

# COVID-19 Ads as Political Weapon

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## ABSTRACT

In view of the emergence of mobility restrictions and social isolation imposed by the coronavirus or COVID-19 pandemic, digital media, especially social networks, become a breeding ground for fake news, political attacks and large-scale misinformation. The impacts of this ‘infodemic’ can take even greater proportions when using sponsored content on social networks, such as Facebook ads. Using the Facebook ad library we collected more than 391K facebook ads from 90 different countries. Choosing ads from Brazil as the focus of research, we found ads with political attacks, requests for donations, doctors prescribing vitamin D as a weapon to fight coronavirus, among other contents with evidence of misinformation.

## CCS CONCEPTS

• **Information systems** → **Social networks**; *Social advertising*;

## KEYWORDS

Covid-19 ads, political advertisement, facebook ads

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## 1 INTRODUCTION

The Pandemic caused by the new *Coronavirus* (COVID-19) was considered by the World Health Organization (WHO) as unprecedented<sup>1</sup>. Worldwide, countless nations have adopted severe measures of isolation and social distance between people [7]. The main objective of these measures is to slow down the contagion so as not to overload the ICUs (Intensive Care Units) of the health system, and consequently, an eventual collapse of the hospital network. On August 2, 2020, more than 17 million infected and 680 thousand deaths were recorded worldwide. On the same date, Brazil ranked second in number of cases with 2.6 million infected and 92,400 deaths<sup>2</sup>, behind the United States with 4.5 million infected.

<sup>1</sup><https://www.who.int/teams/blueprint/covid-19>

<sup>2</sup><https://covid19.who.int/region/amro/country/br>

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Faced with the scenario of calamity and isolation, social networks become the main tool of communication between people. However, since patient zero in Wuhan in China [8], rumors, conspiracy theories, fake news, digital scams and the political agendas have increased around the outbreak of COVID-19<sup>3</sup>. Especially in Brazil, the polarization of social networks related to the 2018 elections, became fierce again after the beginning of the pandemic in the country. This time, the focus of the confrontations are intense debates between groups for and against alternative treatments for COVID-19, social isolation and opening up of the economy.

To enhance the dissemination of these agendas on social networks, sponsored content has been used to reach more people on social networks like Facebook. Therefore, we decided to monitor sponsored ads on Facebook by collecting data directly from your Ad Library<sup>4</sup> (FBADLIBRARY). The FBADLIBRARY provides access to ads related to politics, social issues and elections, for a period of up to 7 years, even if they are inactive. However, if the advertiser does not inform that the content belongs to this theme, Facebook displays the ad in its search only while the ad is active. In fact, this issue can be exploited by malicious advertisers, they can spread content with misinformation that will disappear from the FBADLIBRARY after being inactive, even if they have already been seen by thousands or millions of people.

In this work, we presented a characterization of data collected from the Facebook Ads Library, during the period March 27, 2020 to September 9, 2020, with a total of 391K ads collected from 90 countries. However, our analysis in this work was the 5,033 advertisements collected from Brazil, relating them to the country's socioeconomic and public health portrait during the collection period. Our analyzes aim to answer questions such as: (i) what types of content have advertisers driven beyond to public health issues?; (ii) is there any misinformation content on Facebook ads published in Brazil?; (iii) Are COVID-19 ads being used as a weapon for political attacks?

## 2 RELATED WORK

**Facebook Ads Transparency.** Andreou *et al.* [2] investigated the completeness and clarity of the explanation given by Facebook called “Why am I seeing this?”. Andreou concluded in their study that the explanation given by Facebook is often vague and misleading. In another work, Andreou *et al.* [1] carried out a characterization of advertisers that were collected by their plugin called *AdAnalyst*. This plugin collected ads from users who installed it, Andreou *et al.* concluded that advertisers generally used invasive user targeting. In the same direction, Speicher *et al.* [15] showed that it is also

<sup>3</sup><https://www.who.int/about/communications/cyber-security>

<sup>4</sup><https://www.facebook.com/politicalcontentads>

possible to carry out discriminatory campaigns, even without using sensitive attributes, such as race, religion or sexual orientation. Márcio *et al.* [14] built a classification model with the objective of identifying undeclared political content in Brazilian elections, increasing the transparency of announcements made during elections with a tool external to Facebook.

