslim Groups on Facebook”, *The Journal of Web Science*, 7.

Ștefăniță, Oana (2018), “Fake news and the third-person effect: They are more influenced than me and you”, *Journal of Media Research*, 11(3), pp. 5-23.

Tandoc Jr, Edson C., et al (2018), “Defining “fake news” A typology of scholarly definitions”, *Digital journalism*, 6(2), pp. 137-153.

Transparency, e.V. (2019), *Corruption Perceptions Index 2018*, Available at: <https://www.transparency.org/cpi2018>

Tufekci, Zeynep (2014), “Big questions for social media big data: Representativeness, validity and other methodological pitfalls” in *ICWSM '14: Proceedings of the 8th International AAAI Conference on Weblogs and Social Media*.

Venturini, Tommaso, et al (2019), “API-based research or how can digital sociology and journalism studies learn from the Facebook and Cambridge Analytica data breach”, *Digital Journalism*, 7(4), pp. 532-540;

Wardle, Claire (2018), “The Need for Smarter Definitions and Practical, Timely Empirical Research on Information Disorder”, *Digital Journalism*, 6(8), pp. 951-963.

Wardle, Claire, et al (2017), *Information Disorder: Toward an Interdisciplinary Framework for Research and Policy Making*, Council of Europe report DGI 2017/09; Available at: <https://rm.coe.int/information-disorder-toward-an-interdisciplinary-framework-for-research/168076277c>

Zhang, Chaowei, et al (2019), “Detecting Fake News for Reducing Misinformation Risks Using Analytics Approaches”, *European Journal of Operational Research*, 279(3), pp. 1036-1052.

Zhou, Xinyi, et al (2018), “Fake news: A survey of research, detection methods, and opportunities”, *arXiv preprint arXiv:1812.00315*.

Zimmer, Michael (2018), “Addressing Conceptual Gaps in Big Data Research Ethics: An Application of Contextual Integrity”, *Social Media + Society*, 4(2). Available at: <https://journals.sagepub.com/doi/10.1177/2056305118768300>