#### Controversial content and manipulation of public opinion.

More recent works show how Russian ads were able to influence American citizens. Ribeiro *et al.* [12] explored how advertisements can polarize groups of people when they are related to controversial topics (race, sexuality, religion, among other attributes) in more vulnerable populations. Kim *et al.* [9] created an app to monitor advertisers for political campaigns. During the survey, they identified suspicious groups, including foreigners, who sponsored controversial content on Facebook. Etudo *et al.* [6] also investigated the effects of ads from Russia on *Black Lives Matter* protests. They concluded that the ads coincided with the period with the highest number of arrests.

**COVID-19 and misinformation on social networks.** Depoux *et al.* [5] described the possible impacts on the society of the wave of misinformation during the pandemic of *Coronavirus*. They argued that the speed of the disinformation pandemic is much faster than any virus or pandemic. Mejova and Kalimeri [11] measured this in the United States, with a set of data they collected from the Facebook Ad Library. They concluded that misinformation is not just a matter of organic content. Krause *et al.* [10] demonstrated that communication is multi-layer and different publics view risks about covid-19 differently. Brennen *et al.* [4] explain that misinformation about COVID-19 comes in many different forms, from many different sources, and makes many different claims. It frequently reconfigures existing or true content rather than fabricating it wholesale, and where it is manipulated, is edited with simple tools. Finally, Roozenbeek *et al.* [13] investigated the susceptibility to belief in misinformation across different countries. They demonstrated a clear link, replicated internationally, between susceptibility to misinformation and vaccine hesitancy and a reduced likelihood of complying with public health guidance.

### 3 DATASET

We collected ads from the Facebook Ads Library (FBADLIBRARY) between March 27, 2020 and September 9, 2020, using an *Web Crawler*. In total, we gathered 391K ads, 158K unique ads where their ad captions are unique, driven by 35K advertisers from 90 different countries. Our *Web Crawler* performed daily searches during the mentioned period using the keywords described in Table 1 as search term. We chose to use a *Web Crawler* instead of the official data collection API of FBADLIBRARY due to several limitations and API problems described by the Mozilla Foundation<sup>5</sup>.

For each search performed on FBADLIBRARY we provide only the search term of interest and ads from around the world should be returned. Soon after, we obtain a *json* containing a collection of ads that match the search criteria, we also got an alphanumeric *hash* to the next page, if it exists. Among the information returned we have the ad text, image, video, advertisers' informations, who

**Table 1: Keywords used in the search for ads. A single ad can contain more than one keyword.**

Keyword	# Ads	Keyword	# Ads
Covid	135,634	N95	1029
Corona	134,903	Wuhan	837
Covid-19	109,704	Sars-cov-2	738
Coronavirus	108,483	Ncov	644
Pandemic	59,009	Chloroquine	314
Pandemia	14,973	Hydroxychloroquine	276
Covid19	14,556	COVID	63
Outbreak	10,468	Wuhancoronavirus	20
Epidemic	6,516	Cloroquina	98
Corona virus	5,188	Hidroxicloroquina	34
Epidemia	2,750	Wuhancoronavirus	20
Koronavirus	1,486	Sinofobia	3

paid for the ad, start date, end date, audience segmentation data, expenses for each ad, among other information that are detailed in the documentation official API.

Of the total ads collected, first with 181K(65%) is the United States, followed by Germany with 12K(4.4%), 11K(4.0%) from Italy, 9K(3.2%) from Canada and 8K(2.9%) from United Kingdom. In Brazil, ranking on ninth place, we collected 5K(1.8%) ads driven by 1,303 advertisers. These ads will be the focus of our research in the following sections, but all analyzes can be extended to any of the 90 countries found in our dataset. We will call this subset of data containing only ads from Brazil COVIDAdsBRASIL and COVIDAdsWORLD the other countries.

## 4 RESULTS AND DISCUSSION

In this section, only the ads from COVIDAdsBRASIL were analyzed, taking into account the social, economic and public health challenges that the country faced during the analysis period.

### 4.1 Advertisers

At COVIDAdsBRASIL 1,303 advertisers sponsored an average of 3.8 ads each, where the pages categorized as *Political* were the ones that most boosted content related to COVID-19, among the 274 different page categories found.

First, we perform a manual mapping of the 274 categories identified in our data collection to fit in 6 groups. Then, we accounted the respective number of ads for each groups: *Political* (57.2%), *Personal* (18.4%), *News* (10.5%), *Non-profit* (5.7%), *Business* (5.1%) and *Public health* (2.7%). This 6 large groups is more clear and consolidated way compared to that provided by Facebook. Initially proposed by Mejova [11], these 6 categories summarize the major sectors of society that approach the pandemic issue in different ways.

However, the task of categorizing advertisers as political or non-political is a major challenge. There are many news sites and public figures who are notably political activists, but do not categorized themselves as Politicians or any other category related to political activity. Thus, we categorize an advertiser as a politician if he self-declares on his Facebook page as a politician, candidate, political

<sup>5</sup><https://adtransparency.mozilla.org/eu/log/>

party or public person representing federal, state or municipal governments.

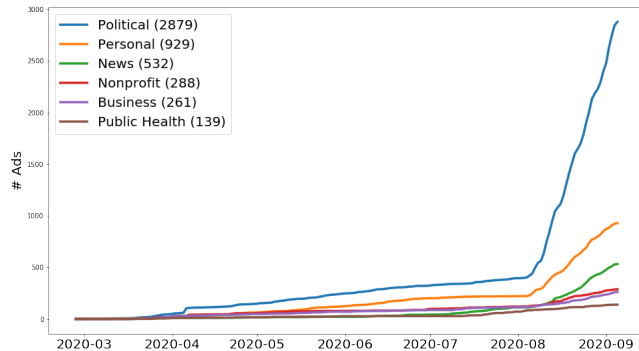


Figure 1: Number of daily ads.

In the Figure 1, we represented the growth of the number of ads per category over time. In several countries, this line begins on December 1, 2019, when the first case of COVID-19 in Wuhan, China was publicly announced [8]. However, in Brazil, the first boosted content about COVID-19 happened on February 28, 2020 by a doctor prescribing in his ad the use of Vitamin D to prevent contagion by Corona Virus<sup>6</sup>. The Figure 1 shows how advertisers in categories related to *political* agenda sponsored more content.

There is also a significant increase in the number of new ads in the second week of April 2020. At the time, the Brazilian emergency aid was the most prominent topic in the media and social networks. Law No. 13,982, of April 2, 2020<sup>7</sup>, which formalizes the operation of the aid, became the campaign flag of many politicians and political parties to demonstrate their performance for the citizens. Thereafter, on April 7, the official government application was launched to request emergency aid of R\$ 600.00. Finally, on April 9, was the first pay day.

We also detected a fast growth in the number of daily ads in August, especially for political advertisers. This fact can be explained by the proximity of the Brazilian electoral period. This year, we will have local elections to choose mayors and councilors, so we see a race for ads on social networks due to the social distance.

## 4.2 Demography and Ad targeting

Our *WebCrawler* also collected additional information about the ads targeting only for 858 ads. This information details the proportion of *men* and *women* reached within the age ranges ranging from 13 to 65+. In our analysis, we found that women receive most of the ad reach. In addition, 3 advertisers targeted their campaigns exclusively to women. In these cases, the campaigns were aimed at promoting exclusive products or services to the female audience. There were also found 3 ads targeted only to men, with segmentation of political agenda and debt recovery service.

Beyond to detailing the audience reached by the ads, we were also able to collect the average total impressions and also the average cost of each ad. This is possible because Facebook provides

a range of minimum and maximum cost and impression values that an ad reached. As expected, advertisers related to *emph* political agenda spent more on their campaigns, a total spend of R\$ 131,736.50, followed by the *nonprofit* category (R\$ 118,293.00), *personal* (R\$ 21,948.50), *business* (R\$ 10,697.00), *news* (R\$ 7,600.00) and finally public health (R\$ 3,198.00). Overall, the 3 advertisers who spent the most on ads were "Citizenship Action" (R\$ 91,648.00), "PSDB" (R\$ 76,849.50) and "Avaaz" (R\$ 9,349.50). We also calculate which categories and which advertisers had the highest average impressions for your ads. Again, *polical* advertisers had a wider reach, reaching over 10 million impressions, followed by *non-profit* advertisers (9.6 million), *personal* (1.4 million), *business* (846K), *news* (637K) and *public health* (261K). It is worth noting that impressions are counted each time a person views an ad, and can be counted more than once for the same user. "Ação da Cidadania", "PSDB" and "Avaaz" also lead when we list the 3 advertisers with the highest number of impressions.

In addition, we calculated the effectiveness campaigns' budget by calculating the cost for each 1,000 views (impressions) of each advertiser, called CPM. The 10 advertisers with the best CPM spent less than R\$ 3.00 per 1,000 impressions. Of these, the top 3 are "PSB Nacional 40" with average CPM of R\$ 0.70, "Romeu Zema" (R\$ 1.07) and "Eduardo de Oliveira Mantovani" (R\$ 1.99). Finally, we investigate the geographic distribution of the ads in the Brazilian territory. Facebook shows in FBADLIBRARY the reach for each state in a given ad, so we compute which states received the highest average impressions per ad. Among all the states, São Paulo, one of the main epicenters of COVID-19 in Brazil, stood out with an average of 34.4K impressions per ad, followed by Rio de Janeiro (13.4K) and Minas Gerais (12.1K).

## 4.3 Discourse and Sentiment Analysis

We also investigate the feelings related to the ads. Firstly, we selected ads with unique texts, thus avoiding bias if any advertiser has used the same caption in many ads. Right after that, we translated all ads into English using the Google Cloud Translate API<sup>8</sup> so that we could use the DepecheMood++ [3] library. With the DepecheMood++ library we were able to analyze the ads on a wide spectrum of feelings: *afraid*, *amused*, *angry*, *annoyed*, *dont care*, *happy*, *inspired* and *sad*.

In the Figure 3, we consolidated the ads in the top level categories of advertisers and their respective proportions in each sentiment. We observed that the feelings of *happiness* and *indifference* are rarely present in the advertisements, which was to be expected given the seriousness and proportion of the Pandemic. However, *fear* and *inspiration* feelings stood out in relation to the others. The frequency of news outlets to publicize the lethality of COVID-19 and the death toll meant that ads related to news outlets had the greatest perception of fear. However, the most common feeling in ads is *inspiration* or feeling inspired. This is due to numerous ads asking people to have faith, stay united and there are also requests for donations, including for the 2020 Brazilian local election campaign.<sup>9</sup>

<sup>6</sup><https://facebook.com/politicalcontentads?id=193747895226903>

<sup>7</sup>[http://www.planalto.gov.br/ccivil\\_03/\\_ato2019-2022/2020/lei/13982.htm](http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2020/lei/13982.htm)

<sup>8</sup><https://cloud.google.com/translate/>

<sup>9</sup><https://facebook.com/politicalcontentads?id=2507849576131864>

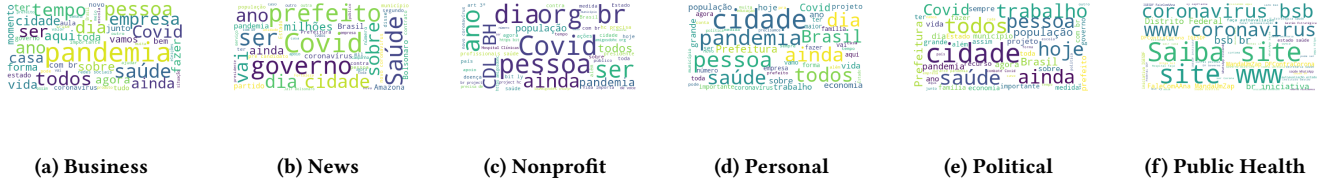


Figure 2: Wordcloud by category

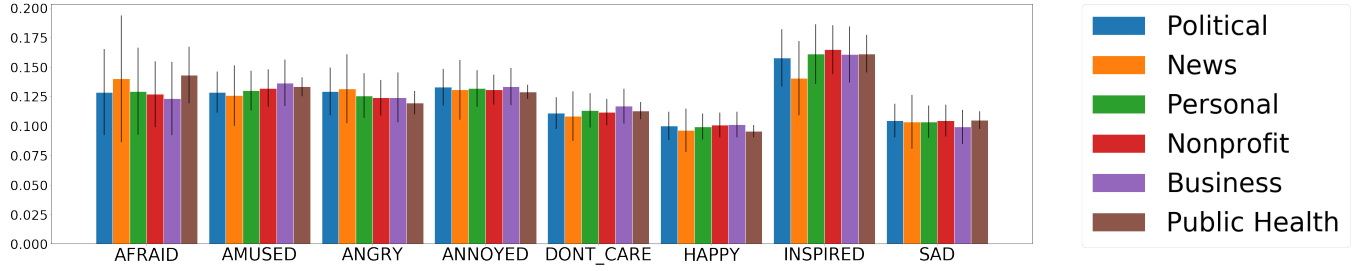


Figure 3: Mood by category.

In order to better understand the discourse contained in each category, we generated a wordcloud and realized some peculiar topics related to each category, as shown in the Figure 2. In the business category, some companies started offering their digital services or tips so that others could overcome the crisis due to the lack of face-to-face customers. In the news category, the government is often cited when talking about COVID-19 and its effects, especially during the period that was expected for the emergency aid granted to more than 54 million Brazilians. Nonprofit and public health focus on publicizing ways to get through the crisis, and especially where to find reliable information about the Pandemic. Political announcements focus on making attacks on opponents and also promoting themselves, reporting on how their city is facing the pandemic.

We found a wide range of narratives in the ads collected. Pre-candidates for councilors launched their pre-candidacies with debates on pandemic and policy challenges<sup>10</sup>. In Figure 4, we present examples of policy ads (4a), where the “PDT Rio Preto” shows its displeasure with the current government<sup>11</sup>; and public health (4b), where the advertiser “Dauro Andrade” invites his audience to an online event about Hydroxychloroquine<sup>12</sup>. In addition, pre-campaigns for the 2020 local elections are commonplace in advertisements, whether carried out by pre-candidates or by political parties highlighting the work of their members.

There is also an intense activity of far-left and far-right advertisers exchanging accusations. Sometimes, using swear words<sup>13</sup> and even associating the current government with the genocide<sup>14</sup>. In short, any negative effect of the pandemic is often used to target political opponents. Similarly, positive results or positive actions in

favor of the population are disclosed in Facebook ads to increase the audience of political agents<sup>15</sup> envisioning future elections.

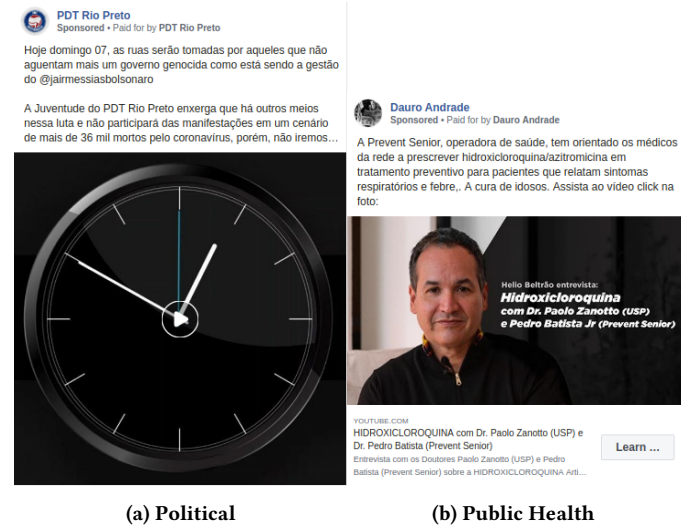


Figure 4: Samples ads about political and public health subject.

#### 4.4 Ad Toxicity

In order to measure what kind of speech was used in the ads, we measured the toxicity of the text present in the ads. We performed this task using the perspective API library<sup>16</sup>, which aims to calculate a score for some metrics:

<sup>10</sup><https://facebook.com/politicalcontentads?id=311640116906686>

<sup>11</sup><https://facebook.com/politicalcontentads?id=1107629569589676>

<sup>12</sup><https://facebook.com/politicalcontentads?id=594848431105213>

<sup>13</sup><https://www.facebook.com/politicalcontentads?id=235951490794280>

<sup>14</sup><https://www.facebook.com/politicalcontentads?id=1107629569589676>

<sup>15</sup><https://www.facebook.com/politicalcontentads?id=3186476204911381>

<sup>16</sup><https://www.perspectiveapi.com/>

- **Toxicity** is defined as "a rude, disrespectful, or unreasonable comment that is likely to make you leave a discussion."
- **Severe Toxicity** is a very hateful, aggressive, disrespectful comment or otherwise very likely to make a user leave a discussion or give up on sharing their perspective.
- **Identity Attack** is a negative or hateful comments targeting someone because of their identity.
- **Insult** is an insulting, inflammatory, or negative comment towards a person or a group of people.
- **Profanity** is a comment with swear words, curse words, or other obscene or profane language.
- **Threat** describes an intention to inflict pain, injury, or violence against an individual or group.

**Table 2: (Tox.) Toxicity, (Thr) Threat, (S. Tox.) Severe Toxicity, (Ident) Identity Attack, (Ins) Insult and (Prof) Profanity scores for each category.**

Category	Tox.	Thr.	S. Tox.	Ident.	Ins.	Prof.
Political	1.8%	13.4%	0.9%	13.0%	2.0%	0.6%
Personal	0.5%	3.7%	0.3%	4.6%	0.5%	0.2%
News	0.3%	3.2%	0.2%	2.5%	0.3%	≤ 0.1%
Non Profit	≤ 0.1%	1.4%	≤ 0.1%	1.4%	≤ 0.1%	0.0%
Business	0.2%	1.1%	≤ 0.1%	1.3%	0.2%	≤ 0.1%
Pub. Health	≤ 0.1%	0.3%	≤ 0.1%	≤ 0.1%	≤ 0.1%	≤ 0.1%

As the political context is extremely polarized in Brazil, this was reflected in the toxicity of the texts extracted from the collected ads. Far-left advertisers accuse the government, sometimes citing President Jair Bolsonaro, of being guilty of the growing number of infected and killed by COVID-19. On the other hand, government advocates ran ads to show how the president is fighting against coronavirus pandemic. Then, we calculated the toxicity for each category previously defined and we detected that *threat* and *identity attack* are the most frequent type of toxicity in ads, as shown in the Table 2. In this Table, we calculated the percentage of ads regarding to the total number of Brazilian ads within each category that has a score greater than 0.5 by types of toxicity..

Surprisingly, we found ads with speech containing swear words which there is a direct attack on the mayor of the city of são paulo, João Doria. However, this ad have been taken down because it was violating Facebook's guidelines<sup>17</sup>. Identity attacks are related to advertisements about black people and against people who support communism, fascism or the government. We ranked the ads from the highest to the lowest toxicity score in order to quantify which categories have the most toxicity. About 65% of the top 20 ads with the highest threat score are from political advertisers, and 75% of the top 20 ads with the highest score for identity attacks are also related to pages categorized as political.

We concluded with this analysis that the political environment is using the pandemic as a weapon of spreading political agenda, and the COVID-19 pandemic is the main campaign topic used by politicians in the 2020 local Brazilian elections.

## 5 CONCLUSION

We presented a data scrapping mechanism from the Facebook Ads Library. In addition, we investigated 5,033 Brazilian Facebook ads ran by 1,303 advertisers who were grouped into topics related to politics, news, non-profit, business, public health and personal pages. During the analyzed period, we discovered a huge amount of advertisements from advertisers whose objective is to spread a political agenda to promote or denigrate the image of political agents. On the other hand, we also found supporters of the use of Hydroxychloroquine for COVID-19 treatment and *Lockdown* supporters.

The spread of fake news in times of pandemic can generate discredit of science, mistrust of the population and relaxation of care with contagion. In general, sponsored content can be shared spreading facts with misinterpreted or biased interpretations about the lethal potential of the virus, social isolation and drug treatments without scientific basis. Finally, the vaccine will be the next topic related to the growth of misinformation.

We concluded that due to the fact that FBADLIBRARY does not display regular inactive ads, it is necessary to use external tools to collect, store and analyze these ads searching for misinformation.

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